

# GLOBAL FOREST RESOURCES ASSESSMENT 2015

## COUNTRY REPORT

# **Nigeria**

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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## Report preparation and contact persons

### Contact persons

The present report was prepared by the following person(s)

| Name (FAMILY NAME, first name) | Institution/address  | Email                   | Tables |
|--------------------------------|--|-------------------------|--------|
| ADEDOYIN, Oye Simon            | Federal Ministry of Environment, Department of Forestry, Utako, Abuja, Nigeria | osadedoyin@yahoo.com    | all    |
| ALUKO, Stephen Olufisayo       | Federal Ministry of Environment, Department of Forestry, Utako, Abuja,         | olustep@yahoo.com       | N/A    |
| OLABODE, Michael Abayomi       | Federal Ministry of Environment, Department of Forestry, Utako, Abuja,         | yomolaby@gmail.com      | N/A    |
| AJIBOLA, Abimbola Abayomi      | Federal Ministry of Environment, Department of Forestry, Utako, Abuja,         | ajibola.aa@nfis.gov.ng  | N/A    |
| AJAGUN, Ebunoluwa Oghale       | Federal Ministry of Environment, Department of Forestry, Utako, Abuja,         | ebunoluwa2025@gmail.com | N/A    |
| AJAKAYE, Oludare Clement       | Federal Ministry of Environment, Department of Forestry, Utako, Abuja,         | ajadare70@yahoo.com     | N/A    |

### Introductory Text

Place an introductory text on the content of this report

Nigeria is well endowed with forest resources, accounting for about 2.5 percent of the Gross Domestic Products. These resources provide employment for over 2 million people through supply of fuel wood and poles and more than 80 000 people working in the log processing industries, especially in the forest zones of the south.

The resources abound in the High Forests, woodlands, bush lands, plantations and trees on farmlands. The forests occupy about 10 million hectares representing almost 10 percent of the total land area of 92,376,700 hectares. This total is made up of about 445 gazetted Reserves, distributed over the five main ecological zones of Fresh water/mangrove, the lowland rainforest, the derived savanna and the sahel/sudan savanna. More than 5 percent of the total land area is devoted to wildlife conservation also distributed across the major ecological zones.

The forests provide a wide range of non-wood products and environmental functions, though not adequately quantified and are under-estimated in national accounting. These products include bush meat, medicine, watershed protection, stabilisation of the hydrological regimes and carbon sequestration.

The forest estates from which wood and other products are obtained have been subjected to severe encroachments, vegetation degradation and dereservation for agriculture, industrial development, urbanisation etc.

The available information on the forests is either obsolete or based on extrapolation from very old data. Nigeria falls short of the basic standard of acquiring regular and up to date data on the forest resources. With the last national forest inventory dating back to 1997, most of the information documented may not properly reflect the actual situation but merely indicative.

Desk Study?

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

## 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<br>( <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<br>( <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<br>expansion of forest ( <i>sub-<br/>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<br>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<br>reforestation ( <i>sub-<br/>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<br>of information | Variables | Years | Additional comments |
|---|-----------|-------|---------------------|
|---|-----------|-------|---------------------|

|   |   |              |           |     |
|---|---|--------------|-----------|-----|
| 1 | Olufemi A. Olaleye and Ameh, C. E. 1999. Forest Resource Situation Assessment of Nigeria EC-FAO PARTNERSHIP PROGRAMME (1998-2002);Tropical forestry Budget line B7-6201/97-15/VIII/FOR,Abuja, Nigeria | Forest cover | 1977 1994 | 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 |

### 1.2.2 Classification and definitions

| National class                               | Definition   |
|--|--|
| Intensive (crop) Agriculture                 | No definition  |
| Extensive (grazing) Agriculture              | No definition  |
| Dominantly Shrub/Grasses                     | Comprise mixed combretaceous wood/and typical of Sudan savanna   |
| Dominantly Trees/Woodlands/Shrubs            | Savanna woodland where trees and shrubs form a fairly closed canopy.   |
| Flood plain Agriculture                      | No definition  |
| Disturbed Forest                             | Characterized by areas of native forest as in above class but consists of open canopies that are a result of human disturbance.  |
| Gullies                                      | No definition  |
| Forested Freshwater Swamp                    | No definition  |
| Undisturbed Forest                           | High forest consisting of ever green hydrophytic plants of great species diversity characteristically stratified into three layers where the emergent layer (trees of 40-60m) high comprise tall trees that do not necessarily form continuous canopy. |
| Dominantly Grasses                           | No definition  |
| Discontinuous Grassland                      | No definition  |
| Mangrove Forest                              | This occurs on the muddy banks of creeks and in tidal channels in the upper portion of the zone of saturator influence where the water is brackish.  |
| Shrub/Sedge/Graminoid Freshwater Marsh/Swamp | No definition  |
| Extensive Agriculture with Denuded Areas     | No definition  |

|                                   |  |
|-----------------------------------|--|
| No definition                     | No definition  |
| Natural Waterbodies               | No definition  |
| Montane Forest                    | Also known as  |
| Urban (major+minor)               | No definition  |
| Riparian Forest                   | Characterized by its location adjacent to water course and its dense closed canopy.                                |
| Sand Dunes                        | No definition  |
| Montane Grassland                 | Montane Grassland  |
| Reservoir                         | No definition  |
| Rock Outcrop                      | No definition  |
| Agricultural Tree Crop Plantation | No definition  |
| Forest Plantation                 | Artificial forest plantation of the both exotic and indigenous species such as teak and Gmelina which are massive. |
| Teak/Gmelina Plantation           | No definition  |
| Irrigation Project                | No definition  |
| Graminoid/Sedge Freshwater Marsh  | No definition  |
| Saltmarsh.Tidal Flat              | No definition  |
| Rainfed Arable Crops              | No definition  |
| Alluvial                          | No definition  |
| Livestock Project                 | No definition  |
| Mining Areas                      | No definition  |
| Canal                             | N/A  |

### 1.2.3 Original data

|   |  |  |  |
|---|--|--|--|
| Forest area   |  |  |  |
|   |  |  |  |
| Vegetation and Land use Classes for 1977 (1976-78) and 1994 (1993-95) |  |  |  |
|   |  |  |  |



|  | 1977      | 1994      |              |
|--|-----------|-----------|--------------|
| National classes                             | Area(km2) | Area(km2) | Group        |
| Intensive (crop) Agriculture                 | 322 794   | 365 491   | Other land   |
| Extensive (grazing) Agriculture              | 166 326   | 187 236   | Other land   |
| Dominantly Shrub/Grasses                     | 113 880   | 81 694    | Forest / OWL |
| Dominantly Trees/Woodlands/Shrubs            | 151 293   | 81 386    | Forest / OWL |
| Floodplain Agriculture                       | 9 451     | 20 918    | Other land   |
| Disturbed Forest                             | 14 573    | 18 990    | Forest       |
| Gullies                                      | 122       | 18 517    | Other land   |
| Forested Freshwater Swamp                    | 18 316    | 16 499    | Forest       |
| Undisturbed Forest                           | 25 951    | 12 114    | Forest       |
| Dominantly Grasses                           | 12 549    | 11 983    | Other land   |
| Discontinuous Grassland                      | 6 137     | 11 248    | Other land   |
| Mangrove Forest                              | 9 994     | 9 977     | Forest       |
| Shrub/Sedge/Graminoid Freshwater Marsh/Swamp | 16 899    | 9 248     | OWL/O.L      |
| Extensive Agriculture with Denuded Areas     | 3 518     | 9 206     | Other land   |
| Grassland                                    | 1 034     | 7 989     | Other land   |
| Natural Waterbodies                          | 6 591     | 7 851     | Inland water |
| Montane Forest                               | 6 762     | 6 759     | Forest       |
| Urban (major+minor)                          | 2 083     | 5 444     | Other land   |
| Riparian Forest                              | 7 402     | 5 254     | Forest       |
| Sand Dunes                                   | 812       | 4 829     | Other land   |

|                                   |         |         |              |
|-----------------------------------|---------|---------|--------------|
| Montane Grassland                 | 1 739   | 3 112   | Other land   |
| Reservoir                         | 1 327   | 2 888   | Inland water |
| Rock Outcrop                      | 1 424   | 2 632   | Other land   |
| Agricultural Tree Crop Plantation | 830     | 1 641   | Other land   |
| Forest Plantation                 | 997     | 1 573   | Forest       |
| Teak/Gmelina Plantation           | 628     | 1 156   | Forest       |
| Irrigation Project                | 147     | 988     | Other land   |
| Graminoid/Sedge Freshwater Marsh  | 4 882   | 871     | Other land   |
| Saltmarsh.Tidal Flat              | 4       | 545     | Other land   |
| Rainfed Arable Crops              | 16      | 485     | Other land   |
| Alluvial                          | 487     | 269     | Other land   |
| Livestock Project                 | 52      | 139     | Other land   |
| Mining Areas                      | 0       | 62      | Other land   |
| Canal                             | 2       | 29      | Other land   |
| Total land area                   | 909 022 | 909 023 |              |

### Forest expansion

| Category                       | Area in 1000 ha |      |      |      |      |      |
|--------------------------------|-----------------|------|------|------|------|------|
|                                | 1977            | 1994 | 1990 | 2000 | 2005 | 2010 |
| Forest Plantation              | 101             | 159  | 146  | 180  | 197  | 214  |
| Teak/<br>Gmelina<br>Plantation | 63              | 117  | 105  | 136  | 152  | 168  |
| Total                          | 164             | 276  | 251  | 316  | 349  | 382  |

### 1.3 Analysis and processing of national data

## 1.3.1 Adjustment

|   |             |             |
|---|-------------|-------------|
| Total Country area (FAOSTAT)                    | 92 377      |             |
| Total land area (FAOSTAT)                       | 91 077      |             |
| Inland water (calculated from FAOSTAT)          | 1 300       |             |
|   |             |             |
|   | 1977        | 1994        |
| Calibration factor based on land area           | 1.010726842 | 1.013899836 |
|   |             |             |
|   | 1977        | 1994        |
|   | 1000 ha     | 1000 ha     |
| Dominantly Shrub/Grasses                        | 11 510      | 8 283       |
| Dominantly Trees/Woodlands/<br>Shrubs           | 15 292      | 8 252       |
| Disturbed Forest                                | 1 473       | 1 925       |
| Forested Freshwater Swamp                       | 1 851       | 1 673       |
| Undisturbed Forest                              | 2 623       | 1 228       |
| Mangrove Forest                                 | 1 010       | 1 012       |
| Shrub/Sedge/Graminoid<br>Freshwater Marsh/Swamp | 1 708       | 938         |
| Montane Forest                                  | 683         | 685         |
| Riparian Forest                                 | 748         | 533         |
| Forest Plantation                               | 101         | 159         |
| Teak/Gmelina Plantation                         | 63          | 117         |
| Agricultural Tree Crop<br>Plantation            | 84          | 166         |
| Other land                                      | 53 930      | 66 106      |
| Inland water (from FAOSTAT)                     | 1 300       | 1 300       |

|                    |        |        |
|--------------------|--------|--------|
| Total country area | 92 377 | 92 377 |
|--------------------|--------|--------|

### 1.3.2 Estimation and forecasting

Estimation and forecasting to the FRA 2010 reporting years were done based on the calibrated national data and resulted in the following table:

The annual rate of Forest loss is about 3.5%, Source: FORMECU, (1997) - Land Use Change for Nigeria between 1976 and 1996.

#### **forest expansion, reforestation**

Based on original data presented in Question 4, it is assumed that the reforestation activities follows a constant average of 3 400 ha/year.

The annual establishment of introduced species (Teak/Gmelina plantations) is between 3 100 ha and 3 200 ha.

|        | 1977    | 1990    | 1994    | 2000    | 2005    | 2010    | 2015   |
|--------|---------|---------|---------|---------|---------|---------|--------|
|        | 1000 ha | 1000 ha | 1000 ha | 1000 ha | 1000 ha | 1000 ha | 1000ha |
| Forest | 22 559  | 17 234  | 15 594  | 13 137  | 11 089  | 9 041   | 6993   |
| OWL    | 13 377  | 9 717   | 8 592   | 6 902   | 5 495   | 4 088   | 2681   |
| OL     | 55 141  | 64 126  | 66 891  | 71 038  | 74 493  | 77 948  | 81403  |
| OLw TC | 84      | 147     | 166     | 195     | 220     | 245     | 270    |

## 1.3.3 Reclassification

The following reclassification matrix was used in order to reclassify the national classes into FRA 2005 categories. The result of the reclassification is introduced directly in the final reporting table.

|  | Reclassification matrix |     |      |       |       |
|--|-------------------------|-----|------|-------|-------|
|  | Forest                  | OWL | OL   | OLwTC | Water |
| Dominantly Shrub/Grasses                     | 34%                     | 66% |      |       |       |
| Dominantly Trees/Woodlands/Shrubs            | 66%                     | 34% |      |       |       |
| Disturbed Forest                             | 100%                    |     |      |       |       |
| Forested Freshwater Swamp                    | 100%                    |     |      |       |       |
| Undisturbed Forest                           | 100%                    |     |      |       |       |
| Mangrove Forest                              | 100%                    |     |      |       |       |
| Shrub/Sedge/Graminoid Freshwater Marsh/Swamp |                         | 34% | 66%  |       |       |
| Montane Forest                               | 100%                    |     |      |       |       |
| Riparian Forest                              | 100%                    |     |      |       |       |
| Forest Plantation                            | 100%                    |     |      |       |       |
| Teak/Gmelina Plantation                      | 100%                    |     |      |       |       |
| Agricultural Tree Crop Plantation            |                         |     | 100% | 100%  |       |
| Other land                                   |                         |     | 100% |       |       |
| Inland water                                 |                         |     |      |       | 100%  |
|  |                         |     |      |       |       |

## 1.4 Data

Table 1a













| Categories  |                              | Area (000 hectares) |          |          |          |          |
|---|------------------------------|---------------------|----------|----------|----------|----------|
|   |                              | 1990                | 2000     | 2005     | 2010     | 2015     |
|  | Forest                       | 17234               | 13137    | 11089    | 9041     | 6993     |
|  | Other wooded land            | 9717                | 6902     | 5495     | 4088     | 2681     |
|  | Other land                   | 64126               | 71038    | 74493    | 77948    | 81403    |
|  | ... of which with tree cover | 147                 | 195      | 220      | 245      | 270      |
|  | Inland water bodies          | 1300                | 1300     | 1300     | 1300     | 1300     |
|   | TOTAL                        | 92377.00            | 92377.00 | 92377.00 | 92377.00 | 92377.00 |

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                         | 251  | 316  | 349  | 382  | 105   | 136  | 152  | 168  |
|  | ... 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                            | 146  | 180  | 197  | 214  | 105   | 136  | 152  | 168  |
|  | ... of which artificial                  | N/A  | N/A  | N/A  | N/A  | N/A   | N/A  | N/A  | N/A  |

### Tiers

| Category          | Tier for status | Tier for reported trend |
|-------------------|-----------------|-------------------------|
| Forest            | Tier 1          | Tier 1                  |
| Other wooded land | Tier 1          | Tier 1                  |
| Forest expansion  | Tier 1          | Tier 1                  |
| Deforestation     | Tier 1          | Tier 1                  |

|               |        |        |
|---------------|--------|--------|
| Reforestation | Tier 1 | Tier 1 |
|---------------|--------|--------|

## Tier criteria

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

## 1.5 Comments

| Category                   | Comments related to data definitions etc | Comments on the reported trends |
|----------------------------|--|---------------------------------|
| Forest                     | Linear Extrapolation method              | Linear projection               |
| Other wooded land          | Linear projection                        | Linear projection               |
| Other land                 | Linear projection                        | Linear projection               |
| Other land with tree cover | Linear projection                        | Linear projection               |
| Inland water bodies        | Linear projection                        | Linear projection               |
| Forest expansion           | N/A                                      | N/A                             |
| Deforestation              | N/A                                      | N/A                             |
| Reforestation              | N/A                                      | N/A                             |

## Other general comments to the table

Data provided has been based on forecasting due to the fact that forest resources assessment in the country has not been carried in the last 20 years.

## 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 <b>outside</b> 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  |
|---|--|-----------|-----------|--|
| 1 | The world's mangrove 1980-2005, FAO  | Mangrove  | 1980-2005 | N/A  |
| 2 | Maduako, C. 2005. Information provided for the Global Forest Resources Assessment (FRA) 2005 thematic study on mangroves. Unpublished. | Mangrove  | 2005      | Unpublished. Quoted in The world's mangrove 1980-2005, FAO |



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 3 | N/A | N/A | N/A | N/A |
| 4 | N/A | N/A | N/A | N/A |

### 2.2.2 Classification and definitions

| National class | Definition |
|----------------|------------|
| N/A            | N/A        |
| N/A            | N/A        |
| N/A            | N/A        |
| N/A            | N/A        |

### 2.2.3 Original data

From Question 1:

|        | 1977    | 1994    | 1990    | 2000    | 2005    | 2010    |
|--------|---------|---------|---------|---------|---------|---------|
|        | 1000 ha | 1000 ha | 1000 ha | 1000 ha | 1000 ha | 1000 ha |
| Forest | 22 559  | 15 594  | 17 234  | 13 137  | 11 089  | 9 041   |

Furthermore, undisturbed forest equals 2 623 000 ha in 1977 and 1 228 000 ha in 1997.

From Question 4:

| Category          | Area in 1000 ha |      |      |      |      |      |
|-------------------|-----------------|------|------|------|------|------|
|                   | 1977            | 1994 | 1990 | 2000 | 2005 | 2010 |
| Forest Plantation | 101             | 159  | 146  | 180  | 197  | 214  |

|                                |            |            |            |            |            |            |
|--------------------------------|------------|------------|------------|------------|------------|------------|
| Teak/<br>Gmelina<br>Plantation | 63         | 117        | 105        | 136        | 152        | 168        |
| <b>Total</b>                   | <b>164</b> | <b>276</b> | <b>251</b> | <b>316</b> | <b>349</b> | <b>382</b> |

## 2.3 Analysis and processing of national data

### 2.3.1 Adjustment

|     |
|-----|
| N/A |
|-----|

### 2.3.2 Estimation and forecasting

The planted forest estimation was obtained from annual reports of plantation establishment in Nigeria.

|                                    | <b>1977</b>    | <b>1994</b>    | <b>1990</b>    | <b>2000</b>    | <b>2005</b>    | <b>2010</b>    | <b>2015</b>    |
|------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                                    | <b>1000 ha</b> | <b>1000 ha</b> | <b>1000 ha</b> | <b>1000 ha</b> | <b>1000 ha</b> | <b>1000 ha</b> | <b>1000 ha</b> |
| <b>Total Forest</b>                | <b>22 559</b>  | <b>15 594</b>  | <b>17 234</b>  | <b>13 137</b>  | <b>11 089</b>  | <b>9 041</b>   | <b>6993</b>    |
| Primary forest                     | 2 623          | 1 228          | 1 556          | 736            | 326            | 54             | 20             |
| Planted forest                     | 164            | 276            | 251            | 316            | 349            | 382            | 420            |
| <i>Introduced species</i>          | <i>63</i>      | <i>117</i>     | <i>105</i>     | <i>136</i>     | <i>152</i>     | <i>168</i>     | <i>200</i>     |
| Other naturally regenerated forest | 15 427         | 12 085         | 10 414         | 15 427         | 12 085         | 8 659          | 10085          |

For 1990 to 2005, estimations of primary forest follow a linear extrapolation. For 2010, no new data is available to assess and estimate the future situation. But the risk is high that remain only small and scattered patches of primary forests. Consequently the category of “other naturally regenerated forest” in 2010 may include some areas of Primary forest.

## 2.3.3 Reclassification

|  |
|--|
| Undisturbed forest = Primary forest;                             |
| Plantation forest and Teak/Gmelina plantations = Planted forest; |
| Teak/Gmelina plantations = introduced species;                   |
| Remaining forest = other naturally regenerated forest;           |

## 2.4 Data

Table 2a







| Categories  |                                    | Forest area (000 hectares) |          |          |         |         |
|---|------------------------------------|----------------------------|----------|----------|---------|---------|
|   |                                    | 1990                       | 2000     | 2005     | 2010    | 2015    |
|    | Primary forest                     | 1556                       | 736      | 326      | 54      | 20      |
|    | Other naturally regenerated forest | 15427                      | 12085    | 10414    | 8659    | 6553    |
|  | ... of which of introduced species | 105                        | 136      | 152      | 168     | 200     |
|  | ... of which naturalized           | N/A                        | N/A      | N/A      | N/A     | N/A     |
|  | Planted forest                     | 251                        | 316      | 349      | 328     | 420     |
|  | ... of which of introduced species | 0                          | 0        | 0        | 0       | 0       |
| TOTAL   |                                    | 17234.00                   | 13137.00 | 11089.00 | 9041.00 | 6993.00 |

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) | 1012                | 997  | 997  | 997  | 997  |

|                      |     |     |     |     |     |
|----------------------|-----|-----|-----|-----|-----|
| ... of which planted | 251 | 316 | 349 | 328 | 420 |
|----------------------|-----|-----|-----|-----|-----|

## 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><b>Tier 3</b> : 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><b>Tier 2</b> : Data sources: Full cover mapping/ remote sensing or old NFI (more than 10 years) <b>Tier 1</b> : Other</p> | <p><b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other</p> |

## 2.5 Comments

| Category                            | Comments related to data definitions etc                             | Comments on reported trend |
|-------------------------------------|--|----------------------------|
| Primary forest                      | Deforestation resulting from several factors e.g. population growth. | N/A                        |
| Other naturally regenerating forest | N/A  | N/A                        |
| Planted forest                      | N/A  | N/A                        |
| Mangroves                           | N/A  | N/A                        |

## Other general comments to the table

The primary forest were converted to farmlands.

### 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 | Olufemi A. Olaleye and Ameh, C. E. 1999. Forest Resource Situation Assessment of Nigeria EC-FAO PARTNERSHIP PROGRAMME (1998-2002);Tropical forestry Budget line B7-6201/97-15/ VIII/FOR,Abuja, Nigeria | Growing stock for production area and plantations | 1977 1994 | 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 |

### 3.2.2 Classification and definitions

| National class | Definition |
|----------------|------------|
| N/A            | N/A        |
| N/A            | N/A        |
| N/A            | N/A        |
| N/A            | N/A        |

### 3.2.3 Original data

| <b>Growing stock</b>  |                  |           |                             |
|---|------------------|-----------|-----------------------------|
| High forest gross timber volumes (excluding bark) by forest designation and forest type. 1998 |                  |           |                             |
| ForestLandDesignation   | ForestType       | Area (ha) | Gross Volume under bark(m3) |
| Forest Reserve  | Freshwater swamp | 224 369   | 23 353 102                  |
|   | Lowland rain     | 757 740   | 98 599 957                  |
|   | Riparian         | 2 547     | 169 101                     |
| Free Area   | Freshwater swamp | 1 424 739 | 150 814 914                 |
|   | Lowland rain     | 912 094   | 109 544 813                 |
|   | Mangrove         | 5 314     | 443 860                     |
|   | Riparian         | 80 368    | 4 526 678                   |
| Game Reserve  | Lowland rain     | 12 365    | 1 633 706                   |
|   | Riparian         | 5 492     | 386 513                     |
| National Park   | Lowland rain     | 369 412   | 46 878 597                  |

|                       |  |                  |                    |
|-----------------------|--|------------------|--------------------|
| <b>Total</b>          |  | <b>3 794 440</b> | <b>436 351 241</b> |
| <b>Average Vol/ha</b> |  |                  | <b>115</b>         |

Standing Volume of forest plantations derived from Inventory. 1998

| <b>STATE</b>        | <b>Under bark</b> |                    |
|---------------------|-------------------|--------------------|
|                     | <b>AREA(ha)</b>   | <b>Volume (m3)</b> |
| 1. Lagos            | 1 049             | 281 869            |
| 2. Ogun             | 40 147            | 16 830 603         |
| 3. Oyo              | 6 743             | 2 169 967          |
| 4. Osun             | 9 259             | 2 625 817          |
| 5. Ondo & Ekiti     | 23 574            | 8 321 814          |
| 6. Edo              | 21 522            | 10 609 067         |
| 7. Delta            | 4 014             | 1 291 681          |
| 8. Rivers & Bayelsa | 0                 | 0                  |
| 9. Cross. Rivers    | 14 364            | 7 716 584          |
| 10. Akwa-Ibom       | 2 229             | 659 413            |
| 11. Imo             | 1 252             | 692 197            |
| 12. Abia            | 3 714             | 2 007 058          |
| 13. Anambra         | 3 827             | 1 896 140          |
| 14. Enugu/Ebonyi    | 13 750            | 7 598 434          |
| 15. Benue           | 2 226             | 3 023 116          |
| 16. Kwara           | 9 720             | 4 708 102          |
| 17. Kogi            | 5 503             | 1 794 826          |
| 18. Niger           | 5 619             | 2 496 654          |

|                        |               |                   |
|------------------------|---------------|-------------------|
| 19. Kebbi              | 891           | 289 821           |
| 20. Kaduna             | 5 866         | 1 973 468         |
| 21. Kano               | 1761          | 484 782           |
| 22. lateau/Nasarawa    | 6938          | 2 465 098         |
| 23. Adamawa            | 1249          | 370 328           |
| 24. Taraba             | 1394          | 398 131           |
| <b>Total</b>           | <b>186611</b> | <b>80 704 970</b> |
| <b>Average (m3/ha)</b> |               | <b>432</b>        |

### Biomass stock

Data from on growing stock were used in biomass computation.

### Carbon stock

Data on biomass stock were used and a conversion factor of 0.47 applied.

## 3.3 Analysis and processing of national data

### 3.3.1 Adjustment

### 3.3.2 Estimation and forecasting

### Growing stock

The forest area from Question 1 is used as an input

| Category | Area in 1000 ha |      |      |      |      |      |
|----------|-----------------|------|------|------|------|------|
|          | m3/ha           | 1990 | 2000 | 2005 | 2010 | 2015 |
|          |                 |      |      |      |      |      |



|                |     |               |               |               |              |             |
|----------------|-----|---------------|---------------|---------------|--------------|-------------|
| Natural forest | 115 | 16 983        | 12 821        | 10 740        | 8 659        | 6578        |
| Plantation     | 432 | 251           | 316           | 349           | 382          | 415         |
| <b>TOTAL</b>   |     | <b>17 234</b> | <b>13 137</b> | <b>11 089</b> | <b>9 041</b> | <b>6993</b> |

Multiplying area by average vol/ha gives the following:

|                | Growing stock in million cubic meters |              |              |              |            |
|----------------|---------------------------------------|--------------|--------------|--------------|------------|
|                | 1990                                  | 2000         | 2005         | 2010         | 2015       |
| Natural Forest | 1 953                                 | 1 474        | 1 235        | 996          | 757        |
| Plantation     | 108                                   | 137          | 151          | 165          | 179        |
| <b>Total</b>   | <b>2 061</b>                          | <b>1 611</b> | <b>1 386</b> | <b>1 161</b> | <b>936</b> |

### Carbon stock

A/ -Carbon stock is calculated by multiplying the biomass by 0.47.

B/- Carbon in the litter has been estimated, based on the standard factor of 2.1 (tropical), and

- Soil carbon has been estimated, based on the factor of 47 (tropical, moist with LAC soils).

The biomass/ hectare values are then applied to the forest and other wooded land area values in table Question 1 to get the biomass for the reporting years.

| Year                          | 1990   | 2000   | 2005   | 2010   | 2015  |
|-------------------------------|--------|--------|--------|--------|-------|
| Total Forest (1000 ha)        | 17 234 | 13 137 | 11 089 | 9 041  | 6993  |
| Carbon in the litter (1000 C) | 36 191 | 27 588 | 23 287 | 18 986 | 14685 |

|                         |         |         |         |         |        |
|-------------------------|---------|---------|---------|---------|--------|
| Soil carbon<br>(1000 C) | 809 998 | 617 439 | 521 183 | 424 927 | 328647 |
|-------------------------|---------|---------|---------|---------|--------|

### 3.3.3 Reclassification

## 3.4 Data

Table 3a




| Category  |                          | Growing stock volume (million m <sup>3</sup> over bark) |      |      |      |      |                   |      |      |      |      |
|---|--------------------------|---|------|------|------|------|-------------------|------|------|------|------|
|   |                          | Forest  |      |      |      |      | Other wooded land |      |      |      |      |
|   |                          | 1990  | 2000 | 2005 | 2010 | 2015 | 1990              | 2000 | 2005 | 2010 | 2015 |
|    | Total growing stock      | 2061  | 1611 | 1386 | 1161 | 936  | N/A               | N/A  | N/A  | N/A  | N/A  |
|  | ... of which coniferous  | 0   | 0    | 0    | 0    | 0    | N/A               | N/A  | N/A  | N/A  | N/A  |
|  | ... of which broadleaved | 2061  | 1611 | 1386 | 1161 | 936  | N/A               | N/A  | N/A  | N/A  | N/A  |

Table 3b

| Category/Species name |                 |             | Growing stock in forest (million cubic meters) |      |      |      |
|-----------------------|-----------------|-------------|--|------|------|------|
| Rank                  | Scientific name | Common name | 1990   | 2000 | 2005 | 2010 |
| 1 st                  | N/A             | N/A         | N/A  | N/A  | N/A  | N/A  |
| 2 nd                  | N/A             | N/A         | N/A  | N/A  | N/A  | N/A  |
| 3 rd                  | N/A             | N/A         | N/A  | N/A  | N/A  | N/A  |
| 4 th                  | N/A             | N/A         | N/A  | N/A  | N/A  | N/A  |
| 5 th                  | N/A             | N/A         | N/A  | N/A  | N/A  | N/A  |
| 6 th                  | N/A             | N/A         | N/A  | N/A  | N/A  | N/A  |
| 7 th                  | N/A             | N/A         | N/A  | N/A  | N/A  | N/A  |
| 8 th                  | N/A             | N/A         | N/A  | N/A  | N/A  | N/A  |
| 9 th                  | N/A             | N/A         | N/A  | N/A  | N/A  | N/A  |

|           |     |     |     |     |     |     |
|-----------|-----|-----|-----|-----|-----|-----|
| 10 th     | N/A | N/A | N/A | N/A | N/A | N/A |
| Remaining |     |     | N/A | N/A | N/A | N/A |
| TOTAL     |     |     | .00 | .00 | .00 | .00 |

**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)     | 20    | N/A                                     |
| Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y) | -     | Variable (based on merchantable height) |
| Minimum diameter (cm) of branches included in growing stock (W)                   | -     | Branches usually no included            |
| 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 <sup>3</sup> 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 | 2015 |
|  | Above ground biomass | 3459  | 2660 | 2261 | 1861 | 1462 | N/A               | N/A  | N/A  | N/A  | N/A  |










|   |                      |         |         |         |         |         |     |     |     |     |     |
|---|----------------------|---------|---------|---------|---------|---------|-----|-----|-----|-----|-----|
|  | Below ground biomass | 830     | 638     | 543     | 447     | 351     | N/A | N/A | N/A | N/A | N/A |
|  | Dead wood            | 601     | 462     | 392     | 323     | 254     | N/A | N/A | N/A | N/A | N/A |
| TOTAL   |                      | 4890.00 | 3760.00 | 3196.00 | 2631.00 | 2067.00 | .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       | 1626                           | 1215    | 1062    | 875     | 670     | N/A               | N/A  | N/A  | N/A  | N/A  |
|    | Carbon in below ground biomass       | 390                            | 300     | 255     | 210     | 165     | N/A               | N/A  | N/A  | N/A  | N/A  |
|  | <i>Subtotal Living biomass</i>       | 2016                           | 1550    | 1317    | 1085    | 835     | N/A               | N/A  | N/A  | N/A  | N/A  |
|  | Carbon in dead wood                  | 282                            | 217     | 184     | 152     | 119     | N/A               | N/A  | N/A  | N/A  | N/A  |
|  | Carbon in litter                     | 36                             | 28      | 23      | 19      | 15      | N/A               | N/A  | N/A  | N/A  | N/A  |
|  | <i>Subtotal Dead wood and litter</i> | 318                            | 245     | 207     | 171     | 134     | N/A               | N/A  | N/A  | N/A  | N/A  |
|  | Soil carbon                          | 810                            | 617     | 521     | 425     | 328     | N/A               | N/A  | N/A  | N/A  | N/A  |
| TOTAL   |                                      | 3144.00                        | 2377.00 | 2045.00 | 1681.00 | 1297.00 | .00               | .00  | .00  | .00  | .00  |

## Tiers

| Variable/category    | Tier for status | Tier for trend |
|----------------------|-----------------|----------------|
| Total growing stock  | Tier 1          | Tier 1         |
| Net annual increment | Tier 1          | Tier 1         |
| 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                    | Tier 1 | Tier 1 |

### 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 | <b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other |
| <ul style="list-style-type: none"> <li>Carbon in above ground biomass</li> <li>Carbon in below ground biomass</li> <li>Carbon in dead wood and litter</li> <li>Soil carbon</li> </ul> | 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   | <b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other |

### 3.5 Comments on growing stock biomass and carbon

| Category                                | Comments related to data definitions etc | Comments on the reported trend           |
|---|--|--|
| Total growing stock                     | N/A                                      | Linear extrapolation adopted and applied |
| Growing stock of broadleaved coniferous | Most of the trees are broad leaved       | Linear extrapolation adopted and applied |

|                                |  |  |
|--------------------------------|--|--|
| Growing stock composition      | N/A  | Linear extrapolation adopted and applied |
| Net annual increment           | Data not available for growing stock of the 10 most common species | N/A                                      |
| Above-ground biomass           | N/A  | N/A                                      |
| Below-ground biomass           | N/A  | N/A                                      |
| Dead wood                      | N/A  | N/A                                      |
| Carbon in above-ground biomass | N/A  | N/A                                      |
| Carbon in below-ground biomass | N/A  | N/A                                      |
| Carbon in dead wood            | N/A  | N/A                                      |
| Carbon in litter               | N/A  | N/A                                      |
| Soil carbon                    | N/A  | N/A                                      |

|  |
|--|
| <b>Other general comments to the table</b> |
|--|

|     |
|-----|
| N/A |
|-----|

## 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 | www.wcmc.org  | Protected Area                 | N/A   | N/A                 |
| 2 | ITTO, Status of Tropical Forest Management, 2005  | Forest management              | N/A   | N/A                 |
| 3 | UNEP-WCMC 2004. Spatial analysis of forests within protected areas in ITTO countries. UNEPWCMC, Cambridge, UK. Data prepared for ITTO, 2004 | Forest management (protection) | 2004  | N/A                 |
| 4 | ITTO, Status of tropical forest management 2011.  | Forest management              | 2011  | 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

##### Production Areas:

It is assumed that High Forests areas and plantation have been designated primary function of production.

a) Plantation Area from Question1, calibrated national data (source 2), then extrapolated for 1990, 2000, 2005 and 2010

| Category                       | Area in 1000 ha |            |            |            |            |            |
|--------------------------------|-----------------|------------|------------|------------|------------|------------|
|                                | 1977            | 1994       | 1990       | 2000       | 2005       | 2010       |
| Forest Plantation              | 101             | 159        | 146        | 180        | 197        | 214        |
| Teak/<br>Gmelina<br>Plantation | 63              | 117        | 105        | 136        | 152        | 168        |
| <b>Total</b>                   | <b>164</b>      | <b>276</b> | <b>251</b> | <b>316</b> | <b>349</b> | <b>382</b> |

1. Production Areas from High Forest area by categories - Reference year: 1998

| ForestLandDesignation | ForestType       | Area<br>(ha) | Gross Volume<br>(m3) |
|-----------------------|------------------|--------------|----------------------|
| Forest Reserve        | Freshwater swamp | 224 369      | 23 353 102           |
|                       | Lowland rain     | 757 740      | 98 599 957           |
|                       | Riparian         | 2 547        | 169 101              |



|               |                  |                  |             |
|---------------|------------------|------------------|-------------|
| Free Area     | Freshwater swamp | 1 424 739        | 150 814 914 |
|               | Lowland rain     | 912 094          | 109 544 813 |
|               | Mangrove         | 5 314            | 443 860     |
|               | Riparian         | 80 368           | 4 526 678   |
| Game Reserve  | Lowland rain     | 12 365           | 1 633 706   |
|               | Riparian         | 5 492            | 386 513     |
| National Park | Lowland rain     | 369 412          | 46 878 597  |
| <b>Total</b>  |                  | <b>3 794 440</b> |             |

### 4.3 Analysis and processing of national data

#### 4.3.1 Adjustment

#### 4.3.2 Estimation and forecasting

If we consider the 1998 data on high forests valid for year 2000, we get the following table:

|   | <b>2000</b>   | <b>2015</b> |
|---|---------------|-------------|
| Forest Plantations (production)<br>(1 000 ha)       | 316           | 415         |
| High Forest (Production) (1 000<br>ha)              | 3 794         | 1498        |
| Natural reserves etc. (Cat. I and<br>II) (1 000 ha) | 2 509         | 2509        |
| Remaining (difference) (1 000<br>ha)                | 6 518         | 2571        |
| <b>Total Forest (1 000 ha)</b>                      | <b>13 137</b> | <b>6993</b> |

Total area of forest and of forest plantations are taken from table Question 1. The area of “High Forest” and “Remaining” is estimated by applying their relative proportions in 2000 to the difference [Total forest area – forest plantations – Natural Reserves].

#### 4.3.3 Reclassification

| <b>Forest</b>   |                   |                     |                      |  |
|---|-------------------|---------------------|----------------------|--|
| <b>National classes</b>   | <b>Production</b> | <b>Conservation</b> | <b>No or unknown</b> |  |
| Nature Reserves, Wilderness Areas, and National Parks (categories I and II) |                   | 100%                |                      |  |
| High Forests  | 100%              |                     |                      |  |
| Plantations   | 100%              |                     |                      |  |
| Remaining   |                   |                     | 100%                 |  |

| <b>FRA 2005 Categories</b> | <b>Area in 1 000 hectares</b> |               |               |              |
|----------------------------|-------------------------------|---------------|---------------|--------------|
|                            | <b>1990</b>                   | <b>2000</b>   | <b>2005</b>   | <b>2010</b>  |
| Production                 | 5 576                         | 4 110         | 3 377         | 2 645        |
| <i>Forest Plantation</i>   | 251                           | 316           | 349           | 382          |
| <i>High Forest</i>         | 5325                          | 3 794         | 3 028         | 2 263        |
| Conservation (1)           | 2 509                         | 2 509         | 2 509         | 2 509        |
| No/unknown designation     | 9 149                         | 6 518         | 5 203         | 3 887        |
| <b>Total forest area</b>   | <b>17 234</b>                 | <b>13 137</b> | <b>11 089</b> | <b>9 041</b> |

Notes: 1. Assume the area excludes area designated primarily for production purpose

The Conservation area is assumed to be constant for all three reporting years. The area of “High Forest” and “Remaining” is estimated by applying their relative proportions in 2000 to the difference [Total forest area – forest plantations – Natural Reserves].

#### 4.4 Data

Table 4a



| Categories  |                     | Forest area (000 hectares) |      |      |      |      |
|---|---------------------|----------------------------|------|------|------|------|
|   |                     | 1990                       | 2000 | 2005 | 2010 | 2015 |
|  | Production forest   | 5576                       | 4110 | 3377 | 2645 | 1912 |
|  | Multiple use forest | 0                          | 0    | 0    | 0    | 0    |

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

N/A

Category

|  |
|--|
| <b>Plant products / raw material</b>                 |
| 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                               |
| <b>Animal products / raw material</b>                |
| 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 <sup>3</sup> u.b.) |                      |
|------|--|----------------------|
|      | Total wood removals                          | ...of which woodfuel |
| 1990 | 59180  | 50916.96             |
| 1991 | 59997  | 51733.97             |
| 1992 | 61117.3                                      | 52854.28             |
| 1993 | 62293.6                                      | 54030.62             |
| 1994 | 63787.1                                      | 55524.13             |
| 1995 | 65028.9                                      | 56765.88             |

|      |         |          |
|------|---------|----------|
| 1996 | 66151.5 | 57672.52 |
| 1997 | 67740.1 | 58661.09 |
| 1998 | 67835.8 | 58417.79 |
| 1999 | 68291.7 | 58873.68 |
| 2000 | 68766.7 | 59348.65 |
| 2001 | 69115.6 | 59697.55 |
| 2002 | 69482.3 | 60064.33 |
| 2003 | 69867.2 | 60449.22 |
| 2004 | 70270.4 | 60852.44 |
| 2005 | 70692.3 | 61274.26 |
| 2006 | 71047.3 | 61629.31 |
| 2007 | 71418   | 62000    |
| 2008 | 71806.6 | 62388.6  |
| 2009 | 72211.2 | 62793.23 |
| 2010 | 72632.7 | 63216.73 |
| 2011 | 72632.7 | 63214.73 |

## Tiers

| Category            | Tier for status | Tier for reported trend |
|---------------------|-----------------|-------------------------|
| Production forest   | Tier 1          | Tier 1                  |
| Multiple use forest | Tier 1          | Tier 1                  |

## Tier Criteria

| Category                                 | Tier for status  | Tier for reported trend   |
|--|--|---|
| Production forest<br>Multiple use forest | Tier 3: Updated including field verifications national forest maps including functions<br>Tier 2: Forest maps older than 6 years including forest functions<br>Tier 1: Other | <b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : 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 | Blaser, J., Sarre, A., Poore, D. and Johnson, S. 2011. Status of tropical forest management 2011. ITTO, Yokohama. Available at: <a href="http://www.itto.int/sfm/">http://www.itto.int/sfm/</a> | N/A | 2011 | 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

|  |
|--|
|  |
|--|

## 5.3 Analysis and processing of national data

### 5.3.1 Adjustment

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|  |
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### 5.3.2 Estimation and forecasting

An estimated 57,300 hectares of forests are managed primarily for the protection of soil and water. No further information on measures to conserve soil and water is available.

### 5.3.3 Reclassification

|  |
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|  |
|--|

## 5.4 Data

Table 5a

| Categories | Forest area (1000 hectares) |
|------------|-----------------------------|
|------------|-----------------------------|



|     |   | 1990 | 2000 | 2005 | 2010 | 2015 |
|-----|---|------|------|------|------|------|
| CRG | Protection of soil and water                                    | N/A  | N/A  | N/A  | N/A  | N/A  |
| CRG | ... of which production of clean water                          | N/A  | N/A  | N/A  | N/A  | N/A  |
| CRG | ... of which coastal stabilization                              | N/A  | N/A  | N/A  | N/A  | N/A  |
| CRG | ... of which desertification control                            | N/A  | N/A  | N/A  | N/A  | N/A  |
| CRG | ... of which avalanche control                                  | N/A  | N/A  | N/A  | N/A  | N/A  |
| CRG | ... of which erosion, flood protection or reducing flood risk   | N/A  | N/A  | N/A  | N/A  | N/A  |
| CRG | ... 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                     | Tier 1                  | Tier 1          |
| Ecosystem services, cultural or spiritual values | Tier 1                  | Tier 1          |

## Tier criteria

| Category   | Tier for status   | Tier for reported trend   |
|--|---|---|
| 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 | <b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other |
| <ul style="list-style-type: none"> <li>• Cultural or spiritual values</li> <li>• Public recreation</li> <li>• Spiritual or cultural services</li> <li>• Other</li> </ul> | 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  | <b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : 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 |

|  |  |  |
|--|--|--|
| <b>Other general comments to the table</b> |  |  |
| 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 | <a href="http://www.wcmc.org">www.wcmc.org</a>  | Protected Area                 | N/A       | N/A                 |
| 2 | Olufemi A. Olaleye and Ameh, C. E. 1999. Forest Resource Situation Assessment of Nigeria EC-FAO PARTNERSHIP PROGRAMME (1998-2002); Tropical forestry Budget line B7-6201/97-15/VIII/FOR, Abuja, Nigeria | Forest cover Plantation area   | 1977 1994 | N/A                 |
| 3 | ITTO, Status of Tropical Forest Management, 2005  | Forest management              | N/A       | N/A                 |
| 4 | UNEP-WCMC 2004. Spatial analysis of forests within protected areas in ITTO countries. UNEPWCMC, Cambridge, UK. Data prepared for ITTO, 2004   | Forest management (protection) | 2004      | N/A                 |
| 5 | Blaser, J., Sarre, A., Poore, D. and Johnson, S. 2011. Status of tropical forest management 2011. ITTO, Yokohama. Available at: <a href="http://www.itto.int/sfm/">http://www.itto.int/sfm/</a>         | Forest management (protection) | 2011      | 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

|  |
|--|
|  |
|--|

## 6.3 Analysis and processing of national data

### 6.3.1 Adjustment

|  |
|--|
|  |
|--|

### 6.3.2 Estimation and forecasting

| <b>Production Areas:</b>   |                 |      |      |      |      |      |      |
|--|-----------------|------|------|------|------|------|------|
| It is assumed that High Forests areas and plantation have been designated primary function of production.        |                 |      |      |      |      |      |      |
| a) Plantation Area from T1, calibrated national data (source 2), then extrapolated for 1990, 2000, 2005 and 2010 |                 |      |      |      |      |      |      |
| Category   | Area in 1000 ha |      |      |      |      |      |      |
|  | 1977            | 1990 | 1994 | 2000 | 2005 | 2010 | 2015 |
| Forest Plantation  | 101             | 146  | 159  | 180  | 197  | 214  | 231  |
| Teak/<br>Gmelina<br>Plantation   | 63              | 105  | 117  | 136  | 152  | 168  | 184  |



|              |            |            |            |            |            |            |            |
|--------------|------------|------------|------------|------------|------------|------------|------------|
| <b>Total</b> | <b>164</b> | <b>251</b> | <b>276</b> | <b>316</b> | <b>349</b> | <b>382</b> | <b>415</b> |
|--------------|------------|------------|------------|------------|------------|------------|------------|

### 6.3.3 Reclassification

|            |
|------------|
| See 4.3.3. |
|------------|

## 6.4 Data

Table 6

| Categories  |                                    | Forest area (000 hectares) |      |      |      |      |
|---|------------------------------------|----------------------------|------|------|------|------|
|   |                                    | 1990                       | 2000 | 2005 | 2010 | 2015 |
|  | Conservation of biodiversity       | 2509                       | 2509 | 2509 | 2509 | 2509 |
|  | Forest area within protected areas | 2509                       | 2509 | 2509 | 2509 | 2509 |

### Tiers

| Category                           | Tier for status | Tier for reported trend |
|------------------------------------|-----------------|-------------------------|
| Conservation of biodiversity       | Tier 2          | Tier 2                  |
| Forest area within protected areas | Tier 2          | Tier 2                  |

### Tier criteria

| Category   | Tier for status   | Tier for reported trend   |
|--|---|---|
| <ul style="list-style-type: none"> <li>Conservation of biodiversity</li> <li>Forests within protected areas</li> </ul> | 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 | <b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other |

## 6.5 Comments

| Category                           | Comments related to data definitions etc                | Comments on the reported trend                |
|------------------------------------|---|---|
| Conservation of biodiversity       | N/A   | It is assumed that the area remains unchanged |
| Forest area within protected areas | It is equal to the area of conservation of biodiversity | N/A   |

---

| <b>Other general comments to the table</b> |
|--|
|--|

|     |
|-----|
| 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

|  |
|--|
|  |
|--|

### 7.3 Analysis and processing of national data

#### 7.3.1 Adjustment

|  |
|--|
|  |
|--|



## 7.3.2 Estimation and forecasting

|  |
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|  |
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## 7.3.3 Reclassification

|  |
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|  |
|--|

## 7.4 Data

Table 7

| Scientific name of woody invasive species | Forest area affected (000 ha) |      |
|---|-------------------------------|------|
|   | 2005                          | 2010 |
| 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  |
| Total                                     | N/A                           | N/A  |

## Tiers

| Category         | Tier for status | Tier for reported trend |
|------------------|-----------------|-------------------------|
| Invasive species | Tier 1          | Tier 1                  |

## Tier Criteria

| Category | Tier for status | Tier for reported trend |
|----------|-----------------|-------------------------|
|          |                 |                         |

|                  |  |   |
|------------------|--|---|
| 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 | <b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other |
|------------------|--|---|

### 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

|  |
|--|
|  |
|--|

## 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          | 8228                    | N/A | 7821   | N/A | 7226   | N/A | 7222   | N/A | 8897   | N/A |
|  | ... of which forest area burned | 47                      | N/A | 7      | N/A | 7      | N/A | 10     | N/A | 26     | N/A |
| Category  |                                 | 2008                    |     | 2009   |     | 2010   |     | 2011   |     | 2012   |     |
|   |                                 | 000 ha                  | #   | 000 ha | #   | 000 ha | #   | 000 ha | #   | 000 ha | #   |
|  | Total land area burned          | 4492                    | N/A | 5113   | N/A | 4444   | N/A | 3664   | N/A | 3103   | N/A |
|  | ... of which forest area burned | 9                       | N/A | 22     | N/A | 6      | N/A | 10     | N/A | 5      | 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  | Tier 2          | Tier 2         |
| <ul style="list-style-type: none"> <li>• Insects</li> <li>• Diseases</li> <li>• Severe weather events</li> </ul> | N/A             | N/A            |

### Tier criteria

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

### 8.5 Comments

| Category | Comments related to data definitions etc | Comments on the reported trend |
|----------|--|--------------------------------|
|----------|--|--------------------------------|

|                       |     |     |
|-----------------------|-----|-----|
| 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 | 3622  |

Tiers

| Category                  | Tier for reported trend |
|---------------------------|-------------------------|
| Reduction in canopy cover | Tier 2                  |

Tier criteria

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

Comments

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

Other general comments

|  |
|--|
|  |
|--|

## 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

|  |
|--|
|  |
|--|

### 10.3 Data



Table 10

| Category   |          |              |                  |       |
|--|----------|--------------|------------------|-------|
|  | National | Sub-national |                  |       |
|  |          | Regional     | Provincial/State | Local |
| Policies supporting sustainable forest management                    | yes      | yes          | yes              | yes   |
| ... of which, in <u>publicly</u> owned forests                       | yes      | yes          | yes              | yes   |
| ... of which, in <u>privately</u> owned forests                      | yes      | yes          | yes              | yes   |
| Legislation and regulations supporting sustainable forest management | yes      | yes          | yes              | yes   |
| ... of which, in <u>publicly</u> owned forests                       | no       | no           | no               | no    |
| ... of which, in <u>privately</u> owned forests                      | no       | no           | no               | no    |

#### 10.4 Comments

| Variable / category  | Comments related to data definitions etc |
|--|--|
| Policies supporting sustainable forest management                    | National Forest Policy, 2006 (Nigeria)   |
| Legislation and regulations supporting sustainable forest management | N/A                                      |

Other general comments

|  |
|--|
|  |
|--|

## 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? | yes |
|--|-----|

### 11.3 Comments

| Category                      | Comments related to data definitions etc        |
|-------------------------------|---|
| National stakeholder platform | National Forest Development Committee (Nigeria) |

Other general comments

|  |
|--|
|  |
|--|

## 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 | <a href="http://www.wcmc.org">www.wcmc.org</a>  | Protected Area                 | N/A       | N/A                 |
| 2 | Olufemi A. Olaleye and Ameh, C. E. 1999. Forest Resource Situation Assessment of Nigeria EC-FAO PARTNERSHIP PROGRAMME (1998-2002); Tropical forestry Budget line B7-6201/97-15/VIII/FOR, Abuja, Nigeria | Forest cover Plantation area   | 1977 1994 | N/A                 |
| 3 | ITTO, Status of Tropical Forest Management, 2005  | Forest management              | N/A       | N/A                 |
| 4 | UNEP-WCMC 2004. Spatial analysis of forests within protected areas in ITTO countries. UNEPWCMC, Cambridge, UK. Data prepared for ITTO, 2004   | Forest management (protection) | 2004      | N/A                 |
| 5 | Blaser, J., Sarre, A., Poore, D. and Johnson, S. 2011. Status of tropical forest management 2011. ITTO, Yokohama. Available at: <a href="http://www.itto.int/sfm/">http://www.itto.int/sfm/</a>         | Forest management (protection) | 2011      | 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

|     |
|-----|
| N/A |
|-----|

## 12.3 Analysis and processing of national data

## 12.3.1 Adjustment

|     |
|-----|
| N/A |
|-----|

## 12.3.2 Estimation and forecasting

If we consider the 1998 data on high forests valid for year 2000, we get the following table:

|  | 2000          |
|--|---------------|
| Forest Plantations (production) (1 000 ha)       | 316           |
| High Forest (Production) (1 000 ha)              | 3 794         |
| Natural reserves etc. (Cat. I and II) (1 000 ha) | 2 509         |
| Remaining (difference) (1 000 ha)                | 6 518         |
| <b>TotalForest(1 000 ha)</b>                     | <b>13 137</b> |



Total area of forest and of forest plantations are taken from Question 1. The area of “High Forest” and “Remaining” is estimated by applying their relative proportions in 2000 to the difference [Total forest area – forest plantations – Natural Reserves].

### 12.3.3 Reclassification

N/A

## 12.4 Data

Table 12

| Categories  |   | Forest area 2010 (000 ha) |
|---|---|---------------------------|
|  | Forest area intended to be in permanent forest land use |                           |
|  | ... of which permanent forest estate                    | 4105                      |

### Tiers

| Category  | Tier for status |
|---|-----------------|
| Forest area intended to be in permanent forest land use | Tier 2          |
| Permanent forest estate                                 | Tier 2          |

### Tier Criteria

| Category  | Tier for status   |
|---|---|
| Forest area intended to be in permanent forest land use | <b>Tier 3</b> : National or sub-national land use plans strategy documents or other reports within the past 10 years<br><b>Tier 2</b> : National or sub-national land use plans strategy documents or other reports within the past 20 years<br><b>Tier 1</b> : Other |
| Permanent forest estate                                 | <b>Tier 3</b> : National or sub-national land use plans strategy documents or other reports within the past 10 years<br><b>Tier 2</b> : National or sub-national land use plans strategy documents or other reports within the past 20 years<br><b>Tier 1</b> : 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                                 | ITTO information has been used. No other data is presently available. |

Other general comments

|  |
|--|
|  |
|--|

### 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                    | NA               |                            | yes      |                        |                        |                                    |                                     |
| Other field assessments  | N/A                    | NA               |                            | yes      |                        |                        |                                    |                                     |
| Updates to other sources | N/A                    | NA               |                            |          |                        |                        |                                    |                                     |
| Expert estimate          | N/A                    | NA               |                            |          |                        |                        |                                    |                                     |

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

|  |
|--|
|  |
|--|



## 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<br>( <i>sub-category</i> )   | Forest management plan mainly focused on production   |
| ...of which for conservation<br>( <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 | <a href="http://www.wcmc.org">www.wcmc.org</a>   | Protected Area                 | N/A       | N/A                 |
| 2 | Olufemi A. Olaleye and Ameh, C. E. 1999. Forest Resource Situation Assessment of Nigeria EC-FAO PARTNERSHIP PROGRAMME (1998-2002); Tropical forestry Budget line B7-6201/97-15/ VIII/FOR, Abuja, Nigeria | Forest cover Plantation area   | 1977 1994 | N/A                 |
| 3 | ITTO, Status of Tropical Forest Management, 2005   | Forest management              | N/A       | N/A                 |
| 4 | UNEP-WCMC 2004. Spatial analysis of forests within protected areas in ITTO countries. UNEPWCMC, Cambridge, UK. Data prepared for ITTO, 2004  | Forest management (protection) | 2004      | N/A                 |
| 5 | Blaser, J., Sarre, A., Poore, D. and Johnson, S. 2011. Status of tropical forest management 2011. ITTO, Yokohama. Available at: <a href="http://www.itto.int/sfm/">http://www.itto.int/sfm/</a>          | Forest management (protection) | 2011      | N/A                 |

### 14.3 Data

Table 14a

| Forest plan type                 | Forest area 2010 (000 ha) |
|----------------------------------|---------------------------|
| Forest area with management plan | 3730                      |
| ... of which for production      | 1730                      |
| ... of which for conservation    | 2000                      |

Table 14b

| Indicate which (if any) of the following are required in forest management plans in your country |     |
|--|-----|
| 1 Soil and water management  | yes |
| 2 High conservation value forest delineation   | yes |
| 3 Social considerations community involvement  | yes |

Table 14c

|   |    |
|---|----|
| Percent of area under forest management plan that is monitored annually | 10 |
|---|----|

## Tiers

| Category  | Tier for status |
|---|-----------------|
| Forest area with management plan  | Tier 1          |
| Percent of area under forest management plan that is monitored annually | Tier 1          |

## Tier criteria

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

## 14.4 Comments

| Category                         | Comments  |
|----------------------------------|---|
| Forest area with management plan | According to ITTO report 2005, management for production and protection = 2720000 + 1010000 = 3730000ha |

|     |  |
|-----|--|
| N/A | <p>According to FAO (2010), the available information on Nigeria’s forests “is either obsolete or based on extrapolation from very old data. Nigeria falls short of the basic standard of acquiring regular and up to date data on the forest resources”. While many forest reserves were intensively managed in the past for timber production, a significant number has also been almost completely deforested while retaining the designation, leading to the apparent contradiction of non-forested forest reserves (ITTO 2006).</p> |
| 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   | yes |
| 2. Operations phase   | yes |
| 3. Review of operations   | yes |

Tiers

| Category                   | Tier for status |
|----------------------------|-----------------|
| Type of stakeholder inputs | Tier 2          |

Tier criteria

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

### 15.2 Comments

| Category | Comments   |
|----------|--|
| Tier 2   | Suggestion to attain sustainable forest management |
| N/A      | N/A  |
| N/A      | N/A  |

Other general comments

|  |
|--|
|  |
|--|

## 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 |
|  | 1. Name | 0                    | 0    | 0    | 0    | 0    | 0    | 0    |
|  | 2. Name | 0                    | 0    | 0    | 0    | 0    | 0    | 0    |
|  | 3. Name | 0                    | 0    | 0    | 0    | 0    | 0    | 0    |

|   |         | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |  |
|---|---------|------|------|------|------|------|------|--|
|  | 1. Name | 0    | 0    | 0    | 0    | 0    | 0    |  |
|  | 2. Name | 0    | 0    | 0    | 0    | 0    | 0    |  |
|  | 3. Name | 0    | 0    | 0    | 0    | 0    | 0    |  |

## Tier criteria

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

## Tiers

| Category   | Tier for status |
|--|-----------------|
| <b>International</b> forest management certification | Tier 3          |
| <b>Domestic</b> forest management certification      | Tier 3          |

## 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

|  |
|--|
|  |
|--|

## 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"> <li>• <u>Goods</u> : roundwood; sawnwood; biomass; woodbased panels; pulp and paper and non-wood forest products.</li> <li>• <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.</li> </ul> |
| 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 | Federal Department of Forestry       | Allocation             | 2000-2005 | N/A                 |
| 2 | State Forestry Departments           | Allocation and revenue | 2000-2005 | 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 | 450  | 500  | 50000 |

|                        |       |      |      |
|------------------------|-------|------|------|
|                        | 2000  | 2005 | 2010 |
| Name of Local Currency | Naira | N/A  | N/A  |

**17.4 Comments**

| Category                       | Comments related to data definitions etc  |
|--------------------------------|---|
| Forest revenue                 | N/A   |
| Public expenditure on forestry | Operational expenditure Revenue generated is paid into Central Government Treasury Allocation of Funds to Departments is at the discretion of budget office and not necessarily proportional to the amount contributed to government purse. |
| 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<br>( <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<br>( <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<br>( <i>sub-category</i> )   | Forest owned by individuals and families.  |
| ...of which private business entities and institutions<br>( <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<br>( <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 | www.wcmc.org   | Protected Area               | N/A       | N/A                 |
| 2 | Olufemi A. Olaleye and Ameh, C.E. 1999. Forest Resource Situation Assesment of Nigeria EC-FAO PARTNERSHIP PROGRAMME (1998-2002); Tropical Forestry Budget Line B7-6201/97-15/VIII/ FOR, Abuja, Nigeria | Forest Cover Plantation Area | 1977 1994 | N/A                 |
| 3 | ITTO, Status of Tropical Forest Management, 2005   | Forest Management            | 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    |
|    | Public ownership   | 17234                       | 13137    | 11089    | 9041    |
|    | ... of which owned by the state at national scale                    | N/A                         | N/A      | N/A      | N/A     |
|    | ... of which owned by the state at the sub-national government scale | N/A                         | N/A      | N/A      | N/A     |
|    | Private ownership  | 0                           | 0        | 0        | 0       |
|    | ... of which owned by individuals                                    | 0                           | 0        | 0        | 0       |
|    | ... of which owned by private business entities and institutions     | 0                           | 0        | 0        | 0       |
|  | ... of which owned by local, tribal and indigenous communities       | 0                           | 0        | 0        | 0       |
|  | Unknown ownership  | 0                           | 0        | 0        | 0       |
| TOTAL   |  | 17234.00                    | 13137.00 | 11089.00 | 9041.00 |

## Tiers

| Category          | Tier for status | Tier for reported trend |
|-------------------|-----------------|-------------------------|
| Public ownership  | Tier 1          | Tier 1                  |
| Private ownership | Tier 1          | Tier 1                  |
| Unknown ownership | Tier 1          | Tier 1                  |

## 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 | <b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other |
|-----------|--|---|

Table 18b - Holder of management rights of public forests

| Categories            | Forest area (000 hectares) |          |          |         |
|-----------------------|----------------------------|----------|----------|---------|
|                       | 1990                       | 2000     | 2005     | 2010    |
| Public Administration | 17234                      | 13137    | 11089    | 9041    |
| 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     |
| <b>TOTAL</b>          | 17234.00                   | 13137.00 | 11089.00 | 9041.00 |

| Category              | Tier for reported trend | Tier for status |
|-----------------------|-------------------------|-----------------|
| Public Administration | Tier 1                  | Tier 1          |
| Individuals           | Tier 1                  | Tier 1          |
| Private companies     | Tier 1                  | Tier 1          |
| Communities           | Tier 1                  | Tier 1          |
| Other                 | Tier 1                  | Tier 1          |

### 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 | FORMACU, Federal Department of Forestry (1996) Nigeria Forestry Action Programme  | 1996      | Data based on national field survey  | N/A                 |
| 2 | Adedoyin, O.S. (2001). Formulation and Implementation of National forest programmes in Nigeria. Report prepared for FAO | 2000      | Data based on National field survey. | 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  |
|---|---|
| Federal Dept. of Forestry (FDF)                           | Personal working with the National Government (Federal Government of Nigeria) |
| State Forestry Department (SFD)                           | Personal working with the state government (forestry sub-sector)              |
| Forestry Research Institute of Nigeria(FRIN) & University | N/A   |
| N/A   | N/A   |



#### 19.2.3 Original data

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|               | 1990   | 2000   |
|---------------|--------|--------|
| FDF Employees | 1 023  | 803    |
| SFD Employees | 9 424  | 9 938  |
| Total         | 10 447 | 10 741 |

### 19.3 Data

Table 19

| Category  |                        | Employment (000 years FTE) |      |      |      |
|---|------------------------|----------------------------|------|------|------|
|   |                        | 1990                       | 2000 | 2005 | 2010 |
|  | Employment in forestry | 9.4                        | 9.9  | 10   | 12   |
|  | ... of which female    | 0.94                       | 0.99 | 1    | 1.2  |

### 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

It is estimated that 10% of work force are females.

## 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) | 110330.8 | Naira    | 2009                                  |

### 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 | Expert Knowledge                     | 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 | 13094                | 20713 |

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 | 25% in 2020 and 30% in 2030. |

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|                                  |     |
|----------------------------------|-----|
| Forests earmarked for conversion | N/A |
|----------------------------------|-----|

Other general comments

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