



**Forestry Department**

**Food and Agriculture Organization of the United Nations**

**GLOBAL FOREST RESOURCES  
ASSESSMENT 2010**

**COUNTRY REPORTS**

**AFGHANISTAN**

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## The Forest Resources Assessment Programme

Sustainably managed forests have multiple environmental and socio-economic functions important at the global, national and local scales, and play a vital part in sustainable development. Reliable and up-to-date information on the state of forest resources - not only on area and area change, but also on such variables as growing stock, wood and non-wood products, carbon, protected areas, use of forests for recreation and other services, biological diversity and forests' contribution to national economies - is crucial to support decision-making for policies and programmes in forestry and sustainable development at all levels.

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Forest Resources Assessment Programme. This country report forms part of the Global Forest Resources Assessment 2010 (FRA 2010).

The reporting framework for FRA 2010 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related fora and includes variables related to the extent, condition, uses and values of forest resources, as well as the policy, legal and institutional framework related to forests. More information on the FRA 2010 process and the results - including all the country reports - is available on the FRA Web site ([www.fao.org/forestry/fra](http://www.fao.org/forestry/fra)).

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

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## **Report preparation and contact persons**

No report has been received from Afghanistan.

This report is the result of a desk study prepared by the FRA secretariat in Rome, which summarizes existing available information using the established format for FRA 2010 country reports.

# 1 Table T1 – Extent of Forest and Other wooded land

## 1.1 FRA 2010 Categories and definitions

| Category  | Definition   |
|---|--|
| Forest  | Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds <i>in situ</i> . It does not include land that is predominantly under agricultural or urban land use.   |
| Other wooded land   | Land not classified as “Forest”, spanning more than 0.5 hectares; with trees higher than 5 meters and a canopy cover of 5-10 percent, or trees able to reach these thresholds <i>in situ</i> ; or with a combined cover of shrubs, bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use. |
| Other land  | All land that is not classified as “Forest” or “Other wooded land”.  |
| Other land with tree cover (Subordinated to “Other land”) | Land classified as “Other land”, spanning more than 0.5 hectares with a canopy cover of more than 10 percent of trees able to reach a height of 5 meters at maturity.  |
| Inland water bodies                                       | Inland water bodies generally include major rivers, lakes and water reservoirs.  |

## 1.2 National data

### 1.2.1 Data sources

| References to sources of information   | Quality (H/M/L) | Variable(s)        | Year(s) | Additional comments   |
|--|-----------------|--------------------|---------|-----------------------|
| FAO. 1999. Provincial Land Cover Atlas of Islamic Republic of Afghanistan FAO Project AFG/90/002. FAO                | H               | Land Cover         | 1993    | Secondary data source |
| ADB. 2002. Afghanistan Natural resources and agricultural sector comprehensive needs assessment. Final draft report. | M               | Deforestation      | 2001    | Secondary data source |
| UNEP. 2003. Afghanistan. Post Conflict Environmental Assessment. UNEP. Switzerland.                                  | M               | Extent – Woodlands | 2001    | Secondary data source |

### 1.2.2 Classification and definitions

No national definitions and classifications are available

### 1.2.3 Original data

#### A. For 1993

FAO, 1999 provides following detailed information on the land cover in Afghanistan in 1993.

| National class                                    | Area<br>(1000 ha) |
|---|-------------------|
| Urban   | 29                |
| Fruit trees                                       | 53                |
| Vineyards   | 38                |
| Gardens   | 3                 |
| Irrigated - Intensively cultivated (2 crops/year) | 189               |
| Irrigated - Intensively cultivated (1 crop/year)  | 1371              |
| Irrigated - Intermittently cultivated             | 1648              |
| Rainfed crops in flat laying areas                | 669               |
| Rainfed crops - Sloping areas                     | 3849              |
| Pistachio forests                                 | 31                |
| Natural forest (closed)                           | 942               |
| Natural forest (open)                             | 248               |
| Degenerate forest/ high shrubs                    | 116               |
| Rangeland/grassland/forbs/bare soil/low shrubs    | 29177             |
| Rock outcrop                                      | 17886             |
| Sand covered areas                                | 3023              |
| Sand dunes  | 3157              |
| Marsh land - Permanently inundated                | 274               |
| Marsh land – seasonal                             | 144               |
| Water bodies                                      | 248               |
| Permanent snow                                    | 1463              |
| <b>TOTAL Country Area</b>                         | <b>64559</b>      |

#### B. After 2000

##### (i) Forests

The ADB (2002) and the UNEP (2003) reports indicate massive deforestation both in forests and woodlands in the period 1977 to 2002.

##### (ii) Wood Lands

The “Post-conflict environmental assessment” report (UNEP, 2003) indicates that in the eastern region (where most of the vegetation occurs) 50 to 80 percent of the wood lands have been deforested during 1977 to 2002. However, national figures are not provided in the report.

A USAID report states that “The wild Pistachio woodlands of Afghanistan have declined rapidly over the past 30 years, from 40 to 100 trees per hectare to the current estimate of 20 to 40 trees per hectare, due primarily to cutting of trees, over grazing and damage to trees through uncontrolled harvesting of the pistachio nuts.”

## D. After 2005

During the period 2004-2005, USAID has supported three projects directly related to combating desertification in Afghanistan. Results of the program to date include the following:

- 200 hectares of native forest are under restoration in Kabul Green
- Rehabilitation of Pistachio woodlands in the pistachio belt extending from northern to north-western Afghanistan and conifer forests in eastern Afghanistan. By early 2006, all seeding was completed for the thirty-two reforestation subprojects in twelve provinces for a total of 186 ha of pistachio woodlands and 83 ha of conifer forest.

In 2009 USAID in coordination with regional Departments of Agriculture announced of planting, 510 hectares of land in 13 districts. Small patches of forest (0.2 ha) were planted by families.

### 1.3 Analysis and processing of national data

#### 1.3.1 Reclassification into FRA 2010 categories

The following table indicates re-classification done.

| Reclassification                               | Forest | Other wooded land |
|--|--------|-------------------|
| Pistachio forests                              | 100 %  |                   |
| Natural Forest (closed & open)                 | 100%   |                   |
| Degenerate forest/ high shrubs                 | 100%   |                   |
| Rangeland/grassland/forbs/bare soil/low shrubs |        | 100 %             |

All areas not reclassified as forest or other wooded land was reclassified as other land.

#### 1.3.2 Calibration

The total area reported in the national data sets above differs from the area according to FAOSTAT, as shown below.

|   |        |
|---|--------|
| FAOSTAT Total area (000 ha)               | 65 209 |
| FAOSTAT land area (000 ha)                | 65 209 |
| FAOSTAT Inland water bodies area (000 ha) | 0      |

A land area calibration factor 1.01006831 was used.

### A. Adjusted and reclassified data for 1993

| Broad National Classes    | Area (1000 ha) |
|---------------------------|----------------|
| Forest                    | 1350           |
| Other wooded land         | 29471          |
| Other land                | 34388          |
| Inland Water bodies       | 0              |
| <b>Total Country Area</b> | <b>65209</b>   |

### 1.3.3 Estimation and forecasting

No estimation and forecasting have been done, since there is no reliable basis to do it. The calibrated 1993 figures are used to report all the years. The areas of “Other land with tree cover” have not been reported on due to insufficient data.

### 1.4 Data for Table T1

| FRA 2010 categories         | Area (1000 hectares) |               |               |               |
|-----------------------------|----------------------|---------------|---------------|---------------|
|                             | 1990                 | 2000          | 2005          | 2010          |
| Forest                      | 1350                 | 1350          | 1350          | 1350          |
| Other wooded land           | 29471                | 29471         | 29471         | 29471         |
| Other land                  | 34388                | 34388         | 34388         | 34388         |
| ...of which with tree cover | n.a.                 | n.a.          | n.a.          | n.a.          |
| Inland water bodies         | 0                    | 0             | 0             | 0             |
| <b>TOTAL</b>                | <b>65 209</b>        | <b>65 209</b> | <b>65 209</b> | <b>65 209</b> |

### 1.5 Comments to Table T1

| Variable / category        | Comments related to data, definitions, etc. | Comments on the reported trend   |
|----------------------------|---|--|
| Forest                     |   | There are several documents indicating ongoing deforestation and forest degradation but no data to support a trend estimate. |
| Other wooded land          |   |  |
| Other land                 |   |  |
| Other land with tree cover |   |  |
| Inland water bodies        |   |  |

| Other general comments to the table |
|-------------------------------------|
|                                     |

| Expected year for completion of ongoing/planned national forest inventory and/or RS survey / mapping |  |
|--|--|
| Field inventory  |  |
| Remote sensing survey / mapping  |  |



## 2 Table T2 – Forest ownership and management rights

### 2.1 FRA 2010 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.  |
| Private ownership   | Forest owned by individuals, families, communities, private co-operatives, corporations and other business entities, private religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions. |
| Individuals<br>(sub-category of Private ownership)                                      | Forest owned by individuals and families.  |
| Private business entities and institutions<br>(sub-category of Private ownership)       | Forest owned by private corporations, co-operatives, companies and other business entities, as well as private non-profit organizations such as NGOs, nature conservation associations, and private religious and educational institutions, etc.                         |
| Local communities<br>(sub-category of Private ownership)                                | Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area. The community members are co-owners that share exclusive rights and duties, and benefits contribute to the community development.            |
| Indigenous / tribal communities<br>(sub-category of Private ownership)                  | Forest owned by communities of indigenous or tribal people.  |
| Other types of ownership  | Other kind of ownership arrangements not covered by the categories above. Also includes areas where ownership is unclear or disputed.  |
| <b>Categories related to the holder of management rights of public forest resources</b> |  |
| 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 institutions  | Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities, private co-operatives, private non-profit 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.  |

## 2.2 National data

### 2.2.1 Data sources

| References to sources of information  | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments   |
|---|-----------------|-------------|---------|-----------------------|
| Tandon, J. C. 1988. Forest and Forestry in Afghanistan. Sector Review. AFG/86/011. FAO. | M               | Extent      | 1988    | Secondary data source |

### 2.2.2 Original data

Data from Table T1 used as input. All forests belong to the government but it has not been possible for the government to have full and effective control of the forest areas (Tandon 1988).

## 2.3 Data for Table T2

**Table 2a - Forest ownership**

| FRA 2010 Categories   | Forest area (1000 hectares) |              |             |
|---|-----------------------------|--------------|-------------|
|   | 1990                        | 2000         | 2005        |
| Public ownership  | 1350                        | 1350         | 1350        |
| Private ownership   | 0                           | 0            | 0           |
| ...of which owned by individuals                                | 0                           | 0            | 0           |
| ...of which owned by private business entities and institutions | 0                           | 0            | 0           |
| ...of which owned by local communities                          | 0                           | 0            | 0           |
| ...of which owned by indigenous / tribal communities            | 0                           | 0            | 0           |
| Other types of ownership  | 0                           | 0            | 0           |
| <b>TOTAL</b>  | <b>1 350</b>                | <b>1 350</b> | <b>1350</b> |

Note: If other types of ownership is reported, please specify details in comment to the table.

|   |                          |     |
|---|--------------------------|-----|
| Does ownership of trees coincide with ownership of the land on which they are situated? | <input type="checkbox"/> | Yes |
|   | <input type="checkbox"/> | No  |
| If <b>No</b> above, please describe below how the two differ:                           |                          |     |
|   |                          |     |

**Table 2b - Holder of management rights of public forests**

| FRA 2010 Categories                   | Forest area (1000 hectares) |      |      |
|---------------------------------------|-----------------------------|------|------|
|                                       | 1990                        | 2000 | 2005 |
| Public Administration                 |                             |      |      |
| Individuals                           |                             |      |      |
| Private corporations and institutions |                             |      |      |
| Communities                           |                             |      |      |
| Other                                 |                             |      |      |
| <b>TOTAL</b>                          |                             |      |      |

**2.4 Comments to Table T2**

| Variable / category      | Comments related to data, definitions, etc. | Comments on the reported trend |
|--------------------------|---|--------------------------------|
| Public ownership         |   |                                |
| Private ownership        |   |                                |
| Other types of ownership |   |                                |
| Management rights        |   |                                |

| Other general comments to the table |
|-------------------------------------|
|                                     |

### 3 Table T3 – Forest designation and management

#### 3.1 FRA 2010 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. |
| Protected areas                                      | Areas especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.   |
| <b>Categories of primary designated functions</b>    |   |
| Production   | Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.   |
| Protection of soil and water                         | Forest area designated primarily for protection of soil and water.  |
| 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.  |
| Social services                                      | Forest area designated primarily for social services.   |
| Multiple use   | Forest area designated primarily for more than one purpose and where none of these alone is considered as the predominant designated function.  |
| Other  | Forest areas designated primarily for a function other than production, protection, conservation, social services or multiple use.  |
| No / unknown   | No or unknown designation.  |
| <b>Special designation and management categories</b> |   |
| Area of permanent forest estate (PFE)                | Forest area that is designated to be retained as forest and may not be converted to other land use.   |
| Forest area within protected areas                   | Forest area within formally established protected areas independently of the purpose for which the protected areas were established.  |
| Forest area under sustainable forest management      | To be defined and documented by the country.  |
| Forest area with management plan                     | Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, which is periodically revised.   |

#### 3.2 National data

##### 3.2.1 Data sources

| References to sources of information   | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments   |
|--|-----------------|-------------|---------|-----------------------|
| <b>Tandon, J. C.</b> 1988. Forest and Forestry in Afghanistan. Sector Review. AFG/86/011. FAO. | M               | Designation | 1988    | Secondary data source |
| <b>UNEP.</b> 2003. Afghanistan. Post Conflict Environmental Assessment. UNEP. Switzerland.     | M               | Designation | 2001    | Secondary data source |

### 3.2.2 Classification and definitions

| National class | Definition |
|----------------|------------|
| Not available  |            |

### 3.2.3 Original data

Data from Table T1 used as input. The two reports (Tandon, 1988 and UNEP, 2003) indicate that forests and OWL are being used for variety of purposes.

## 3.3 Analysis and processing of national data

### 3.3.1 Reclassification into FRA 2010 categories

The “multipurpose” primary has been assigned to all the areas of forest since both the reports (Tandon, 1988 and UNEP, 2003) indicate that forests and OWL are being used for variety of purposes.

### 3.4 Data for Table T3

**Table 3a – Primary designated function**

| FRA 2010 Categories                                | Forest area (1000 hectares) |              |              |              |
|--|-----------------------------|--------------|--------------|--------------|
|  | 1990                        | 2000         | 2005         | 2010         |
| Production   | 0                           | 0            | 0            | 0            |
| Protection of soil and water                       | 0                           | 0            | 0            | 0            |
| Conservation of biodiversity                       | 0                           | 0            | 0            | 0            |
| Social services                                    | 0                           | 0            | 0            | 0            |
| Multiple use                                       | 1350                        | 1350         | 1350         | 1350         |
| Other (please specify in comments below the table) | 0                           | 0            | 0            | 0            |
| No / unknown                                       | 0                           | 0            | 0            | 0            |
| <b>TOTAL</b>                                       | <b>1 350</b>                | <b>1 350</b> | <b>1 350</b> | <b>1 350</b> |

**Table 3b – Special designation and management categories**

| FRA 2010 Categories                             | Forest area (1000 hectares) |      |      |      |
|---|-----------------------------|------|------|------|
|   | 1990                        | 2000 | 2005 | 2010 |
| Area of permanent forest estate                 |                             |      |      |      |
| Forest area within protected areas              |                             |      |      |      |
| Forest area under sustainable forest management |                             |      |      |      |
| Forest area with management plan                |                             |      |      |      |

### 3.5 Comments to Table T3

| Variable / category                             | Comments related to data, definitions, etc. | Comments on the reported trend |
|---|---|--------------------------------|
| Production                                      |   |                                |
| Protection of soil and water                    |   |                                |
| Conservation of biodiversity                    |   |                                |
| Social services                                 |   |                                |
| Multiple use                                    |   |                                |
| Other   |   |                                |
| No / unknown designation                        |   |                                |
| Area of permanent forest estate                 |   |                                |
| Forest area within protected areas              |   |                                |
| Forest area under sustainable forest management |   |                                |
| Forest area with management plan                |   |                                |

| Other general comments to the table |
|-------------------------------------|
|                                     |

#### **4 Table T4 – Forest characteristics**

During the period 2004-2005, USAID has supported three projects directly related to combating desertification in Afghanistan. Results of the program to date include the following:

- 200 hectares of native forest are under restoration in Kabul Green
- Rehabilitation of Pistachio woodlands in the pistachio belt extending from northern to northwestern Afghanistan and conifer forests in eastern Afghanistan. By early 2006, all seeding was completed for the thirty-two reforestation subprojects in twelve provinces for a total of 186 ha of pistachio woodlands and 83 ha of conifer forest.

In 2009 USAID in coordination with regional Departments of Agriculture announced of planting, 510 hectares of land in 13 districts. Small patches of forest (0.2 ha) were planted by families.

A variety of reforestation and land rehabilitation and conservation activities funded by the USAID started in 2005, and are continuing during 2006, but due to a lack of a proper assessment it was not possible to use these figures for the purpose of this table. For the same reason since the information used for table one it is not giving any information on the regeneration method, it is not possible to compile this table.

## **5 Table T5 – Forest establishment and reforestation**

A variety of reforestation and land rehabilitation and conservation activities funded by the USAID started in 2005, and is continuing during 2006 and 2009, but due to a lack of a proper assessment it was not possible to use these figures for the purpose of this table.



## 6 Table T6 – Growing stock

### 6.1 FRA 2010 Categories and definitions

| Category                            | Definition   |
|-------------------------------------|--|
| Growing stock                       | Volume over bark of all living trees more than X cm in diameter at breast height (or above buttress if these are higher). Includes the stem from ground level or stump height up to a top diameter of Y cm, and may also include branches to a minimum diameter of W cm. |
| Growing stock of commercial species | Growing stock (see def. above) of commercial species.  |

### 6.2 National data

#### 6.2.1 Data sources

| References to sources of information  | Quality (H/M/L) | Variable(s)   | Year(s) | Additional comments   |
|---|-----------------|---------------|---------|-----------------------|
| Tandon, J. C. 1988. Forest and Forestry in Afghanistan. Sector Review. AFG/86/011. FAO.               | M               | Growing Stock | 1979    | Secondary data source |
| FAO. 1999. Provincial Land Cover Atlas of Islamic Republic of Afghanistan FAO Project AFG/90/002. FAO | H               | Land Cover    | 1993    | Secondary data source |

#### 6.2.2 Original data

There has been no proper inventory of forest resources in Afghanistan. Tandon (1988) has reported that the forest department estimates that 10 million cubic meters is a reasonable figure for their growing stock for timber keeping view the excessive felling in the past. He questioned this information since there was no support for it.

However, for the purposes of this report, this figure is being treated as an expert estimate by national forestry department as the commercial growing stock in forests for timber in 1990 especially when the commercial growing stock is as low as 6.27 cubic meter per hectare.

### 6.3 Analysis and processing of national data

#### 6.3.1 Estimation and forecasting

The expert estimate by national forestry department of its timber growing stock (10 million cubic meters or 6.27 m<sup>3</sup>/ha) in forests in 1988 is being treated as commercial growing stock in 1993. Further, it has been assumed that commercial growing stock is about 40 percent of the total growing stock which yields 15.66 m<sup>3</sup>/ha mean volume. The total growing stock is

obtained by multiplying this figure with the forest area from Table T1. The total growing stock estimate is used to report for all the years.

| Variables                             | 1993  |
|---------------------------------------|-------|
| Growing stock per ha (cubic meter/ha) | 15.66 |
| Area of forest (000 ha)               | 1350  |
| Growing stock (million cubic meters)  | 21.14 |

### 6.3.2 Reclassification into FRA 2010 categories

### 6.4 Data for Table T6

Table 6a – Growing stock

| FRA 2010 category                   | Volume (million cubic meters over bark) |      |      |      |                   |      |      |      |
|-------------------------------------|---|------|------|------|-------------------|------|------|------|
|                                     | Forest                                  |      |      |      | Other wooded land |      |      |      |
|                                     | 1990                                    | 2000 | 2005 | 2010 | 1990              | 2000 | 2005 | 2010 |
| Total growing stock                 | 21.1                                    | 21.1 | 21.1 | 21.1 | n.a.              | n.a. | n.a. | n.a. |
| ... of which coniferous             | n.a.                                    | n.a. | n.a. | n.a. | n.a.              | n.a. | n.a. | n.a. |
| ... of which broadleaved            | n.a.                                    | n.a. | n.a. | n.a. | n.a.              | n.a. | n.a. | n.a. |
| Growing stock of commercial species | n.a.                                    | n.a. | n.a. | n.a. | n.a.              | n.a. | n.a. | n.a. |

Table 6b – Growing stock of the 10 most common species

| FRA 2010 category / Species name |                 |             | Growing stock in forest (million cubic meters) |      |      |
|----------------------------------|-----------------|-------------|--|------|------|
| Rank                             | Scientific name | Common name | 1990   | 2000 | 2005 |
| 1 <sup>st</sup>                  |                 |             |  |      |      |
| 2 <sup>nd</sup>                  |                 |             |  |      |      |
| 3 <sup>rd</sup>                  |                 |             |  |      |      |
| 4 <sup>th</sup>                  |                 |             |  |      |      |
| 5 <sup>th</sup>                  |                 |             |  |      |      |
| 6 <sup>th</sup>                  |                 |             |  |      |      |
| 7 <sup>th</sup>                  |                 |             |  |      |      |
| 8 <sup>th</sup>                  |                 |             |  |      |      |
| 9 <sup>th</sup>                  |                 |             |  |      |      |
| 10 <sup>th</sup>                 |                 |             |  |      |      |
| Remaining                        |                 |             |  |      |      |
| <b>TOTAL</b>                     |                 |             |  |      |      |

Note: Rank refers to the order of importance in terms of growing stock, i.e. 1<sup>st</sup> is the species with the highest growing stock. Year 2000 is the reference year for defining the species list and the order of the species.

**Table 6c – Specification of threshold values**

| Item   | Value | Complementary information |
|--|-------|---------------------------|
| Minimum diameter (cm) at breast height <sup>1</sup> of trees included in growing stock (X) | n.a.  |                           |
| Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)          | n.a.  |                           |
| Minimum diameter (cm) of branches included in growing stock (W)                            | n.a.  |                           |
| Volume refers to “above ground” (AG) or “above stump” (AS)                                 | n.a.  |                           |

## 6.5 Comments to Table T6

| Variable / category                       | Comments related to data, definitions, etc. | Comments on the reported trend |
|---|---|--------------------------------|
| Total growing stock                       |   |                                |
| Growing stock of broadleaved / coniferous |   |                                |
| Growing stock of commercial species       |   |                                |
| Growing stock composition                 |   |                                |

### Other general comments to the table

There has been no proper inventory of forest resources in Afghanistan. Tandon (1988) has reported that the forest department estimates that 10 million cubic meters is a reasonable figure for their growing stock. He questioned this information since there was no support for it. However, for the purposes of this report, this figure is being treated as an expert estimate by national forestry department as the commercial growing stock in forests in 1990.

<sup>1</sup> Diameter at breast height (DBH) refers to diameter over bark measured at a height of 1.30 m above ground level or 30 cm above buttresses if these are higher than 1 m.

## 7 Table T7 – Biomass stock

### 7.1 FRA 2010 Categories and definitions

| Category             | Definition  |
|----------------------|---|
| Above-ground biomass | All living biomass above the soil including stem, stump, branches, bark, seeds, and foliage.  |
| Below-ground biomass | All biomass of live roots. Fine roots of less than 2mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.  |
| Dead wood            | 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. |

### 7.2 National data

#### 7.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments  |
|--------------------------------------|-----------------|-------------|---------|--|
|                                      |                 |             |         | There is no national information on biomass. Therefore IPCC 2006 default factors are used. |

#### 7.2.2 Original data

No national information available, therefore IPCC 2006 default factors have been used along with growing stock information in Table 6.

### 7.3 Analysis and processing of national data

Following the FRA 2000 map of ecological zones, in Afghanistan it is possible to recognize the following ecological zones: subtropical mountain, temperate mountain, subtropical steppe and temperate steppe/prairie. Considering that the growing stock is < than 20 m<sup>3</sup>/ha and that most of the growing stock is composed of softwood species, an average value of BCEF of 3 has been chosen.

#### A. Above Ground Biomass

| Variables                             | 1990-2010 |
|---------------------------------------|-----------|
| Growing Stock in million cubic meters | 21.14     |
| BCEF                                  | 3         |
| Above Ground Biomass (million tonnes) | 63.42     |

## B. Below Ground Biomass

The ratio of below to above ground biomass following the IPCC guidelines is 0.28.

| Variables                             | 1990-2010 |
|---------------------------------------|-----------|
| Above Ground Biomass (million tonnes) | 63.42     |
| Root to Shoot Ratio                   | 0.28      |
| Below Ground Biomass (million tonnes) | 17.76     |

### 7.4 Data for Table T7

| FRA 2010 category    | Biomass (million metric tonnes oven-dry weight) |      |      |      |                   |      |      |      |
|----------------------|---|------|------|------|-------------------|------|------|------|
|                      | Forest  |      |      |      | Other wooded land |      |      |      |
|                      | 1990  | 2000 | 2005 | 2010 | 1990              | 2000 | 2005 | 2010 |
| Above-ground biomass | 63.4  | 63.4 | 63.4 | 63.4 | n.a.              | n.a. | n.a. | n.a. |
| Below-ground biomass | 17.8  | 17.8 | 17.8 | 17.8 | n.a.              | n.a. | n.a. | n.a. |
| Dead wood            | n.a.  | n.a. | n.a. | n.a. | n.a.              | n.a. | n.a. | n.a. |
| <b>TOTAL</b>         | n.a.  | n.a. | n.a. | n.a. | n.a.              | n.a. | n.a. | n.a. |

### 7.5 Comments to Table T7

| Variable / category  | Comments related to data, definitions, etc. | Comments on the reported trend |
|----------------------|---|--------------------------------|
| Above-ground biomass |   |                                |
| Below-ground biomass |   |                                |
| Dead wood            |   |                                |

| Other general comments to the table |
|-------------------------------------|
|                                     |

## 8 Table T8 – Carbon stock

### 8.1 FRA 2010 Categories and definitions

| Category                       | Definition  |
|--------------------------------|---|
| Carbon in above-ground biomass | Carbon in all living biomass above the soil, including stem, stump, branches, bark, seeds, and foliage.   |
| Carbon in below-ground biomass | Carbon in all 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 specified depth chosen by the country and applied consistently through the time series.   |

### 8.2 National data

#### 8.2.1 Original data

Carbon was calculated using biomass figure from table 7 and converting them using the 0.47 factor.

### 8.3 Data for Table T8

| FRA 2010 Category                      | Carbon (Million metric tonnes) |             |             |             |                   |             |             |             |
|--|--------------------------------|-------------|-------------|-------------|-------------------|-------------|-------------|-------------|
|  | Forest                         |             |             |             | Other wooded land |             |             |             |
|  | 1990                           | 2000        | 2005        | 2010        | 1990              | 2000        | 2005        | 2010        |
| Carbon in above-ground biomass         | 30                             | 30          | 30          | 30          | n.a.              | n.a.        | n.a.        | n.a.        |
| Carbon in below-ground biomass         | 8.3                            | 8.3         | 8.3         | 8.3         | n.a.              | n.a.        | n.a.        | n.a.        |
| <b>Sub-total: Living biomass</b>       | n.a.                           | n.a.        | n.a.        | n.a.        | n.a.              | n.a.        | n.a.        | n.a.        |
| Carbon in dead wood                    | n.a.                           | n.a.        | n.a.        | n.a.        | n.a.              | n.a.        | n.a.        | n.a.        |
| Carbon in litter                       | n.a.                           | n.a.        | n.a.        | n.a.        | n.a.              | n.a.        | n.a.        | n.a.        |
| <b>Sub-total: Dead wood and litter</b> | n.a.                           | n.a.        | n.a.        | n.a.        | n.a.              | n.a.        | n.a.        | n.a.        |
| Soil carbon                            | n.a.                           | n.a.        | n.a.        | n.a.        | n.a.              | n.a.        | n.a.        | n.a.        |
| <b>TOTAL</b>                           | <b>n.a.</b>                    | <b>n.a.</b> | <b>n.a.</b> | <b>n.a.</b> | <b>n.a.</b>       | <b>n.a.</b> | <b>n.a.</b> | <b>n.a.</b> |

|  |  |
|--|--|
| Soil depth (cm) used for soil carbon estimates |  |
|--|--|

#### 8.4 Comments to Table T8

| Variable / category            | Comments related to data, definitions, etc. | Comments on the reported trend |
|--------------------------------|---|--------------------------------|
| Carbon in above-ground biomass |   |                                |
| Carbon in below-ground biomass |   |                                |
| Carbon in dead wood            |   |                                |
| Carbon in litter               |   |                                |
| Soil carbon                    |   |                                |

| Other general comments to the table |
|-------------------------------------|
|                                     |

**9 Table T9 – Forest fires**

No information available.

**10 Table T10 – Other disturbances affecting forest health and vitality**

No information available.



## 11 Table T11 – Wood removals and value of removals

### 11.1 FRA 2010 Categories and definitions

| Category                      | Definition   |
|-------------------------------|--|
| Industrial roundwood removals | The wood removed (volume of roundwood over bark) for production of goods and services other than energy production (woodfuel). |
| Woodfuel removals             | The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.                |

### 11.2 National data

#### 11.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s)                     | Year(s)                         | Additional comments |
|--------------------------------------|-----------------|---------------------------------|---------------------------------|---------------------|
| FAOSTAT, 2009                        |                 | Wood fuel, Industrial roundwood | 1988-1992, 1998-2002, 2003-2007 |                     |

#### 11.2.2 Classification and definitions

FAOSTAT uses the same definition of the categories Industrial roundwood and Woodfuel as FRA 2010. It is assumed that the term “Production” used in FAOSTAT can be used as a good estimate of “Removal”, although these terms are not identical.

FRA 2010 requests information on wood removal as volume over bark while the FAOSTAT figures refer to volume under bark. The figures are converted from volume under bark to volume over bark by application of a bark factor. The bark factor used is the “global” default conversion factor of 1.15.

#### 11.2.3 Original data

FAOSTAT provides the following data on wood production for the periods 1988-1992, 1998-2002 and 2003 – 2007:

| Category             | Volume m <sup>3</sup> under bark |         |         |         |         | Average 1988-1992 |
|----------------------|----------------------------------|---------|---------|---------|---------|-------------------|
|                      | 1988                             | 1989    | 1990    | 1991    | 1992    |                   |
| Industrial roundwood | 1440000                          | 1447000 | 1464000 | 1495000 | 1536000 | 1476400           |
| Woodfuel             | 641061                           | 662668  | 691216  | 711747  | 758676  | 693074            |
| <b>Total</b>         | 2081061                          | 2109668 | 2155216 | 2206747 | 2294676 | 2169474           |

| Category             | Volume m <sup>3</sup> under bark |         |         |         |         |                   |
|----------------------|----------------------------------|---------|---------|---------|---------|-------------------|
|                      | 1998                             | 1999    | 2000    | 2001    | 2002    | Average 1998-2002 |
| Industrial roundwood | 1737000                          | 1760000 | 1760000 | 1760000 | 1760000 | 1755400           |
| Woodfuel             | 1144995                          | 1209992 | 1278715 | 1314150 | 1350626 | 1259696           |
| <b>Total</b>         | 2881995                          | 2969992 | 3038715 | 3074150 | 3110626 | 3015096           |

| Category             | Volume m <sup>3</sup> under bark |         |         |         |         |                   |
|----------------------|----------------------------------|---------|---------|---------|---------|-------------------|
|                      | 2003                             | 2004    | 2005    | 2006    | 2007    | Average 2003-2007 |
| Industrial roundwood | 1760000                          | 1760000 | 1760000 | 1760000 | 1760000 | 1760000           |
| Woodfuel             | 1388176                          | 1426832 | 1466629 | 1498194 | 1530522 | 1462070           |
| <b>Total</b>         | 3148176                          | 3186832 | 3226629 | 3258194 | 3290522 | 3222070           |

### 11.3 Analysis and processing of national data

The volume figures from FAOSTAT refer to volume under bark, hence these figures must be converted to over-bark figures applying a bark factor. No national bark factor has been found, hence the global bark factor of 1.15 has been applied. The volume over bark is then as follows:

| Category             | Average 1988-1992<br>(m3 over bark) | Average 1998-2002<br>(m3 over bark) | Average 2003-2007<br>(m3 over bark) |
|----------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Industrial roundwood | 1697860                             | 2018710                             | 2024000                             |
| Woodfuel             | 797035                              | 1448650                             | 1681381                             |
| <b>Total</b>         | 2494895                             | 3467360                             | 3705381                             |

### 11.4 Data for Table T11

| FRA 2010 Category                                 | Industrial roundwood removals |      |      | Woodfuel removals |      |      |
|---|-------------------------------|------|------|-------------------|------|------|
|   | 1990                          | 2000 | 2005 | 1990              | 2000 | 2005 |
| Total volume (1000 m <sup>3</sup> o.b.)           | 1698                          | 2019 | 2024 | 797               | 1449 | 1681 |
| ... of which from forest                          | n.a.                          | n.a. | n.a. | n.a.              | n.a. | n.a. |
| Unit value (local currency / m <sup>3</sup> o.b.) | n.a.                          | n.a. | n.a. | n.a.              | n.a. | n.a. |
| Total value (1000 local currency)                 | n.a.                          | n.a. | n.a. | n.a.              | n.a. | n.a. |

Note: The figures for the reporting years refer to the averages of annually affected areas for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

|                        | 1990 | 2000 | 2005 |
|------------------------|------|------|------|
| Name of local currency |      |      |      |

### 11.5 Comments to Table T11

| Variable / category                           | Comments related to data, definitions, etc. | Comments on the reported trend |
|---|---|--------------------------------|
| Total volume of industrial roundwood removals |   |                                |
| Total volume of woodfuel removals             |   |                                |
| Unit value                                    |   |                                |
| Total value                                   |   |                                |

| <b>Other general comments to the table</b>  |
|---|
| FAOSTAT does not differentiate between production from Forests and other wooded land. |

## **12 Table T12 – Non-wood forest products removals and value of removals**

No information available.

## **13 Table T13 – Employment**

No information available.

## 14 Table T14 – Policy and legal framework

### 14.1 FRA 2010 Categories and definitions

| Term                            | Definition   |
|---------------------------------|--|
| Forest policy                   | A set of orientations and principles of actions adopted by public authorities in harmony with national socio-economic and environmental policies in a given country to guide future decisions in relation to the management, use and conservation of forest and tree resources for the benefit of society.   |
| Forest policy statement         | A document that describes the objectives, priorities and means for implementation of the forest policy.  |
| National forest programme (nfp) | A generic expression that refers to a wide range of approaches towards forest policy formulation, planning and implementation at national and sub-national levels. The national forest programme provides a framework and guidance for country-driven forest sector development with participation of all stakeholders and in consistence with policies of other sectors and international policies. |
| Law (Act or Code) on forest     | A set of rules enacted by the legislative authority of a country regulating the access, management, conservation and use of forest resources.  |

### 14.2 Data for Table T14

| Indicate the existence of the following (2008)         |                                     |   |                   |
|--|-------------------------------------|---|-------------------|
| <b>Forest policy statement with national scope</b>     | <input checked="" type="checkbox"/> | Yes   |                   |
|  | <input type="checkbox"/>            | No  |                   |
| If Yes above, provide:                                 | Year of endorsement                 | 2005  |                   |
|  | Reference to document               |   |                   |
| <b>National forest programme (nfp)</b>                 | <input type="checkbox"/>            | Yes   |                   |
|  | <input checked="" type="checkbox"/> | No  |                   |
| If Yes above, provide:                                 | Name of nfp in country              |   |                   |
|  | Starting year                       |   |                   |
|  | Current status                      | <input type="checkbox"/>  | In formulation    |
|  |                                     | <input type="checkbox"/>  | In implementation |
|  |                                     | <input type="checkbox"/>  | Under revision    |
| <input type="checkbox"/>                               |                                     | Process temporarily suspended   |                   |
| Reference to document or web site                      |                                     |   |                   |
| <b>Law (Act or Code) on forest with national scope</b> | <input checked="" type="checkbox"/> | Yes, specific forest law exists   |                   |
|  | <input type="checkbox"/>            | Yes, but rules on forests are incorporated in other (broader) legislation |                   |
|  | <input type="checkbox"/>            | No, forest issues are not regulated by national legislation               |                   |
| If Yes above, provide:                                 | Year of enactment                   | Not yet   |                   |
|  | Year of latest amendment            |   |                   |
|  | Reference to document               |   |                   |

| In case the responsibility for forest policy- and/or forest law-making is decentralized, please indicate the existence of the following and explain in the comments below the table how the responsibility for forest policy- and law-making is organized in your country. |   |     |
|--|---|-----|
| <b>Sub-national forest policy statements</b>   |   | Yes |
|  | x | No  |
| If Yes above, indicate the number of regions/states/provinces with forest policy statements  |   |     |
| <b>Sub-national Laws (Acts or Codes) on forest</b>   |   | Yes |
|  | x | No  |
| If Yes above, indicate the number of regions/states/provinces with Laws on forests   |   |     |

### 14.3 Comments to Table T14

| Variable / category                             | Comments related to data, definitions, etc.  |
|---|--|
| Forest policy statement with national scope     | The policy and strategy for forest and range management sub sector has been endorsed by the minister's economic committee of the Cabinet.<br>The policy implementation strategies are included in a Master plan for natural resources management and environmental protection. |
| National forest programme (nfp)                 |  |
| Law (Act or Code) on forest with national scope | A forest code has been formulated with the assistance of UNDP and FAO in 2007. (TCP/AFG/3001). The forest code is still on discussion and not yet enacted.   |
| Sub-national forest policy statements           |  |
| Sub-national Laws (Acts or Codes) on forest     |  |

| Other general comments to the table |
|-------------------------------------|
|                                     |

## 15 Table T15 – Institutional framework

### 15.1 FRA 2010 Categories and definitions

| Term  | Definition   |
|---|--|
| Minister responsible for forest policy-making | Minister holding the main responsibility for forest issues and the formulation of the forest policy.                                     |
| Head of Forestry                              | The Head of Forestry is the Government Officer responsible for implementing the mandate of the public administration related to forests. |
| Level of subordination                        | Number of administrative levels between the Head of Forestry and the Minister.   |
| University degree                             | Qualification provided by University after a minimum of 3 years of post secondary education.   |

### 15.2 Data for Table T15

Table 15a – Institutions

| FRA 2010 Category  | 2008  |  |
|--|---|--|
| Minister responsible for forest policy formulation : please provide full title | Ministry of Agriculture and Animal Husbandry (MAAH) |  |
| Level of subordination of Head of Forestry within the Ministry                 |   | 1 <sup>st</sup> level subordination to Minister          |
|  |   | 2 <sup>nd</sup> level subordination to Minister          |
|  |   | 3 <sup>rd</sup> level subordination to Minister          |
|  | x   | 4 <sup>th</sup> or lower level subordination to Minister |
| Other public forest agencies at national level                                 |   |  |
| Institution(s) responsible for forest law enforcement                          | Forestry directorate                                |  |

Table 15b – Human resources

| FRA 2010 Category                                | Human resources within public forest institutions |         |        |         |        |         |
|--|---|---------|--------|---------|--------|---------|
|  | 2000  |         | 2005   |         | 2008   |         |
|  | Number  | %Female | Number | %Female | Number | %Female |
| Total staff                                      | na  | na      | na     | na      | na     | na      |
| ...of which with university degree or equivalent | na  | na      | na     | na      | na     | na      |

Notes:

1. Includes human resources within public forest institutions at sub-national level
2. Excludes people employed in State-owned enterprises, education and research, as well as temporary / seasonal workers.

### 15.3 Comments to Table T15

| Variable / category  | Comments related to data, definitions, etc.  | Comments on the reported trend |
|--|--|--------------------------------|
| Minister responsible for forest policy formulation             | The Ministry of Agriculture is responsible for forest policy formulation in close collaboration with the ministry of environment |                                |
| Level of subordination of Head of Forestry within the Ministry | The Forest Directorate belongs to the Natural Resources Department which depends to the deputy minister of agriculture.          |                                |
| Other public forest agencies at national level                 |  |                                |
| Institution(s) responsible for forest law enforcement          |  |                                |
| Human resources within public forest institutions              |  |                                |

| Other general comments to the table |
|-------------------------------------|
|                                     |



## **16 Table T16 – Education and research**

There are no data available for this reporting table.

## **17 Table T17 – Public revenue collection and expenditure**

No data are available for this reporting table.