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

# GLOBAL FOREST RESOURCES ASSESSMENT 2010

# COUNTRY REPORT

# IRAN (ISLAMIC REPUBLIC OF)

FRA2010/096
Rome, 2010

## 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 ).

The Global Forest Resources Assessment process is coordinated by the Forestry Department at FAO headquarters in Rome. The contact person for matters related to FRA 2010 is:

Mette Løyche Wilkie
Senior Forestry Officer
FAO Forestry Department
Viale delle Terme di Caracalla
Rome 00153, Italy

E-mail: Mette.LoycheWilkie@fao.org

Readers can also use the following e-mail address: fra@fao.org

# Contents

## Report preparation and contact persons

No report has been received from Iran.

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 *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 *in situ*; 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 |
|---|---|---|---|---|
| Engineering Technical Bureau of FRWO | H | Satellite Images Landsat 5 TM | 1998 | Excluding fragmented Forests with around 0.5 ha. We are providing maps with 1:25000 to extract those forests in coming year 2005 |
| Technical Forest Management of FRWO | M | Land cover map 1:25000 for North of Iran Land Cover 1:250000 For the rest | 1997 | Base Map: 1997-8. Output Map: 2000 |

### 1.2.2 Classification and definitions

| National class | Definition |
|---|---|
| Forest | Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 5 percent, or trees able to reach these thresholds *in situ*. It does not include land that is predominantly under agricultural or urban land use. |

### 1.2.3 Original data

| | classification based on vegetation cover map 1/25000 in year2000 | Percentage Cover- % | Area/ 1000 ha. |
|---|---|---|---|
| Out of North Forests | First class | 100-50 | 843.495 |
| | Second Class | 25-50 | 2773.204 |
| | Third Class1 | 10-25 | 4175.553 |
| | Third Class2 | 10-5 | 2783.702 |
| | Mangrove Forest | - | 19.234 |
| North Forests | Hyrcanian Forest | 50-100 | 1847.886 |
| | Planted forest | - | 592.922 |
| | | | 13035.998 |

Through Iran FRA Expertise Group session the statistics of the table A mixed with other valid statistics plus expertise views and after correction some of statistics (first class , second class and thirdclass1 ) the total area for out of North Forest (>10%) changed to 8636046 ha instead of 7811486 ha.

**Table B: Forest Area with more than 10 % tree coverage**

| | Forest Area / 1000ha. |
|---|---|
| Out of North Forest | 8636.046 |
| North Forest | 1847.886 |
| Planted Forest | 592.922 |
| Total | 11074.554 |

Note: The figures in the table B is the original data used in FRA for calculation and for preparing other tables (the columns which related to year 2000).

**1997**

Forest area: 13 858 556 ha of which 11 074 854 have a crown cover of more than 10 percent.
Shrubland: 2 556 404 ha . Parks and green spaces: 82 624 ha

## *1.3 Analysis and processing of national data*

### 1.3.1 Calibration

The total land area and inland water was calibrated according to the FAO STAT. Calibration was done in the class of other land to keep the forest area constant.

### 1.3.2 Estimation and forecasting

**Forests:**

| **Forest (National Class)** | **Area/000ha** |
|---|---|
| 5%< | 13858.556 |

| **Forest (FRA2005 Classification)** | **Area/ 000ha** |
|---|---|
| 10%< | 11074.854 |

Other wooded lands = 2556.404 (000ha) Shrub lands + 2783.702 (000 ha) Forest less than 10% coverage, totalling 5340.106 (000 ha). Other land with tree cover includes the total area of parks + green spaces in the Out of North Forests.

There is no information available for estimating changes over time, but any deforestation is unlikely to exceed the annual planting rate, so the original data have been used for all the reporting years.

## *1.4 Data for Table T1*

| FRA 2010 categories | Area (1000 hectares) | | | |
|---|---|---|---|---|
| | 1990 | 2000 | 2005 | 2010 |
| Forest | 11 075 | 11 075 | 11 075 | 11 075 |
| Other wooded land | 5 340 | 5 340 | 5 340 | 5 340 |
| Other land | 146 440 | 146 440 | 146 440 | 146 440 |
| ...of which with tree cover | 83 | 83 | 83 | 83 |
| Inland water bodies | 11 660 | 11 660 | 11 660 | 11 660 |
| **TOTAL** | 174 515 | 174 515 | 174 515 | 174 515 |

## *1.5 Comments to Table T1*

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|---|---|---|
| Forest | The figures in the table entitled original data (Table A and Table B) are based on vegetation cover 1/25000 in year 2000. The method used for preparing this map is satellite data (1998) interpretation plus expertise views. | The above estimates are based on information from 1997. There is no information available for estimating changes over time, but any deforestation is unlikely to exceed the annual planting rate, so the original data have been used for all reporting years. |
| Other wooded land | | |
| Other land | | Around 600 000 ha of Total Forest are used as forest fallow. |
| Other land with tree cover | | |
| Inland water bodies | | |

| Other general comments to the table |
|---|
| The significant differences between forest area in FRA 2000 and FRA 2005 is related to different forest reclassification used for two FRAs (2000 and 2005) and also is related to unavailable valid statistics in the year which the FRA 2000 report was prepared for the country. |

| 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 *(sub-category of Private ownership)* | Forest owned by individuals and families. |
| Private business entities and institutions *(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 *(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 *(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. |
| **Categories related to the holder of management rights of public forest resources** | |
| 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 |
|---|---|---|---|---|
| Engineering Technical Bureau of FRWO | H | Public ownership | 2000 | |

### 2.2.2 Classification and definitions

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

### 2.2.3 Original data

According to the Constitutional Law of Iran, the principle 45, all of forests, shrub lands and other wooded lands are owned by the State. Table T1 has, therefore, been used as input to this table.

## *2.3 Data for Table T2*

**Table 2a - Forest ownership**

| FRA 2010 Categories | Forest area (1000 hectares) | | |
|---|---|---|---|
| | 1990 | 2000 | 2005 |
| Public ownership | 11 075 | 11 075 | 11 075 |
| Private ownership | 0 | 0 | 0 |
| ...of which owned by individuals | n.a. | n.a. | n.a. |
| ...of which owned by private business entities and institutions | n.a. | n.a. | n.a. |
| ...of which owned by local communities | n.a. | n.a. | n.a. |
| ...of which owned by indigenous / tribal communities | n.a. | n.a. | n.a. |
| Other types of ownership | 0 | 0 | 0 |
| **TOTAL** | 11 075 | 11 075 | 11 075 |

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? | | Yes |
| | | No |
| If **No** 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 | n.a. | n.a. | n.a. |
| Individuals | n.a. | n.a. | n.a. |
| Private corporations and institutions | n.a. | n.a. | n.a. |
| Communities | n.a. | n.a. | n.a. |
| Other | n.a. | n.a. | n.a. |
| **TOTAL** | **11 075** | **11 075** | **11 075** |

## *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. |
| **Categories of primary designated functions** | |
| 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. |
| **Special designation and management categories** | |
| 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 |
|---|---|---|---|---|
| Engineering Technical Bureau of FRWO | M | Conservation of biodiversity | 2004 | Arasbaran Forests (152 851 hectares). Some parts of this forest is conserved as biosphere reserve and the rest be conserved by FRWO and some restoration plans formulated for this forest. This forest is not national park. |
| Expert estimation. Head of Expert group Dr. Shamsollah Shariat Negad | M | Production forest | 2005 | |

### 3.2.2 Classification and definitions

| National class | Definition |
|---|---|
| Production | In accordance with the FRA classification |
| Conservation of biodiversity | In accordance with the FRA classification |
| Multiple purpose | In accordance with the FRA classification |

### 3.2.3 Original data

Production forest: 1 500 000 hectares.
Conservation of biodiversity: Arasbaran Forests (152 851 hectares)
The rest of the forest area is classified as multiple purpose.

## *3.3 Analysis and processing of national data*

### 3.3.1 Estimation and forecasting

Due to lack of other information, the original data have been used for all reporting years.

## *3.4 Data for Table T3*

### Table 3a – Primary designated function

| FRA 2010 Categories | Forest area (1000 hectares) | | | |
|---|---|---|---|---|
| | 1990 | 2000 | 2005 | 2010 |
| Production | 1 500 | 1 500 | 1 500 | 1 500 |
| Protection of soil and water | 0 | 0 | 0 | 0 |
| Conservation of biodiversity | 153 | 153 | 153 | 153 |
| Social services | 0 | 0 | 0 | 0 |
| Multiple use | 9 422 | 9 422 | 9 422 | 9 422 |
| Other (please specify in comments below the table) | 0 | 0 | 0 | 0 |
| No / unknown | 0 | 0 | 0 | 0 |
| **TOTAL** | **11 075** | **11 075** | **11075** | **11075** |

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

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

## *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 |
|---|
| The area designated for conservation of biodiversity is the Arasbaran Forests. The area classified as multiple purpose includes forest area designated for soil and water protection and for other functions such as Reservoirs, Biosphere, forest parks and etc. |

# 4 Table T4 – Forest characteristics

## 4.1 FRA 2010 Categories and definitions

| Term / category | Definition |
|---|---|
| Naturally regenerated forest | Forest predominantly composed of trees established through natural regeneration. |
| Introduced species | A species, subspecies or lower taxon, occurring outside 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). |
| **Characteristics categories** | |
| 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. |
| Other naturally regenerated forest of introduced species *(sub-category)* | Other naturally regenerated forest where the trees are predominantly of introduced species. |
| Planted forest | Forest predominantly composed of trees established through planting and/or deliberate seeding. |
| Planted forest of introduced species *(sub-category)* | Planted forest, where the planted/seeded trees are predominantly of introduced species. |
| **Special categories** | |
| Rubber plantations | Forest area with rubber tree plantations. |
| Mangroves | Area of forest and other wooded land with mangrove vegetation. |
| Bamboo | Area of forest and other wooded land with predominant bamboo vegetation. |

## 4.2 National data

### 4.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|---|---|---|---|
| Engineering Technical Bureau of FRWO | M | | 2004 | |
| Head of FRA 2005 expert group, Dr. Shariat negad | | | 2004 | It includes Plantations of native species in the Caspian Forests. The main objective of plantation in this part is restoration.<br>Plantations in the Out of North Forests of native and introduced species<br>Plantations of conifers in the Caspian Forests (10% of total forest plantations established in the Caspian Forest are conifers). The main objective in this part is for production |

### 4.2.2 Original data

| FRA 2005 Categories | Area (1000 hectares) | Reference year | Source |
|---|---|---|---|
| Primary | 200 | 2004 | Expert estimate |
| Plantations of native species in the Caspian Forests | 228 | 2004 | "" |
| Plantations in the Out of North Forests of native and introduced species + Plantations of conifers in the Caspian Forests | 616 | 2004 | "" |
| Protective plantation | - | 2004 | "" |
| **TOTAL** | **11075** | **2004** | **""** |

Plantation in desert areas with some native and introduce species that does not have success as a forest and can be as shrublands.

**2004**
Primary forest: 200 000 ha
Plantations of native species in the Caspian Forests (228 567.6 ha).
Plantations in the Out of North Forests of native and introduced species (590 922 ha) + Plantations of conifers in the Caspian Forests (Around 10% of total forest plantations (or 25300 ha) established in the Caspian Forest are conifers) totalling 616 328.4 ha.

Data for mangroves come from the FAO Working paper Mangroves of Asia which reports the followings:

| Mangroves area ha | 1994 | 1997 |
|---|---|---|
| | 20 700 | 19 234 |

Original source 1994: **Khosravi and Motalebi.** 1994. Mangrove studies project in the Khuran Strait. *In: Indus Delta Biosphere Reserve; Workshop repor*t. pp 57-60 IUCN World Conservation Union, Gland Switzerland

Original source 1997: Engineering Technical Bureau of FRWO

## *4.3 Analysis and processing of national data*

### 4.3.1 Estimation and forecasting

The same figures have been considered valid for all years.

For mangroves linear interpolation for 1990 and linear extrapolation for 2000 and 2005 has been used. For 2010 due to lack of updated figures same figure as 2005 has been used.

### 4.3.2 Reclassification into FRA 2010 categories

Planted forest: Plantations of native species in the Caspian Forests (228 567.6 ha)+ Plantations in the Out of North Forests of native and introduced species (590 922 ha) + Plantations of conifers in the Caspian Forests (Around 10% of total forest plantations (or 25300 ha) established in the Caspian Forest are conifers).
Modified natural forests: the remaining forests.

## *4.4 Data for Table T4*

### Table 4a

| FRA 2010 Categories | Forest area (1000 hectares) | | | |
|---|---|---|---|---|
| | 1990 | 2000 | 2005 | 2010 |
| Primary forest | 200 | 200 | 200 | 200 |
| Other naturally regenerated forest | 10031 | 10031 | 10031 | 10031 |
| ...of which of introduced species | n.a. | n.a. | n.a. | n.a. |
| Planted forest | 844 | 844 | 844 | 844 |
| ...of which of introduced species | n.a. | n.a. | n.a. | n.a. |
| **TOTAL** | **11 075** | **11 075** | **11 075** | **11 075** |

### Table 4b

| FRA 2010 Categories | Area (1000 hectares) | | | |
|---|---|---|---|---|
| | 1990 | 2000 | 2005 | 2010 |
| Rubber plantations (Forest) | n.a. | n.a. | n.a. | n.a. |
| Mangroves (Forest and OWL) | 23 | 19 | 19 | 19 |
| Bamboo (Forest and OWL) | n.a. | n.a. | n.a. | n.a. |

## *4.5 Comments to Table T4*

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|---|---|---|
| Primary forest | | |
| Other naturally regenerating forest | | |
| Planted forest | | |
| Rubber plantations | | |
| Mangroves | | |
| Bamboo | | |

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

# 5 Table T5 – Forest establishment and reforestation

No data available to complete this reporting 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 |
|---|---|---|---|---|
| Forest Deputy- FRWO | H | Growing stock | 1987 | **(For Caspian Forests)**4th national periodic inventory based on temperate sample plots- field work during 1985-1988,published in1990 |
| Forest Deputy- FRWO | H | Growing Stock | 1997 | 5th national periodic inventory based on permanent sample plots- field work during 1996-1998,published in2000 |
| Forest Deputy- FRWO | L | Growing stock | 1999 | **(For Out of North Forests)**Not published |
| Forestry Deputy | H | Species | 2000 | |

### 6.2.2 Classification and definitions

| National class | Definition |
|---|---|
| Growing Stock for (Caspian Forests) | Volume over bark of all living trees more than 12.5 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 7 cm, and may also include branches to a minimum diameter of 7 cm. |
| Growing Stock (for Out of North Forests) | Volume over bark of all living trees more than 7.5 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 5 cm, and may also include branches to a minimum diameter of 5 cm. |

### 6.2.3 Original data

**Caspian forests:**

According to the 4th national periodic inventory based on temperate sample plots-field work during 1985-1988, in 1987, the forest area of the Caspian Forest is estimated at 1 925 167 ha and the average growing stock is 210 cubic meters per hectare.

Based on vegetation cover map scale 1:25000, forest area in 1997 is 1 847 886 ha, and it is assumed the same area for the year 2000. The average growing stock is 220 cubic meters per hectare

**Out of North Forests**

Based on vegetation cover map scale 1:25000, forest area in 1997 is 9 227 854 ha.

The most parts of the Out of North Forests are simple coppice, so measurement of the growing stock cannot be easily done. The growing stock in these forests varies between 5 to 40 cubic meters per hectare. Average growing stock for these forests is estimated at 12 cubic meters per hectare.

**Growing stock composition:**
Only growing stock data by species for Caspian forests from 1987 and 1997 are available and presented in this table.

| FRA 2005 Categories / Species name* (Scientific name and common name) | Growing Stock in Forests (million cubic meters) | |
|---|---|---|
| | 1987 | 1997 |
| Carpinus betulus | 126.20 | 125.25 |
| Beech or fagus orientalis | 132.48 | 123.26 |
| Alnus sp. | 30.53 | 35.53 |
| Quercus castaneafolia | 34.17 | 36.35 |
| Acer sp. | 30.32 | 27.39 |
| Pavotia persica | 15.75 | 21.29 |
| Tillia sp | 11.45 | 10.61 |
| Diospyrus lotus | 5.99 | 9.86 |
| Fraxinus sp. | 1.21 | 1.41 |
| Remainder of species | 16.68 | 15.585 |
| **TOTAL** | **404.87** | **406.53** |

## *6.3 Analysis and processing of national data*

### 6.3.1 Estimation and forecasting

**Caspian forests:**
The 1987 figure has been used for reporting year 1990 and the 1997 figure has been used for reporting year 2000.
According to the decreasing of deforestation and annual harvesting the average volume of the growing stock increases by 1 cubic meter per hectare per year.

For 2005, an average growing stock of 225 cubic metres per hectare has been assumed with the same forest area as in 1997. Same assumption has been done for 2010

| year | Forest Area | Average Growing Stock |
|---|---|---|
| 1990 | 1925167 | 210 |
| 2000 | 1847886 | 220 |
| 2005 | 1847886 | 225 |
| 2010 | 1847886 | 230 |

| FRA Categories (For Caspian Forests only) | Volume (million cubic meters over bark) | | | |
|---|---|---|---|---|
| | Forest | | | |
| | 1990 | 2000 | 2005 | 2010 |
| Growing stock | 404.894 | 406.535 | 415.774 | 425.014 |

**Out of North Forests**

The growing stock in these forests is assumed to have remained constant at 110 734 248 m3 (equivalent to 12 m3/ha * 9 227 854 ha)

| FRA Categories ( for Out of North Forests) | Volume (million cubic meters over bark) | | | |
|---|---|---|---|---|
| | Forest | | | |
| | 1990 | 2000 | 2005 | 2010 |
| Growing stock | 110.73 | 110.73 | 110.73 | 110.73 |

For growing stock composition the same composition in percentage as 2000 has been applied to growing stock of 2005. Since growing stock composition is only known for the Caspian forest the rest of the growing stock as from table 6a has been accounted in the "remaining"category.

## *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 | 516 | 517 | 527 | 536 | 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 |
| 1st | *Carpinus betulus* | | 126.2 | 125.3 | 127.7 |
| 2nd | *Fagus orientalis* | | 132.5 | 123.3 | 125.6 |
| 3rd | *Alnus* sp. | | 30.5 | 35.5 | 36.2 |
| 4th | *Quercus castaneafolia* | | 34.2 | 36.4 | 37.1 |
| 5th | *Acer* sp. | | 30.3 | 27.4 | 27.9 |
| 6th | *Pavotia persica* | | 15.8 | 21.3 | 21.7 |
| 7th | *Tillia* sp | | 11.5 | 10.6 | 10.8 |
| 8th | *Diospyrus lotus* | | 6.0 | 9.9 | 10.1 |
| 9th | *Fraxinus* sp. | | 1.2 | 1.4 | 1.4 |
| 10th | | | | | |
| Remaining | | | 127.9 | 126.1 | 128.5 |
| **TOTAL** | | | **516** | **517** | **527** |

Note: Rank refers to the order of importance in terms of growing stock, i.e. 1st 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[1] of trees included in growing stock (X) | 12.5 cm | |
| Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y) | 7 cm | |
| Minimum diameter (cm) of branches included in growing stock (W) | 7 cm | |
| Volume refers to "above ground" (AG) or "above stump" (AS) | AG | |

## *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 | This table includes just the species of Caspian Forest. However, the growing stock of Caspian forest represents approximately 80% of the total growing stock in the country. | |

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

[1] 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 |
|---|---|---|---|---|
| FAO. 2008. Guidelines for Country Reporting to FRA 2005. Global Forest Resources Assessment 2010 | | | | Biomass conversion and expansion factor (BCEF) and root-shoot ratio from Appendix 5 FRA guidelines |

### 7.2.2 Original data

No national data on biomass were available so IPCC default values were applied to the growing stock as in table 6.

## 7.3 Analysis and processing of national data

### 7.3.1 Estimation and forecasting

Above ground biomass:
Following recommendations from FRA guidelines the following assumptions and calculations have been made:
From appendix 5, table 5.4 pag 6 of the FRA guidelines and considering a sub tropical ecological zone and a growing stock comprised between 41 and 80 m3/ha the biomass conversion and expansion factor (BCEF) of 0.8 have been applied to the growing stock:

Below ground biomass :
From appendix 5, table 5.3 pag 5 of the FRA guidelines, considering an above ground biomass>20t/ha and a sub tropical dry forest biome (no estimates available for the subtropical mountain system), the root-shoot ratio of 0.28 has been chosen.

| | 1990 | 2000 | 2005 | 2010 |
|---|---|---|---|---|
| Growing stock (million m3) | 516 | 517 | 527 | 536 |
| BCEF | 0.8 | 0.8 | 0.8 | 0.8 |
| Aboveground biomass (million tonnes) | 413 | 414 | 422 | 429 |
| Root-shoot ratio | 0.28 | 0.28 | 0.28 | 0.28 |
| Belowground biomass | 116 | 116 | 118 | 120 |

## *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 | 413 | 414 | 422 | 429 | n.a. | n.a. | n.a. | n.a. |
| Below-ground biomass | 116 | 116 | 118 | 120 | 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. |
| **TOTAL** | 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 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|---|---|---|---|
| FAO. 2008. Guidelines for Country Reporting to FRA 2005. Global Forest Resources Assessment 2010 | | | | Carbon conversion factor of 0.47 |

### 8.2.2 Original data

No original data on carbon were available, so the carbon conversion factor of 0.47 recommended in the FRA guidelines has been applied to the biomass as coming from table 7.

## 8.3 Analysis and processing of national data

Carbon in litter has been estimated using table 5.9 of Appendix 5 of the FRA 2010 Guidelines considering a default value of 2.8t/ha.

## *8.4 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 | 194.1 | 194.6 | 198.3 | 201.6 | n.a. | n.a. | n.a. | n.a. |
| Carbon in below-ground biomass | 54.5 | 54.5 | 55.5 | 56.4 | n.a. | n.a. | n.a. | n.a. |
| ***Sub-total: Living biomass*** | ***248.6*** | ***249.1*** | ***253.8*** | ***258.0*** | 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 | 31 | 31 | 31 | 31 | n.a. | n.a. | n.a. | n.a. |
| ***Sub-total: Dead wood and litter*** | 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. |
| **TOTAL** | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |

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

## *8.5 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

## 9.1 FRA 2010 Categories and definitions

| Category | Definition |
|---|---|
| Number of fires | Average number of vegetation fires per year in the country. |
| Area affected by fire | Average area affected by vegetation fires per year in the country. |
| Vegetation fire *(supplementary term)* | Any vegetation fire regardless of ignition source, damage or benefit. |
| Wildfire | Any unplanned and/or uncontrolled vegetation fire. |
| Planned fire | A vegetation fire regardless of ignition source that burns according to management objectives and requires limited or no suppression action. |

## 9.2 National data

### 9.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|---|---|---|---|
| Conservation and protection Programme of Natural Resources 1989-2003 . | M | Disturbance by fire, insects, disease | 1990 | |
| Integrated Programme on Conservation and Protection of Natural Resources in Iran- | M | Disturbance by fire, insects, diseases | 2002 | The information has gathered from Conservation and Protection Bureau of FRWO , formal statistics exist at FRWO and main finding of some researches |
| Country Report to International conference of Forest fire Management | H | Area , Number , Average area | 2003 | |
| Conservation and protection Criteria and Indicators for SFM | M | Criteria: biodiversity, Environmental Health, Economic criteria | 2003 | |
| Conservation and protection Programme of Natural Resources | H to M | | 1989-2003 | The programme was conducted cross the country |

### 9.2.2 Classification and definitions

| National class | Definition |
|---|---|
| Natural factors | Factors making unexpected disturbances by insect pests, diseases, wild fire, drought, flood and so on. |
| Human factors | Factors making disturbances by human activities such as fire, illegal cutting, overgrazing and so on |
| Conservative Criteria | To decrease or to prevent natural resources degradation |
| Protective Criteria | To increase efficiency conservative measurements |

### 9.2.3 Original data

Average annual area affected (hectares)

| | 1988 | 1989 | 1990 | 1991 | 1992 | Average 1988-1992 |
|---|---|---|---|---|---|---|
| Disturbance by fire | 612 | 408 | 1133 | 289 | 3924 | 1273 |

| | 1998 | 1999 | 2000 | 2001 | 2002 | Average 1998-2002 |
|---|---|---|---|---|---|---|
| Disturbance by fire | 13167 | 7036 | 2155 | 3184 | 6789 | 6 466 |

**Average annual area affected (hectares)**

| | 1990 | 2000 |
|---|---|---|
| Disturbance by fire | 1 273 | 6 466 |

## *9.3 Data for Table T9*

**Table 9a**

| FRA 2010 category | Annual average for 5-year period | | | | | |
|---|---|---|---|---|---|---|
| | 1990 | | 2000 | | 2005 | |
| | 1000 hectares | number of fires | 1000 hectares | number of fires | 1000 hectares | number of fires |
| Total land area affected by fire | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| ... of which on forest | 1.3 | n.a. | 6.5 | n.a. | n.a. | n.a. |
| ... of which on other wooded land | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| ... of which on other land | | | | | | |

**Table 9b**

| FRA 2010 category | Proportion of forest area affected by fire (%) | | |
|---|---|---|---|
| | 1990 | 2000 | 2005 |
| Wildfire | | | |
| Planned fire | | | |

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

## *9.4 Comments to Table T9*

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|---|---|---|
| Area affected by fire | | |
| Number of fires | | |
| Wildfire / planned fire | | |

| Other general comments to the table |
|---|
| More than 99% of fires in the country are surface fires and are not reported as deforestation or forest degradation. This table has been filled based on the national forest definition (forest with more than 5% coverage) so it includes data for OWL. |

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

## 10.1 FRA 2010 Categories and definitions

| Term | Definition |
|---|---|
| Disturbance | Damage caused by any factor (biotic or abiotic) that adversely affects the vigour and productivity of the forest and which is not a direct result of human activities. |
| 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. |
| **Category** | **Definition** |
| Disturbance by insects | Disturbance caused by insect pests. |
| Disturbance by diseases | Disturbance caused by diseases attributable to pathogens, such as bacteria, fungi, phytoplasma or virus. |
| Disturbance by other biotic agents | Disturbance caused by biotic agents other than insects or diseases, such as wildlife browsing, grazing, physical damage by animals, etc. |
| Disturbance caused by abiotic factors | Disturbances caused by abiotic factors, such as air pollution, snow, storm, drought, etc. |

## 10.2 National data

### 10.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|---|---|---|---|
| Conservation and protection Programme of Natural Resources 1989-2003 . | M | Disturbance by fire, insects, disease | 1990 | |
| Integrated Programme on Conservation and Protection of Natural Resources in Iran- | M | Disturbance by fire, insects, diseases | 2002 | The information has gathered from Conservation and Protection Bureau of FRWO , formal statistics exist at FRWO and main finding of some researches |
| Country Report to International conference of Forest fire Management | H | Area , Number , Average area | 2003 | |
| Conservation and protection Criteria and Indicators for SFM | M | Criteria: biodiversity, Environmental Health, Economic criteria | 2003 | |
| Conservation and protection Programme of Natural Resources | H to M | | 1989-2003 | The programme was conducted cross the country |

### 10.2.2 Classification and definitions

| National class | Definition |
|---|---|
| Natural factors | Factors making unexpected disturbances by insect pests, diseases, wild fire, drought, flood and so on. |
| Human factors | Factors making disturbances by human activities such as fire, illegal cutting, overgrazing and so on |
| Conservative Criteria | To decrease or to prevent natural resources degradation |
| Protective Criteria | To increase efficiency conservative measurements |

### 10.2.3 Original data

Average annual area affected (hectares)

| | 1988 | 1989 | 1990 | 1991 | 1992 | Average 1988-1992 |
|---|---|---|---|---|---|---|
| Disturbance by insects and diseases | 21761 | 21990 | 67716 | 263162 | 178442 | 132 828 |

The figures have been used for table 8-5 are 5-year average area.

| | 1998 | 1999 | 2000 | 2001 | 2002 | Average 1998-2002 |
|---|---|---|---|---|---|---|
| Disturbance by insects and diseases | 165219 | 145755 | 35437 | 104923 | 330394 | 156 346 |

**Average annual area affected (hectares)**

| | 1990 | 2000 |
|---|---|---|
| Disturbance by insects and diseases | 132 828 | 156 346 |

## *10.3 Data for Table T10*

### Table 10a – Disturbances

| FRA 2010 category | Affected forest area (1000 hectares) | | |
|---|---|---|---|
| | 1990 | 2000 | 2005 |
| Disturbance by insects | 133 | 156 | n.a. |
| Disturbance by diseases | n.a. | n.a. | n.a. |
| Disturbance by other biotic agents | n.a. | n.a. | n.a. |
| Disturbance caused by abiotic factors | n.a. | n.a. | n.a. |
| **Total area affected by disturbances** | n.a. | n.a. | n.a. |

Notes: 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.

The total area affected by disturbances is not necessarily the sum of the individual disturbances as these may be overlapping.

### Table 10b – Major outbreaks of insects and diseases affecting forest health and vitality

| Description / name | Tree species or genera affected (scientific name) | Year(s) of latest outbreak | Area affected (1000 hectares) | If cyclic, approx. cycle (years) |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

### Table 10c – Area of forest affected by woody invasive species

| Scientific name of woody invasive species | Forest area affected 2005 (1000 hectares) |
|---|---|
| | |
| | |
| | |
| | |
| | |
| **Total forest area affected by woody invasive species** | |

## *10.4 Comments to Table T10*

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|---|---|---|
| Disturbance by insects | The breakdown between insects and disease was not possible | |
| Disturbance by diseases | Included under disturbance by insects. | |
| Disturbance by other biotic agents | | |
| Disturbance caused by abiotic factors | | |
| Major outbreaks | | |
| Invasive species | | |

| Other general comments to the table |
|---|
| Figures refer to the total of insects and diseases together. |

# 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 |
|---|---|---|---|---|
| Plan &Programme Bureau- FRWO | H | - | 2004 | - |

### 11.2.2 Classification and definitions

| National class | Definition |
|---|---|
| Industrial wood removal | It corresponds the FRA definition |
| Woodfuel removal | It corresponds the FRA definition |

### 11.2.3 Original data

Table A: industrial wood removal – Iran

| | Industrial wood removal-class1/ CM | Industrial wood removal-class2/CM | Industrial wood removal-class3/CM | Industrial wood removal-class4/CM | Industrial wood removal-class5/CM | Industrial wood removal-class6/CM |
|---|---|---|---|---|---|---|
| 1988 | 265915 | 95991 | 70022 | 22862 | 187061 | 465320 |
| 1989 | 266550 | 110957 | 78368 | 20953 | 194310 | 518192 |
| 1990 | 266975 | 94635 | 74382 | 17586 | 206766 | 500546 |
| 1991 | 319977 | 97437 | 75254 | 20079 | 217120 | 718786 |
| 1992 | 323949 | 107350 | 79498 | 17839 | 212195 | 634975 |

Note: Class 1 to 6 refer to national terms which the country uses for different industrial wood removal in cubic meter.

Table A: industrial wood removal – Iran

| | Industrial wood removal-class1/ CM | Industrial wood removal-class2/CM | Industrial wood removal-class3/CM | Industrial wood removal-class4/CM | Industrial wood removal-class5/CM | Industrial wood removal-class6/CM |
|---|---|---|---|---|---|---|
| 1998 | 341176 | 79320 | 49646 | 19569 | 250244 | 559871 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1999 | 310031 | 64500 | 32062 | 17433 | 238775 | 493291 |
| 2000 | 315199 | 73475 | 28811 | 16322 | 237330 | 493212 |
| 2001 | 325799 | 61757 | 25071 | 17336 | 225406 | 501291 |
| 2002 | 315945 | 46361 | 19455 | 11496 | 223252 | 382672 |

## *11.3 Analysis and processing of national data*

### 11.3.1 Estimation and forecasting

Five years average was estimated using the above figures. It is assumed that the figures refers to over bark volume.

## *11.4 Data for Table T11*

| FRA 2010 Category | Industrial roundwood removals | | | Woodfuel removals | | |
|---|---|---|---|---|---|---|
| | 1990 | 2000 | 2005 | 1990 | 2000 | 2005 |
| Total volume (1000 $m^3$ o.b.) | 1256 | 2050 | 2448 | 425 | 55 | 20 |
| ... of which from forest | | | | | | |
| Unit value (local currency / $m^3$ o.b.) | 18650 | 413940 | 417522 | 1380 | 79709 | 80040 |
| Total value (1000 local currency) | 23424400 | 848577000 | 1022093856 | 586500 | 4383995 | 1600800 |

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 | Rails | Rails | Rails |

## *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 | Illegal utilization is excluded (local utilization for rural consumption) | |
| Total volume of woodfuel removals | | |
| Unit value | The prices of goods were under the control of the Government in the year 1990 while the prices are based on the open market procedure since 2000. | One USD Dollar value 800 Rails in year 1990, 8000 Rails in year2000 and 8700 Rails in year 2005. |
| Total value | | |

| Other general comments to the table |
|---|
| This table includes only the statistics related to Caspian Forest. However, the growing stock of Caspian forest represents approximately 80% of the total growing stock in the country. |

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

## 12.1 FRA 2010 Categories and definitions

| Term | Definition |
|---|---|
| Non-wood forest product (NWFP) | Goods derived from forests that are tangible and physical objects of biological origin other than wood. |
| Value of NWFP removals | For the purpose of this table, value is defined as the market value at the site of collection or forest border. |

### NWFP categories

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

## 12.2 National data

### 12.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|---|---|---|---|
| Out of North Forest Bureau - FRWO | M | Non-Wood Forest Products | 2003 | - |

### 12.2.2 Classification and definitions

| National class | Definition |
|---|---|
| Food | It corresponds with FRA |
| Raw material for medicine and aromatic products | It corresponds with FRA |
| Raw material for utensils, handicrafts & construction | It corresponds with FRA |
| Exudates | It corresponds with FRA |

### 12.2.3 Original data

| FRA 2005 Categories | Scale factor | Unit | NWFP removal | | |
|---|---|---|---|---|---|
| | | | 1990 | 2000 | 2003 |
| Plant products / raw material | | | | | |
| 1. Food | | Kg | - | 48434 | 710 |
| 2. Fodder | | - | - | - | - |
| 3. Raw material for medicine and aromatic products | | Kg | - | 30262 * | 6559 |
| 4. Raw material for colorants and dyes | | - | - | - | - |
| 5. Raw material for utensils, handicrafts & construction | | Kg | - | 750** | - |
| 6. Ornamental plants | | - | - | - | - |
| 7. Exudates | | Kg | 421373 | 547782 | 84784 |

Food Includes nuts of *Pistachia* sp., *Jugluns* sp., etc…

## *12.3 Analysis and processing of national data*

### 12.3.1 Estimation and forecasting

Figures from 2003 have been used for reporting year 2005.

## *12.4 Data for Table T12*

| Rank | Name of product | Key species | Unit | NWFP removals 2005 | | NWFP category |
|---|---|---|---|---|---|---|
| | | | | Quantity | Value (1000 local currency) | |
| 1st | Food | | Kg | 710 | 1950 | 1 |
| 2nd | Raw material for medicine | | Kg | 6559 | 7990 | 3 |
| 3rd | Exudates | | Kg | 84784 | 4667002 | 7 |
| 4th | | | | | | |
| 5th | | | | | | |
| 6th | | | | | | |
| 7th | | | | | | |
| 8th | | | | | | |
| 9th | | | | | | |
| 10th | | | | | | |
| All other plant products | | | | | | |
| All other animal products | | | | | | |
| **TOTAL** | | | | | | |

| | 2005 |
|---|---|
| Name of local currency | |

## *12.5 Comments to Table T12*

| Variable / category | Comments related to data, definitions, etc. |
|---|---|
| 10 most important products | |
| Other plant products | |
| Other animal products | |
| Value by product | |
| Total value | 1 USD Dollar value 800 Rails in year 1990, 8000 Rails in year 2000 and 8700 Rails in year 2005. |

| Other general comments to the table |
|---|
| The statistics in these tables are related to legal utilization of NWFP, not illegal use |

# 13 Table T13 – Employment

## 13.1 FRA 2010 Categories and definitions

| Category | Definition |
|---|---|
| Full-time equivalents (FTE) | A measurement equal to one person working full-time during a specified reference period. |
| Employment | Includes all persons in paid employment or self-employment. |
| Paid employment | Persons who during a specified reference period performed some work for wage or salary in cash or in kind. |
| Self-employment | Persons who during a specified reference period performed some work for profit or family gain in cash or in kind (e.g. employers, own-account workers, members of producers' cooperatives, contributing family workers). |

## 13.2 National data

### 13.2.1 Data sources

| References to sources of information | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|---|---|---|---|
| Plan & Programme Bureau - FRWO | H | Person years | 2004 | |

### 13.2.2 Classification and definitions

| National class | Definition |
|---|---|
| Primary production of goods | It corresponds the FRA definition |
| Provision of services | It corresponds the FRA definition |
| Unspecified forestry activities | It corresponds the FRA definition |

### 13.2.3 Original data

| Employment/ 1000 persons- year | | |
|---|---|---|
| National class/ person year | 1990 | 2000 |
| Conservation and Protection Plan | 3.229 | 3.307 |
| Land Cadastral & Demarcation | 0.5 | 0.5 |
| Out of North Forest Management Plan | - | 5.2 |
| North Forest Integrated Management Plan | 0.8 | 1.2 |
| North Forest Utilization Plan | 12 | 10 |
| Afforestation, Reforestation, seedling production and maintenance | 50 | 70 |
| Watershed Management Plans | 4 | 5.6 |
| Employment in FRWO and affiliated offices | 13.950 | 11.250 |

## 13.3 Analysis and processing of national data

### 13.3.1 Reclassification into FRA 2010 categories

| National class | FRA Classes |
|---|---|
| Conservation and Protection Plan= | Provision of services |
| Land Cadastral & Demarcation= | Unspecified forestry activities |
| Out of North Forest Management Plan= | Primary production of goods |
| North Forest Integrated Management Plan = | Primary production of goods |
| North Forest Utilization Plan = | Primary production of goods |
| Afforestation , Reforestation, seedling production and maintenance= | Primary production of goods |
| Watershed Management Plans= | Unspecified forestry activities |
| Employment in FRWO and affiliated offices= | Provision of services |

## 13.4 Data for Table T13

| FRA 2010 Category | Employment (1000 years FTE) | | |
|---|---|---|---|
| | 1990 | 2000 | 2005 |
| Employment in primary production of goods | 62.8 | 86.4 | n.a. |
| ...of which paid employment | 62.8 | 86.4 | n.a. |
| ...of which self-employment | | | |
| Employment in management of protected areas | n.a. | n.a. | n.a. |

## 13.5 Comments to Table T13

| Variable / category | Comments related to data, definitions, etc. | Comments on the reported trend |
|---|---|---|
| Employment in primary production of goods | | |
| Paid employment / self-employment | | |
| Employment in management of protected areas | | |

| Other general comments to the table |
|---|
| These statistics include the number of people who are employed for activities directly and indirectly related to forestry and watershed management, protection and conservation of natural resources activities which can not be separated exactly. It excludes the number of persons who are employed in Forest Advisory Institutes. |

# 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) | | | |
|---|---|---|---|
| **Forest policy statement with national scope** | | | Yes |
| | | | No |
| If Yes above, provide: | Year of endorsement | | |
| | Reference to document | | |
| **National forest programme (nfp)** | | X | Yes |
| | | | No |
| If Yes above, provide: | Name of nfp in country | | |
| | Starting year | 1996 | |
| | Current status | | In formulation |
| | | X | In implementation |
| | | | Under revision |
| | | | Process temporarily suspended |
| | Reference to document or web site | | |
| **Law (Act or Code) on forest with national scope** | | X | Yes, specific forest law exists |
| | | | Yes, but rules on forests are incorporated in other (broader) legislation |
| | | | No, forest issues are not regulated by national legislation |
| If Yes above, provide: | Year of enactment | 1967 | |
| | Year of latest amendment | 1997 | |
| | Reference to document | Law on exploitation and protection of forestry and rangelands (*Official Gazette No. 6571, 31 August 1967)* | |

| 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. | | |
|---|---|---|
| **Sub-national forest policy statements** | | Yes |
| | | No |
| If Yes above, indicate the number of regions/states/provinces with forest policy statements | | |
| **Sub-national Laws (Acts or Codes) on forest** | | Yes |
| | | 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 | |
| National forest programme (nfp) | |
| Law (Act or Code) on forest with national scope | |
| Sub-national forest policy statements | |
| Sub-national Laws (Acts or Codes) on forest | |

| Other general comments to the table |
|---|
| Forest policy in Iran has never been rigidly defined. The permanent modification of the forest sector and the formation of forest policy have taken on specific character only within the past fifty years. The sector has been primarily preoccupied with the northern forests because of their importance to the economy. Before land reform, the northern forestlands belonged to ***"khans"*** and other large estates included royal forests. In 1962, ownership of the royal forests was transferred to the government and with nationalisation of forests and rangelands; all forests were eventually consigned to government supervision.<br>The execution of industrial forest projects accompanied by traditional exploitation by the rural community has widely destroyed the northern forests. Even the enormous investments by the forest industry during the past twenty years have not led to a policy of forest conservation because of the insufficient attention given to the specific socio-economic problems of the rural population.<br>In spite of these existing obstacles, the forest sector has prepared projects for nearly one million hectares of commercial forests. The projects include several technical aspects, such as forest inventory, silviculture, afforestation and construction of roads and transport of wood. Simultaneous with the implementation of these projects, consideration has been given to the problem of destruction of the natural forests and execution of new plantation projects. By 1990, forest projects involved nearly 700,000 hectares of commercial forest.<br>Iran is relatively poor in terms of available forest area, and thus vulnerable to rapid destruction. One of the problems threatening Iranian forests is illegal logging, over and above the logging permits issued by General Office of Natural Resources. Rural people who reside with their livestock in the forests also threaten biodiversity assets. There have been relocation efforts, but they have not been completed. Another source of forest destruction is the large number of fires. (http://www.cbd.int/doc/world/ir/ir-nr-fe-en.doc) |

# 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 | |
| Level of subordination of Head of Forestry within the Ministry | | 1st level subordination to Minister |
| | | 2nd level subordination to Minister |
| | | 3rd level subordination to Minister |
| | | 4th or lower level subordination to Minister |
| Other public forest agencies at national level | | |
| Institution(s) responsible for forest law enforcement | | |

### Table 15b – Human resources

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

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 | | |
| Level of subordination of Head of Forestry within the Ministry | | |
| 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

No data available to complete this reporting table.

# 17 Table T17 – Public revenue collection and expenditure

No data available to complete this reporting table.