



**Forestry Department**

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

**GLOBAL FOREST RESOURCES  
ASSESSMENT**

**COUNTRY REPORTS**

**TAJIKISTAN**

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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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## Introduction

The forests in the Republic of Tajikistan are a state ownership. It is a common property of all people. Actually all forests of the republic are mountainous, and they are referred to the first group and cutting of the main usage in them will not be carried out, and all forestry activity is directed on preservation, increase and improvement of a condition of forests.

Among significant variety of vegetative communities there meet various tree-bushy breeds: wide - deciduous and small-leaved forests, unique juniper groves and tugai, nut and pistachio forests, and also deserted sparse growth of trees from saxauls, *kandym*, *cherkez* and other sandy breeds.

The percentage of forests in the republic is a little more than 3 % and it occupies the last place among the Central Asian republics. In such situation the special responsibility is with bodies which are carrying out management of forests their protection and reproduction.

Now the common area of lands of state forest fund makes 1,8 million ha, only 25 % of them is engaged in wood plantings. The area covered by forests makes 410 thousand ha, 38 thousand ha of them are forest cultures created per last years. From the common area of wood fund taking place in conducting bodies of a forest facilities 1187,6 thousand ha, or about 70 % are fixed in long-term usage behind collective farms and state farms as pastures.

In the republic trees of III-IV classes of bonitet prevail, with completeness 0,3-0,4 and average stock on 1 ha 35m<sup>3</sup>.

Despite of low parameters of security by forest, the role of forests here is immeasurably great. The forest is necessary, first of all, as the store of moisture, protection of land, regulator of a climate, reclamation of environment, source of reception of food, medicinal and technical raw material and only in an insignificant degree as a source of reception of wood.

The first jobs on forest breeding were begun in 1882. Mass forest breeding in timber enterprises of the republic originates since 1947. Then there are not any obstacles for forest breeding, the lands of state forest fund till 1966 were not fixed in long-term usage with collective farms to state farms.

The forests depending on the main breed are distributed as follows. Juniper planting - 150 thousand ha, pistachio - 80 thousand ha, walnut - 9 thousand ha.

Annually forest restoration is spent on the area up to 1992 - 4500 ha, and since 1993 - 8600 ha. The safety of forest cultures incorporated in 1960-1982, makes - 72 %, and in 1982-94 - 68 %, 1994-1998- 78 % and 2007- 80%

The low safety of forest cultures is explained to that the majority of them are created in hard soil-climatic conditions and besides deficiency a means for necessary expenses for creation of forest cultures.

The hard climatic and soil conditions, remoteness, requirement of creation of forest plantings, dictate necessity of application of mechanization. However, the undeveloped road network, sparseness of sites, absence of means of mechanization, weak material technical base reduces even more quality and efficiency of jobs. The bodies of agriculture, for all time of usage of lands of State forest fund any measures on increase forests, efficiency of forest plantings, improvement of pastures have not made. Regular uncontrolled pasture of cattle during about 30 years have resulted in a wide circulation of erosive processes.

Protective forest breeding in the republic started to develop since 1969 and passed in two directions:

- afforestation of mountain slopes, ravines, gullies, and other inconvenient lands of collective farms and state farms;
- Creation forest shelter belts on irrigated lands.

Since 1988 of a making of forest shelter belts has not been not carried out, and the large attention to creation of pastures from forest shelter belts from saxaul is given. In Sugd and Khatlon provinces the similar jobs are annually carried out on 500 ha. These cultures improving herbage on sandy pastures on sand and simultaneously saxaul is a good forage for fine horned cattle.

The plantings from a walnut and pistachio were created as forest cultures, with soils protection and water guarding purpose, without taking into account the reception of valuable nut production.

Such plantings, naturally, can not form the basis preparations of nut production, the which need in national economy is very great.

The tendency of translation of nut growing on an intensive industrial basis recently was planned in the republic. However, the development of it restrains, first, by absence of material base, lack of means for financing jobs on a laying in a plantation. Despite of the above-stated obstacles silviculturists for last years have already made 1200 ha of a plantation of pistachio and walnut. Besides since 1964 on 3 million pieces of cuttings of a poplar for reception of business wood have been planed.

Forest vegetation in connection with distribution wild fruit on natural features are allocated on five large regions.

Wild growing forest fruiter in the republic are first of all huge, but still insufficiently used source of most valuable foodstuff.

The forests of the republic are rich by medicinal grasses, where more than 50 species are growing, which use is authorized by bodies of public health services.

The new Forest Code of the Republic of Tajikistan, approved in 2006, substantially strengthens in the legal and ecological relation the protection of forests and stimulates rational conducting a forestry.

For sustainable preservation and rational use of a biodiversity of forest ecosystems TSI Institute of forestry carries out the genetic inventory on basic forest-formation breeds, especially on nut trees.

The expansion of a network of nature-protection reserves and nature reservations is provided.

The forest fires put a significant loss to forestry and the ecological damage from it is estimated in tens of mln. TR. Therefore the improvement of a service of forest protection, construction and equipment fire-observant watch-towers, development of networks of fire-prevention roads and illumination by a modern communication facility of putting out fire and transport is provided according to the established standards.

Last years the numerous centers of the wreckers and illnesses are registered. With the purpose of increase of protection, the work on a biological method of protection of forests and suppression of the wreckers and illnesses, both by chemical and biological methods will be continued.

In perfection and rational use of forest resources the large role is in forest management. For this purpose the organization of forest monitoring, conducting of zoning on forest management with the use of satellite images and introduction of a remote method of research of inventory is necessary, especially for juniper forest, pistachio forests and others vegetative formations.

# 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	Additional comments
Forest resources USSR on 01.01.1987, The statistical collection/Goscomles USSR, M, 1998. (in Russian).	H	Forest	1987	
Land fund of the Tajik SSR on 01.01.1990, Dushanbe, 1991, (in Russian).	H	Forest, OWL, OL and Land	1990	
Land fund of the Republic of Tajikistan on 01.01.1995, Dushanbe, 1996, (in Russian).	H	Forest, OWL, OL and Land	1995	
Land fund of the Republic of Tajikistan on 01.01.1999, Dushanbe, 2000, (in Tajik).	H	Forest, OWL, OL and Land	1999	
Land fund of the Republic of Tajikistan on 01.01.2000, Dushanbe, 2001, (in Tajik).	H	Forest, OWL, OL and Land	2000	
Land fund of the Republic of Tajikistan on 01.01.2002, Dushanbe, 2003, (in Tajik).	H	Forest, OWL, OL and Land	2002	
Land fund of the Republic of Tajikistan on 01.01.2003, Dushanbe, 2004, (in Tajik).	H	Forest, OWL, OL and Land	2003	
Environment protection of the Republic of Tajikistan /The statistical report of the Republic of Tajikistan on 1997-2002, Dushanbe, 2004, (in Russian).	H	Forest, OWL, OL and Land	1997-2002	
Land fund of the Republic of Tajikistan on 01.01.2008, Dushanbe, 2005-2008, (in Tajik).	H	Forest, OWL, OL and Land	2005-2008	Analyses of all categories of lands based on data collected by land management committees

Environment protection of the Republic of Tajikistan /The statistical report of the Republic of Tajikistan on 1997-2002, Dushanbe, 2004, (in Russian).	H	Forest, OWL, OL and Land	2008	Analyses of all categories of lands based on data collected by land management committees, forestry and environmental protection.
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## 1.2.2 Classification and definitions

National class	Definition
<b>Forest</b>	Natural complex in which communities the trees of one or many species growing close from each other and forming more or less close forest stand prevail, the areas more than 0.1 ra.
<b>Forest land</b>	The lands covered and uncovered by forests, but intended for its restoration and given for needs of forestry.
<b>Other wooded land</b>	The lands covered by bush vegetation and rare stood trees, groups of trees growing on fields, along coastal zone of the mountain rivers.
<b>Other land with trees</b>	Urban park, squares and gardens

## 1.2.3 Original data

FRA Categories	Area (1000 hectares)					
	1987	1990	1997	2000	2003	2009
Forest	380	408	410	410	410	410
Other wooded land	142	142	142	142	142	142
Other land	13474	13446	13444	13444	13444	13444
...of which with tree cover <sup>1)</sup>	106	102	102	102	102	102
Inland water bodies	259	259	259	259	259	259
<b>TOTAL</b>	<b>14255</b>	<b>14255</b>	<b>14255</b>	<b>14255</b>	<b>14255</b>	<b>14255</b>

## 1.3 Analysis and processing of national data

### 1.3.1 Calibration

The total country area as presented here are those published in a year-book «Land fund of the Republic of Tajikistan» and which are approved by the Decision of the Government of the Republic of Tajikistan. This area differs from the figures held by UN Statistics Division and FAOSTAT and the country has initiated a process to update these figures.

### 1.3.2 Estimation and forecasting

As in archive of the State committee on land management of the Republic of Tajikistan since 1958 exist the yearbook «Land funds of the Republic of Tajikistan», there is no necessity makes an estimation of the existing data. The forecasts for 2005 and 2010 are made on the basis of annual data of the State committee on land management of the Republic of Tajikistan.

### 1.3.3 Reclassification into FRA 2010 categories

Not applied

### 1.4 Data for Table T1

FRA 2010 categories	Area (1000 hectares)			
	1990	2000	2005	2010
Forest	408	410	410	410
Other wooded land	142	142	142	142
Other land	13446	13444	13444	13444
...of which with tree cover	106	102	102	102
Inland water bodies	259	259	259	259
<b>TOTAL</b>	<b>14255</b>	<b>14255</b>	<b>14255</b>	<b>14255</b>

### 1.5 Comments to Table T1

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest		
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 <u>national forest inventory and/or RS survey / mapping</u>	
Field inventory	2012
Remote sensing survey / mapping	2010

## 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 ( <i>sub-category of Private ownership</i> )	Forest owned by individuals and families.
Private business entities and institutions ( <i>sub-category of Private ownership</i> )	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 ( <i>sub-category of Private ownership</i> )	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 ( <i>sub-category of Private ownership</i> )	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
Land fund of the Tajik SSR on 01.01.1990, Dushanbe, 1991, (in Russian).	H	Forest, OWL, OL and Land	1990	
Land fund of the Republic of Tajikistan on 01.01.1995, Dushanbe, 1996, (in Russian).	H	Forest, OWL, OL and Land	1995	
Land fund of the Republic of Tajikistan on 01.01.2000, Dushanbe, 2001, (in Tajik).	H	Forest, OWL, OL and Land	2000	
Land fund of the Republic of Tajikistan on 01.01.2002, Dushanbe, 2003, (in Tajik).	H	Forest, OWL, OL and Land	2002	
Land fund of the Republic of Tajikistan on 01.01.2003, Dushanbe, 2004, (in Tajik).	H	Forest, OWL, OL and Land	2003	
Land fund of the Republic of Tajikistan on 2005-2008, Dushanbe, 2008, (in Tajik).	H	Forest, OWL, OL and Land	2005-2008	Analyses of all categories of lands based on data collected by land management committees

### 2.2.2 Classification and definitions

Comply with FRA 2010 definitions

### 2.2.3 Original data

FRA Categories	Area (1000 hectares)		
	1990	Forest 2000	2009
Private ownership	no	no	no
Public ownership	408	360	360
Other ownership	no	50	50
<b>TOTAL</b>	408	410	410

## 2.3 Analysis and processing of national data

### 2.3.1 Calibration

Not applied

### 2.3.2 Estimation and forecasting

Not applied

### 2.3.3 Reclassification into FRA 2010 categories

Not applied

## 2.4 Data for Table T2

Table 2a - Forest ownership

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public ownership	358	360	360
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	50	50	50
<b>TOTAL</b>	<b>408</b>	<b>410</b>	<b>410</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 checked="" 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	358	360	360
Individuals	0	0	0
Private corporations and institutions	0	0	0
Communities	0	0	0
Other	0	0	0
<b>TOTAL</b>	<b>358</b>	<b>360</b>	<b>360</b>

## 2.5 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	Till 1997 most forests belonged to the state and 50 000 ha forests were under to the collective and state farms. However according to Decision of the Government of the Republic of Tajikistan about reorganization of collective farms and state farms, a part of forests which have been located in territory of these state farms and collective farms have been transferred on long-term using to dekhkan farms, as rent, but control remains for the state. Therefore they were included of category “Other types of ownership forest”	
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
Environment protection of the Republic of Tajikistan /The statistical report of the Republic of Tajikistan on 1997-2002, Dushanbe, 2004, (in Russian).	H	Forest, OWL, OL and Land	1997-2008	
National action program to combat desertification in Tajikistan, Dushanbe, 2000	H	Forest, OWL, OL and Land	1990-2000	
Land fund of the Republic of Tajikistan on 01.01.1995, Dushanbe, 1996, (in Russian).	H	Forest, OWL, OL and Land	1995	

Land fund of the Republic of Tajikistan on 01.01.2003, Dushanbe, 2004, (in Tajik).	H	Forest, OWL, OL and Land	2003	
The statistical Year-book of the Republic of Tajikistan on 1991, Dushanbe, 1992	H	Forest	1975-1991	
The statistical Year-book of the Republic of Tajikistan on 2001, Dushanbe, 2002	H	Forest	1990-2001	
Land fund of the Republic of Tajikistan on 2005-2008, Dushanbe, 2008, (in Tajik).	H	Forest, OWL, OL and Land	2005-2008	Analyses of all categories of lands based on data collected by land management committees
Environment protection of the Republic of Tajikistan /The statistical report of the Republic of Tajikistan on 1997-2002, Dushanbe, 2004, (in Russian).	H	Forest, OWL, OL and Land	2008	Analyses of all categories of lands based on data collected by land management committees, forestry and Environmental protection

### 3.2.2 Classification and definitions

National class	Definition
Protection of soil and water	<i>Soil protecting (anti-erosion) forests.</i> <i>Forests for field protection.</i> <i>Forests of protective zones for mountain river banks.</i> <i>Forests for mountain slope protection.</i> <i>Ravine forests.</i> <i>Forest of desert and semi- desert areas.</i>
Conservation of biodiversity	<i>Forests of strict reserves (zapovedniks), national park, wildlife preserves (zakaznik);</i>

### 3.2.3 Original data

FRA Categories / Designated function	Area (1000 hectares)			
	Primary function			
	1990	1997	2000	2003
<b>Forest</b>				
Production	22	22	22	22
Protection of soil and water	54	44	44	44
Conservation of biodiversity	332	344	344	344
Social services	0	0	0	0
Multiple purpose	0	0	0	0
No or unknown function	0	0	0	0
<b>Total - Forest</b>	408	410	410	410
<b>Other wooded land</b>				
Production	0	0	0	0
Protection of soil and water	142	142	142	142
Conservation of biodiversity	0	0	0	0
Social services	0	0	0	0
Multiple purpose	0	0	0	0
No or unknown function	0	0	0	0
<b>Total – Other wooded land</b>	142	142	142	142

### 3.3 Analysis and processing of national data

#### 3.3.1 Calibration

Not applied

#### 3.3.2 Estimation and forecasting

Not applied

### 3.4 Data for Table T3

Table 3a – Primary designated function

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Production	22	22	22	22
Protection of soil and water	54	44	44	44
Conservation of biodiversity	332	344	344	344
Social services	0	0	0	0
Multiple use	0	0	0	0
Other (please specify in comments below the table)	0	0	0	0
No / unknown	0	0	0	0
<b>TOTAL</b>	<b>408</b>	<b>410</b>	<b>410</b>	<b>410</b>

Table 3b – Special designation and management categories

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Area of permanent forest estate	332	344	344	344
Forest area within protected areas	54	44	44	44
Forest area under sustainable forest management	332	344	344	344
Forest area with management plan	22	22	22	22

### 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	Primary natural forest areas are enclosed in this category and secondary natural rehabilitated forest are enclosed in this category	

Forest area within protected areas		
Forest area under sustainable forest management	Primary natural forest areas are enclosed in this category and secondary natural rehabilitated forest are enclosed in this category	
Forest area with management plan	Forest plantations are enclosed in this category	

**Other general comments to the table**

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## 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 <u>outside</u> 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).
<b>Characteristics categories</b>	
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.
<b>Special categories</b>	
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
Land fund of the Republic of Tajikistan on 01.01.2008, Dushanbe, 2008, (in Tajik).	H	Forest, OWL, OL and Land	2008	Analyses of all categories of lands based on data collected by land management committees
Environment protection of the Republic of Tajikistan /The statistical report of the Republic of Tajikistan on 1997-2002, Dushanbe, 2004, (in Russian).	H	Forest, OWL, OL and Land	2008	Analyses of all categories of lands based on data collected by land management committees, forestry and Environmental protection.
The statistical of Year-book of the Forestry State Department	H	Forest	1987-2008	This is the only one document, where all changes within forestry is included

## 4.2.2 Classification and definitions

Comply with FRA 2010 definitions

## 4.2.3 Original data

FRA 2005 Categories	Area (1000 hectares)			
	Forest			
	1990	1995	2000	2003
Primary	297	297	297	297
Modified natural	0	12	12	12
Semi-natural	35	35	35	35
Productive plantation	22	22	22	22
Protective plantation	54	44	44	44
<b>TOTAL</b>	<b>408</b>	<b>410</b>	<b>410</b>	<b>410</b>

## 4.3 Analysis and processing of national data

### 4.3.1 Calibration

Not applied

### 4.3.2 Estimation and forecasting

As during 2000-2003 years strong change is not observed, the forecast for 2005 and 2010 remains as the last years.

### 4.3.3 Reclassification into FRA 2010 categories

Productive plantation, protective plantation and semi-natural forests are classified as planted forest.

## 4.4 Data for Table T4

Table 4a

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Primary forest	297	297	297	297
Other naturally regenerated forest	12	12	12	12
...of which of introduced species	n.a	n.a	n.a	n.a
Planted forest	99	101	101	101
...of which of introduced species	2	4	4	4
<b>TOTAL</b>	<b>408</b>	<b>410</b>	<b>410</b>	<b>410</b>

Table 4b

FRA 2010 Categories	Area (1000 hectares)			
	1990	2000	2005	2010
Rubber plantations (Forest)	0	0	0	0
Mangroves (Forest and OWL)	0	0	0	0
Bamboo (Forest and OWL)	0	0	0	0

#### 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
<p>Forests of Tajikistan existing during thousands years, have undergone strong degradation. For last hundred years the general forest areas were strongly reduced and consequently concept virgin forests in mountain territory relative. Though for last 10 years the forest area of Tajikistan has remained without change, but in some places reduction parameters of density of forests is observed.</p>

## 5 Table T5 – Forest establishment and reforestation

### 5.1 FRA 2010 Categories and definitions

Term	Definition
Afforestation	Establishment of forest through planting and/or deliberate seeding on land that, until then, was not classified as forest.
Reforestation	Re-establishment of forest through planting and/or deliberate seeding on land classified as forest.
Natural expansion of forest	Expansion of forests through natural succession on land that, until then, was under another land use (e.g. forest succession on land previously used for agriculture).

### 5.2 National data

#### 5.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
The statistical of Year-book of the Forestry State Department	H	Forest	1987-2008	This is only one source, where is fixed all change occurring in forestry sector

#### 5.2.2 Classification and definitions

Comply with FRA 2005 definitions

#### 5.2.3 Original data

The annual reports of forestry holdings about afforestation and reforestation from 1987 for 2007. Data are presented directly in the final reporting table.

### 5.3 Data for Table T5

FRA 2010 Categories	Annual forest establishment (hectares/year)			...of which of introduced species <sup>1)</sup> (hectares/year)		
	1990	2000	2005	1990	2000	2005
Afforestation	1500	100	300	5	2	3
Reforestation	1500	200	500	n.a.	n.a.	n.a.
...of which on areas previously planted	800	100	100	n.a.	n.a.	n.a.
Natural expansion of forest	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

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

#### 5.4 Comments to Table T5

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Afforestation		
Reforestation		
Natural expansion of forest		

<b>Other general comments to the table</b>
<p>The afforestation rate in 90<sup>th</sup> because of difficult economic situation was reduced and from 2000 the new phase of forest planting started and in present time the annual afforestation area makes 800 hectares, but because of low rate of seedlings endurance (because of dryness of a climate) insignificant area is transferred to the "forest land" category.</p>

## 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
See Table 1	H	Forest	1987-2003	
The statistical Year-book of the Tajik Forestry Association Production	H	Forest	1987-2003	
Environment protection of the Republic of Tajikistan /The statistical report of the Republic of Tajikistan on 1997-2002, Dushanbe, 2004, (in Russian).	H	Forest, OWL, OL and Land	1997-2002	
National Strategy and Action Plan on Conservation and Sustainable Use of Biodiversity of the Republic of Tajikistan, Dushanbe, 2003	H	Forest	1987- 2000	
National Strategy and Action Plan on Conservation and Sustainable Use of Biodiversity of the Republic of Tajikistan, Dushanbe, 2008	H	Forest	2005 2008	
National action program to combat desertification in Tajikistan, Dushanbe, 2000	H	Forest, OWL, OL and Land	1990-2000	
NFP (SLM) CACILM program, 2005, Dushanbe	H	Forest, OWL, OL and Land	1985-2005	SLM in Tajikistan is analyzed and statistical data for all type of land resource is done.
The statistical of Year-book of the Forestry State Department	H	Forest	1987-2008	This is the only one document, where all changes within forestry are included

#### 6.2.2 Classification and definitions

Comply with FRA definitions

### 6.2.3 Original data

FRA Categories	Volume (million cubic meters over bark)									
	Forest					Other wooded land				
	1987	1990	1997	2000	2003	1987	1990	1995	2000	2003
Growing stock	5.7	5.7	5.5	5.3	5.2	0.6	0.6	0.5	0.5	0.5

FRA Categories / Species name (Scientific name and common name)	Growing Stock in Forests (million cubic meters)	
	1990	2000
Juniper – <i>Juniperus</i> L.	3.5	3.3
Pistachio – <i>Pistacia</i> L.	0.42	0.40
Maple – <i>Acer</i> L.	0.38	0.34
Persian walnut – <i>Juglans regia</i>	0.35	0.32
Poplar/Aspen/Cottonwood– <i>Populus</i> L.	0.27	0.25
Birch – <i>Betula</i> L.	0.05	0.05
Almond – <i>Amygdalus</i> L.	0.03	0.03
Willow – <i>Salix</i> L.	0.03	0.03
Elm – <i>Ulmus</i> L.	0.03	0.03
Myrobalan plum – <i>Prunus</i> L.	0.03	0.03
Remaining of species	0.57	0.52
<b>TOTAL</b>	5.66	5.30

## 6.3 Analysis and processing of national data

### 6.3.1 Calibration

Not applied

### 6.3.2 Estimation and forecasting

The data for 1990 have been received on the basis of existing contemporary records Forest production association, and for 2005 as a result of interpolation of the existing data for the period of 2000-2003. Data from 2010 were received as a result of interpolation of above mentioned data and forecasting for 2010

### 6.3.3 Reclassification into FRA 2010 categories

Not applied

## 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	5.7	5.3	5.1	5.2	0.6	0.5	0.5	0.5
... 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	0	0	0	0	0	0	0	0

**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>	<i>Juniperus L.</i>	Juniper	3.5	3.3	3.3
2 <sup>nd</sup>	<i>Pistacia L.</i>	Pistachio	0.42	0.40	0.40
3 <sup>rd</sup>	<i>Acer L.</i>	Maple	0.38	0.34	0.34
4 <sup>th</sup>	<i>Juglans regia</i>	Persian walnut	0.35	0.32	0.32
5 <sup>th</sup>	<i>Populus L.</i>	Poplar/Aspen/Cottonwood	0.27	0.25	0.25
6 <sup>th</sup>	<i>Betula L.</i>	Birch	0.05	0.05	0.05
7 <sup>th</sup>	<i>Amygdalus L.</i>	Almond	0.03	0.03	0.03
8 <sup>th</sup>	<i>Salix L.</i>	Willow	0.03	0.03	0.03
9 <sup>th</sup>	<i>Ulmus L.</i>	Elm	0.03	0.03	0.03
10 <sup>th</sup>	<i>Prunus L.</i>	Myrobalan plum	0.03	0.03	0.03
Remaining			0.61	0.52	0.32
<b>TOTAL</b>			<b>5.70</b>	<b>5.30</b>	<b>5.10</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)	6 cm	
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	4 cm	
Minimum diameter (cm) of branches included in growing stock (W)	2 cm	
Volume refers to “above ground” (AG) or “above stump” (AS)	AG/AS	

## 6.5 Comments to Table T6

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Total growing stock	There is information only about stocks of forests within the limits of the state forests, which concern to the State committee of preservation of the environment and a forestry. On other sectors the data are absent.	
Growing stock of broadleaved / coniferous		
Growing stock of commercial species		
Growing stock composition		

Other general comments to the table

<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
Environment protection of the Republic of Tajikistan /The statistical report of the Republic of Tajikistan on 1997-2002, Dushanbe, 2004, (in Russian).	H	Forest, OWL, OL and Land	1997-2002	
National Strategy and Action Plan on Conservation and Sustainable Use of Biodiversity of the Republic of Tajikistan, Dushanbe, 2008	H	Forest	2005-2008	
The statistical of Year-book of the Forestry State Department	H	Forest	1987-2008	This is the only one document, where all changes within forestry are included

#### 7.2.2 Classification and definitions

Comply with FRA 2010 definitions

#### 7.2.3 Original data

FRA 2005 Categories	Biomass (million metric tonnes oven-dry weight)							
	Forest				Other wooded land			
	1990	1995	2000	2003	1990	1995	2000	2003
Above-ground biomass	4.4	4.0	4.0	4.0	0.7	0.6	0.6	0.6
Below-ground biomass	1.7	1.6	1.6	1.6	0.2	0.1	0.1	0.1
Dead wood biomass	0.4	0.3	0.3	0.3	ins	ins	ins	ins
<b>TOTAL</b>	6.5	5.9	5.9	5.9	0.9	0.7	0.7	0.7

### 7.3 Analysis and processing of national data

#### 7.3.1 Calibration

Not applied

#### 7.3.2 Estimation and forecasting

Data from 2003 was applied to 2005 and 2010.

#### 7.3.3 Reclassification into FRA 2010 categories

Not applied

### 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	4.4	4.0	4.0	4.0	0.7	0.6	0.6	0.6
Below-ground biomass	1.7	1.6	1.6	1.6	0.2	0.1	0.1	0.1
Dead wood	0.4	0.3	0.3	0.3	n.a.	n.a.	n.a.	n.a.
<b>TOTAL</b>	6.5	5.9	5.9	5.9	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

During filling the given table the data resulted in «National Strategy and Action Plan on Conservation and Sustainable Use of Biodiversity of the Republic of Tajikistan » (Dushanbe, 2008) and the data taking place in archives Forest Production association have been used..

## 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
National Strategy and Action Plan on Change Climate of the Republic of Tajikistan, Dushanbe, 2008	H	Forest	2008	

#### 8.2.2 Classification and definitions

Comply with FRA 2005 definitions

#### 8.2.3 Original data

Carbon in above-ground biomass and below-ground biomass was calculated with the use of data on biomass reported in table 7.

FRA 2005 Categories	Carbon (Million metric tonnes)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Carbon in dead wood	0.1	0.1	0.1	ins	ins	ins
Carbon in litter	ins	ins	ins	ins	ins	ins
Soil carbon to a depth of 30 cm	35.0	32.0	28.0	4.0	3.5	3.0

### 8.3 Analysis and processing of national data

#### 8.3.1 Calibration

Not applied

#### 8.3.2 Estimation and forecasting

Not applied

#### 8.3.3 Reclassification into FRA 2010 categories

Not applied

### 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	2.20	2.00	2.00	2.00	0.33	0.28	0.28	0.28
Carbon in below-ground biomass	0.85	0.80	0.80	0.80	0.09	0.05	0.05	0.05
<b>Sub-total: Living biomass</b>	<b>3.05</b>	<b>2.8</b>	<b>2.8</b>	<b>2.8</b>	<b>0.42</b>	<b>0.33</b>	<b>0.33</b>	<b>0.33</b>
Carbon in dead wood	0.1	0.1	0.1	0.1	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>	<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 carbon	35.0	32.0	28.0	32.0	4.0	3.5	3.0	3.5
<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	30
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### 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
The data resulted in National report on climate change have been used. Other officially published data now do not exist.

## 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 ( <i>supplementary term</i> )	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
The statistical of Year-book of the Forestry State Department	H	Forest	1987-2008	This is the only one document, where all changes within forestry is included

#### 9.2.2 Classification and definitions

Comply with FRA 2005 definitions

#### 9.2.3 Original data

FRA-2005 Categories	Average annual area affected (1000 hectares)					
	Forests			Other wooded land		
	1990	2000	2005	1990	2000	2005
Disturbance by fire	0.1	1.1	0.5	0.2	3.0	2.5

### 9.3 Analysis and processing of national data

#### 9.3.1 Calibration

Not applied

#### 9.3.2 Estimation and forecasting

The average for 1990 is obtained, using the data of 1987-1995, and the averages for the 2000 and 2005 are calculated using the data of 1998-2002 and 2003-2008 respectively.

#### 9.3.3 Reclassification into FRA 2010 categories

Not applied

## 9.4 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	0.3	2	4.1	6	3.0	5
... of which on forest	0.1	1	1.1	4	0.5	2
... of which on other wooded land	0.2	1	3.0	2	2.5	3
... of which on other land	n.a	n.a	n.a	n.a	n.a	n.a

Table 9b

FRA 2010 category	Proportion of forest area affected by fire (%)		
	1990	2000	2005
Wildfire	100	100	100
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

## 9.5 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

All fires on forest lands, in which also grazing lands are included, happens as a result of negligence or increase of the area of rain-fed lands

## 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
The statistical of Year-book of the Forestry State Department	H	Forest	1987-2008	This is the only one document, where all changes within forestry is included

#### 10.2.2 Classification and definitions

Comply with FRA 2010 definitions

#### 10.2.3 Original data

FRA-2005 Categories	Average annual area affected (1000 hectares)			
	Forests		Other wooded land	
	1990	2000	1990	2000
Disturbance by insects	13.9	103.4	2.4	12.6
Disturbance by diseases	2.9	6.0	0.1	0.5

### 10.3 Analysis and processing of national data

#### 10.3.1 Calibration

Not applied

#### 10.3.2 Estimation and forecasting

The average for 1990 is obtained, using the data of 1987-1995, and the averages for the 2000 and 2005 are calculated using the data of 1998-2002 and 2003-2008 respectively.

#### 10.3.3 Reclassification into FRA 2010 categories

### 10.4 Data for Table T10

Table 10a – Disturbances

FRA 2010 category	Affected forest area (1000 hectares)		
	1990	2000	2005
Disturbance by insects	13.9	103.4	20.4
Disturbance by diseases	2.9	6.0	3.8
Disturbance by other biotic agents	n.a.	n.a.	n.a.
Disturbance caused by abiotic factors	n.a.	n.a.	n.a.
<b>Total area affected by disturbances</b>	26.8	109.4	24.2

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)
n.a.				

Note: Area affected refers to the total area affected during the outbreak.

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

Scientific name of woody invasive species	Forest area affected 2005 (1000 hectares)
n.a.	
<b>Total forest area affected by woody invasive species</b>	

Note: The total forest area affected by woody invasive species is not necessary the sum of the values above, as these may be overlapping.

### 10.5 Comments to Table T10

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Disturbance by insects		
Disturbance by diseases		
Disturbance by other biotic agents		
Disturbance caused by abiotic factors		
Major outbreaks		
Invasive species		

Other general comments to the table

## 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
The statistical of Year-book of the Forestry State Department	H	Forest	1987-2008	

#### 11.2.2 Classification and definitions

Comply with FRA 2010 definitions

#### 11.2.3 Original data

FRA Categories	Volume in 1000 cubic meters of roundwood over bark										
	Forest										
	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008
Woodfuel	5.8	6.1	6.5	6.5	6.5	6.5	6.5	6.7	6.6	6.7	7.5

### 11.3 Analysis and processing of national data

#### 11.3.1 Calibration

Not applied

#### 11.3.2 Estimation and forecasting

The average for 1990 is obtained, using the data of 1987-1995, and the average for the 2000 and 2005 is calculated respectively using the data of 1998-2008.

#### 11.3.3 Reclassification into FRA 2010 categories

Not applied

### 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.)	0	0	0	5.8	6.5	6.6

... of which from forest	0	0	0	5.8	6.5	6.6
Unit value (local currency / m <sup>3</sup> o.b.)	n.a.	n.a.	n.a.	5	17	20
Total value (1000 local currency)	n.a.	n.a.	n.a.	29	110	132

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.

	<b>1990</b>	<b>2000</b>	<b>2005</b>
Name of local currency	Soviet rouble	somoni	somoni

### 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		

#### Other general comments to the table

So all forests of Tajikistan classify to the first category (natural and soil protection), there is no industrial round wood production in them. According to the Tajik Forest Code the fabrication of industrial wood production is forbidden. There is only sanitary cutting. The Volume of sanitary cutting in 2008 came to 7,5 thous. m<sup>3</sup>., but in 2009 is planned 4.7. This is an official data. The Official statistics of the State Forestry and Hunting enterprise cites data that the wood fuel cutting down comes to 6700 kub. metre. However, our expert estimation on given question shows that this numeral is greatly above and comes to 90 thous. m<sup>3</sup>

## 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
<p><b><u>Plant products / raw material</u></b></p> <ol style="list-style-type: none"> <li>1. Food</li> <li>2. Fodder</li> <li>3. Raw material for medicine and aromatic products</li> <li>4. Raw material for colorants and dyes</li> <li>5. Raw material for utensils, handicrafts &amp; construction</li> <li>6. Ornamental plants</li> <li>7. Exudates</li> <li>8. Other plant products</li> </ol> <p><b><u>Animal products / raw material</u></b></p> <ol style="list-style-type: none"> <li>9. Living animals</li> <li>10. Hides, skins and trophies</li> <li>11. Wild honey and bee-wax</li> <li>12. Wild meat</li> <li>13. Raw material for medicine</li> <li>14. Raw material for colorants</li> <li>15. Other edible animal products</li> <li>16. Other non-edible animal products</li> </ol>

### 12.2 National data

#### 12.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
The statistical of Year-book of the Forestry State Department	H	Forest	1987-2008	
Forestry Country report on the republic of Tajikistan, Dushanbe	H	Forest	2004	
UNECE/FAO Краткий Национальный Очерк Сектор Лесного Хозяйства и Лесных Товаров Таджикистан Душанбе – Женева, 2006	H	Forest	2006	

### 12.2.2 Classification and definitions

The data is distributed according to FRA requirements.

### 12.2.3 Original data

See final reporting table.

## 12.3 Data for Table T12

Rank	Name of product	Key species	Unit	NWFP removals 2005		NWFP category
				Quantity	Value (1000 local currency)	
1 <sup>st</sup>	Food	Pistachio, Almond, Persian walnut fruits, Rheum and Allium Oschaninii	ton	380	10	1
2 <sup>nd</sup>	Raw material for medicine	Liquorices, ferule	ton	10	20	3
3 <sup>rd</sup>	Fodder	Cereal	ton	300	1	2
4 <sup>th</sup>	Ornamental plants	Different kind of bushes	pieces	100000	30	6
5 <sup>th</sup>	Hides, skins and trophies	Hunting according to installed lists	pieces	2000	20	10
6 <sup>th</sup>	Wild meat	Wide boar	ton	1	7	12
7 <sup>th</sup>	Living animals	Sheep and goats	ton	3	16	9
8 <sup>th</sup>	Wild honey and bee-wax	Different types honey	ton	0.1	15	11
9 <sup>th</sup>	Other plant products		ton	20	5	8
10 <sup>th</sup>	Other edible animal products		ton	0.3	8	15
All other plant products					0	
All other animal products					0	
<b>TOTAL</b>					<b>132</b>	

	2005
Name of local currency	somoni

## 12.4 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	

Other general comments to the table

## 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 <u>wage or salary</u> in cash or in kind.
Self-employment	Persons who during a specified reference period performed some work for <u>profit or family gain</u> 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
The statistical of Year-book of the Forestry State Department	H	Forest	1987-2008	
Forestry Country report on the republic of Tajikistan, Dushanbe	H	Forest	2004	
UNECE/FAO Краткий Национальный Очерк Сектор Лесного Хозяйства и Лесных Товаров Таджикистан Душанбе – Женева, 2006	H	Forest	2006	

#### 13.2.2 Classification and definitions

The data is distributed according to FRA requirements.

#### 13.2.3 Original data

Annual reports of State Forestry and hunting department. Data presented directly in the final reporting table.

### 13.3 Analysis and processing of national data

#### 13.3.1 Calibration

Not applied

#### 13.3.2 Estimation and forecasting

The average for the 2000 and 2005 is calculated respectively using the data of 1998-2008.

**13.3.3 Reclassification into FRA 2010 categories**

Not applied

**13.4 Data for Table T13**

FRA 2010 Category	Employment (1000 years FTE)		
	1990	2000	2005
Employment in primary production of goods	3.753	5.374	5.874
...of which paid employment	0.753	0.874	0.874
...of which self-employment	3	4.5	5.0
Employment in management of protected areas	0.085	0.120	0.120

**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**

Most of local people around the forests on a rent basic collecting wood and other forest products and improving they family income

## 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	2000	
	Reference to document	State program of Forestry development	
<b>National forest programme (nfp)</b>	<input checked="" type="checkbox"/>	Yes	
	<input type="checkbox"/>	No	
If Yes above, provide:	Name of nfp in country	National Forestry program	
	Starting year	2008 (first workshop)	
	Current status	<input checked="" 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	FAO project		
<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	1993	
	Year of latest amendment	2004 (additions and changes)	
	Reference to document	Forest Code 2004 (new redaction of this document forthcoming)	

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	
National forest programme (nfp)	
Law (Act or Code) on forest with national scope	The law “About wildlife management of Republic Tajikistan” was commissioned by Parliament in 1993 and integrate some questions of interest to forestry such as: article 4: protection of natural environment; article 8: limits of wildlife management; article 19: payment of uses; article 20: funds of wildlife management; article: 61: protection of endangered species; article 66: state control over protection of natural environment. Regulations about the 1993 code were issued (FOWECA report). The new code is found in stage of completion and to the end of this year will be presented to the Government.
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	State committee of environment protection (SCEP)	
Level of subordination of Head of Forestry within the Ministry		1 <sup>st</sup> level subordination to Minister
	x	2 <sup>nd</sup> level subordination to Minister
		3 <sup>rd</sup> level subordination to Minister
		4 <sup>th</sup> or lower level subordination to Minister
Other public forest agencies at national level	State Forestry and Hunting enterprise	
Institution(s) responsible for forest law enforcement	State committee of environment protection	

Table 15b – Human resources

FRA 2010 Category	Human resources within public forest institutions					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Total staff	850	20	974	19	1002	23
...of which with university degree or equivalent	264	10	283	10	290	10

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	SCEP was established after the reorganization of the Ministry of Agricultural and Forestry	
Level of subordination of Head of Forestry within the Ministry		
Other public forest agencies at national level	Before 2004, when most of government departments were reorganized, the State Forestry and Hunting enterprise was called Tajikles,	
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

### 16.1 FRA 2010 Categories and definitions

Term	Definition
Forest-related education	Post-secondary education programme with focus on forests and related subjects.
Doctor's degree (PhD)	University (or equivalent) education with a total duration of about 8 years.
Master's degree (MSc) or equivalent	University (or equivalent) education with a total duration of about five years.
Bachelor's degree (BSc) or equivalent	University (or equivalent) education with a duration of about three years.
Technician certificate or diploma	Qualification issued from a technical education institution consisting of 1 to 3 years post secondary education.
Publicly funded forest research centers	Research centers primarily implementing research programmes on forest matters. Funding is mainly public or channelled through public institutions.

### 16.2 National data

#### 16.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
The statistical of Year-book of the Forestry State Department	H	Forest	1987-2008	
Forestry Country report on the republic of Tajikistan, Dushanbe	H	Forest	2004	
UNECE/FAO Short National report of forestry and goods Tajikistan, Dushanbe – Geneva, 2006	H	Forest	2006	

#### 16.2.2 Original data

Annual reports of State Forestry and hunting enterprise . Figures presented directly in the final reporting table.

### 16.3 Analysis and processing of national data

#### 16.3.1 Estimation and forecasting

Not applied

## 16.4 Data for Table T16

FRA 2010 Category	Graduation <sup>1)</sup> of students in forest-related education					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Master's degree (MSc) or equivalent	19	0	22	5	16	0
Bachelor's degree (BSc) or equivalent	n.a	n.a	n.a	n.a	n.a	n.a
Forest technician certificate / diploma	23	n.a.	32	n.a.	28	n.a.
FRA 2010 Category	Professionals working in publicly funded forest research centres <sup>2)</sup>					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Doctor's degree (PhD)	16	5	17	5	20	4
Master's degree (MSc) or equivalent	19	0	22	1	16	0
Bachelor's degree (BSc) or equivalent	n.a	n.a	n.a	n.a	n.a	n.a

Notes:

1. Graduation refers to the number of students that have successfully completed a Bachelor's or higher degree or achieved a certificate or diploma as forest technician.
2. Covers degrees in all sciences, not only forestry.

## 16.5 Comments to Table T16

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Graduation of students in forest-related education	A Chair of forestry was opened at the Tajik Agrarian University in 1998 and sixty students are currently studying here. In addition, the Polytechnic Technical School trains specialists of middle level - technician forestry specialist, forestry officer	
Professionals working in public forest research centres	The Institutes of Forestry, Botanists, Zoologies and Tajik National Park lead scientific research in the forestry field, provide guidance on conservation, improvement and expansion of forest areas and species composition	

### Other general comments to the table

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## 17 Table T17 – Public revenue collection and expenditure

### 17.1 FRA 2010 Categories and definitions

Category	Definition
Forest revenue	All government revenue collected from the domestic production and trade of forest products and services. For this purpose, forest products include: roundwood; sawnwood; wood-based panels; pulp and paper; and non-wood forest products. As far as possible, this should include revenue collected by all levels of government (i.e. central, regional/provincial and municipal level), but it should exclude the income of publicly owned business entities.
Public expenditure	All government expenditure on forest related activities (further defined below).
Operational expenditure (sub-category to Public expenditure)	All government expenditure on public institutions solely engaged in the forest sector. Where the forest administration is part of a larger public agency (e.g. department or ministry), this should only include the forest sector component of the agency's total expenditure. As far as possible, this should also include other institutions (e.g. in research, training and marketing) solely engaged in the forest sector, but it should exclude the expenditure of publicly owned business entities.
Transfer payments (sub-category to Public expenditure)	All government expenditure on direct financial incentives paid to non-government and private-sector institutions, enterprises communities or individuals operating in the forest sector to implement forest related activities.
Domestic funding	Public expenditure funded from domestic public financial resources, including: retained forest revenue; forest-related funds; and allocations from the national budget (i.e. from non-forest sector public revenue sources).
External funding	Public expenditure funded from grants and loans from donors, non-governmental organisations, international lending agencies and international organisations, where such funds are channelled through national public institutions.

### 17.2 National data

#### 17.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
The statistical of Year-book of the Forestry State Department	H	Forest	1987-2008	

#### 17.2.2 Classification and definitions

The data is distributed according to FRA requirements.

#### 17.2.3 Original data

Annual reports of State Forestry and hunting enterprise. Data presented directly in the final reporting table.

### 17.3 Data for Table T17

Table 17a - Forest revenues

FRA 2010 Categories	Revenues (1000 local currency)	
	2000	2005
Forest revenue	3 200	4 600

Table 17b - Public expenditure in forest sector by funding source

FRA 2010 Categories	Domestic funding (1000 local currency)		External funding (1000 local currency)		Total (1000 local currency)	
	2000	2005	2000	2005	2000	2005
Operational expenditure	1 600	2 200	0	0	1 600	2 200
Transfer payments	3 400	4 000	0	0	3 400	4 000
<b>Total public expenditure</b>	5 000	6 200	0	0	5 000	6 200
If transfer payments are made for forest management and conservation, indicate for what specific objective(s) - Please tick all that apply.	<input checked="" type="checkbox"/>	Reforestation				
	<input checked="" type="checkbox"/>	Afforestation				
	<input checked="" type="checkbox"/>	Forest inventory and/or planning				
	<input checked="" type="checkbox"/>	Conservation of forest biodiversity				
	<input checked="" type="checkbox"/>	Protection of soil and water				
	<input checked="" type="checkbox"/>	Forest stand improvement				
	<input checked="" type="checkbox"/>	Establishment or maintenance of protected areas				
	<input type="checkbox"/>	Other, specify below				

### 17.4 Comments to Table T17

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest revenue		
Operational expenditure		
Transfer payments		

Other general comments to the table