



**Forestry Department**

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

**GLOBAL FOREST RESOURCES  
ASSESSMENT 2005**

**ARMENIA**

**COUNTRY REPORT**



## 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 2005 (FRA 2005), which is the most comprehensive assessment to date. More than 800 people have been involved, including 172 national correspondents and their colleagues, an Advisory Group, international experts, FAO staff, consultants and volunteers. Information has been collated from 229 countries and territories for three points in time: 1990, 2000 and 2005.

The reporting framework for FRA 2005 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related fora and includes more than 40 variables related to the extent, condition, uses and values of forest resources. More information on the FRA 2005 process and the results - including all the country reports - is available on the FRA 2005 Web site ([www.fao.org/forestry/fra2005](http://www.fao.org/forestry/fra2005)).

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The Global Forest Resources Assessment 2005 Country Report Series is designed to document and make available the information forming the basis for the FRA 2005 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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## Abbreviations

FRA-2000	- Global Forest Resources Assessment 2000
FRA-2005	- Global Forest Resources Assessment 2005
H	- High quality
M	- Medium quality
L	- Low quality
RA	- Republic of Armenia
SFF	- State Forest Fund
OWL	- Other wooded land
OLWTC	- Other land with tree cover
N/A	- Not applicable
ID	- Insufficient Data
NDA	- No Data Available
FAO	- Food and Agriculture Organization of the United Nations

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

## 1.1 FRA 2005 Categories and definitions

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

## 1.2 National data

### 1.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forest Code of the Republic of Armenia, Yerevan 1994	H	Forest cover	1994	Definitions of forest, non-forest and other related areas
State Land Account / Balance 1997 of the Republic of Armenia, Yerevan 1997	H	Land use	1983, 1988, 1993	
Simultaneous State Forest Account 1993 of the Republic of Armenia, Yerevan 1993	H	Forest and OWL areas	1983, 1988	Information about State Forest Fund
National Statistical Service Yearbook, Yerevan 2002	H	Land use and forest cover	1983, 1988, 1993	
The Environmental Millennium Development Goal (MDG) in Europe and Central Asia Forest/Biodiversity indicators for Armenia 2004”. (Authors: A Ghoulijanyan, A. Gevorgyan (independent expert) and R. Petrosyan	H	Forest cover percentage	2005	

Note: In 2005, a new Forestry Code will be adopted.

## 1.2.2 Classification and definitions

National class	Definition
Forests	The totality of the natural and artificially established woody and bushy vegetation, top-soil layers/cover, animals and micro-organisms, constituting the forest biocenosis, and being utilised in the economic, recreational, health-supporting, sanitary-hygienic, research and scientific and other purposes.
State Forest Fund (SFF)	The State Forest Fund comprises all forests, and also lands of Forest Fund, which are not covered with the forest vegetation (forest lands and non-forest lands).
Woody-bush vegetation not included into the SFF	Scattered/ single trees, their clusters, as well as other woody-bush vegetation, including protective forest belts on the agricultural lands, on lands within the limits of rail roads, on lands designated for health-supporting institutions / organisations, settlements, on lands of private households.
Forest lands	The forest lands include stocked forest lands, and also un-stocked forest lands, which are to be reforested/ afforested, and which are available for forestry needs.
Stocked (closed) forest lands	Stocked (closed) forest lands of the Forest Fund, occupied by young stands of trees species with the stand density of 0.4 and higher, and stands of other age groups with the stand density of 0.3 and higher, as well as land areas occupied by the bushy vegetation, where stands of trees species can be established without special forest-amelioration work.
Open (un-stocked) forest lands	Open (un-stocked) forest lands are not designated for forest re-establishing (clear-cut areas, burned forest areas, vanished stands, sparse stands, bare land, openings, nurseries, non-closed plantations and other).

**Note:** The national classification does not consider the thresholds levels of the height and size of the area for including the forest fund lands into a specific category. The minimum area that is being accounted is 0.1 hectare

## 1.2.3 Original data

National Categories	Area (1000 hectares) State Forest Fund			
	1983	1988	1993	2000
Stocked forest lands	281.5 <sup>1/</sup>	291.5 <sup>1/</sup>	334.1	ID
Un-stocked forest lands	40.9	38.9	44.5	ID
Forest lands	347.3	347.0	392.3	392.3
Non-forest lands	66.4	76.8	67.6	67.6

1/ - Former collective and state farms' (kolkhoz and sovkhoz) forests are not included

The forest cover in 2004 according to the national indicators is about 9.5% of the total country area which is presented in the report submitted to the World Bank named “ The Environmental Millennium Development Goal (MDG) in Europe and Central Asia Forest/Biodiversity indicators for Armenia 2004” Analysis and processing of national data.

### 1.2.4 Calibration

Source	Inland water bodies	Total land area	Total country area
National data	160	2 820	2 980
FAOSTAT	160	2 820	2 980

**Note:** There is no need to perform calibration since the national land area data match the FAOSTAT land area database.

### 1.2.5 Estimation and forecasting

Estimations were carried out based on the 1993 data and on the 2004 estimates. Particularly, 2004 data were considered valid for 2005 and 1990 and 2000 figures were calculated by linear interpolation.

The other wooded land was instead considered constant (from 1988) since it was not possible to extrapolate any updated figure.

The decrease in the forest area was then assumed to correspond to an increase in the other land area.

FRA class	Area hectares		
	1990	2000	2005
Forest	346 000	305 000	283 000

### 1.3 Reclassification into FRA 2005 classes

All stocked forest lands are reclassified as forests, while all un-stocked forest lands are reclassified as other wooded land.

### 1.4 Data for National reporting table T1

FRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Forest	346	305	283
Other wooded land	45	45	45
Other land	2 429	2 470	2 492
...of which with tree cover	6.1	6.3	6.5
Inland water bodies	160	160	160
<b>TOTAL</b>	<b>2 980</b>	<b>2 980</b>	<b>2 980</b>

### 1.5 Comments to National reporting table T1

The serious (big) differences of the national land fund classifications and the FRA 2005 classification applied to forest and other wooded land, as well as the lack of national definitions and data/ information on a number of categories of forests and other wooded land, created a difficulty in compiling the data for this table.

Nevertheless, the most important issue is the non-controlled (illegal) cuttings, which have had place in the Republic of Armenia since the State Forest Account 1993, and the following years, which led to the basic changes in forest ecosystems. All the logic of the forestry developments were disturbed and, taking into account that during the last 12 years there were not any forest assessment/ inventory, monitoring and evaluation of the forest condition in the Republic, it was difficult to provide the reliable estimation of the status and forecasting. The estimated area of “Other wooded land” is derived from the national category “unstocked forest land” within the State Forest Fund and includes areas that would qualify as “Forest” according to the FRA 2005 definitions. However, no quantitative information is available that allow for an appropriate subdivision into “Forest” and “Other wooded land”, therefore all this area has been classified as “Other wooded land”.

## 2 Table T2 – Ownership of Forest and Other wooded land

### 2.1 FRA 2005 Categories and definitions

Category	Definition
Private ownership	Land owned by individuals, families, private co-operatives, corporations, industries, religious and educational institutions, pension or investment funds, and other private institutions.
Public ownership	Land owned by the State (national, state and regional governments) or government-owned institutions or corporations or other public bodies including cities, municipalities, villages and communes.
Other ownership	Land that is not classified either as “Public ownership” or as “Private ownership”.

### 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 Code of the Republic of Armenia	H	Ownership categories	Yerevan 1997	Republic of Armenia
Forest Code of the Republic of Armenia	H	Ownership categories	Yerevan 1994	Republic of Armenia

#### 2.2.2. Classification and definitions

All forests and other wooded land of the Republic of Armenia are owned by the State

#### 2.2.3. Original data

### 2.3 Analysis and processing of national data

#### 2.3.1 Calibration

#### 2.3.2 Estimation and forecasting

### 2.4 Reclassification into FRA 2005 classes

## 2.5 Data for National reporting table T2

FRA 2005 Categories	Area (1000 hectares)			
	Forest		Other wooded land	
	1990	2000	1990	2000
Private ownership	0	0	0	0
Public ownership	346	305	45	45
Other ownership	0	0	0	0
<b>TOTAL</b>	<b>346</b>	<b>305</b>	<b>45</b>	<b>45</b>

## 2.6 Comments to National reporting table T2

All forests and other wooded land of in Armenia are publicly owned

### 3 Table T3 – Designated function of Forest and Other wooded land

#### 3.1 FRA 2005 Categories and definitions

##### *Types of designation*

Category	Definition
Primary function	A designated function is considered to be primary when it is significantly more important than other functions. This includes areas that are legally or voluntarily set aside for specific purposes.
Total area with function	Total area where a specific function has been designated, regardless whether it is primary or not.

##### *Designation categories*

Category / Designated function	Definition
Production	Forest / Other wooded land designated for production and extraction of forest goods, including both wood and non-wood forest products.
Protection of soil and water	Forest / Other wooded land designated for protection of soil and water.
Conservation of biodiversity	Forest / Other wooded land designated for conservation of biological diversity.
Social services	Forest / Other wooded land designated for the provision of social services.
Multiple purpose	Forest / Other wooded land designated to any combination of: production of goods, protection of soil and water, conservation of biodiversity and provision of social services and where none of these alone can be considered as being significantly more important than the others.
No or unknown function	Forest / Other wooded land for which a specific function has not been designated or where designated function is unknown.

#### 3.2 National data

##### 3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Simultaneous State Forest Account 1993 of the Republic of Armenia, Yerevan 1993	H	Forest and OWL areas	1983, 1988	Information about State Forest Fund

##### 3.2.2 Classification and definitions

National class	Definition
Protective forests	Protective functions forests include: <ol style="list-style-type: none"> <li>a) water protecting forests (forest along rivers, lakes, water storages/ reservoirs, including forests for protecting fish spawning areas)</li> <li>b) erosion preventing forests (forest stands protecting land)</li> </ol>
Forests of social functions	Forests of social functions include forest with the sanitary-hygienic, recreation and health-supporting functions (protection of watersheds and sanitary protection)
Forests of special functions	Forests of special functions include forests in the system of the special environment-protective territories

### 3.2.3 Original data

NATIONAL CATEGORIES / DESIGNATED FUNCTIONS	Forests			Other wooded land		
	1993	2000	2005	1993	2000	2005
	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha
<b>Forests implementing primarily protective functions</b>	<b>217.4</b>	<b>216.3</b>	<b>223.1</b>	<b>29.8</b>	<b>24.1</b>	<b>23.1</b>
<b>of which:</b>						
- protective forest belts along railways and auto-roads	4	3.8	3.8	1.8	2	2
- other protective forest belts	1.2	1.1	1.1	0.4	0.5	0.5
- forests of important function for the protection of the environment	212.2	211.3	218.2	27.6	21.6	20.6
<b>Forests implementing primarily social functions</b>	<b>75.7</b>	<b>74.3</b>	<b>75.5</b>	<b>17.6</b>	<b>11.7</b>	<b>11.7</b>
<b>Forests implementing primarily special functions</b>	<b>60.7</b>	<b>60.4</b>	<b>60.4</b>	<b>4.9</b>	<b>5.2</b>	<b>5.2</b>
<b>TOTAL</b>	<b>353.8</b>	<b>351</b>	<b>359</b>	<b>52.3</b>	<b>41</b>	<b>40</b>

**Note:** The Republic of Armenia will adopt in 2005 the new Forest Code, where the designation of forests will be defined by following categories:

- Protective Forests
- Forests of special functions, including
  - o Specifically protected forest areas
  - o Urban and sub-urban forests
  - o Recreation and health-supporting forests
  - o State borders forests
  - o Forests of special historic and scientific value
- Forests of production function

### 3.3 Analysis and processing of national data

#### 3.3.1 Calibration

Not applied

#### 3.3.2 Estimation and forecasting

Estimation and forecasting data were implemented on the basis of expert estimates.

### 3.4 Reclassification into FRA 2005 classes

Reclassification to FRA 2005 categories for ‘Primary designated function’

	Forests implementing primarily protective functions	Forests implementing primarily special functions	Forests implementing primarily social functions
<b>Production</b>	0%	0%	0%
<b>Protection of soil and water</b>	100%	0%	0%
<b>Conservation of biodiversity</b>	0%	100%	0%
<b>Social services</b>	0%	0%	100%
<b>Multiple purpose</b>	0%	0%	0%
<b>No or unknown function</b>	0%	0%	0%

Reclassification to FRA 2005 categories for ‘Total area with function’ (applicable to forests only)

	Forests implementing primarily protective functions	Forests implementing primarily special functions	Forests implementing primarily social functions
<b>Production</b>	5%	0%	0%
<b>Protection of soil and water</b>	100%	70%	50%
<b>Conservation of biodiversity</b>	30%	100%	50%
<b>Social services</b>	20%	30%	100%
<b>Multiple purpose</b>	0%	0%	0%
<b>No or unknown function</b>	0%	0%	0%

Note: OWL fulfil only primary functions, which is reflected in T3

### 3.5 Data for National reporting table T3

FRA 2005 Categories / Designated function	Area (1000 hectares)					
	Primary function			Total area with function		
	1990	2000	2005	1990	2000	2005
<b>Forest</b>						
Production	0	0	0	11	9	9
Protection of soil and water	215	189	175	293	251	239
Conservation of biodiversity	59	52	48	160	141	131
Social services	73	64	60	138	117	110
Multiple purpose	0	0	0	not appl.	not appl.	not appl.
No or unknown function	0	0	0	not appl.	not appl.	not appl.
<b>Total - Forest</b>	<b>346</b>	<b>305</b>	<b>283</b>	<b>not appl.</b>	<b>not appl.</b>	<b>not appl.</b>
<b>Other wooded land</b>						
Production	0	0	0	0	0	0
Protection of soil and water	28	28	28	28	28	28
Conservation of biodiversity	13	12	12	13	12	12
Social services	4	5	5	4	5	5
Multiple purpose	0	0	0	not appl.	not appl.	not appl.
No or unknown function	0	0	0	not appl.	not appl.	not appl.
<b>Total – Other wooded land</b>	<b>45</b>	<b>45</b>	<b>45</b>	<b>not appl.</b>	<b>not appl.</b>	<b>not appl.</b>

Note: the total area with function (forests only) is based on the percentages in the second table in Section 3.4. Other wooded lands have only primary function

### 3.6 Comments to National reporting table T3

Breaking down forests by the designation function categories and corresponding areas was provided on the basis of the Forest Code of the Republic of Armenia (1994), and the results of the State Forest Fund Account (1993). Despite the suggested break down, all forests in Armenia (as a whole), bear the protective functions, taking into account the mountainous landscape, strong relief fragmentation, and the danger of the erosion, as well as the function of the conservation of biodiversity, which is also very important. The Table in the section 3.4 shows the percentage of other specific functions, which are being implemented, additionally to the primary function with regard to the total area.

Due to the above-described situation, the main cuttings are forbidden on the total forest land of Armenia, according to the Governmental decision. In fact, there are no sufficient areas for the main cuttings, but still some small plots may correspond to demands of commercial fellings.

The above facts/ situation prevents providing more details in Table T3, and the data presented are the results of expert estimates. As basis for these estimates the information from TBFRA-2000 (UNECE/FAO, “*Forest Resources of Europe, CIS, North America, Australia, Japan and New Zealand*” (industrialised temperate/boreal countries). Contribution to the Global Forest Resources Assessment 2000. Main Report) was used, with the reference year 1996.

The reforestation is planned in the high-forest areas of Armenia available for wood supply, which are estimated in 1996 as of 21 000 hectares.

## 4 Table T4 – Characteristics of Forest and Other wooded land

### 4.1 FRA 2005 Categories and definitions

Category	Definition
Primary	Forest / Other wooded land of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Modified natural	Forest / Other wooded land of naturally regenerated native species where there are clearly visible indications of human activities.
Semi-natural	Forest / Other wooded land of native species, established through planting, seeding or assisted natural regeneration.
Productive plantation	Forest / Other wooded land of introduced species, and in some cases native species, established through planting or seeding mainly for production of wood or non wood goods.
Protective plantation	Forest / Other wooded land of native or introduced species, established through planting or seeding mainly for provision of services.

### 4.2 National data

#### 4.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Simultaneous State Forest Account 1993 of the Republic of Armenia, Yerevan 1993	H	Forest and OWL areas	1983, 1988 data	Information about State Forest Fund

#### 4.2.2 Classification and definitions

**Note:** The FRA 2005 classification was applied for the compilation of this table

#### 4.2.3 Original data

Categories	Forest			Other wooded land		
	1993	2000	2005	1993	2000	2005
	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha
Primary	51.2	31.9	18	ID	ID	ID
Modified natural	244.2	308.1	331.5	36.2	37.2	37.3
Semi-natural	0	0	0	0	0	0
Productive plantation	0	0	0	0	0	0
Protective plantation	13.6	11	9.5	2.8	3.8	2.7
<b>TOTAL</b>	<b>309</b>	<b>351</b>	<b>359</b>	<b>39</b>	<b>41</b>	<b>40</b>

### 4.3 Analysis and processing of national data

#### 4.3.1 Calibration

Not applied

### 4.3.2 Estimation and forecasting

Estimation and forecasting are an expert estimate. Primary forests areas are assumed as of 5 % of the total forest area as coming from table one. The Protective plantations data are mostly the result of the research of partial data and expert evaluation, and they were calculated for the year 2000 by the linear interpolation method, and the data for 1990 (with the exception of Semi-natural) are assumed to be at the level of 1993. The remaining forest is considered as modified natural.

### 4.4 Reclassification into FRA 2005 classes

Please see Section 4.2.2

### 4.5 Data for National reporting table T4

FRA 2005 Categories	Area (1000 hectares)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Primary	17	15	14	ID	ID	ID
Modified natural	315	279	259	42	41	42
Semi-natural	0	0	0	0	0	0
Productive plantation	0	0	0	0	0	0
Protective plantation	14	11	10	2.8	3.8	2.7
<b>TOTAL</b>	<b>346</b>	<b>305</b>	<b>283</b>	<b>45</b>	<b>45</b>	<b>45</b>

### 4.6 Comments to National reporting table T4

## 5 Table T5 – Growing stock

### 5.1 FRA 2005 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.
Commercial growing stock	The part of the growing stock of species that are considered as commercial or potentially commercial under current market conditions, and with a diameter at breast height of Z cm or more.

### 5.2 National data

#### 5.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Simultaneous State Forest Account 1993 of the Republic of Armenia, Yerevan 1993	H	Forest and OWL areas	1983, 1988	Information about State Forest Fund

#### 5.2.2 Classification and definitions

National class	Definition
Growing stock	Volume of living stem wood in cubic meters of all trees in the stand
Commercial growing stock	Defined as the part of the growing stock available for wood supply (exploitation) – there is no official (legal /juridical) definition of “ <i>Commercial growing stock</i> ” in the country (see comments below)

#### 5.2.3 Original data

Categories	VOLUME (MILLION CUBIC METERS OVER BARK)							
	Forest				Other wooded land			
	1988	1993	2000	2005	1988	1993	2000	2005
Growing stock	37.22	41.74	NDA	NDA	NDA	NDA	NDA	NDA
Commercial growing stock	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA <sup>1/</sup>

**Note:** The Growing Stock for Forests was calculated by the linear interpolation method

### 5.3 Analysis and processing of national data

#### 5.3.1 Calibration

Not applied

### 5.3.2 Estimation and forecasting

Estimated growing stock for 1990 through interpolation between 1988 and 1993: 39028

Data on increment:

Total increment 1993-95 (1,000 m <sup>3</sup> )	1320
Annual increment, 1996-2005 (1,000m <sup>3</sup> /yr)	400 (3600 in 9 years)

Data on removals

Total volume removed 1993-1995 (1,000 m <sup>3</sup> )	3000
Total volume removed 1996-2003	7315
Total volume removed 1993-2005-06-23	11160

Forecasted GS for 2005

GS 1993	41740
+ Total increment 1993-2005	4920
- Total volume removed 1993-2005	11160
GS 2005	35500

According to expert estimates, the total volume of wood in OWL has been 800 thousand cubic meters in all these years

Please see also comments at the end of this section

### 5.4 Reclassification into FRA 2005 classes

The FRA 2005 classification was applied

### 5.5 Data for National reporting table T5

FRA 2005 Categories	VOLUME (MILLION CUBIC METERS OVER BARK)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Growing stock	39.03	38.1	35.5	0.8	0.8	0.8
Commercial growing stock	NDA	NDA	NDA	NDA	NDA	NDA

Specification of country threshold values	Unit	Value	Complementary information
1. Minimum diameter at breast height of trees included in Growing stock (X)	cm	4	
2. Minimum diameter at the top end of stem (Y) for calculation of Growing stock	cm	No limits	
3. Minimum diameter of branches included in Growing stock (W)	cm	3	
4. Minimum diameter at breast height of trees in Commercial growing stock (Z)	cm	Not defined	
5. Volume refers to “Above ground” (AG) or “Above stump” (AS)	AG / AS	AG	
6. Have any of the above thresholds (points 1 to 4) changed since 1990	Yes/No	No	

7. If yes, then attach a separate note giving details of the change	Attachment	N/A	
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## 5.6 Comments to National reporting table T5

For the last 12 years, on about 75 % of forest areas of the Republic of Armenia, Fellings /Cutting have exceeded for more than 10 times the Allowable Annual Cut. The last forest management planning on the territory of the Republic (as a whole) was implemented in 1987-92, and the Forest Fund Account - in 1993.

- The background quantitative and qualitative changes have happened in forests, especially as far as the growing stock and species distribution is concerned
- The reliable information is available only for the 100 thousand hectares of the territory of the Republic, where the forest management planning was implemented in 2000-2004
- The lack of a legal /juridical definition of “*Commercial growing stock*” is a serious shortcoming
- The years 1988 and 1993 were taken as the basic years for the calculation of Growing Stock, and the volume data for 1990 were defined by the linear interpolation method
- For the estimation of data for 2000-2005, there were taken the international experts’ assumption, that the population of the Republic had used in 1993-1994-1995, as wood-fuel, some 1 (one) million cubic meters of wood annually. This assumption corresponds also to the estimates of local experts and specialists.
- During the reporting years, there were no any taking out the wood from the Republic, or importing wood into the country.
- The research of the illegal logging in 2002-2004, supported financially by the international bank, has shown that only in 2003 there were taken out of forests 847 thousand m<sup>3</sup> of industrial wood and wood fuel, of which only 63 thousand m<sup>3</sup> were legally documented.
- The Net Annual Increment of forests (State Forest Fund Account, 1993) is 440 thousand m<sup>3</sup>.

According to the State Forest Fund Account (01.01.1993) the growing stock was 41 740 thousand m<sup>3</sup>

- Total increment in 1993-95 was 1320 thousand m<sup>3</sup>
- Total volume (stock) removed in 1993-95 from forest was 3000 thousand m<sup>3</sup> (expert estimates)
- Total Growing Stock on 01.01.1996 was 40 060 thousand m<sup>3</sup>
- Total volume (stock) of wood removed in 1996-2003 from forest was 7 315 thousand m<sup>3</sup> (1995 – 1000 thousand m<sup>3</sup>, and 2003 – 847 thousand m<sup>3</sup>)
- By 01.01.2005, the total volume (stock) removed from forest was 11 160 thousand m<sup>3</sup> (01.01.1993 – 01.01.2005)
- The Net Annual Increment for 01.01.1006 – 01.01.2005 is 400 thousand m<sup>3</sup>, totalling to 3 600 thousand m<sup>3</sup>
- By 01.01.2005, total growing stock was 35 500 thousand m<sup>3</sup>
- Total Growing Stock of Forest and Other wooded land – 36 300 thousand m<sup>3</sup>

## 6 Table T6 – Biomass stock

### 6.1 FRA 2005 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 living 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 biomass	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.

### 6.2 National data

#### 6.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Simultaneous State Forest Account 1993 of the Republic of Armenia, Yerevan 1993	H	Forest and OWL areas	1983, 1988	Information about State Forest Fund
TBFRA-2000, UNECE/FAO, “Forest Resources of Europe, CIS, North America, Australia, Japan and New Zealand” (industrialised temperate/boreal countries). Contribution to the Global Forest Resources Assessment 2000. Main Report.	H	Wood volume by species	1993	

#### 6.2.2 Classification and definitions

**Note:** The FRA 2005 classification, categories and definitions were applied for the compilation of this table. The information about thresholds for thin roots, standing deadwood, and wood lying on the surface is not available.

### 6.2.3 Original data

TREE SPECIES	Growing Stock (million cubic meters)
	1993
<i>Fagus orientalis</i>	20.68
<i>Quercus macranthera</i>	12.54
<i>Carpinus caucasica</i>	6.0
<i>Pinus silvestris</i>	0.61
<i>Carpinus orientalis</i>	0.45
<i>Juniperus oblonga</i>	0.16
<i>Populus</i>	0.31
<i>Tilia cordata</i>	0.24
<i>Fraxinus excelsior</i>	0.10
<i>Acer tataricum</i>	0.14
Remainder of species	0.51
<b>TOTAL</b>	<b>41.74</b>

## 6.3 Analysis and processing of national data

### 6.3.1 Calibration

### 6.3.2 Estimation and forecasting

Tree Species	Growing Stock (million m3)	BASIC DENSITY (TONS/M <sup>3</sup> )	Stem biomass (MLN. TONS)	BEF	AG biomass (mln. tons)	ROOT / SHOOT RATIO	BG biomass (mln. tons)
<i>Fagus orientalis</i>	20.68	0.58	11.99	1.30	15.59	0.35	5.46
<i>Quercus macranthera</i>	12.54	0.58	7.27	1.30	9.46	0.35	3.31
<i>Carpinus caucasica</i>	6.0	0.63	3.78	1.30	4.91	0.35	1.72
<i>Pinus silvestris</i>	0.61	0.42	0.26	1.35	0.35	0.32	0.11
<i>Carpinus orientalis</i>	0.45	0.63	0.28	1.30	0.37	0.35	0.13
<i>Juniperus oblonga</i>	0.16	0.57	0.09	1.35	0.12	0.32	0.04
<i>Populus</i>	0.31	0.35	0.11	1.30	0.14	0.35	0.05
<i>Tilia cordata</i>	0.24	0.43	0.10	1.30	0.13	0.35	0.05
<i>Fraxinus excelsior</i>	0.10	0.57	0.06	1.30	0.07	0.35	0.03
<i>Acer tataricum</i>	0.14	0.52	0.07	1.30	0.09	0.35	0.03
Remainder of species	0.51	0.45	0.23	1.30	0.3	0.30	0.09
<b>TOTAL for 1993</b>	<b>41.74</b>		<b>24.25</b>		<b>31.54</b>		<b>11.01</b>

The calculation of ratios to Growing stock:

AG biomass / GS = 0.755671

BG biomass / GS = 0.26379

Dead wood biomass is 0.14 of the total living biomass  
These applied to the GS in Table T5, in order to produce T6.

#### 6.4 Reclassification into FRA 2005 classes

**Note:** Please see Section 6.2.2

#### 6.5 Data for National reporting table T6

FRA 2005 Categories	Biomass (million metric tonnes oven-dry weight)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Above-ground biomass	29.49	28.79	26.83	0.60	0.60	0.60
Below-ground biomass	10.30	10.05	9.36	0.21	0.21	0.21
<b>Total living biomass</b>	<b>39.79</b>	<b>38.84</b>	<b>36.19</b>	<b>0.82</b>	<b>0.82</b>	<b>0.82</b>
Dead wood biomass	5.57	5.44	5.07	0.11	0.11	0.11
<b>TOTAL biomass</b>	<b>45.36</b>	<b>44.28</b>	<b>41.26</b>	<b>0.93</b>	<b>0.93</b>	<b>0.93</b>

#### 6.6 Comments to National reporting table T6

**Note:** The thresholds for thin roots, standing deadwood, and wood lying on the surface is not available.

## 7 Table T7 – Carbon stock

### 7.1 FRA 2005 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 living 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 biomass	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 a minimum diameter chose by the country for lying dead (for example 10 cm), in various states of decomposition above the mineral or organic soil. This includes the litter, fomic, and humic layers.
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.

### 7.2 National data

#### 7.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Simultaneous State Forest Account 1993 of the Republic of Armenia, Yerevan 1993	H	Forest and OWL areas	1983, 1988	Information about State Forest Fund

#### 7.2.2 Classification and definitions

**Note:** The FRA 2005 classification, categories and definitions were applied for the compilation of this table.

#### 7.2.3 Original data

Please see T6

### 7.3 Analysis and processing of national data

#### 7.3.1 Calibration

Not applied

#### 7.3.2 Estimation and forecasting

- a) Calculation of Carbon Stock in Biomass of growing trees and dead wood

The calculation was done by multiplying standard values suggested by IPCC-GPG for the carbon content in biomass of growing trees (50 %) by the biomass data, correspondingly the above-ground and below-ground parts

FRA 2005 Categories	Biomass stock			IPCC-GPG conversion factor	Carbon stock (Million tonnes)		
	1990	2000	2005		1990	2000	2005
Above-ground biomass	29.49	28.79	26.83	0.5	14.75	14.40	13.41
Below-ground biomass	10.30	10.05	9.36	0.5	5.15	5.03	4.68
Dead wood biomass	5.57	5.44	5.07	0.5	2.79	2.72	2.53

b) Calculation of Carbon Stock in soil (*million ton*)

Soil type	Areas, 1000 ha			Carbon stock on 1 ha, tons	Carbon stock, Million tons		
	1990	2000	2005		1990	2000	2005
<b>Carbon Stock in soil VGAM</b>	309	331	339	38	11.0	12.6	12.9
<b>Sandy soils</b>	20	20	20	19	0.36	0.36	0.36
<b>Total</b>	289	351	359		11.36	12.96	13.26

**Note:** The calculation of the Carbon Stock was done according to the “*Guidelines for Country Reporting to FRA 2005*”.

c) Calculation of Carbon Stock in litter (*million ton*)

FOREST AREA, 1000 HA			Carbon stock in litter on 1 ha (ton)	Carbon stock, Million tons		
1990	2000	2005		1990	2000	2005
309	351	359	28.2	8.71	9.90	10.12

## 7.4 Reclassification into FRA 2005 classes

**Note:** The calculation of the Carbon Stock in litter was done according to the “*Guidelines for Country Reporting to FRA 2005*”.

## 7.5 Data for National reporting table T7

FRA 2005 Categories	Carbon (Million metric tonnes)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Carbon in above-ground biomass	14.75	14.40	13.41	NDA	NDA	NDA
Carbon in below-ground biomass	5.15	5.03	4.68	NDA	NDA	NDA
<b>Sub-total: Carbon in living biomass</b>	<b>19.89</b>	<b>19.42</b>	<b>18.10</b>	NDA	NDA	NDA
Carbon in dead wood	2.79	2.72	2.53	NDA	NDA	NDA
Carbon in litter	8.71	9.90	10.12	NDA	NDA	NDA
<b>Sub-total: Carbon in dead wood and litter</b>	<b>11.50</b>	<b>12.62</b>	<b>12.66</b>	NDA	NDA	NDA
Soil carbon to a depth of 30 cm	11.36	12.96	13.26	NDA	NDA	NDA
<b>TOTAL CARBON</b>	<b>42.75</b>	<b>45.00</b>	<b>44.01</b>	NDA	NDA	NDA

## 7.6 Comments to National reporting table T7

Although the total forest area of the country has increased, the total wood volume (and, therefore, biomass and carbon stock) has been reduced. This was due to the excessive harvesting

## 8 Table T8 – Disturbances affecting health and vitality

### 8.1 FRA 2005 Categories and definitions

Category	Definition
Disturbance by fire	Disturbance caused by wildfire, independently whether it broke out inside or outside the forest/OWL.
Disturbance by insects	Disturbance caused by insect pests that are detrimental to tree health.
Disturbance by diseases	Disturbance caused by diseases attributable to pathogens, such as a bacteria, fungi, phytoplasma or virus.
Other disturbance	Disturbance caused by other factors than fire, insects or diseases.

### 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 Statistical Service of the Republic of Armenia, Yearbook	M	Forest disturbances by fire, insects, diseases and other disturbances	1998-2003	Partial coverage

#### 8.2.2 Classification and definitions

**Note:** The FRA 2005 categories and definitions were applied for the compilation of this table.

#### 8.2.3 Original data

Categories	Areas	Years						Average data for 5 years (1998-2002)
		1998	1999	2000	2001	2002	2003	
Disturbance by fire	hectares	302.5	52.1	26.9	126.8	5.7	126.8	102.8 <sup>1/</sup>
Disturbance by insects and diseases	1 000 ha	26.2	35.6	29.2	22.4	11.4	13.8	27.72 <sup>1/</sup>
Other disturbances		NDA	NDA	NDA	NDA	NDA	NDA	NDA

**Note:** Fires, according to the national standards of the Republic of Armenia, are statistically recorded starting from 0.01 ha

1/ applied for 2000 in T8

### 8.3 Analysis and processing of national data

#### 8.3.1 Estimation and forecasting

#### 8.4 Reclassification into FRA 2005 classes

#### 8.5 Data for National reporting table T8

FRA-2005 Categories	Average annual area affected (1000 hectares)			
	Forests		Other wooded land	
	1990	2000	1990	2000
Disturbance by fire	NDA	102.8	NDA	NDA
Disturbance by insects and diseases	NDA	27.72	NDA	NDA
Other disturbance	NDA	NDA	NDA	NDA

#### 8.6 Comments to National reporting table T8

## 9 Table T9 – Diversity of tree species

### 9.1 FRA 2005 Categories and definitions

Category	Definition
Number of native tree species	The total number of native tree species that have been identified within the country.
Number of critically endangered tree species	The number of native tree species that are classified as “Critically endangered” in the IUCN red list.
Number of endangered tree species	The number of native tree species that are classified as “Endangered” in the IUCN red list.
Number of vulnerable tree species	The number of native tree species that are classified as “Vulnerable” in the IUCN red list.

### 9.2 National data

#### 9.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National Academy of Science of the Republic of Armenia, Institute of Botany, Yerevan 2000	H	Trees species distribution	The time period before 2000	
IUCN 2004. 2004 IUCN Red List of Threatened Species. <a href="http://www.redlist.org">www.redlist.org</a>	H	Endangered and vulnerable species	2000	

#### 9.2.2 Classification and definitions

**Note:** The FRA 2005 terms and definitions were applied for the compilation of this table.

#### 9.2.3 Original data

### 9.3 Data for National reporting table T9

FRA 2005 Categories	Number of species (year 2000)
Native tree species	125
Critically endangered native tree species	0
Endangered native tree species	0
Vulnerable tree species	0

#### **9.4 Comments to National reporting table T9**

Only one species of shrubs (under the category ‘vulnerable’) was found in the IUCN Red List which is the *Sambucus tigranii*.

## 10 Table T10 – Growing stock composition

### 10.1 FRA 2005 Categories and definitions

### 10.2 National data

List of species names (scientific and common names) of the ten most common species.

1. *Fagus orientalis* – Beech
2. *Quercus macranthera* – Oak
3. *Carpinus caucasica* - Hornbeam
4. *Pinus silvestris* - Pine
5. *Carpinus orientalis* - Oriental Hornbeam
6. *Juniperus oblonga* - Juniper
7. *Populus* – Poplar spp.
8. *Tilia cordata* – Lime-tree (Linden)
9. *Fraxinus excelsior* - Ash
10. *Acer tataricum* - Maple

#### 10.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Simultaneous State Forest Account 1993 of the Republic of Armenia, Yerevan 1993	H	Forest and OWL areas	1983, 1988	Information about State Forest Fund
Forestry Management Planning Project, 1988	H	Forest and OWL areas	1988	

#### 10.2.2 Original data

FRA 2005 Categories / Species name (Scientific name and common name)	Growing Stock in Forests (million cubic meters)	
	1993	%
<i>Fagus orientalis</i>	20.68	49.54
<i>Quercus macranthera</i>	12.54	30.04
<i>Carpinus caucasica</i>	6.0	14.37
<i>Pinus silvestris</i>	0.61	1.46
<i>Carpinus orientalis</i>	0.45	1.08
<i>Juniperus oblonga</i>	0.16	0.38
<i>Populus</i>	0.31	0.74
<i>Tilia cordata</i>	0.24	0.57
<i>Fraxinus excelsior</i>	0.10	0.24
<i>Acer tataricum</i>	0.14	0.33
Remainder of species	0.51	1.25*
<b>TOTAL</b>	<b>41.74</b>	<b>100</b>

Note : this number has been slightly modified (from 1.22% to 1.25% to obtain the total of 100%) due to the rounding up of other numbers to two decimal points.

### 10.3 Analysis and processing of national data

#### 10.3.1 Calibration

Not applied

#### 10.3.2 Estimation and forecasting

By multiplying the percentages in Table 10.2.2 to the growing stock in T5, T10 has been produced

### 10.4 Data for National reporting table T10

FRA 2005 Categories / Species name (Scientific name and common name)	Growing Stock in Forests (million cubic meters)	
	1990	2000
<i>Fagus orientalis</i>	19.34	18.87
<i>Quercus macranthera</i>	11.72	11.45
<i>Carpinus caucasica</i>	5.61	5.47
<i>Pinus silvestris</i>	0.57	0.56
<i>Carpinus orientalis</i>	0.42	0.41
<i>Juniperus oblonga</i>	0.15	0.15
<i>Populus</i>	0.29	0.28
<i>Tilia cordata</i>	0.22	0.21
<i>Fraxinus excelsior</i>	0.09	0.09
<i>Acer tataricum</i>	0.13	0.13
Remainder of species	0.49	0.48
<b>TOTAL</b>	<b>39.03</b>	<b>38.10</b>

### 10.5 Comments to National reporting table T10

The overall growing stock composition has not been changed significantly, which allowed the above-mentioned calculations

## 11 Table T11 – Wood removal

### 11.1 FRA 2005 Categories and definitions

Category	Definition
Industrial wood removal	The wood removed (volume of roundwood over bark) for production of goods and services other than energy production (woodfuel).
Woodfuel removal	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
Reports from the Association “ARMLES” (Hayantar) and from National Parks	M	Removal data	1999-2003	

#### 11.2.2 Classification and definitions

**Note:** The FRA 2005 classifications, terms and definitions were applied for the compilation of this table.

#### 11.2.3 Original data

Categories	Volume in 1000 cubic meters of roundwood under bark					
	1999	2000	2001	2002	2003	Average
Industrial roundwood	5.5	8.4	6.7	6.8	9.1	7.3
Woodfuel	55.0	60.0	50.0	57.0	65.8	57.6
<b>TOTAL for Country</b>	<b>60.5</b>	<b>68.4</b>	<b>56.7</b>	<b>63.8</b>	<b>74.9</b>	<b>64.9</b>

The volumes for wood removal are given for Forests and Other wooded lands for the Republic of Armenia as a whole.

### 11.3 Analysis and processing of national data

#### 11.3.1 Estimation and forecasting

FRA 2005 Categories	Volume in 1000 cubic meters of roundwood			
	Average (under bark), 2000	Conversion factor	2000 (over bark)	2005 (forecast)
Industrial roundwood	8.4	1.15	9.66	11.0
Woodfuel	60	1.15	69	80.1
<b>TOTAL</b>	<b>68.4</b>		<b>78.66</b>	<b>91.10</b>

#### 11.4 Reclassification into FRA 2005 classes

For the conversion of the “roundwood volume under bark” into the “roundwood volume over bark”, the global conversion factor of 1.15 was applied. The forecasting for the year 2005 was done by the linear extrapolation method.

#### 11.5 Data for National reporting table T11

FRA 2005 Categories	Volume in 1000 cubic meters of roundwood over bark					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Industrial roundwood	NDA	9.66	11.0	NDA	NDA	NDA
Woodfuel	NDA	69	80.1	NDA	NDA	NDA
<b>TOTAL for Country</b>	NDA	<b>78.66</b>	<b>91.1</b>	NDA	NDA	NDA

#### 11.6 Comments to National reporting table T11

## 12 Table T12 – Value of wood removal

### 12.1 FRA 2005 Categories and definitions

Category	Definition
Value of industrial wood removal	Value of the wood removed for production of goods and services other than energy production (woodfuel).
Value of woodfuel removal	Value of the wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

### 12.2 National data

#### 12.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Financial Reports from Association “ARMLES” (Hayantar)	M	Prices and value data	1999-2003	

#### 12.2.2 Classification and definitions

**Note:** The FRA 2005 classifications, terms and definitions were applied for the compilation of this table. Values of the wood removed reflect the market price on the spot of the removal. Taxes are not taken into account.

#### 12.2.3 Original data

Categories	Value of roundwood removal (1000 USD)					
	1999	2000	2001	2002	2003	Average
Industrial roundwood	116	100.1	224.4	299.7	455.1	239.1
Woodfuel	316.1	489.7	381.6	465.2	588.1	448.1
<b>TOTAL for Country</b>	<b>432.1</b>	<b>589.8</b>	<b>606.0</b>	<b>764.9</b>	<b>1043.2</b>	<b>687.2</b>

**Note:** For the forecasting for the year 2005, the current prices on industrial and fuel wood for 1 m3 were applied. (Order of Minister for Agriculture No. 97, 13.05.2004). The values of the wood removal are given for Forest and Other wooded land for the Republic of Armenia as a whole.

### 12.3 Analysis and processing of national data

#### 12.3.1 Estimation and forecasting

## 12.4 Reclassification into FRA 2005 classes

Please see Section 12.2.2

## 12.5 Data for National reporting table T12

FRA 2005 Categories	Value of roundwood removal (1000 USD)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Industrial roundwood	NDA	100.1	640	NDA	NDA	NDA
Woodfuel	NDA	489.7	1165	NDA	NDA	NDA
<b>TOTAL for Country</b>	NDA	<b>589.8</b>	<b>1805</b>	NDA	NDA	NDA

## 12.6 Comments to National reporting table T12

The huge difference between the values of 2000 and 2005 is apparently the result of the drastic price increase, rather than the increase of official harvesting volumes

## 13 Table T13 – Non-wood forest product removal

### 13.1 FRA 2005 Categories and definitions

The following categories of non-wood forest products have been defined:

<b>Category</b>
<u>Plant products / raw material</u>
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
<u>Animal products / raw material</u>
9. Living animals
10. Hides, skins and trophies
11. Wild honey and bee-wax
12. Bush meat
13. Raw material for medicine
14. Raw material for colorants
15. Other edible animal products
16. Other non-edible animal products

### 13.2 National data

#### 13.2.1 Data sources

<b>References to sources of information</b>	<b>Quality (H/M/L)</b>	<b>Variable(s)</b>	<b>Year(s)</b>	<b>Additional comments</b>
Reports from the Association “ARMLES” (Hayantar) and from National Parks	L	NWFP Removal data	1999-2003	Republic of Armenia

#### 13.2.2 Classification and definitions

**Note:** The FRA 2005 classifications, terms and definitions were applied for the compilation of this table.

#### 13.2.3 Original data

The same data as in the National Reporting Table T13 (see below)

### 13.3 Analysis and processing of national data

#### 13.3.1 Estimation and forecasting

### 13.4 Reclassification into FRA 2005 classes

### 13.5 Data for National reporting table T13

FRA 2005 Categories	Scale factor	Unit	NWFP removal		
			1990	2000	2005
<u>Plant products / raw material</u>					
1. Food		1000 t	NDA	NDA	NDA
2. Fodder		1000 t	NDA	NDA	NDA
3. Raw material for medicine and aromatic products		ton	NDA	NDA	NDA
4. Raw material for colorants and dyes		ton	NDA	NDA	NDA
5. Raw material for utensils, handicrafts & construction			NDA	NDA	NDA
6. Ornamental plants			NDA	NDA	NDA
7. Exudates			NDA	NDA	NDA
8. Other plant products (Christmas trees) <sup>1/</sup>		1000 t	NDA	3.4	NDA
<u>Animal products / raw material</u>					
9. Living animals		1000 ps	NDA	NDA	NDA
10. Hides, skins and trophies		1000 ps	NDA	NDA	NDA
11. Wild honey and bee-wax			NDA	NDA	NDA
12. Bush meat		ton	NDA	NDA	NDA
13. Raw material for medicine			NDA	NDA	NDA
14. Raw material for colorants			NDA	NDA	NDA
15. Other edible animal products			NDA	NDA	NDA
16. Other non-edible animal products			NDA	NDA	NDA

#### Footnotes:

1/ - Christmas trees in Armenia are normally harvested from the planted young pine stands during the tending / thinning operations. Since 2003 the Government Decree of the Republic of Armenia forbade the cutting of Christmas trees.

### 13.6 Comments to National reporting table T13

## 14 Table T14 – Value of non-wood forest product removal

### 14.1 FRA 2005 Categories and definitions

The following categories of non-wood forest products have been defined:

Category
<u>Plant products / raw material</u>
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
<u>Animal products / raw material</u>
9. Living animals
10. Hides, skins and trophies
11. Wild honey and bee-wax
12. Bush meat
13. Raw material for medicine
14. Raw material for colorants
15. Other edible animal products
16. Other non-edible animal products

### 14.2 National data

#### 14.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Reports from the Association “ARMLES” (Hayantar) and National Parks	L	NWFP Removal data	1999-2003	Republic of Armenia

#### 14.2.2 Classification and definitions

**Note:** The FRA 2005 terms and definitions were applied for the compilation of this table.

#### 14.2.3 Original data

Value of Christmas trees is estimated to be around 40 000 US\$ for 2000.

### 14.3 Analysis and processing of national data

#### 14.3.1 Estimation and forecasting

#### 14.4 Reclassification into FRA 2005 classes

#### 14.5 Data for National reporting table T14

FRA 2005 Categories	Value of the of NWFP removed (1000 USD)		
	1990	2000	2005
<u>Plant products / raw material</u>			
1. Food	NDA	NDA	NDA
2. Fodder	NDA	NDA	NDA
3. Raw material for medicine and aromatic products	NDA	NDA	NDA
4. Raw material for colorants and dyes	NDA	NDA	NDA
5. Raw material for utensils, handicrafts & construction	NDA	NDA	NDA
6. Ornamental plants	NDA	NDA	NDA
7. Exudates	NDA	NDA	NDA
8. Other plant products	NDA	40	NDA
<u>Animal products / raw material</u>			
9. Living animals	NDA	NDA	NDA
10. Hides, skins and trophies	NDA	NDA	NDA
11. Wild honey and bee-wax	NDA	NDA	NDA
12. Bush meat	NDA	NDA	NDA
13. Raw material for medicine	NDA	NDA	NDA
14. Raw material for colorants	NDA	NDA	NDA
15. Other edible animal products	NDA	NDA	NDA
16. Other non-edible animal products	NDA	NDA	NDA
<b>TOTAL</b>			

#### 14.6 Comments to National reporting table T14

## 15 Table T15 – Employment in forestry

### 15.1 FRA 2005 Categories and definitions

Category	Definition
Primary production of goods	Employment in activities related to primary production of goods, like industrial roundwood, woodfuel and non-wood forest products.
Provision of services	Employment in activities directly related to services from forests and woodlands.
Unspecified forestry activities	Employment in unspecified forestry activities.

### 15.2 National data

#### 15.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National Statistical Service of the Republic of Armenia, Yearbook	M	Table coverage	1990-2000	Republic of Armenia

#### 15.2.2 Classification and definitions

**Note:** The FRA 2005 classifications, terms and definitions were applied for the compilation of this table.

#### 15.2.3 Original data

Categories	Employment (1000 person-years)
Primary production of goods	0.4
Provision of services	1.2
Unspecified forestry activities	0.4
<b>TOTAL</b>	<b>2.0</b>

### 15.3 Analysis and processing of national data

#### 15.3.1 Estimation and forecasting

#### 15.4 Reclassification into FRA 2005 classes

### 15.5 Data for National reporting table T15

FRA 2005 Categories	Employment (1000 person-years)	
	1990	2000
Primary production of goods	0.5	0.3
Provision of services	1.3	1.3
Unspecified forestry activities	0.4	0.4
<b>TOTAL</b>	<b>2.2</b>	<b>2.0</b>

### 15.6 Comments to National reporting table T15

## 16 Thematic reporting tables

Armenia has not provided an additional report by thematic areas within the global FRA 2005 Country Report.