Forestry Department
Food and Agriculture Organization of the United Nations

GLOBAL FOREST RESOURCES ASSESSMENT

COUNTRY REPORTS

HUNGARY

FRA2005/023
Rome, 2005

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).

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Date of submission of 1st draft:	July, 2005
Date of submission of 2nd draft	December, 2005
Date of submission of final report	

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

1.2 National data

1.2.1 Data sources

The State Forest Service is the public organ founded to deal with the direction and consulting of the forest management, forest assets maintenance and primary wood-processing as well. The State Forest Service is subordinated to the Ministry of Agriculture and Rural Development, Department of Forestry and fills the function of control, organize and authority concerning forest management, it has statistical tasks in primary wood-processing, provides data for international challenges and helps the Ministry in decision making.
The source of information used is the computerized National Forest Stand Data Base (Database) operated and updated by the State Forest Service. This Database is operating since 1976, as a result of the co-operative effort of the organizations of the forestry administration at that time. The system covers all forestlands, which are subject to the Forest Act (dated from 1996). By law forest means surfaces covered by woody species (listed in the annex of the law) bigger than 0,15 ha and crown cover higher than 30 % - including the soil under the forest as well. The Forest Act prescribes the elaboration of District Forest Management Plans for all forestlands, and also to use the data set of forest management plan for updating the Database as task of the state administration.

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National Forest Stand Database	H	Total area under forest management plan	1976-	
Hungarian Central Statistic Office	H	Other lands, orchards, water surfaces	2003	

1.2.2 Classification and definitions

National class	Definition
Forest	Area bigger than 0,15 ha covered by defined (forest) woody species covered in at least 30 % - including the soil
Forest sub-compartment	Forest management unit: basic area with forest management plan
Total area under forest management plan	Contents the area under forest sub-compartments and the other sub-compartments like nurseries, rides, crop fields, openings, blank areas, natural

	forest watercourses, parks and forest constructions.
Other wooded land	All wooded lands have forest management plans, so are classified in forest sub-compartments
Other lands	All the area not covered by forest or water.
Orchard	Area consisted for production of fruits from trees.
Water surfaces	Consists all living and standing waters and the reedy surfaces as well

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

1.2.3 Original data

The State Forest Service – due to the Database used and the updates made through management plans – can provide yearly data for forest sub-compartments, dated from the foundation of the Database up to day. Data concerning water surfaces as well as orchards comes from the Hungarian Central Statistical Office. Area of other lands was calculated: total area for country minus (total area under forest management plan plus water surfaces).

	Area (1 000 hectares)	
	1990	**2000**
Total area under forest management plan	1801,4	1907,5
Forest sub-compartment	1675,8	1773,3
Other wooded lands	0,0	0,0
Other lands	7322,1	7224,3
Orchards	95,1	95,4
Water surfaces	210,0	210,0
TOTAL for Country	**9303,0**	**9303,0**

1.3 Analysis and processing of national data

1.3.1 Calibration

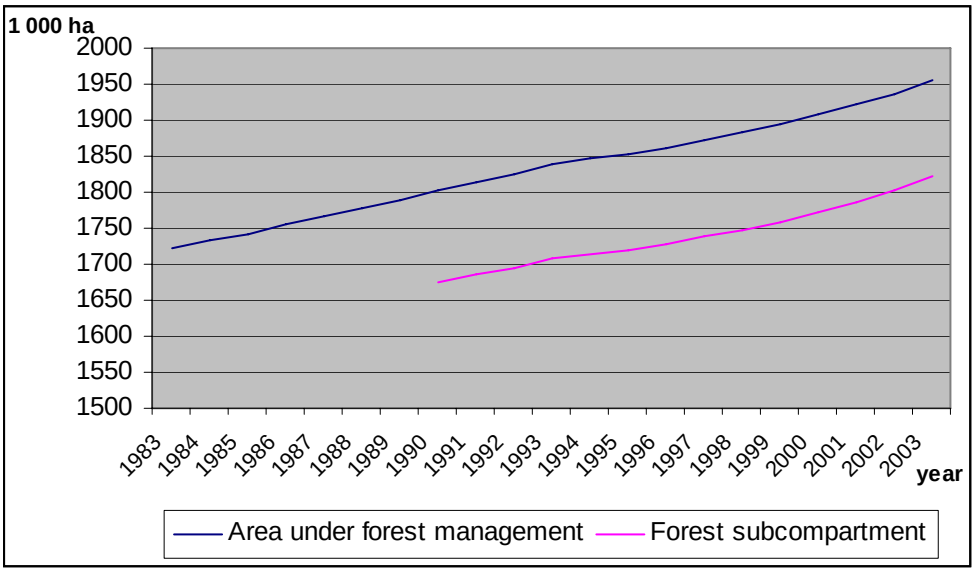
The land area figures for the whole country match with the FAO country profiles'. However, the water surface area is larger than the "Inland water" in FAOSTAT and an adjustment is needed. See 1.4 below.

1.3.2 Estimation and forecasting

	Area (1 000 hectares)
	2005
Total area under forest management plan	1976,2
Forest sub-compartments	1841,5
Other wooded land	0,0
Orchard	95,5
Water surfaces	210,0

The 2005 was derived from latest data from 01.01.2004 and the planned (and planned to be financed) afforestation figures for the year 2004. These two added gave the exact figure for the data for 01.01.2005.

The area under forest management in the last 20 years has increased yearly in average with 11,6 thousand hectares and the area of forest sub-compartments with 11,4 thousand ha-s. This figure comes from two major sources: aforestation and forest findings. In 2004 the country became EU-member, fact considered in the joining year slowing the aforestation processes. However profiting EU-funds the lag recovering will be possible in the next years.



Source: National Forest Stand Database

1.4 Reclassification into FRA 2005 classes

	Forest	Other wooded land	Other lands	Other lands with tree	Inland water bodies
Total area under forest management plan	100 %				
Other wooded lands		100 %			
Other lands			100 %		
Orchards				100 %	
Water surfaces			56 %		44 %

1.5 Data for National reporting table T1

FRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Forest	1801	1907	1976
Other wooded land	0	0	0
Other land	7410	7304	7235
...of which with tree cover [1)]	95	95	95
Inland water bodies	92	92	92
TOTAL	**9303**	**9303**	**9303**

1) Area of "Other land with tree cover" is included in the area reported under "Other land" and should therefore be excluded when calculating the total area for the country.

1.6 Comments to National reporting table T1

In the national reporting table reedy surfaces from "Water surfaces" reported as original data were regrouped in the "Other land" category.
In FRA 2000 the reported data for 1990 included only the total area on forest sub-compartments. Other areas with function included under forest management plans were not counted.
By law forest means area covered by woody vegetation with area bigger than 0,15 ha. Other wooded lands not included can be only row of trees, alleys, etc. – having no adequate system (ortho-photos, software, etc.) its quantity can be only wrong estimated. A vague estimation made for 1990 shows that its quantity is not notable. For this reason we decided to report "Other wooded land" figured with zero.

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

After the changes in 1989 Hungary settled up a privatisation process. This process changed the ownership structure – it's closure was pronounced in 2000.

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National Forest Stand Database	H	State ownership, communal ownership, private ownership, outstanding ownership	1976-	

2.2.2 Classification and definitions

National class	Definition
State ownership	All forest area owned by the state and managed by state forest holdings subordinated to different Ministries (Ministry of Agriculture and Rural Development, Ministry of Defence) or before the privatisation were owned by other state companies or farmer's cooperatives
Communal ownership	The ownership of local governments and other collective organizations
Joint forest ownership	Association of private owners with undivided forest properties
Private ownership	All individual, family, private co-operative and other ownerships
Outstanding ownership	Part of private ownerships where the right of ownership was established but the owners did not take their ownership in property.

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

2.2.3 Original data

	Area (1 000 hectares)	
	1990	2000
State ownership	1792,2	1143,7
Communal ownership	0,0	9,7
Joint forest ownership	3,8	3,7
Private ownership	5,4	446,1
Outstanding ownership	0,0	304,4

For the year 1990 data for state ownership includes forests belonging to production (farmer's) cooperatives.

2.3 Analysis and processing of national data

2.3.1 Calibration

The land area figures for the whole country match with the FAO country profiles'.

2.3.2 Estimation and forecasting

Since figures are available for both reporting years, no estimations were needed.

2.4 Reclassification into FRA 2005 classes

	Private ownership	Public ownership	Other or Unspecified ownership
State ownership		100 %	
Communal ownership		100 %	
Joint forest ownership	100 %		
Private ownership	100 %		
Outstanding ownership	100 %		

2.5 Data for National reporting table T2

FRA 2005 Categories	Area (1000 hectares)			
	Forest		Other wooded land	
	1990	2000	1990	2000
Private ownership	9.2	754.1	0	0
Public ownership	1792.2	1153.4	0	0
Other ownership	0	0	0	0
TOTAL	**1801.4**	**1907.5**	**0**	**0**

2.6 Comments to National reporting table T2

After the changes in political structure from 1990 the privatization process has started in Hungary. This process made changes in the ownership structure of the forests. The implication of the privatization process in forestry can be timely located between the two reporting years with small cross-effects in the period after 2000. On the basic of the forest privatization was a compensation process.

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

Forests in Hungary are regulated through the Forest Act. This Act defines functions for forests by subcompartments and these functions are conducted in the Database as well trough codes. For a forest subcompartment three functions can be defined and for this reason almost all of the subcompartments can be defined as multipurpose forests.

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National Forest Stand Database	H	Protective forest, protected forests, wood production forest, other productive forest, health-social and touristic forest, education-research forest	1976-	

3.2.2 Classification and definitions

National class	Definition
Protective forests	Part of protective forests including forests with role of protecting soil, land, border, game, water, shore, settlement and landscape
Protected forests	Part of protective forests including forests on protected natural areas, forest gene reserves, forest reservations and historical places
Wood production forests	All forests with primary function of wood production
Other productive forests	All forests with primary function of propagation material and Christmas tree production
Health, social and touristic forests	Forests with restrictions in management to serve touristic and social purposes
Education, research and others	Forests to serve educational and research or other (i.e. drainage and liquid manure storage) purposes.
Other subcompartments	Areas in forests serving forest management purposes (forest productive yards, rides, clearings, crop fields, forest roads, landings, parks, infertile areas, etc.) or other purposes (buildings, water surfaces, unproductive areas, etc)
Incomplete codes	Areas with missing primary function codes

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

3.2.3 Original data

All forests in Hungary have primary function defined. Beside this, usually they have other functions assigned as well, of course not with the same importance.

	Area (1 000 hectares)		
	1990	2000	2004
Protective	149,3	248,6	245,3
Protected	72,2	162,5	387,2
Wood production	1323,5	1312,8	1167,6
Other production	38,4	7,7	11,5
Health, social and touristic	44,9	36,7	21,6
Education, research and others	33,3	5,0	3,3
Other subcompartments	129,6	133,8	131,1
Incomplete code	10,2	0,5	0,0
TOTAL	**1801,4**	**1907,5**	**1967,6**

Area with incomplete primary function code is decreasing due to the efficient work of fieldworkers.

3.3 Analysis and processing of national data

3.3.1 Calibration

The land area figures for the whole country match with the FAO country profiles'.

3.3.2 Estimation and forecasting

	Area (1 000 hectares)
	2005
Protective	245,1
Protected	379,7
Wood production	1176,1
Other production	12,5
Health, social and touristic	24,5
Education, research and others	3,6
Other subcompartments	134,6
Incomplete code	0,1
TOTAL	**1976,2**

In Hungary afforestation is subsidised by the State. Estimation was done using information about forested areas in 2004 (same structure than in 2000) and instances of patronizations of afforestations, so indirectly areas of afforestations in 2004. The share between the reported categories was established consulting experts and taking into account the trends and the determination for the functions of forests.

3.4 Reclassification into FRA 2005 classes

	Forest					
	Production	**Protection of soil and water**	**Conservation of biodiversity**	**Social services**	**Multiple purpose**	**No or unknown function**
Protective		100 %				
Protected			100 %			
Wood production	100 %					
Other production	100 %					
Health, social and touristic				100 %		
R+E and others				100 %		
Other subcompart-ments	Area weighted	Area weighted	Area weighted	Area weighted		Area weighted
Incomplete codes						100 %

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**
Forest						
Production	1467.5	1420.0	1275.5	1467.5	1489.9	1338.3
Protection of soil and water	160.9	267.3	263.0	160.9	296.5	291.8
Conservation of biodiversity	77.7	174.7	407.5	77.7	182.2	425.1
Social services	84.2	44.8	30.2	84.2	50.2	33.9
Multiple purpose	0	0	0	not appl.	not appl.	not appl.
No or unknown function	11.0	0.6	0.1	not appl.	not appl.	not appl.
Total - Forest	**1801.4**	**1907.5**	**1976.2**	**not appl.**	**not appl.**	**not appl.**
Other wooded land						
Production	0	0	0	0	0	0
Protection of soil and water	0	0	0	0	0	0
Conservation of biodiversity	0	0	0	0	0	0
Social services	0	0	0	0	0	0
Multiple purpose	0	0	0	not appl.	not appl.	not appl.
No or unknown function	0	0	0	not appl.	not appl.	not appl.
Total – Other wooded land	**0**	**0**	**0**	**not appl.**	**not appl.**	**not appl.**

3.6 Comments to National reporting table T3

The figures presented for Total area with function for 1990 are the minimum values as it is not possible to determine the actual figures.

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
National Forest Stand Database	H	Area of tree stands by species, forestation type and designation	1976-	

4.2.2 Classification and definitions

To meet the requirements three variables need to be counted from the Database: one defining the target stand (species), the other the forestation method and third is the designation.

National class	Definition
Tree stand from native species	Tree stands when all woody species are considered native in Hungary
Tree stand from other species	Other tree stands with at least one non-native stand-forming woody species
Natural forestation	No or minor (i.e. gradual regeneration cutting, seedling) human implication is needed (depends on the target stand) to regenerate the forest. It includes forestation with seeds and sprouts.
Natural forestation with artificial completion	Human implication is needed to satisfy the definition of forest on the territory – by tree stand.
Artificial forestation	Forestation with human implication.
Production designation	All productive forests by tree stand
Protection designation	All protection forests by tree stands. It includes protective and protected forests as well.
Other designation	All other forests by tree stand.

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

4.2.3 Original data

Due to the intensive forest management during the last century there is no primary forest in Hungary. All forest subcompartments were at least once under intensive human activity. Managed forests are subject to periodic or ongoing human interventions (IPCC Good Practice Guidance), so far forests in Hungary are 100 % under forest management.

	Area (1 000 hectares)	
	1990	2000
Natural forestation	851,0	400,7
Natural forestation with artificial completion	151,4	395,8
Artificial forestation	799,0	1110,9
… of which stands of native species	367,7	582,9
… of which stands of other species	431,3	528,0
… of which protection designation	391,9	88,7
… of which production designation	39,4	439,3

Forests with no specified forestation were shared between the other categories proportionally as well as forests with other designation. At least other sub-compartments, as well as sub-compartments with incomplete code were area weighted shared between the categories.
A rearrangement can be observed within groups. Natural forestation decreased in favour of natural forestation with artificial completion and in minor part of artificial forestation but artificial forestation with native species compared with other species increased and artificial forestation with other species have production as primary designation.

4.3 Analysis and processing of national data

4.3.1 Calibration

The land area figures for the whole country match with the FAO country profiles'.

4.3.2 Estimation and forecasting

	Area (1 000 hectares)
	2005
Natural forestation	415,0
Natural forestation with artificial completion	411,0
Artificial forestation	1150,2
… of which stands of native species	604,8
… of which stands of other species	545,4
… of which protection designation	90,9
… of which production designation	454,5

To forecast the values for 2005 we have tried to use functions describing the values got for each year for each category from 2000 to 2004, in the cognition of the forested area for 2005 but the reliability of the result was the same with the one got by using the percentage values calculated for 2000. This way we decided to apply for the simplest (second) method and estimate using the percentages got for the year 2000 correcting them with the trends described in the table T3 (see bellow the table 4.4).

4.4 Reclassification into FRA 2005 classes

We calculated the share of target stands area by forestation type (21,0 % natural, 20,8 % natural-artificial, and 58,2 % artificial forestation) then for artificial forestation we decided the origin (52 % native and 48 % other). On the followings the artificial forested other species area was shared by designation (83 % productive and 17 % protective plantation). This was the way that the final percentages were got.
These calculations presuppose that artificial forestation means plantation.

	Primary	Modified natural	Semi-natural	Productive plantation	Protective plantation
Natural forestation	no cases	100,0			
Natural forestation with artificial completion	no cases		100,0		
Artificial forestation	no cases				
Of which					
Stands of native species	no cases		100,0		
Stands of other species	no cases				
Of which					
Protection designation	no cases				100,0
Production designation	no cases			100,0	

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	0	0	0	0	0	0
Modified natural	851.0	400.7	415.0	0	0	0
Semi-natural	519.1	978.8	1015.8	0	0	0
Productive plantation	39.4	439.3	454.5	0	0	0
Protective plantation	391.9	88.7	90.9	0	0	0
TOTAL	**1801.4**	**1907.5**	**1976.2**	**0,0**	**0,0**	**0,0**

4.6 Comments to National reporting table T4

To derive the reporting data from the dataset the above table was used:

	Primary	Modified natural	Semi-natural	Productive plantation	Protective plantation
Natural forestation	no cases	21,0			
Natural forestation with artificial completion	no cases		20,8		
Artificial forestation	no cases		58,2		
Of which					
Stands of native species	no cases		30,6		
Stands of other species	no cases			27,6	
Of which					
Protection designation	no cases				4,6
Production designation	no cases			23,0	

The table contains the percentages for the year 2000.
To follow the changes within the categories we reproduced these percentages for the year 1990 as well and projected the changes for the figures for 2005 correcting them with the trends described in the table T3.
Concerning status of plantation of introduced species there is a political and a professional decision to change its designation. The political decision can be related with the new Forest Act, its turn-out redefined the designation categories for forests making possible a more sophisticated and detailed classification. The professional decision can be related with the willingness of experts to regroup the pressure of wood production from the semi-natural forests of native species to the introduced species plantations, and the protective function of the forests from introduced species plantations to forests of native species.
Concerning differences between the reported figures and FRA 2000 it can be stated that in the report artificial forestation with introduced species means plantations – which is (of course) more, than forests in plantation-like management, thought reported in FRA 2000. The Database has separate code for afforestation types (natural and artificial) and origin (non-plantation-like and plantation like forests). On the contrary with the prior, the latest code has no relation with the specie used (introduced or native) and designation and the fulfilment of this code is

vague and incomplete (for 2000 121339,9 ha plus the afferent – area weighted share of the – areas serving other purposes) without the possibility of disassociation by origin and designation. Going through the FRA 2005 definitions the two categories of plantations are not mentioned being under plantation-like management, so includes the categories reported. (Plantation-like management beside others means, that the number of specimen of the target stand – through forest implementations – can be reached using row-schemes (every fourth, second, etc.) and the mechanization of the implementations can be high.)

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
National Forest Stand Database	H	Growing stock, Rotation age, Restriction	1976-	

5.2.2 Classification and definitions

National class	Definition
Growing stock	Volume over bark of all living trees including all exemplars higher than 2 m.
Commercial growing stock	Volume of growing stock without those to whom by its management rotation age was not given or restriction code for exploitation was defined.

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

5.2.3 Original data

FRA 2005 Categories	Volume (million cubic meters over bark)	
	Forest	
	1990	2000
Growing stock	288,004	325,165
Commercial growing stock	285,792	320,211

The big variation in ratio between these groups can be explained with the fact that whereas the forested area is increasing, the area of forests with production designation is decreasing.

5.3 Analysis and processing of national data

5.3.1 Calibration

No need for calibration

5.3.2 Estimation and forecasting

FRA 2005 Categories	Volume (million cubic meters over bark)
	Forest
	2005
Growing stock	337,000

Commercial growing stock	329,000

The estimation of the growing stock was done taking in count the estimated changes of the area of designations. The area of forests with production designation is decreasing, so the growing stock of it follows this tendency. However, all exploited wood materials are matter of commercial activities, not all forest areas with other designation than production can be considered wood suppliers for commercial use.

5.4 Reclassification into FRA 2005 classes

	Growing stock	Commercial growing stock
Growing stock	100 %	
Commercial growing stock		100 %

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	288.004	325.165	337.000	0	0	0
Commercial growing stock	285.792	320.211	329.000	0	0	0

Specification of country threshold values	Unit	Value	Complementary information
1. Minimum diameter at breast height of trees included in Growing stock (X)	cm	All included	All trees higher than 2 m are included
2. Minimum diameter at the top end of stem (Y) for calculation of Growing stock	cm	All included	
3. Minimum diameter of branches included in Growing stock (W)	cm	All included	
4. Minimum diameter at breast height of trees in Commercial growing stock (Z)	cm	All included	
5. Volume refers to "Above ground" (AG) or "Above stump" (AS)	AG / AS	AS	
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	No	

"All included" means that our Forest Act don't give thresholds for measuring the growing stock and the formula used counts with trees, branches down to diameter zero.

5.6 Comments to National reporting table T5

Almost all forest areas in extreme circumstances can be subject of commerce – potentially commercial. Beside this fact the wood harvested from forests irrespectively of its designation is subject of commerce. This way only growing stocks of minor areas are not potentially commercial – as in the FRA definition was stated. Good to remember that forests from Hungary are under the influence of human activities.

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
National Forest Stand Database	H	Growing stock, Area	1976-	
IPCC Good Practice Guidance	H	WD, BF, R, DW/ha	2003	

6.2.2 Classification and definitions

National class	Definition
Above ground biomass	The same as in FRA categories
Below ground biomass	The same as in FRA categories
Dead wood biomass	The same as in FRA categories

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source. Classes were framed to hit the FRA classification definitions.

6.2.3 Original data

	Biomass (million metric tonnes oven-dry weight)			
	Forest		Other wooded land	
	1990	2000	1990	2000
Above ground biomass	223,363	250,663	0,000	0,000
Below ground biomass	71,999	80,721	0,000	0,000
Dead wood biomass	0,043	0,046	0,000	0,000

All calculations follow the IPCC Good Practice Guidance and the Guidelines for country reporting methods. The basic data is the growing stock by species in m^3 and the area in hectares from the database for 1990, 2000 and to estimate data for 2005 from 2003. The growing stock figures multiplied with the wood density (WD) values from the IPCC guidelines gives the stem wood biomass (in tonnes). The biomass expansion factor (BF) come from the same source (IPCC) and was used to get the above ground biomass. The stem biomass and the area helped to get the root shoot ratio (R) and implicated the below ground biomass, as well. The dead wood biomass was estimated using the area of the species and the average dead wood (DW/ha) stock from IPCC.

6.3 Analysis and processing of national data

6.3.1 Calibration

No need for calibration

6.3.2 Estimation and forecasting

	Biomass (million metric tonnes oven-dry weight)	
	Forest	Other wooded land
	2005	2005
Above ground biomass	257,000	0,000
Below ground biomass	82,700	0,000
Dead wood biomass	0,049	0,000

The forecasting is based on the exact figures calculated for the year 2003, change in forested area and biomass estimated for 2005 and the average growth of the values to be estimated until 2003.

6.4 Reclassification into FRA 2005 classes

	Above ground biomass	Below ground biomass	Dead wood biomass
Above ground biomass	100 %		
Below ground biomass		100 %	
Dead wood biomass			100 %

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	223.363	250.663	257.000	0	0	0
Below-ground biomass	71.999	80.721	82.700	0	0	0
Dead wood biomass	0.043	0.046	0.049	0	0	0
TOTAL	**295.405**	**331.430**	**339.749**	**0**	**0**	**0**

Thresholds used by the country are the following:
All the procedure for calculus of biomass extent was based on the IPCC method.

Specification of country threshold values	Unit	Value	Complementary information
1. Minimum diameter of fine roots	cm	All included	
2. Minimum diameter of dead wood	cm	All included	

6.6 Comments to National reporting table T6

Areas classified as other sub-compartments as primary function (see T1) are not taken into calculus. Only the area of sub-compartments covered by forest is included.

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, fumic, 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
National Forest Stand Database	H	Growing stock, Genetic soil type in forest sub-compartments	1976-	
IPCC Good Practice Guidance	H	AGB, BGB, DWB, LC	2003	

7.2.2 Classification and definitions

National class	Definition
Carbon in above ground biomass	The same as in FRA categories
Carbon in below ground biomass	The same as in FRA categories
Carbon in dead wood biomass	The same as in FRA categories
Carbon in litter	The same as in FRA categories
Carbon in soil	The same as in FRA categories

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source. Classes were framed to hit the FRA classification definitions.

7.2.3 Original data

Carbon stock was estimated using the method provided by the IPCC Good Practice Guidance.

	Carbon (Million metric tonnes)			
	Forest		Other wooded land	
	1990	2000	1990	2000
Carbon in above-ground biomass	111,682	125,331	0,000	0,000
Carbon in below-ground biomass	36,000	40,360	0,000	0,000

Carbon in dead wood	0,022	0,023	0,000	0,000
Carbon in litter	49,884	53,813	0,000	0,000
Soil carbon to a depth of 30 cm	69,250	72,087	0,000	0,000

7.3 Analysis and processing of national data

7.3.1 Calibration

No need for calibration.

7.3.2 Estimation and forecasting

	Carbon (Million metric tonnes)	
	Forest	Other wooded land
	2005	2005
Carbon in above-ground biomass	131,000	0,000
Carbon in below-ground biomass	42,000	0,000
Carbon in dead wood	0,023	0,000
Carbon in litter	55,800	0,000
Soil carbon to a depth of 30 cm	73,000	0,000

The forecasting is based on the exact figures calculated for the year 2003, change in forested area and biomass estimated for 2005 and the average growth of the values to be estimated until 2003.

7.4 Reclassification into FRA 2005 classes

	Carbon in above-ground biomass	Carbon in below-ground biomass	Carbon in dead wood	Carbon in litter	Soil carbon
Carbon in above-ground biomass	100 %				
Carbon in below-ground biomass		100 %			
Carbon in dead wood			100 %		
Carbon in litter				100 %	
Soil carbon					100 %

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	111.682	125.331	131.000	0	0	0
Carbon in below-ground biomass	36.000	40.360	42.000	0	0	0
Sub-total: Carbon in living biomass	**147.682**	**165.691**	**173.000**	**0**	**0**	**0**
Carbon in dead wood	0.022	0.023	0.023	0	0	0
Carbon in litter	49.884	53.813	55.800	0	0	0
Sub-total: Carbon in dead wood and litter	**49.906**	**53.836**	**55.823**	**0**	**0**	**0**
Soil carbon to a depth of 30 cm	69.250	72.087	73.000	0	0	0
TOTAL CARBON	**266.838**	**291.614**	**301.823**	**0**	**0**	**0**

7.6 Comments to National reporting table T7

Following the guidelines for the country report to get the quantity of soil carbon the classification needed for calculus is very far-flung: it takes into consideration only the mechanical composition and the hydrological condition (in some degree) of the soils. However it is important for carbon stock in the contemplation the organic colloids are not taken in count. Our classification of soils is based on the genetic soil type which classification is far more detailed than the classes from the guidelines – the correspondence done is forced.
Areas classified as other sub-compartments as primary function (see T1) are not taken into calculus. Only the area of sub-compartments covered by forest is included.

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 Forest Stand Database	H	Area of subcompartments, Code for specific disturbances	1976-	

8.2.2 Classification and definitions

National class	Definition
Disturbance by fire	Disturbance caused by fire independently whether it broke out caused by human, or natural activities
Disturbance by insects	Disturbance caused by Melolontha, bark louse, mealybug, woodborer, Cecidium, defoliator, shoot gnawer insects
Disturbance by diseases	Disturbances caused by Heterobasidium, Armillaria, Ganoderma, Phaeolus, Xanthochorus, Phellium, goiter, Dothichiza, Rhyacionia, Loranthus, defoliator fungi
Other disturbances	Disturbance like frost rib, trunk crack, exploitation, bark lesion, top drying, emissions, crown break, soil disturbances (erosion, stagnant water, stc.), game and unknown categories.

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

8.2.3 Original data

Data comes from the Database collected by species. This collection doesn't include the open areas and the areas under forestation. These areas were spread uniform within the categories.

FRA-2005 Categories	Average annual area affected (1000 hectares)			
	Forests		Other wooded land	
	1990	2000	1990	2000
Disturbance by fire	2,4	8,5	0,0	0,0
Disturbance by insects	26,1	84,5	0,0	0,0
Disturbance by diseases	28,3	59,0	0,0	0,0
Other disturbance	205,4	467,2	0,0	0,0

8.3 Analysis and processing of national data

8.3.1 Estimation and forecasting

The reporting years were given as 1990 and 2000 – no need for estimation.

8.4 Reclassification into FRA 2005 classes

No need for reclassification.

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	2.4	8.5	0	0
Disturbance by insects	26.1	84.5	0	0
Disturbance by diseases	28.3	59.0	0	0
Other disturbance	205.4	467.2	0	0

8.6 Comments to National reporting table T8

Areas classified as other sub-compartments as primary function (see T1) are not taken into calculus. Only the area of sub-compartments covered by forest is included.

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
Dr. Bartha Dénes – Öshonos fa- és cserjefajok Magyarországon	H	List of species	1990	Dr. Dénes Bartha: Native tree- and shrub species in Hungary – in Hungarian
12/1993 (III. 31.) ordinance of the Ministry of Environment and Nature Protection	H	Protected category	1993	In Hungarian
Rakonczay Zoltán – Vörös könyv	H	Endangering category	1989	Zoltán Rakonczay: Red book – in Hungarian

9.2.2 Classification and definitions

National class	Definition
Native species	Species with natural permeation area in our country
Protected species	Protection category: Species on it's behalf the human activities are of protection
High protected species	Protection category: Species on it's behalf the human activities are of high protection
Potentially endangered species	Endangering category: Species, which permeation indicate that they will be potentially endangered
Actually endangered species	Endangering category: Species, which permeation indicate that they are endangered.
Critically endangered species	Endangering category: Species, which permeation shows that they are highly endangered.

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

9.2.3 Original data

	Number of species (year 2000)
Native tree species… of which:	47
Critically endangered tree species	1
Endangered tree species (Actually endangered)	2

Vulnerable tree species (Potentially endangered)	3

Native tree species:

Acer campestre	field maple
Acer platanoides	Norway maple
Acer pseudoplatanus	great maple
Acer tataricum	Tatarian maple
Alnus glutinosa	common alder
Alnus incana	grey alder
Betula pendula	silver birch
Betula pubescens (*)	pubescent birch
Carpinus betulus	hornbeam
Carpinus orientalis (*,PE)	eastern hornbeam
Castanea sativa	sweet chestnut
Cerasus avium	wild cherry
Cerasus mahaleb	mahaleb cherry
Fagus sylvatica	common beech
Fraxinus angustifolia ssp. pannonica	Hungarian ash
Fraxinus excelsior	common ash
Fraxinus ornus	flowering ash
Malus sylvestris	crab apple
Padus avium	bird-cherry
Pinus sylvestris	Scotch pine
Populus alba	white poplar
Populus nigra	black poplar
Populus tremula	trembling poplar
Pyrus magyarica (**, CE)	Hungarian pear
Pyrus nivalis (*,AE)	crass-snub pear (?)
Pyrus pyraster	wild pear
Quercus petraea agg.	sessile oak
Quercus cerris	Austrian oak
Quercus pubescens	downy oak
Quercus robur	pedunculate oak
Quercus virgiliana	Vergilius' oak
Salix alba	white willow
Salix caprea	goat willow
Salix fragilis	crack willow
Salix pentandra (*,AE)	bay willow
Sorbus aria agg. (*,PE)	common whitebeam
Sorbus aucuparia	rowan
Sorbus domestica (*)	service tree
Sorbus torminalis	beam tree
Taxus baccata (*,PE)	common yew
Tilia cordata	small-leaved lime
Tilia platyphyllos agg.	large-leaved lime
Tilia tomentosa	silver lime
Ulmus glabra	broadleaved elm
Ulmus laevis	fluttering elm
Ulmus minor	field elm
Ulmus procera	English elm

Abbreviations:

* – Protected
** – High protected
CE – Critically endangered
AE – Actually endangered
PE – Potentially endangered

Two approaches are to define the status of the species. From the perspective of the human activities implemented there are protected and high protected and of the specie there are critically, actually and potentially endangered species highlighted.

9.3 Data for National reporting table T9

FRA 2005 Categories	**Number of species (year 2000)**
Native tree species	47
Critically endangered tree species	1
Endangered tree species	2
Vulnerable tree species	3

9.4 Comments to National reporting table T9

10 Table T10 – Growing stock composition

10.1 FRA 2005 Categories and definitions

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

Carpinus betulus	Hornbeam
Fagus sylvatica	Beech
Pinus nigra	Austrian pine
Pinus sylvestris	Scotch pine
Fraxinus ssp.	Ash
Populus x ssp.	Hybrid poplars
Quercus robur	Pedunculate oak
Quercus petraea	Sessile oak
Quercus cerris	Turkey oak
Robibia pseudoacatia	Black locust

If the list above is created based on the area of the species, the ash is not included, but the native poplars are.

10.2 National data

10.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National Forest Stand Database	H	Growing stock	1976-	

10.2.2 Original data

FRA 2005 Categories / Species name (Scientific name and common name)	Growing Stock in Forests (million cubic meters)	
	1990	2000
Quercus petraea	44,946812	46,714984
Quercus cerris	38,257054	42,471567
Robinia pseudoacatia	34,508321	39,169265
Fagus sylvatica	36,733366	39,091590
Pinus sylvestris	27,598790	32,590251
Quercus robur	30,545903	31,947454
Carpinus betulus	17,207570	17,879756
Populus x ssp.	13,315299	12,956409
Pinus nigra	8,370811	10,819518
Fraxinus ssp	7,196582	9,484649
Remainder of species	29,323923	42,039164
TOTAL	**288.004431**	**325.164607**

The list of the most important species was made based on the data from 2000.

10.3 Analysis and processing of national data

10.3.1 Calibration

No need for calibration

10.3.2 Estimation and forecasting

Due to the fact that reporting years are given as 1990 and 2000 no estimations were done.

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
Quercus petraea	44.948	46.715
Quercus cerris	38.257	42.472
Robinia pseudoacatia	34.508	39.169
Fagus sylvatica	36.733	39.092
Pinus sylvestris	27.600	32.590
Quercus robur	30.546	31.947
Carpinus betulus	17.208	17.880
Populus x ssp.	13.315	12.956
Pinus nigra	8.371	10.820
Fraxinus ssp	7.197	9.485
Remainder of species	29.325	42.039
TOTAL	**288.008**	**325.165**

10.5 Comments to National reporting table T10

From 1990 until 2000 the beech with the black locust as well as the Austrian pine with the pedunculate oak has changed its place. Growing stock of Populus x ssp species shows a decline for the reason that a trend of changing these forests with others has started. This change is due to the high intervention of the environmentalist organizations and to the fact that in some places the soil composition was not proper for these stands.

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
Ministry of Agriculture Forestry Department internal materials	M	Industrial roundwood, Woodfuel	1990	
Joint Forest Sector Questionnaire JQ1	H	Industrial roundwood, Woodfuel	1991 - 2002	

11.2.2 Classification and definitions

National class	Definition
Industrial roundwood	The same as in FRA categories
Woodfuel	The same as in FRA categories

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source. Classes were framed to hit the FRA classification definitions.

11.2.3 Original data

	Volume in 1000 cubic meters of roundwood over bark			
	Forest		Other wooded land	
	1990	2000	1990	2000
Industrial roundwood	3512,0	3305,0	0,0	0,0
Woodfuel	2433,0	2597,0	0,0	0,0
TOTAL for Country	**5945,0**	**5902,0**	**0,0**	**0,0**

Exact wood removal data by assortments are not available for the country but the country total wood removal is. Data for wood removals are available only for the state managed forest companies. To get the country specific figures for the assortments it was stated that the same usage percentage is in practice in the private sector then in the public one so the percentage of the specific assortments for the state sector was extended to the country total wood removal.

Unfortunately officials from Hungary are facing with lack of data. Available sources relates figures only for the below listed years – figures for 5 year average on the reporting years can not be given:

	Industrial roundwood	Woodfuel	Total
1990	3512	2433	5945
1991	3209	2583	5792
1999	3148	2576	5724
2000	3305	2597	5902
2001	3492	2319	5811

2002	3438	2398	5836

11.3 Analysis and processing of national data

11.3.1 Estimation and forecasting

	Volume in 1000 cubic meters of roundwood over bark	
	Forest	**Other wooded land**
	2005	2005
Industrial roundwood	3821.4	0,0
Woodfuel	2107.1	0,0
TOTAL for Country	**5928.5**	**0.0**

To estimate the data for 2005 the estimation function from the Microsoft Excel program was used.

11.4 Reclassification into FRA 2005 classes

	Industrial wood removal	Woodfuel removal
Industrial roundwood	100 %	
Woodfuel		100 %

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 wood removal	3512.0	3305.0	3821.4	0	0	0
Woodfuel removal	2433.0	2597.0	2107.1	0	0	0
TOTAL for Country	**5945.0**	**5902.0**	**5928.5**	**0**	**0**	**0**

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
Ministry of Agriculture Forestry Department internal materials	M	Industrial roundwood, Woodfuel	1990	
Joint Forest Sector Questionnaire JQ1	H	Industrial roundwood, Woodfuel	1991 - 2002	
Hungarian Central Bank	H	Currency	1990-2004	Estimation for 2005 was included.

12.2.2 Classification and definitions

National class	Definition
Value of industrial roundwood	The same as in FRA categories
Value of woodfuel	The same as in FRA categories

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source. Classes were framed to hit the FRA classification definitions.

12.2.3 Original data

	Value of roundwood (1000 HUF)			
	Forest		Other wooded land	
	1990	2000	1990	2000
Value of industrial roundwood	10546536	32329510	0	0
Value of woodfuel	2413536	10310090	0	0
TOTAL for Country	**12960072**	**42639600**	**0**	**0**

Basic data considering the value of assortments were available only for the state managed forest companies. The requested data were got calculating an average value of the industrial roundwood and woodfuel by m^3 for each year based on the value of the assortments. The listed figures were got multiplying this data with the volume of the specific assortment-group.

12.3 Analysis and processing of national data

12.3.1 Estimation and forecasting

	Value of roundwood (1000 HUF)	
	Forest	Other wooded land
	2005	2005
Value of industrial roundwood	44299679	0
Value of woodfuel	31217207	0
TOTAL for Country	**75516886**	**0**

Estimations follow the steps listed below. To get the value in USD of the roundwood assortment groups the exchange rates used were as is follows (*Source: Hungarian Central Bank* – http://english.mnb.hu/):

- in 1990: 1 USD = 61,45 HUF
- in 2000: 1 USD = 284,73 HUF
- in 2005: The 2003 exchange rate was applied 1 USD = 207.92 HUF

12.4 Reclassification into FRA 2005 classes

	Value of industrial wood removal	Value of woodfuel removal
Value of industrial roundwood	100 %	
Value of woodfuel		100 %

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	171628	113544	213061	0	0	0
Woodfuel	39276	36210	150141	0	0	0
TOTAL for Country	**210904**	**149754**	**363202**	**0**	**0**	**0**

12.6 Comments to National reporting table T12

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:

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

No data available

13.2.1 Data sources

References to sources of information	**Quality (H/M/L)**	**Variable(s)**	**Year(s)**	**Additional comments**

13.2.2 Classification and definitions

National class	**Definition**

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

13.2.3 Original data

No data available

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

13.6 Comments to National reporting table T13

In Hungary both the country's fundamental law and the forest law consider the forest areas opened for the citizens, to where they are allowed to come with recreational purpose and to gather non-wood products. Partial restrictions are in use in protected forests. This conducts to the incapability of exact measurement of the quantity and assets of non-wood forest products. There are agencies dealing with some aspects of the supply e.g. hides, skins, trophies or wild honey and bee wax categories but only partial data are available: number of trophies in the previous and total honey, including home-bred honey in the latter mentioned.

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

No data are available.

14.2.1 Data sources

References to sources of information	**Quality (H/M/L)**	**Variable(s)**	**Year(s)**	**Additional comments**

14.2.2 Classification and definitions

National class	**Definition**

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

14.2.3 Original data

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

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
KSH	M	Labourer, White collar worker	1990-2000	

15.2.2 Classification and definitions

National class	Definition
Labourer	Employees in forestry for manual work
White collar worker	Employees in forestry for head-work

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

15.2.3 Original data

	Employment (1000 person-years)	
	1990	2000
Labourer	37,268	7,808
White collar worker	8,461	4,101
TOTAL	**45,729**	**11,909**

Before the privatisation process in forestry, that includes the survey from 1990, employment in forestry includes implicitly only the state owned forest companies. After the forest and forestry privatisation the surveying was done only for forest enterprises employing more, than 4 employees where the headcount between 4 and 50 was merely estimated.

15.3 Analysis and processing of national data

15.3.1 Estimation and forecasting

Since the reporting years for this category was decided to be 1990 and 2000 in the Specification of National Reporting Tables for FRA 2005 working paper (No. 81, Rome, 2004), there is no need for estimation and forecasting.

15.4 Reclassification into FRA 2005 classes

No correspondence was met with the FRA classification.

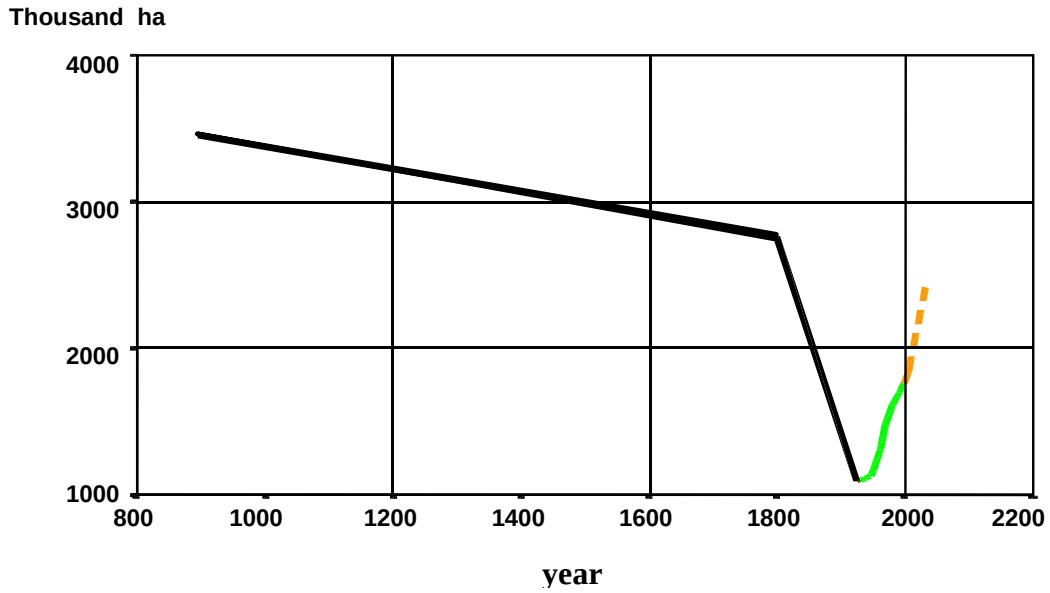
15.5 Data for National reporting table T15

FRA 2005 Categories	Employment (1000 person-years)	
	1990	2000
Primary production of goods		
Provision of services		
Unspecified forestry activities	45.700	11.900
TOTAL	**45.700**	**11.900**

15.6 Comments to National reporting table T15

16 Thematic reporting tables

The XX Century for Hungary constitutes the period of big changes from the point of view of the forest, as well. After the I[st] World War the country's area covered by forest has decreased and those forests reminded inner the borders were in major part sprouts and under intensive use. The area of forest cover decreased (*Source: University of West Hungary, Department of Forestry*).



To satisfy the needs of the industry and population the Hungarian Government supported by forest specialists decided to increase the forest cover of the country. Plantation-projects, like poplar-project, pine-project, spruce-project, etc., have been started on wide areas to enhance the quality and quantity of harvested wood in parallel with the improvement of the forestry achievements to conserve and increase the value of indigenous forests. Nowadays the afforestation processes continues. An important role is assotiated to the National Rural Development Plan, as it is shown on the graphic below (*Source: University of West Hungary, Department of Forestry*).