



Forestry Department

Food and Agriculture Organization of the United Nations

**GLOBAL FOREST RESOURCES
ASSESSMENT**

COUNTRY REPORTS

**THE FORMER YUGOSLAV
REPUBLIC OF MACEDONIA**

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The Forest Resources Assessment Programme

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

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

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

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

Contents

1	TABLE T1 – EXTENT OF FOREST AND OTHER WOODED LAND.....	5
2	TABLE T2 – FOREST OWNERSHIP AND MANAGEMENT RIGHTS.....	8
3	TABLE T3 – FOREST DESIGNATION AND MANAGEMENT.....	11
4	TABLE T4 – FOREST CHARACTERISTICS.....	15
5	TABLE T5 – FOREST ESTABLISHMENT AND REFORESTATION.....	17
6	TABLE T6 – GROWING STOCK.....	19
7	TABLE T7 – BIOMASS STOCK.....	21
8	TABLE T8 – CARBON STOCK.....	23
9	TABLE T9 – FOREST FIRES.....	25
10	TABLE T10 – OTHER DISTURBANCES AFFECTING FOREST HEALTH AND VITALITY.....	27
11	TABLE T11 – WOOD REMOVALS AND VALUE OF REMOVALS.....	30
12	TABLE T12 – NON-WOOD FOREST PRODUCTS REMOVALS AND VALUE OF REMOVALS.....	32
13	TABLE T13 – EMPLOYMENT.....	33
14	TABLE T14 – POLICY AND LEGAL FRAMEWORK.....	35
15	TABLE T15 – INSTITUTIONAL FRAMEWORK.....	37
16	TABLE T16 – EDUCATION AND RESEARCH.....	39
17	TABLE T17 – PUBLIC REVENUE COLLECTION AND EXPENDITURE.....	41

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1 Table T1 – Extent of Forest and Other wooded land

1.1 FRA 2010 Categories and definitions

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

1.2 National data

1.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Statistical review: Agriculture, 5.4.5.03 504 Forestry State Statistical Office Republic of Macedonia	H	Forest	1990, 2000	
Special Plan for Forest Management	M	OL,OWL	1990,2000, 2005	
UN Official country Areas	H	Total Area, Land Area, Inland Water	1990, 2000, 2005	

1.2.2 Classification and definitions

National class	Definition
Forest	Forest, as defined in Macedonian law, is forest ecosystem spanning on forest land with forest types of trees and bushes, forest moor lands and meadows, forest roads, forest nurseries, forest fire breaks, wind breaks and other areas closely related to forests, on area larger than 0,2 hectares including forest in protected areas.
Other land	All land that is not classified as “Forest” or “Other wooded land”.
Other wooded land	As defined in the Law, alleys, plantations with fast-growing types of trees, parks with populated areas, field protection belts, protective vegetation in the coastal belts of the water flows outside from the forests, isolated groups of forest trees on area of maximum 2 acres, and border trees between agricultural land are not considered forests.

1.2.3 Original data

Data for 1990 and 2000 are presented directly in the reporting table. Data for 2005 and 2010 are estimates.

1.3 Data for Table T1

FRA 2010 categories	Area (1000 hectares)			
	1990	2000	2005	2010
Forest	912	958	975	998
Other wooded land	143	143	143	143
Other land	1488	1442	1425	1402
...of which with tree cover	n.a.	n.a.	n.a.	n.a.
Inland water bodies	28	28	28	28
TOTAL	2571	2571	2571	2571

1.4 Comments to Table T1

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest	Forest, as defined in Macedonian law, is forest ecosystem spanning on forest land with forest types of trees and bushes, forest moor lands and meadows, forest roads, forest nurseries, forest fire breaks, wind breaks and other areas closely related to forests, on area larger than 0,2 hectares including forest in protected areas.	The reported data for forest area are official, but the real area of forests is estimated for about 1 million hectares. No inventory is made.
Other wooded land	As defined in the Law, alleys, plantations with fast-growing types of trees, parks with populated areas, field protection belts, protective vegetation in the coastal belts of the water flows outside from the forests, isolated groups of forest trees on area of maximum 2 acres, and border trees between agricultural land are not considered forests.	In absence of data for 1990 we assume that this area is constant.
Other land	All land that is not classified as “Forest” or “Other wooded land”.	
Other land with tree cover	No data available	
Inland water bodies		

Other general comments to the table

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Expected year for completion of ongoing/planned <u>national</u> forest inventory and/or RS survey / mapping	
Field inventory	2009
Remote sensing survey / mapping	

2 Table T2 – Forest ownership and management rights

2.1 FRA 2010 Categories and definitions

Category	Definition
Public ownership	Forest owned by the State; or administrative units of the public administration; or by institutions or corporations owned by the public administration.
Private ownership	Forest owned by individuals, families, communities, private co-operatives, corporations and other business entities, private religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
Individuals (sub-category of Private ownership)	Forest owned by individuals and families.
Private business entities and institutions (sub-category of Private ownership)	Forest owned by private corporations, co-operatives, companies and other business entities, as well as private non-profit organizations such as NGOs, nature conservation associations, and private religious and educational institutions, etc.
Local communities (sub-category of Private ownership)	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area. The community members are co-owners that share exclusive rights and duties, and benefits contribute to the community development.
Indigenous / tribal communities (sub-category of Private ownership)	Forest owned by communities of indigenous or tribal people.
Other types of ownership	Other kind of ownership arrangements not covered by the categories above. Also includes areas where ownership is unclear or disputed.
Categories related to the holder of management rights of public forest resources	
Public Administration	The Public Administration (or institutions or corporations owned by the Public Administration) retains management rights and responsibilities within the limits specified by the legislation.
Individuals/households	Forest management rights and responsibilities are transferred from the Public Administration to individuals or households through long-term leases or management agreements.
Private institutions	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities, private co-operatives, private non-profit institutions and associations, etc., through long-term leases or management agreements.
Communities	Forest management rights and responsibilities are transferred from the Public Administration to local communities (including indigenous and tribal communities) through long-term leases or management agreements.
Other form of management rights	Forests for which the transfer of management rights does not belong to any of the categories mentioned above.

2.2 National data

2.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Statistical review: Agriculture, 5.4.5.03 504 Forestry State Statistical Office Republic of Macedonia 1997-2004	H	Public ownership	1990, 2000, 2005	
Statistical review: Agriculture, 5.4.5.03 504 Forestry State Statistical Office Republic of Macedonia 1997-2004	H	Private ownership	1990, 2000, 2005	

2.2.2 Classification and definitions

National class	Definition
Public ownership	As defined in the Law: Managing the forests in state ownership for economic and protective purpose, is perform by public enterprise for forest management Macedonian Forests
Private ownership	Forests in private ownership are managed by their owners, association of private forest owners and licensed legal and physical entities .

2.2.3 Original data

As reported directly in the reporting tables below. All areas under private ownership are owned by individuals. All publicly owned forests are managed by the public administration.

2.3 Data for Table T2

Table 2a - Forest ownership

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public ownership	818	864	881
Private ownership	94	94	94
...of which owned by individuals	94	94	94
...of which owned by private business entities and institutions	0	0	0
...of which owned by local communities	0	0	0
...of which owned by indigenous / tribal communities	0	0	0
Other types of ownership	0	0	0
TOTAL	912	958	975

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

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

Table 2b - Holder of management rights of public forests

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public Administration	818	864	881
Individuals	0	0	0
Private corporations and institutions	0	0	0
Communities	0	0	0
Other	0	0	0
TOTAL	818	864	881

2.4 Comments to Table T2

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Public ownership		
Private ownership		It is expected that the forest in private ownership will rise up to 20% (currently is about 10%) with the process on denationalisation
Other types of ownership	Not applicable. The Forests in the Law are defined as in private and state property. No other classifications exist.	
Management rights		

Other general comments to the table

3 Table T3 – Forest designation and management

3.1 FRA 2010 Categories and definitions

Term	Definition
Primary designated function	The primary function or management objective assigned to a management unit either by legal prescription, documented decision of the landowner/manager, or evidence provided by documented studies of forest management practices and customary use.
Protected areas	Areas especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.
Categories of primary designated functions	
Production	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Protection of soil and water	Forest area designated primarily for protection of soil and water.
Conservation of biodiversity	Forest area designated primarily for conservation of biological diversity. Includes but is not limited to areas designated for biodiversity conservation within the protected areas.
Social services	Forest area designated primarily for social services.
Multiple use	Forest area designated primarily for more than one purpose and where none of these alone is considered as the predominant designated function.
Other	Forest areas designated primarily for a function other than production, protection, conservation, social services or multiple use.
No / unknown	No or unknown designation.
Special designation and management categories	
Area of permanent forest estate (PFE)	Forest area that is designated to be retained as forest and may not be converted to other land use.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.
Forest area under sustainable forest management	To be defined and documented by the country.
Forest area with management plan	Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, which is periodically revised.

3.2 National data

3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
State Statistical Office	H	Production	1990,2000,2005	
Spatial Plan of the Republic of Macedonia, 2004 Management Plans for 10years	M	Forest area with management plan	1990,2000,2005	

3.2.2 Classification and definitions

National class	Definition
Production	Forest area designated primarily for production of wood and non-wood forest products.
Forest area with management plan	Forest area that has a long-term (ten years) documented management plan, aiming at defined management goals, which is periodically revised.
Area of permanent forest estate (PFE)	Forest area that is designated to be retained as forest and may not be converted to other land use.

3.2.3 Original data

Original data are reported directly in the tables below.

3.3 Data for Table T3

Table 3a – Primary designated function

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Production	804	804	804	804
Protection of soil and water	0	0	0	0
Conservation of biodiversity	0	0	0	0
Social services	0	0	0	0
Multiple use	0	0	0	0
Other (please specify in comments below the table)	0	0	0	0
No / unknown	108	154	171	194
TOTAL	912	958	975	998

Table 3b – Special designation and management categories

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Area of permanent forest estate	839	881	897	918
Forest area within protected areas	n.a	n.a	n.a	n.a
Forest area under sustainable forest management	839	881	897	918
Forest area with management plan	839	881	897	918

3.4 Comments to Table T3

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Production		
Protection of soil and water		
Conservation of biodiversity		
Social services		
Multiple use		
Other		
No / unknown designation	All other forests which are not used for production purposes. Areas not available for wood supply. Forest area outside the management plans, for ex. forests where the cadastre is not in use	
Area of permanent forest estate	By Constitution and by Law Forests are managed in a manner which permanently preserves their area and increase their value, to enable the largest increase according to the natural conditions and to preserve and improve their productive and generally beneficial functions. State forests cannot be sold	
Forest area within protected areas		
Forest area under sustainable forest management		
Forest area with management plan	All forests with the Management Plans are managed in a sustainable way	

Other general comments to the table

Pursuant to the purpose, forests can be used for economic and special purpose. The forests for economic purpose are forest used primarily for permanent production of wood varieties and other wood products. Forests designated for production also contribute to all the other mentioned purposes. Insufficient inventory data makes more detailed classification impossible.

Forests for special purpose are forests which are considered natural rareness and beauty and forest which are primarily used for: land protection, populated areas, water flows and reservoirs, traffic arteries, economic, infrastructural and other facilities, protection and growing rare types of forest trees and game animals, and also for rest, sports and recreation, celebrating important historic events, scientific, teaching, educational, defence and other purposes.

Forests for special purpose can be defined as: forests in national parks, protective forests, forest and hunting reserves, forest parks, memorial forests, forests for production of forest seeds, picnic areas and forests for teaching, educational and defence purposes.

4 Table T4 – Forest characteristics

4.1 FRA 2010 Categories and definitions

Term / category	Definition
Naturally regenerated forest	Forest predominantly composed of trees established through natural regeneration.
Introduced species	A species, subspecies or lower taxon, occurring <u>outside</u> its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans).
Characteristics categories	
Primary forest	Naturally regenerated forest of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Other naturally regenerated forest	Naturally regenerated forest where there are clearly visible indications of human activities.
Other naturally regenerated forest of introduced species (sub-category)	Other naturally regenerated forest where the trees are predominantly of introduced species.
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
Planted forest of introduced species (sub-category)	Planted forest, where the planted/seeded trees are predominantly of introduced species.
Special categories	
Rubber plantations	Forest area with rubber tree plantations.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
Bamboo	Area of forest and other wooded land with predominant bamboo vegetation.

4.2 National data

4.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Expert evaluation	L	All	2005	

4.3 Data for Table T4

Table 4a

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Primary forest	0	0	0	0
Other naturally regenerated forest	807	853	870	893
...of which of introduced species	n.a.	n.a.	n.a.	n.a.
Planted forest	105	105	105	105
...of which of introduced species	n.a.	n.a.	n.a.	n.a.
TOTAL	912	958	975	998

Table 4b

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

4.4 Comments to Table T4

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Primary forest	Experts opinion: Naturally regenerated forests of native species are on very small parcels with no road network. No data is available on the total area, thus areas that could be classified as “primary forest” are reported within category “Other naturally regenerated forest”.	
Other naturally regenerating forest	Reporting based on expert opinion: Area of naturally regenerated forest where there are clearly visible indications of human activities is calculated as a difference between “Total forest area” and area of “Planted forest”. Reported values comprise also areas that could be classified as “Primary forest”.	Based on current situation
Planted forest	Experts opinion: Forest predominantly composed of trees established through planting and/or deliberate seeding are on about 105.000ha .	Based on current situation. No data on trend of this category.
Rubber plantations		
Mangroves		
Bamboo		

Other general comments to the table

No inventory data available for reporting on this table, all reported values basis on expert assessments and may significantly differ from the real situation.

5 Table T5 – Forest establishment and reforestation

5.1 FRA 2010 Categories and definitions

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

5.2 National data

5.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
PE “Macedonian Forests” 10 year Report 1998-2008	H	Reforestation	2000 2005	
Program for extended reproduction	H	Reforestation	2000 2005	
Statistical review: Agriculture, 319 Forestry State Statistical Office Republic of Macedonia	H	Reforestation	1990	

5.2.2 Classification and definitions

National class	Definition
Afforestation	The same as FRA
Reforestation	The same as FRA

5.2.3 Original data

See final reporting table. The data for reforestation and afforestation are reported together. Data for 1990 is reforestation only from one year, data for 2000 is an average for 4 years period (1999, 2000, 2001, 2002), data for 2005 represent a 5-year period.

5.3 Data for Table T5

FRA 2010 Categories	Annual forest establishment (hectares/year)			...of which of introduced species ¹⁾ (hectares/year)		
	1990	2000	2005	1990	2000	2005
Afforestation	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Reforestation	3981	1840.5	1334.4	n.a.	n.a.	n.a.
...of which on areas previously planted	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Natural expansion of forest	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

5.4 Comments to Table T5

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Afforestation	See comment for reforestation.	
Reforestation	The data for reforestation and afforestation are reported together. The afforestation is only on bare land as a part of the area within the forest, which is very small. Data for 1990 is reforestation only from one year, data for 2000 is an average for 4 years period (1999, 2000, 2001, 2002), data for 2005 represents 5-year period.	
Natural expansion of forest		

Other general comments to the table

6 Table T6 – Growing stock

6.1 FRA 2010 Categories and definitions

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

6.2 National data

6.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Year Report PE “Macedonian Forests”	H	Total Growing Stock	2000, 2005 2008	

6.2.2 Original data

Data for 2000 and 2005 are presented directly in the reporting table below.

6.3 Data for Table T6

Table 6a – Growing stock

FRA 2010 category	Volume (million cubic meters over bark)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Total growing stock	76.29	78.89	76.38	76.41	n.a.	n.a.	n.a.	n.a.
... of which coniferous	n.a.	8.64	7.63	7.64	n.a.	n.a.	n.a.	n.a.
... of which broadleaved	n.a.	70.25	68.75	68.77	n.a.	n.a.	n.a.	n.a.
Growing stock of commercial species	76.29	78.89	76.38	76.41	n.a.	n.a.	n.a.	n.a.

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

FRA 2010 category / Species name			Growing stock in forest (million cubic meters)		
Rank	Scientific name	Common name	1990	2000	2005
1 st	<i>Fagus sylvatica</i>	Beech	n.a.	46.27	n.a.
2 nd	<i>Quercus spp.</i>	Oak	n.a.	19.86	n.a.
3 rd	<i>Pinus spp.</i>	Pine	n.a.	6.30	n.a.
4 th	<i>Abies alba</i>	Fir	n.a.	1.59	n.a.
5 th					
Remaining			n.a.	4.87	n.a.
TOTAL			n.a.	78.89	n.a.

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

Table 6c – Specification of threshold values

Item	Value	Complementary information
Minimum diameter (cm) at breast height ¹ of trees included in growing stock (X)	10	
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	2.5	
Minimum diameter (cm) of branches included in growing stock (W)	2.5	
Volume refers to “above ground” (AG) or “above stump” (AS)	AS	

6.4 Comments to Table T6

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Total growing stock	Growing stock refers only on <u>state owned forests for economical use</u> . Forests in National Parks are not included	
Growing stock of broadleaved / coniferous		
Growing stock of commercial species	All the species mentioned in the table 6b are commercially used.	
Growing stock composition		

Other general comments to the table

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

7 Table T7 – Biomass stock

7.1 FRA 2010 Categories and definitions

Category	Definition
Above-ground biomass	All living biomass above the soil including stem, stump, branches, bark, seeds, and foliage.
Below-ground biomass	All biomass of live roots. Fine roots of less than 2mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Dead wood	All non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots, and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.

7.2 National data

7.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Experts opinion	L	Dead wood	2000	
Year Report PE “Macedonian Forests”	H	Total Growing Stock	2000, 2005, 2008	

7.2.2 Estimation and forecasting

All coefficients received from the FRA Guidelines for Country Reporting - Temperate continental forest

Above ground biomass for 2000, 2005 and 2010 (Table 5.4)

BCEF for hardwoods, stocking level class (41-100 m³/ha) – 1.4

BCEF for conifers (pines), stocking level class (41-100 m³/ha) – 0.75

Calculation of AGB for 2000

AGB hardwood = GS x BCEF = 70.25 x 1.4 = 98.4

AGB conifers = GS x BCEF = 8.64 x 0.75 = 6.5

AGB total = 104.8

Calculation of AGB for 2005

AGB hardwood = GS x BCEF = 68.75 x 1.4 = 96.3

AGB conifers = GS x BCEF = 7.63 x 0.75 = 5.7

AGB total = 102.0

Calculation of AGB for 2010

AGB hardwood = GS x BCEF = 68.77 x 1.4 = 96.3

AGB conifers = GS x BCEF = 7.64 x 0.75 = 5.7

AGB total = 102.0

Above ground biomass for 1990

BCEF for total growing stock was calculated basing on analogical proportion derived for 2000 – 1.33

AGB total 2000 / GS total 2000 * GS total 1990 = 104.8 / 78.89 * 76.29 = 101.4

Below ground biomass for volume of known tree species in 2000 (Table 5.3)

R for Quercus spp, AGB (>70 t/ha) – 0.30 * 19.9 = 6.0

R for other broadleaf, AGB (75-150 t/ha) – 0.23 * 46.3 = 10.6

R for conifers, AGB (50-150 t/ha) – 0.29 * 7.9 = 2.3

R for volume of known tree species in 2000

BGB total/ GS total = (6.0 + 10.6 + 2.3) / (19.9 +46.3+7/9) = 18.9 / 74.0 =0.26

Below ground biomass for 1990, 2000, 2005 and 2010

R for total growing stock was calculated basing on proportion derived for species composition in 2000 – **0.26**

Calculation of BGB for 1990

BGB = AGB x R = 101.4*0.26 = 26.4

Calculation of BGB for 2000

BGB = AGB x R = 104.8*0.26 = 27.3

Calculation of BGB for 2005

BGB = AGB x R = 102.0*0.26 = 26.5

Calculation of BGB for 2010

BGB = AGB x R = 102.0*0.26 = 26.5

7.3 Data for Table T7

FRA 2010 category	Biomass (million metric tonnes oven-dry weight)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Above-ground biomass	101.4	104.8	102.0	102.0	n.a	n.a	n.a	n.a
Below-ground biomass	26.4	27.3	26.5	26.5	n.a	n.a	n.a	n.a
Dead wood	n.a	0.23	0.16	0.94	n.a	n.a	n.a	n.a
TOTAL	n.a	132.33	128.66	129.44	n.a	n.a	n.a	n.a

7.4 Comments to Table T7

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Above-ground biomass		
Below-ground biomass		
Dead wood	Amount of non-living biomass 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	In lack of data for 2005 experts used the data of 2002

Other general comments to the table

8 Table T8 – Carbon stock

8.1 FRA 2010 Categories and definitions

Category	Definition
Carbon in above-ground biomass	Carbon in all living biomass above the soil, including stem, stump, branches, bark, seeds, and foliage.
Carbon in below-ground biomass	Carbon in all biomass of live roots. Fine roots of less than 2 mm diameter are excluded, because these often cannot be distinguished empirically from soil organic matter or litter.
Carbon in dead wood	Carbon in all non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots, and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.
Carbon in litter	Carbon in all non-living biomass with a diameter less than the minimum diameter for dead wood (e.g. 10 cm), lying dead in various states of decomposition above the mineral or organic soil.
Soil carbon	Organic carbon in mineral and organic soils (including peat) to a specified depth chosen by the country and applied consistently through the time series.

8.2 National data

8.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Experts opinion	L	Dead wood	2000	
Year Report PE “Macedonian Forests”	H	Total Growing Stock	2000, 2005 2008	

8.3 Analysis and processing of national data

8.3.1 Estimation and forecasting

The applied factor is the default global carbon fraction recommended by IPCC (FRA Guidelines) – 0.47

8.4 Data for Table T8

FRA 2010 Category	Carbon (Million metric tonnes)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Carbon in above-ground biomass	47.7	49.3	47.9	47.9	n.a.	n.a.	n.a.	n.a.
Carbon in below-ground biomass	12.4	12.8	12.5	12.5	n.a.	n.a.	n.a.	n.a.
Sub-total: Living biomass	60.1	62.1	60.4	60.4	n.a.	n.a.	n.a.	n.a.
Carbon in dead wood	n.a.	0.11	0.08	0.44	n.a.	n.a.	n.a.	n.a.
Carbon in litter	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sub-total: Dead wood and litter	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Soil carbon	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
TOTAL	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Soil depth (cm) used for soil carbon estimates	
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8.5 Comments to Table T8

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

Other general comments to the table
No data available for reporting on this table

9 Table T9 – Forest fires

9.1 FRA 2010 Categories and definitions

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

9.2 National data

9.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
PE Macedonian forests, 1999-2007	H		1990,2000,2005	
MAFWE, 1999-2007	H		1990,2000,2005	
International Forest Fire News (IFFN) No. 28 (January – June 2003) p. 92-102	H		1990,2000,2005	
Macedonia Information Agency, 1988-2005	M		1990,2000,2005	

9.2.2 Classification and definitions

National class	Definition
Forest fire	Any unplanned and/or uncontrolled fire in forest of forest land.
Other fires of open space	Any unplanned and/or uncontrolled fire out of forest and forest land (agricultural land, pasturelands etc)

9.2.3 Original data

See final reporting table

9.3 Data for Table T9

Table 9a

FRA 2010 category	Annual average for 5-year period					
	1990		2000		2005	
	1000 hectares	number of fires	1000 hectares	number of fires	1000 hectares	number of fires
Total land area affected by fire	7.24	617	52.24	3795	9.374	203
... of which on forest	5.76	241	37.92	1187	4.016	58
... of which on other wooded land	0	0	0	0	0	0
... of which on other land	1.48	376	14.32	2608	5.358	145

Table 9b

FRA 2010 category	Proportion of forest area affected by fire (%)		
	1990	2000	2005
Wildfire	100	100	100
Planned fire	0	0	0

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

9.4 Comments to Table T9

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Area affected by fire	Data for forest fires are only for forest area. Information for other land was extracted from the total area affected by fire. Data are for average of 5 years period 1988-1992, 1998-2002 and 2003-2007 respectively	
Number of fires	Fires on OWL is negligible, on very small area with no significant economical losses	
Wildfire / planned fire		

Other general comments to the table

10 Table T10 – Other disturbances affecting forest health and vitality

10.1 FRA 2010 Categories and definitions

Term	Definition
Disturbance	Damage caused by any factor (biotic or abiotic) that adversely affects the vigour and productivity of the forest and which is not a direct result of human activities.
Invasive species	Species that are non-native to a particular ecosystem and whose introduction and spread cause, or are likely to cause, socio-cultural, economic or environmental harm or harm to human health.
Category	Definition
Disturbance by insects	Disturbance caused by insect pests.
Disturbance by diseases	Disturbance caused by diseases attributable to pathogens, such as bacteria, fungi, phytoplasma or virus.
Disturbance by other biotic agents	Disturbance caused by biotic agents other than insects or diseases, such as wildlife browsing, grazing, physical damage by animals, etc.
Disturbance caused by abiotic factors	Disturbances caused by abiotic factors, such as air pollution, snow, storm, drought, etc.

10.2 National data

10.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Annual reports on health conditions of forests in Macedonia, 1988-2007, Faculty of Forestry	H	Disturbance by insects	1990, 2000, 2005	
Annual reports on health conditions of forests in Macedonia, 1988-2007, Faculty of Forestry	M	Disturbance by diseases	1990, 2000, 2005	

10.2.2 Classification and definitions

National class	Definition
Disturbance by insects	Disturbance caused by insect pests.
Disturbance by diseases	Disturbance caused by diseases attributable to pathogens, such as bacteria, fungi, phytoplasma or virus.
Disturbance by other biotic agents	Disturbance caused by biotic agents other than insects or diseases, such as wildlife browsing, grazing, physical damage by animals, etc.

10.2.3 Original data

See final reporting table

10.3 Data for Table T10

Table 10a – Disturbances

FRA 2010 category	Affected forest area (1000 hectares)		
	1990	2000	2005
Disturbance by insects	24.2	55.3	44.4
Disturbance by diseases	3	3	3
Disturbance by other biotic agents	n.a	n.a	n.a
Disturbance caused by abiotic factors	n.a	n.a	n.a
Total area affected by disturbances	n.a	n.a	n.a

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

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

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

Description / name	Tree species or genera affected (scientific name)	Year(s) of latest outbreak	Area affected (1000 hectares)	If cyclic, approx. cycle (years)
<i>Porthetria dispar</i> L.	<i>Quercus petraea</i> , <i>Q. pubescens</i> , <i>Q. conferta</i>	2004	29.3	1975
<i>Euproctis chrysorrhoe</i> L.	<i>Q. petraea</i> , <i>Q. cerris</i> , <i>Q. conferta</i>	1997	41.8	1987
<i>Tortrix viridana</i> L.	<i>Q. petraea</i> , <i>Q. pubescens</i> , <i>Q. Conferta</i>	1997	41.8	1987
<i>Orchestes fagi</i> L.	<i>Fagus moesiaca</i>	1997	49.9	1997
<i>Erannis defoliaria</i> Cl.	<i>Q. petraea</i> , <i>Q. pubescens</i> , <i>Q. conferta</i>	1994	14.0	2008
<i>Thaumtopoea pityocampa</i> Schiff.	<i>Pinus nigra</i>	2001	26.5	1991
<i>Neodiprion sertifer</i> Geoffr.	<i>Pinus nigra</i>	1997	1.67	1984
<i>Ips sexdentatus</i> Boern., <i>Ips acuminatus</i> Gyll.	<i>Pinus silvestris</i> , <i>Pinus nigra</i>	2001	2.26	1996
<i>Rhyacionia buoliana</i> Den. et Schiff.	<i>Pinus nigra</i>	2003	2.76	1982
<i>Coleophora laricella</i> Hb.			0,069	
<i>Cryphonectria parasitica</i> (Murrill) Barr	<i>Castanea sativa</i>	constant	3	
<i>Ophiostoma ulmi</i> Brasier	<i>Ulmus spp.</i>	constant	0,01	
<i>Phaeolus schweinitzii</i> (Fr.) Pat.	<i>Pinus peuce</i>	constant	0,02	
<i>Heterobasidion annosum</i> (Fr.) Bref.	<i>Pinus nigra</i> , <i>P. sylvestris</i>	constant	0,05	

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

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

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

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

10.4 Comments to Table T10

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Disturbance by insects	Table 10b, column on cycle is referring to the first major attack of the insect, and in some cases it is not periodic	
Disturbance by diseases	-The estimation of 3000 ha of disturbance by <i>Cryphonectria .parasitica</i> is an expert opinion; -Various <i>Ulmus spp.</i> are on the brink of extinction due to the presence of <i>Ophiostoma novo-ulmi</i> ; - <i>Phaeolus schweinitzii</i> present mainly on <i>Pinus peuce</i> at Pelister national park, undetermined area of distribution.	
Disturbance by other biotic agents	<i>Viscum album</i> mainly on <i>Abies menziesii</i> and <i>Quercus spp.</i> , and <i>Loranthus europaeus</i> on <i>Castanea sativa</i> present throughout Macedonia, undetermined areas of distribution.	
Disturbance caused by abiotic factors		
Major outbreaks		
Invasive species		

Other general comments to the table

11 Table T11 – Wood removals and value of removals

11.1 FRA 2010 Categories and definitions

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

11.2 National data

11.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Analysis - Rapports PEMF 1998-2007	H	Industrial roundwood removals	2000	
Analysis - Rapports PEMF 1998-2007	H	Woodfuel removals	2005	

11.2.2 Classification and definitions

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

11.3 Data for Table T11

FRA 2010 Category	Industrial roundwood removals			Woodfuel removals		
	1990	2000	2005	1990	2000	2005
Total volume (1000 m ³ o.b.)	n.a.	129	132	n.a.	520	480
... of which from forest	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Unit value (local currency / m ³ o.b.)	n.a.	3000	3200	n.a.	1700	1900
Total value (1000 local currency)	n.a.	387000	422400	n.a.	884000	912000

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

	1990	2000	2005
Name of local currency	n.a	denars	denars

11.4 Comments to Table T11

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

Other general comments to the table

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

The most attractive products for collection that appear on the Macedonian market are:

- Fungi: Boletus, Chanterelles, Lactarius, Morchela etc.
- Lichens: Evernia, Centraria
- Berries: Blackberries, Blueberries, Raspberries, Cranberries etc.
- Medicinal and aromatic plants: Adonis, Gentiana, Hypericum, Juniper, Thymus, Veratrum, Ramonda, Salvia etc.

Data on quantity and value of removed products are not available.

13 Table T13 – Employment

13.1 FRA 2010 Categories and definitions

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

13.2 National data

13.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Department for Human resources in PE Macedonian Forest	H	Employment in primary production of goods	1990,2000,2005	
Department for Human resources in the Ministry of Environment and Physical Planning	H	Employment in management of protected areas	1990,2000,2005	

13.3 Data for Table T13

FRA 2010 Category	Employment (1000 years FTE)		
	1990	2000	2005
Employment in primary production of goods	4.315	3.036	2.597
...of which paid employment	4.315	3.036	2.597
...of which self-employment	n.a	n.a	n.a
Employment in management of protected areas	0.014	0.016	0.017

13.4 Comments to Table T13

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Employment in primary production of goods	The data are for Public Enterprise Macedonian Forests only. No data are available for self-employment in forestry	
Paid employment / self-employment		
Employment in management of protected areas	The data is for Forestry Engineers in the Protected Areas	

Other general comments to the table

14 Table T14 – Policy and legal framework

14.1 FRA 2010 Categories and definitions

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

14.2 Data for Table T14

Indicate the existence of the following (2008)			
Forest policy statement with national scope	<input checked="" type="checkbox"/>	Yes	
	<input type="checkbox"/>	No	
If Yes above, provide:	Year of endorsement	2006	
	Reference to document	Strategy for sustainable development of Forestry in Republic of Macedonia	
National forest programme (nfp)	<input checked="" type="checkbox"/>	Yes	
	<input type="checkbox"/>	No	
If Yes above, provide:	Name of nfp in country	Strategy for sustainable development of Forestry in Republic of Macedonia	
	Starting year	2006	
	Current status	<input type="checkbox"/>	In formulation
		<input checked="" type="checkbox"/>	In implementation
		<input type="checkbox"/>	Under revision
<input type="checkbox"/>		Process temporarily suspended	
Reference to document or web site	www.mnfps-fao.org.mk		
Law (Act or Code) on forest with national scope	<input checked="" type="checkbox"/>	Yes, specific forest law exists	
	<input type="checkbox"/>	Yes, but rules on forests are incorporated in other (broader) legislation	
	<input type="checkbox"/>	No, forest issues are not regulated by national legislation	
If Yes above, provide:	Year of enactment	2009	
	Year of latest amendment		
	Reference to document	Official Gazette of RM 64/09 (www.pravo.org.mk , www.mzsv.gov.mk)	

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

14.3 Comments to Table T14

Variable / category	Comments related to data, definitions, etc.
Forest policy statement with national scope	
National forest programme (nfp)	
Law (Act or Code) on forest with national scope	
Sub-national forest policy statements	
Sub-national Laws (Acts or Codes) on forest	

Other general comments to the table

15 Table T15 – Institutional framework

15.1 FRA 2010 Categories and definitions

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

15.2 Data for Table T15

Table 15a – Institutions

FRA 2010 Category	2008
Minister responsible for forest policy formulation : please provide full title	Minister for Agriculture, Forestry and Water Economy
Level of subordination of Head of Forestry within the Ministry	1 st level subordination to Minister
	X 2 nd level subordination to Minister
	3 rd level subordination to Minister
	4 th or lower level subordination to Minister
Other public forest agencies at national level	Public Enterprise "Macedonian Forests"
Institution(s) responsible for forest law enforcement	Ministry for Agriculture, Forestry and Water Economy (Forestry Department)

Table 15b – Human resources

FRA 2010 Category	Human resources within public forest institutions					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Total staff	150	n.a	153	7	159	8
...of which with university degree or equivalent	n.a	n.a	74	7	86	8

Notes:

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

15.3 Comments to Table T15

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Minister responsible for forest policy formulation		
Level of subordination of Head of Forestry within the Ministry	1 st level subordination to Minister is the State Advisor for Forestry	
Other public forest agencies at national level	The Public Enterprise "Macedonian Forests" was created by the Government in 1998 and is responsible for managing the state owned forests.	
Institution(s) responsible for forest law enforcement		
Human resources within public forest institutions		

Other general comments to the table

16 Table T16 – Education and research

16.1 FRA 2010 Categories and definitions

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

16.2 National data

16.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Archive Office of the Forestry Faculty, 2007/08	H	Master's degree (MSc) or equivalent	2000, 2005, 2008	University Year (October to end of June)
Archive Office of the Forestry Faculty, 2007/08	H	Bachelor's degree (BSc) or equivalent	2000, 2005, 2008	University Year (October to end of June)
		Technician certificate or diploma		n.a.

16.3 Data for Table T16

FRA 2010 Category	Graduation ¹⁾ of students in forest-related education					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Master's degree (MSc) or equivalent	5	0	3	33	2	0
Bachelor's degree (BSc) or equivalent	39	23	51	41	84	40
Forest technician certificate / diploma	n.a	n.a	n.a	n.a	n.a	n.a
FRA 2010 Category	Professionals working in publicly funded forest research centres ²⁾					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Doctor's degree (PhD)	n.a	n.a	n.a	n.a	35	20
Master's degree (MSc) or equivalent	n.a	n.a	n.a	n.a	2	50
Bachelor's degree (BSc) or equivalent	n.a	n.a	n.a	n.a	3	67

Notes:

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

16.4 Comments to Table T16

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Graduation of students in forest-related education		
Professionals working in public forest research centres	2007/08	There are two forestry Institutes, which are working as a part of the Forestry Faculty-Skopje.

Other general comments to the table

17 Table T17 – Public revenue collection and expenditure

17.1 FRA 2010 Categories and definitions

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

17.2 National data

17.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Yearly financial report, PEMF	H	Forest revenue	2000 2005	

17.2.2 Classification and definitions

National class	Definition
Forest revenue	All government revenue collected from the domestic production and trade of forest products and services. For this purpose, forest products include: roundwood; sawnwood; wood-based panels

17.3 Data for Table T17

Table 17a - Forest revenues

FRA 2010 Categories	Revenues (1000 local currency)	
	2000	2005
Forest revenue	2231616	2037195

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

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

Comments to Table T17

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

Other general comments to the table