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Illegal Logging in SEE and EE (Governance, Implementation and Enforcement)

Illegal logging activities in the Former Yugoslav Republic of Macedonia

A. FACT-FINDING STUDY

**Skopje
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List of acronyms

UN	United Nations
PE	Public Enterprise
SEE	South-Eastern Europe
NSSD	National Strategy for Sustainable Development
ENA	Europe and North Asia
FYRoM	Former Yugoslav Republic of Macedonia
EU	European Union
NGO	Non-Governmental Organizations
WB	World Bank
MAFWM	Ministry of Agriculture, Forestry and Water Management
FP	Forestry Police
MoEPP	Ministry of Environment and Physical Planning
WI	Wood Industry
SNV	Dutch Agency for development
SIDA	Swedish International Development Cooperation Agency
FAO	Food and Agriculture Organization
NAOPF	National Association of Owners of Private Forests

Illegal logging involves transnational organized crime, breakdowns in institutional controls and ineffective institutions and can increase tensions across borders and with the international community. The effects of illegal logging are wide ranging: loss of habitat and biodiversity to erosion and land degradation, desertification and climate change to social disruption and economic impacts. Illegal logging also resolves in erosion and degradation of river basins and water quality.

The project “Illegal Logging in SEE and EE: Governance, Implementation and Enforcement” implemented under the ENVSEC initiative, aims to investigate the situation, in order to identify concrete actions to be taken by key responsible actors to close the law, policy, implementation and enforcement gaps in order to sharply reduce or eliminate illegal logging in South-Eastern Eastern Europe.

The project focusing on South Eastern Europe is financed by the Federal Government of Belgium under the ENVSEC Initiative.

The current report is providing an overview of the state of play of the forestry sector, as regards the scope and extent of illegal logging activities in the Former Yugoslav Republic of Macedonia.

1. INTRODUCTION

1.1. Overview of the country's Forests

Forests are one of the most valuable parts of an ecosystem. Their capability of improving general life conditions makes them worthy of taking special position in the global concept of environmental protection.

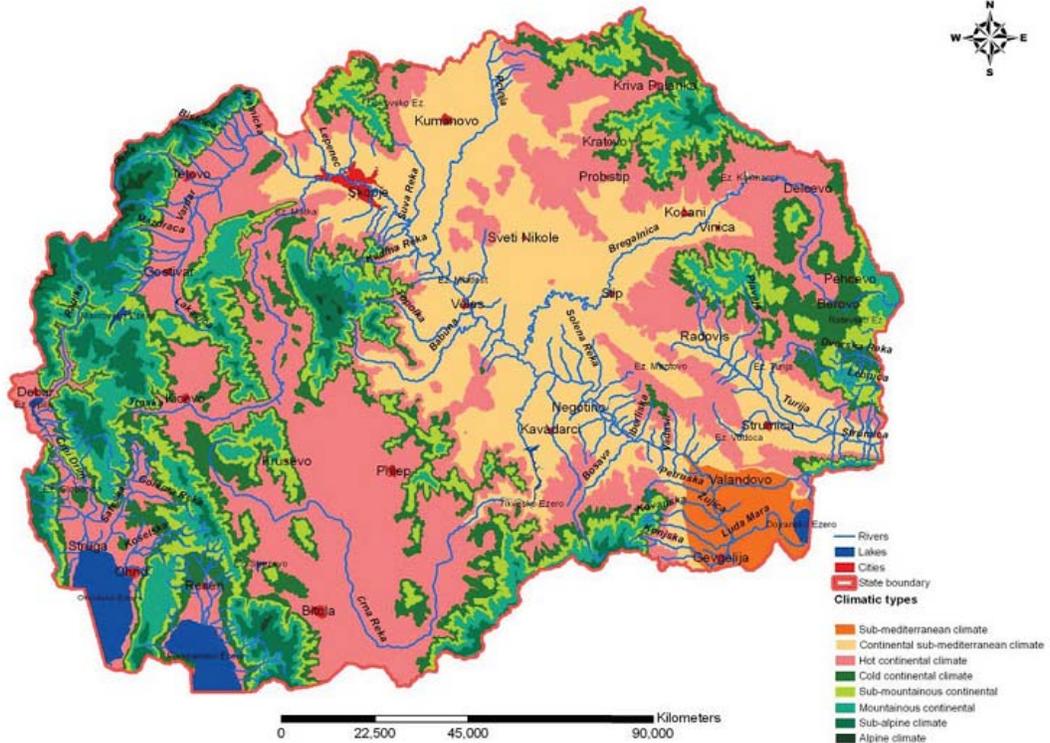
Wood stealing, uncontrolled logging, diseases and massive fires are just some of the problems faced by Macedonian forests. Continuous and organised action against the perpetrators of the nature is needed. Problems of the Macedonian forests are global too. In all parts of the world same dangers are lurking.

According to many parameters and criteria, the forests are most important natural resources on Earth for system maintenance and renewal of basic natural resources (water, soil, and air). They are inevitable for survival of flora and fauna. Evolutionary development of the soil and the cycle of renewal of water and air are in indissolubly relation with the vegetation, especially with the forests. Water regime and regime of the erosive sediments, i.e. degradation and destruction of surface soil layer is in proportional relationship with forestation and deforestation.

1.1.1. Area and state of forests in the Former Yugoslav Republic of Macedonia

The Former Yugoslav Republic of Macedonia is located in the central part of the Balkan Peninsula. It is landlocked country having an area of 25 713 km² (2 543 200 ha).

Approximately 80% of the entire territory is hilly and mountainous regions. Although the country is small in area, it shows great diversity of geological formations, climate, relief forms, soils and flora. As a result of the heterogeneity of natural conditions, the territory of the country can be distributed in eight climate - soil - vegetation zones. About 56% of the territory belongs to two zones (continental sub Mediterranean and warm continental).



Map of climate zones in Macedonia (source: Second national plan for climate change; MoEPP, 2008)

The dendroflora of RM consists of 319 species of trees and bushes, with over 80 subspecies and varieties within 119 genus and 54 families. 16% of total numbers of species are balcanic endemits or subendemits. Forest trees and bushes form 81 forest fitocenosis in frames of 31 covenant, 11 genus and 6 classes.

The total forest land in the FYRoM is 11 596 km² (1 159 600 ha) out of which forests are 947 653 ha (45, 1%). The total wood mass is 74 343 000 m³ and the total annual increase is 1 830 000 m³ and the average annual increase in one hectare is 2, 02 m³. More than 140 000 ha of bare lands were planted with the help of the Afforestation Fund (the Afforestation Fund was active in the period 1965 - 1990 and was one of the institutions responsible for the afforestation in the country, at that time Socialist Republic of Macedonia) and an increase of the total afforested area with index 1, 6 was achieved.

The following data derives from State Statistical Office of the FYRoM; Forestry 2000-2007, Statistical Review 5.4.8.02 /590. Data for forestry statistics are gathered through regular statistical surveys. The data in the reports are based on accounting and other records. Reports on the state and private forests are provided from the public forestry enterprises "Macedonian Forests" and National Parks.

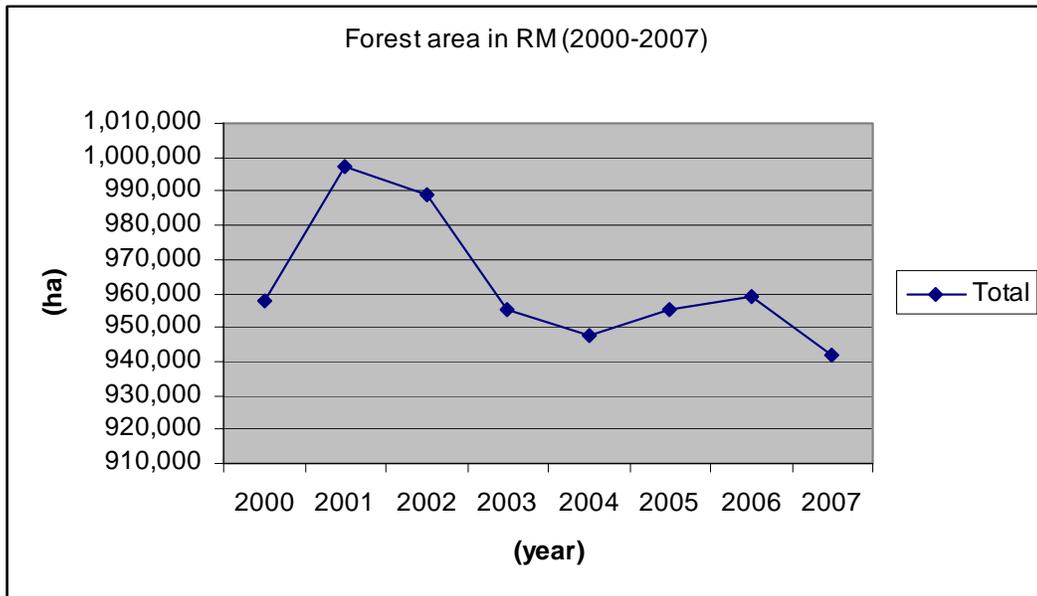
FOREST AREA - FOREST BY SPECIES								
in hectares								
	2000	2001	2002	2003	2004	2005	2006	2007
Total	957	997	989	955	947	955	959	941
	550	374	046	294	653	228	259	969
Pure tree stands of broadleaved	551	578	569	539	553	555	560	551
	088	151	156	666	456	495	389	681

FORMER YUGOSLAV REPUBLIC OF MACEDONIA

trees								
Beech	234 277	242 922	244 708	224 767	233 191	232 644	235 311	231 361
Oaks (all)	278 348	294 585	284 463	276 467	281 302	284 253	284 587	279 624
Other hard broadleaved	34 473	36 171	35 683	33 387	33 916	34 224	35 971	36 176
Poplar	480	718	480	1200	1200	457	480	480
Other soft broadleaved	3 510	3 755	3 822	3 845	3 847	3 917	4 040	4 040
Pure tree stands of conifers	76 546	78 004	83 239	109 454	85 104	83 665	87 569	80 009
Spuca	1 442	1 447	1 388	1 399	1 481	1 419	1 466	1 612
Fir	2 870	2 967	2 826	3 015	3 086	3 148	3 278	3 805
Black pine	58 692	59 242	61 750	73 034	61 599	61 795	64 971	58 172
Scots pine	7 728	8 528	9 726	10 615	12 618	10 019	10 259	8 973
Other conifers	9 483	5 820	7 549	21 391	6 320	7 284	7 595	7 447
Mixed tree stands of broad-leaved trees	265 889	276 248	271 063	239 905	242 653	251 006	248 439	245 768
Beech, oaks, other broad-leaved	29 283	33 379	31 026	30 674	31 214	31 768	31 406	31 322
Beech-other broadleaved	24 684	30 506	30 427	23 728	24 052	23 677	22 009	22 009
Oaks-other broadleaved	187 891	184 147	184 705	157 616	159 302	168 339	169 123	166 498
Other broad-leaved	24 031	28 216	24 905	27 887	28 085	27 222	25 901	25 939
Mixed tree stands of Conifers	6 626	6 515	6 949	6 389	6 394	5 161	6 383	7 293
Spuca-fir	323	269	256	295	296	295	242	246
Black pine, scots pine	2 634	2 675	2 564	2 609	2 612	1 316	2 654	3 034
Other conifers	9 483	3 571	4 129	3 485	3 486	3 550	3 487	4 013
Mixed tree stands of broad-leaved trees and conifers	57 401	58 456	58 639	59 880	60 046	59 901	56 479	57 218
Beech, spuca, fir	10 699	10 669	10 665	10 660	10 656	10 682	10 693	10 712
Black pine, scot pine other conifers	2 135	2 132	2 121	2 656	2 781	2 656	2 787	6 003
Other broad-leaved	44 567	45 655	45 853	46 564	46 609	46 563	42 999	40 503

and coniferes trees								
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At the graphic below are shown the variations of the total forest area in the FYRoM in the period 2000-2007. In 2007 the area under forest is the lowest. Among the forest species, pure tree stands of oaks has the most average % of 29, 39; second are pure stands of beech - 24, 39%; followed by mixed tree stands of oaks and other broadleaved with 17, 87% etc. The least (above 1%) is mixed tree stands of broad-leaved trees and conifers (beech, spuca, fir) with 1, 1%. The pure stands of oaks and beeches in the period 2000-2007 have average participation in the forest area of 53, 78%. The domination of the forests under broadleaved species is more than obvious.

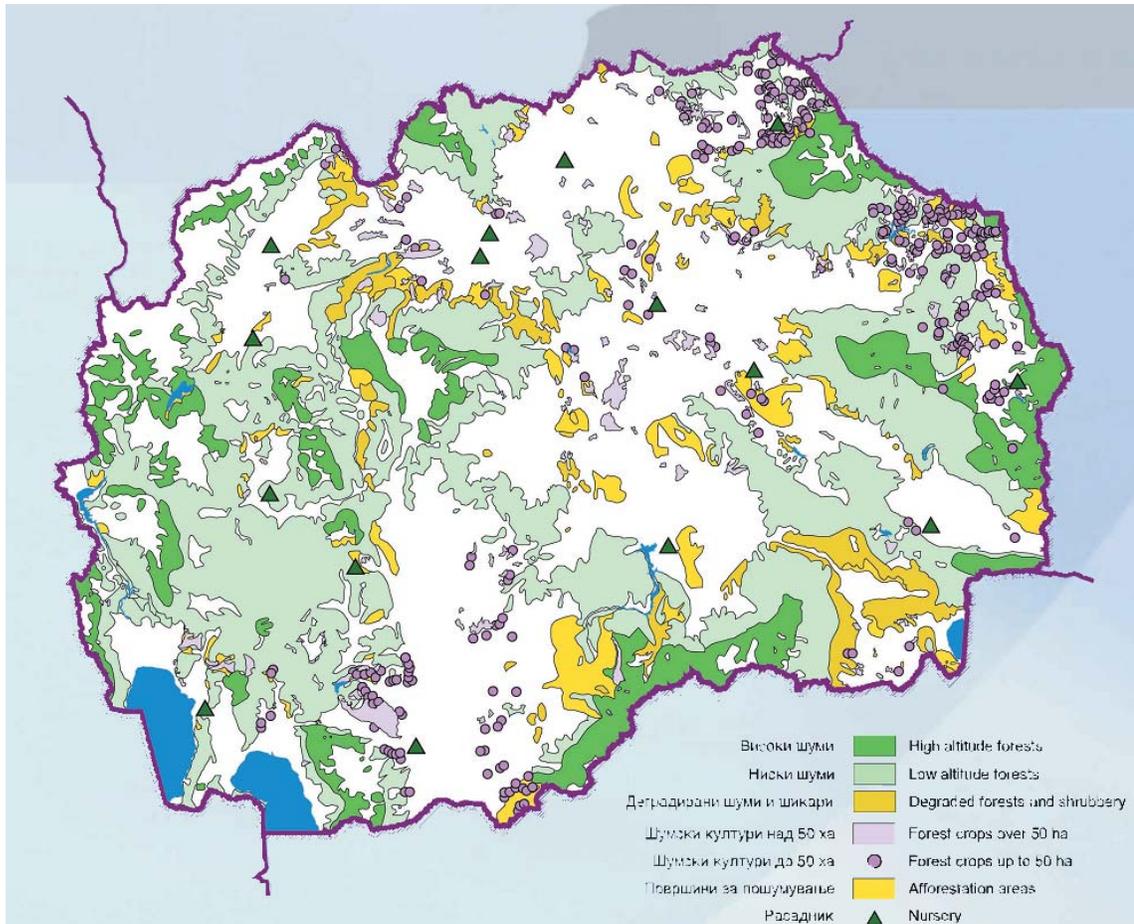


The planned annual available cut (the planned and allowable rate of timber harvest from a specified area of land in accordance to the forestry management plans) in the FYRoM in the last ten years is about 1 300 000 m³, out of which around 70% (68%) is used. From the produced special forest products (different wood products in the forest – fire wood, pulpwood, small round wood, round wood), 74, 25% is firewood (fuel wood).

Timber harvested in and outside of forest								
000m ³								
	2000	2001	2002	2003	2004	2005	2006	2007
Total gross volume	1148	792	810	930	845	821	902	829
State property	923	644	657	764	724	682	717	688
Forests in private property	225	148	153	166	121	139	185	141
Commercial timber	171	116	133	142	141	158	162	169
Fuel wood	875	610	602	709	642	600	662	583
Scraps	102	66	75	79	62	63	78	77

*(the data is from State Statistical Office)

According to the Spatial Plan of the FYRoM, in the below picture is shown dissemination of types of forests. The most of the territory of the FYRoM is covered with low altitude forests.



Projections of forests according to the breeding form in year 2020						
	Area		Wood mass		Growth	
	ha	%	m ³	m ³ /ha	m ³	m ³ /ha
Tall-growing trees	465 000	44, 7	91 279 000	196, 3	2 076 160	4, 75
Low-growing trees	499 000	48, 0	24 451 000	49, 0	973 600	1, 95
Others	75 560	7, 3	770 000	10, 2	38 540	0, 51
Total	1 039 560	100, 0	116 500 000		3 088 300	

This table is projection of forest according to breeding form in the year 2020, according to the Spatial Plan of the FYRoM.

The data from special plans for management of forests for commercial use (state in 2008), show that the total forest cover of the Republic of Macedonia is 1 091 857, 59 ha, out of which 835 055, 82 ha (76, 48%) is overgrown forest area and 256 801, 77 ha (23, 52%) is not overgrown.

In the overgrown forest area there are 255 444, 74 ha (30, 39%) of high forest plantations (tall-growing trees), 546 179, 40 ha (63, 40%) of low forest plantations (low-growing trees), 14 459, 50 ha (1, 73%) forest cultures. According to the same source, the total wood mass reserve is 75 939 573 m³, or 91 m³/ha. The total annual increase is 1 616 782 m³, or 1, 93 m³/ha. The total provided cut for ten years period of time is 10 948 149 m³, or yearly provided cut is 1 094 815 m³/ha.

1.1.2. Ownership structure of forest

The status of forests is defined in article 56 of the Constitution of the Former Yugoslav Republic of Macedonia as natural resource of public interest that is placed under special protection regulated by law. The Constitution assures the right of forest ownership. All types of forests ownership are equal under the law. Also, according to the Law on Forests, article 2: the forests are in public and private ownership.

Out of the total area of the forest, state owned is 90, 14%, while their part of the total wood mass is 92, 2%. Private owned forests are 9, 86% (94 146 ha) of the total area with part of the total wood mass of 7, 8%.

The percentage of participation of state and private forests is obtained from the Statistical Yearbook of Macedonia 2004 (10.01 Forestry). The percentage of participation of private forests in total forest resources of the country in the future are expected to expand due to the process of denationalization, as well as new surveying recordings and identification of properties, where part of the dedicated agricultural land was overgrown by natural forest.

According to Article 17 of the old Law on Forests the Government of the FYRoM establishes public enterprise and the forest resources are managed by the Ministry of Agriculture, Forestry and Water Supply in coordination with the Public Enterprise "Macedonian forests".

Regarding the private forests these are managed the private owners, largely through alliance of the owners of the private forests. It is important to note cases of application of old legal solutions that negatively affect the trend of growth of privately owned forests. This concerns the Law for Using Rural Agriculture Economy Land (Official Gazette of SFRY no.12/67), in which Article 47 stipulates that if a land owner does not use the land for more than 10 years and in that period neither submits a claim for recognition of ownership, nor pay public charges, this land is transformed into state ownership.

According to the new Law on Forests ("Official Gazette of Republic of Macedonia" No 64/09), the founded Public Enterprise "Macedonian forests" is the subject that manages state forests that have commercial and protective character (Article 87). Managing the forests and forest land in protected areas is done by the subjects defined by the act of proclamation and with concordance with the Law on Forests and Law on Nature Protection. Additionally, the subjects that manage state forests must fulfill conditions for personnel, technical and financial capability, so it can provide specialized and sound performance of the work and measures of care, protection and preservation of forests, protection of biodiversity in forest ecosystem, as well as works for forest use, construction and maintenance of forest roads and other objects that belong to forest management. Subjects that manage the forests in state property are obliged to fulfill the conditions that are prescribed by the minister that runs the authority of public administration in charged for the works in the field of forestry (Article 88).

In the new Law on Forests, the management of private forests is defined in Article 92:

- 1) Activities for the private forests management is done by the owners of the private forests, private owners associations, legal and physical people that are licensed to perform forestry and professional works in concordance with the new law (Licenses for performing professional works in forestry - Article 97).
- 2) Matters concerning the protection and use of forests is done by the owners.
- 3) Professional and advisory works in private forests can be done by registered legal and physical people according to this law.
- 4) Managing private forests is done on the basis of adopted special plans for management, programmes and criteria for private forests management.
- 5) Special plans and programmes for private forests management are brought by the owners and are approved by the minister that runs the authorities of public administration in charged for the works in the field of forestry.

- 6) Implementation of the adopted special plans and programmes is done by the owners with engagement of licensed legal or physical person.
- 7) Ways and conditions for performance of specialized technical and advisory work is prescribed by the minister that runs the authorities of public administration in charged for the works in the field of forestry.

The Association of the owners of private forests is inserted in the new law, Article 93:

- 1) Owners of private forests can unite in an association of the owners of private forests.
- 2) The association of the owners of private forests can perform the following activities:
 - inform its members of programmes, procedures and opportunities for the forestry support in private sector and rural development,
 - performing of specialized-technical works in private forests,
 - representing the interests of the members of the association and
 - other forest related activities.

The following data comes from “Basic statistics in agriculture, forestry and fisheries in Republic of Macedonia in the individual sector, by municipalities; Book II”. The data in Book II is collected by the State Statistical Office within the Census of Agriculture in Republic of Macedonia, in period 1-15 July 2007. That kind of data had been collected for the first time after forty years. The data is elaborated in the table below (part of the table 25 in the Book II) and it shows the forest area in the individual households, broken down by tree species.

Forest areas										
Number of households that own forests	Total area under forests (ha)	Pure tree stands of broadleaved trees (ha)				Pure tree stands of conifers (ha)				Mixed tree stands of broad-leaved trees and conifers (ha)
		total	Oak (all types)	beach	others	total	pine	Fir	others	
56 311	50952,75	44842,63	32532,95	8579,27	3730,41	3192,64	2918,61	143,17	130,86	2917,48

The total forest area in the individual sector in 2007 represents 5,4% of the total forest area in FYRoM.

1.1.3. What is sustainable forest management?

The concept of sustainable forest management was defined in 1993 at the pan European Ministerial Conference on the protection of Forests in Europe as follows: **“the stewardship and use of forests and forests lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national and global levels, and that does not cause damage to other ecosystems.”**

Sustainable management of the forests is an obligation of the FYRoM according to the Strategy for Sustainable Development of Forestry in the FYRoM, which was approved by the Government in July 2006, in line with other relevant documents from world organizations and EU.

The forests management was systematically applied in the old Law on Forests, Article 6, paragraph 1: “Manage the forests in a way that permanently keeps their area and increases

their value, secure highest growth according to the natural conditions and keep and improve their productive and useful functions.” [Law on Forests (“Official Gazette of Republic of Macedonia” No 47/97), Law for Alteration of the Law on Forests (“Official Gazette of Republic of Macedonia” No 7/00), Law for Alteration and Supplementation of Law on Forests (“Official Gazette of Republic of Macedonia” No 89/04), Law for Alteration and Supplementation of Law on Forests (“Official Gazette of Republic of Macedonia” No 54/07), Law for Alteration and Supplementation of Law on Forests (“Official Gazette of Republic of Macedonia” No 103/08).]

In the new Law of Forests (“Official Gazette of Republic of Macedonia” No 64/09), sustainable management of the forests is defined as a purpose/goal of the new law, Article 4:

"Purposes of this law are:

- a. permanent preservation of the area under forest, to increase its value and to ensure highest growth according to the natural conditions of the place of growth and
- b. to ensure sustainable management, planning, management and protection of forests and forest land in a way and volume by which permanently maintains and improves its production capacity, biodiversity, ability for renewal and vitality in interest of present and future development of economic, environmental and social forest functions, and by that does not disturb the ecosystem."

In the new Law on Forests, sustainable management is defined in Article 12, paragraph 20: Sustainable management means managing and using forests and forest lands in the manner and extent to maintain their biodiversity, productivity, capability of regeneration, vitality and potential for meeting, now and in the future, their relevant environmental, economic and social functions on local, national and global level, in a way that does not cause damage to other ecosystems.

Sustainable management is applied in the preparation of Special plans for management of the (state) forest, where growth has to be greater than cutting, and there are sequences of measures that the manager is obliged to implement within the term of the plan. For all the above mentioned functions, the forests in state and private property are managed in a way that ensures their durability and where the broader societal interests are more important than the economic interests of individuals or other stakeholders.

For part of privately owned slots, located in the state forests where a plan is adopted including specific activities, the same measures and activities apply as for the state forests, while in slots that fall outside state forest, not subject to adopted plan or specific activities, the Decision for establishing a criteria for management with forests of which there is a right of ownership (no. 09-2764/1-26 from 12.09.1991) applies.

The Spatial Plan of the FYRoM 2004 was the only strategic document where the strategic goals for development of forests have been formulated until 2020. There is also a formulated strategy for development of agriculture, forestry and economy for the period 1995 until 2010, but has not been efficient.

There are no known inconsistencies among the legislative acts and policies. The new Law on Forests has a wider scope and regulates more than the old law. It incorporates many remarks of the private forest owners and time will show how it is practically applied. It is applicable since June 2009, but it will take some two years to develop and adopt the secondary regulations. Until the date of entering into force of the new sub - law regulations, the existing secondary regulations will apply. Proceedings commenced before the entry into force of the new Law shall be completed in accordance with the provisions of the old law.

Strategy for Sustainable development of Forestry in the FYRoM

Strategy for Sustainable Development of Forestry in the FYRoM is the national forest policy that is developed by the Ministry of Agriculture, Forestry and Water Supply in June 2006 as a result of institutional development and capacity building in the forestry and forest industry sub - sectors.

The main priority of the Strategy is sustainable development through increasing forest surface. Priority actions of the strategy are establishing the Agency for Forestry and Hunting, transformation of the PE "Macedonian forests" for increasing its competitiveness, forests certification, forming of cadastre for forests registration, purchase of 37 vehicles for extinguishing fire on forest land.

<ul style="list-style-type: none"> • First afforestation of agricultural land; 	Encouraging the activities and providing assistance for the increase of the afforestation
<ul style="list-style-type: none"> • Establishment of agroforestry systems on agricultural land; 	Enforcing tending activities and tinnings especially in young forests, as well as regeneration of degraded forest, speeding up the conversion of coppice forest into high forest and reconstruction of degraded forest
<ul style="list-style-type: none"> • First afforestation of non-agricultural land 	In the first three years after adopting the strategy - afforestation of 2 500 ha.
<ul style="list-style-type: none"> • Reforestation 	With adapted tree species in accordance with the global regionalization and local conditions
<ul style="list-style-type: none"> • Nature protection schemes for forests 	<p>Taking measures for protection and conservation of the natural forest genetic fund through:</p> <ul style="list-style-type: none"> - identification and evaluation of the natural forest gene-fund - selection of seed orchards and "plus-trees" from economically valuable forest into tree species.
<ul style="list-style-type: none"> • Restoring forestry potential and introducing prevention actions 	Purchase of field vehicles for fire fighting; melioration of degraded forest.
<ul style="list-style-type: none"> • Other 	Development of forest infrastructure

For realization of all that is predicted in the Strategy for Sustainable Development of Forestry in the FYRoM, the Government provided 15 million Euros which cover 60% of the activities predicted for realization in the following two years after adopting the strategy. Also the Strategy sets conditions for finding national and international funds to support the development of forestry and defining main directions of the law regulative from forestry sector with national interests and international obligations.

According to the Action Plan (2007-2009) of the Strategy for Sustainable Forestry, the following actions should take place in order to reflect the principles listed in the above table:

- adopting a basic plan for forest management in FYRoM,
- introduction of licensed independent institutions that will perform operations of certification of the forest, hunting grounds and the design,
- development of forestry resources in the area of planning and environmentally acceptable management,
- study of the valorization of forests,
- development of a program for the adaptation of forests to meet challenges of global climate change,
- creating and maintaining permanent internet site for the competent forestry institution,
- transparency in informing all parties of activities undertaken in the area of forestry in order to obtain suggestions and comments from the public,
- promotional campaign for raising public awareness,
- reclamation of degraded oak forest area of 450 ha,
- afforestation of 2 500 ha,

- making a study of forest tourism resources and their potential for developing on local and regional level,
- undertaking study of the impacts of forestry activities on the forest eco systems,
- carrying out a study on forest areas at risk from erosion.

The Strategy for Sustainable Development of Forestry in the Republic of Macedonia is incorporated in the new Law on Forests, Article 23:

- a. National Forestry Policy in the Republic of Macedonia is realized through the Strategy for Sustainable Development of Forestry in the Republic of Macedonia.
- b. Strategy for Sustainable Development of Forestry in the Republic of Macedonia is planning document that governs the expansion of quality and protection of forest fund in accordance with the Spatial Plan of the Republic of Macedonia, multifunctional forest management and forestry sustainable management, increasing of forests income and other related goods and services in the quality of life in rural areas, increasing of public and social functions of forests and forestry through out common strategy for development, with total valorization of its useful and social functions and raising awareness for environmental and social values of the forests.
- c. Strategy for Sustainable Development of Forestry is adopted by the Government for period of 20 years.

National Strategy for Sustainable Development (NSSD)

The National Strategy for Sustainable Development (NSSD) in the Republic of Macedonia is prepared with financial support from the Swedish Government, facilitated through the Swedish International Development Cooperation Agency (SIDA) and coordinated by the Ministry of Environment and Physical Planning (MoEPP).

The strategic objective of the NSSD is to encompass the economic, social and environmental dimensions by 2030. The project objective was to lead a participatory process of developing a National Strategy for Sustainable Development, meeting the requirements of EU-accession for the FYRoM. The FYRoM, as a member of the United Nations, is obliged to respect and implement the international agreements related to sustainable development, including Agenda 21 and conventions already adopted and entered into force pertaining to climate change, biodiversity and combating desertification. At the initiative of the Ministry of Environment and Physical Planning, a conceptual approach was prepared for the definition and implementation of a National Strategy for Sustainable Development, designed to be a starting and gathering point for several projects for identification of the factual situation, trends and possibilities, for pointing the situations and stream-lining the achieved development in the country.

The Government of the FYRoM adopted the Law on Competition, also regulating the issue of anti-trust and monopolies. The Government has taken adequate measures to stimulate foreign investment in this field, by decreasing the tariffs to the level proposed by the WTO and other international organizations and by making the national economy more transparent and open, and to increase its efficiency.

In the mainstream of the Government's policy is promotion of the private sector investment. To that end, for the purpose of investment promotion and sustainable development, the National Strategy for Sustainable Development is aimed at:

- Coordination of the governmental resources efforts in accord with the sustainable development postulates;
- Establishing unique and clear criteria for assessment of the achieved results from the aspect of achieving sustainable development;
- Defining the responsibility of the subjects that make and enforce decisions in the field of sustainable development in the FYRoM.

The National Strategy for Sustainable Development includes SWOT analysis of the forestry sector in FYRoM with defined key challenges, key goals, main goals and expected results in

the forestry sector. The analysis of the forestry sector is very good and still applicable for some sectors, given that the strategic goals should be achieved by year 2030, comprising short, medium and long term goals.

Funding activities related to sustainable environment/forestry

The basis for funding activities related to the environmental area is elaborated more closely in the Law on Environment (“Official Gazette of Republic of Macedonia” No 53/04) and the Law on Forests (especially regarding financing activities on forest reproduction).

Means for financing activities for supporting, preserving, sustainable use, protecting and improving the environment, as well as for preparing, implementing and developing programs and projects for environmental protection and improvement, are obtained/ensured from salvages/allowances from:

- 1) The payments of the juridical and physical person (as incomes of the Budget of FYRoM paid on adequate account, in frames of treasury account) that:
 - have sources that pollute the environment
 - pollute the environment by using products and substances
 - load the environment with wastes
 - are users of natural resources
 - import used products in FYRoM
 - produce or import products and goods that are harmful or contain harmful substances for the environment and nature
- 2) Means obtained from international collaboration/cooperation on programs and projects,
- 3) Donations from domestic and foreign juridical and physical persons
- 4) Foundations and gifts and
- 5) Other sources.

The forestry sector is mostly self-financed, through the sale of timber and primary wood processing. This revenue corresponds to approximately 90% of the total annual income.

For matters of simple reproduction of forests (cultivation and protection of existing forests, construction of forest roads, technical equipment for performing the work for forest protection and the plan preparation for forests management) funds are provided from the subjects that manage the forests in state property in amount of 10% of the value of cut (logged) wood.

These revenues are kept in a separate account of the subjects that manage the forests in state property, or a legal person that carries out nurturing and protection of forests for special use.

The funds for design and construction for forest roads, technical equipment for performing works for forests protection and preparation of plans for forests management can be up to 40% of the amount of the means detached for simple forest reproduction

For matters of expanded reproduction (raising new forests by afforestation of barrens and eroded lands, melioration of unproductive degraded forests, preventive care and protection of forests and forests cultures, suppression of plant diseases and pests in forests and forest cultures raised on barrens and areas that had been meliorated, provision of forest seeds and seedlings, construction of infrastructure facilities in the forest and technical equipment for implementation of forests expanded reproduction) funds provide:

- subjects that manage the forests in state in the amount of 3% of the value of timber sold,
- owners of the forests in private property in the amount of 3% of the value of timber sold,
- legal entities that carry out wood operations in the amount of 3% of the value of timber sold and these means are paid to the Budget of the Republic of Macedonia,
- State budget.

The funds are used according to the Government's annual program, in particular for:

- afforestation of barrens and eroded lands,
- amelioration of degraded forests,
- removal of forest fires consequences on area above 50 ha in the frames of one forest commercial unit through artificial renewal,
- care for forest cultures and reinstated natural forest,
- preventive measures for forests and forest cultures,
- suppression of plant diseases and pests in forests and forest cultures and on areas with carried out amelioration of degraded forests,
- provision of forest seeds and seedlings.

1.1.4. Monitoring and environmental risks regarding forestry

The definition for monitoring in the new Law of Forests, Article 12(15): "Monitoring is a system of constant following and analysis of complete condition of forests ecosystems, especially their vitality, health condition and biodiversity for taking preventive measures and protection."

In the same law, under the chapter VI MONITORING OF FORESTS, the following is stipulated:

Monitoring of forest ecosystems

Article 79

"(1) Due to the implementation of intensive and permanent monitoring of forest ecosystems, concerning the damage caused by the atmospheric impacts and other natural disasters that affect the change of the condition of forests and forest land, the authority of state administration responsible for affairs in the field of forestry adopts program of measures and activities for data collection on forests damage and establishes a register of forests damage.

(2) The program under paragraph (1) of this Article is brought for a period of two years.

(3) The program under paragraph (1) of this Article will be prepared and implemented by the University "St. Cyril and Methodius" - Skopje, Forestry Faculty - Skopje.

(4) For the preparation and implementation of the program under paragraph (1) of this Article, the minister who heads the authority of state administration responsible for affairs in the field of forestry concludes an agreement with the University "St. Cyril and Methodius" - Skopje, Forestry Faculty - Skopje.

(5) The method of data collection for forests damage, form, content and manner of conducting the register of forests damage, as well as the way of data usage is provided by the minister who heads the authority of state administration responsible for affairs in the field of forestry."

Monitoring of forest fires

Article 80

"(1) Due to improved monitoring of forest fires, prevention, causes and factors, type and size of fire, participants and costs for extinguishing, caused damage, in the organ of state administration responsible for affairs in the field of forestry will establish and lead Single information system and register of forest fires.

(2) Entities that manage the forests are obliged to collect data on forest fires and within 8 (eight) days from the eruption of the fire to inform the authority of state administration responsible for affairs in the field of forestry.

(3) The authority of the state administration responsible for affairs in the field of forestry, the data collected under paragraph (2) of this Article will be submitted to the domestic and international bodies and institutions upon their request.

(4) The method of data collection, conducting the register of forest fires and conditions for data usage is provided by the Minister that heads the authority of state administration responsible for affairs in the field of forestry."

Entities that manage the forests are required, depending on the degree of threat to the woods, to take special measures for fire protection (making the average cut in the forest, raising the deciduous belts of trees in conifer forests, setting observatories, organization of monitoring, reporting, Firefighters department, etc.). The Minister for Agriculture, Forestry and Water Supply in accordance with the Minister of Interior Affairs will take further specific measures to protect forests from fires.

Entities that manage the forests, in accordance with Ministry for Agriculture, Forestry and Water Supply can order entire or partial ban for movement in the forest in times of increased danger from forest fires. The ban is announced in the media.

In terms of forest protection (including abiotic and biotic nature), forest fires causes the greatest damage to natural ecosystems. They spread with great speed, especially in the conifer forests and have large consequences in relatively short time. According to professional and legal classification, forest fires are in the category of fires in open space, classified as natural disasters and are the most dangerous and harmful. The forest fires are caused either naturally (from thunders etc.), deliberately, by negligence or in other undefined ways. The official indicators show that 10% are deliberately caused, 65% are a cause of negligence, 2% are due to natural factors and for almost 25% the cause can not be determined.

Occurrence of fires is determined by several factors among, foremostly the climatic conditions, species of forest trees, the human factor and applicable legislation. The factors having negative influence upon forests are negative factors. The damages in the forests can be of different origin; and be different due to damage, type and size. In the opinion of many authors the main reason for the biggest volume/extent of damages caused by forest fires is human activities and this is also the case in the FYRoM, Many forest fires start from agricultural areas, with deliberate incognition of fires. Although incognition of fires is forbidden by law, it is regular and not subject to sufficient and deterrent sanctions. The motives for deliberate incognition include:

- dissatisfaction with the institutions of the system,
- obtaining personal gains,
- socio-economic condition of the population,
- expanding the boundaries of meadows, pastures and fields,
- destruction of weeds,
- cleaning the pastures of juniper and other shrubs,
- political nature,
- conversion of land for urban and other purposes,
- destruction of certain tourist centers and other objects and capacities (modern form of terrorism) and others.

There are various preventive and repressive measures to prevent or reduce the number of forest fires. The preventive measures are mainly of educational and propaganda nature, aiming to reduce the number of forest fires and to raise awareness among the population and other target groups. According to the character and the manner of implementation of these measures, they can be systemized as: legal, educational and informative-propaganda measures. Total prevention from forest fires cannot be achieved and they cannot protect the forest system fully. For that reason repressive measures are needed to be foreseen. . Repressive measures are cheaper way for maintenance of systematical preparations than unprepared to wait for fires to occur. The Rulebook for special measures for forest fires protection is adopted and forest managing entities have to develop special operative plans for forest fires protection, which is subject to annual updates.

Damages from forest fires can be divided into two main categories:

- 1) damages to forests (direct economic nature)
 - completely destroyed or worth lost wood mass,
 - lost or reduced forest growth,
 - destroyed and worth lost biodiversity,

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- destroyed other forest products,
 - wholly or partially burned - destroyed objects (houses, cottages, infrastructure),
 - costs for deployed resources, equipment and people for equistinguishing fires,
 - lost regular income from production,
 - lost human lives etc.
- 2) damages to ecological - useful functions (indirect economic nature)
- reduced production of oxygen and increased air pollution,
 - accelerated local and global climate change,
 - accelerated process of global warming,
 - extension of areas under deserts and semi deserts,
 - worsen and disturbed regime of erosive sediments,
 - rapid filling with erosive material of natural and artificial reservoirs, open and closed water distribution systems,
 - increased mechanical water pollution,
 - loss of agricultural land,
 - total or partial degraded soil etc.

For relevant determination of the value of damage caused by the forest fires, first every forest useful function's value and damage should be determined.

Every branch of the PE "Macedonian forests" has in place observatories with trained and equipped personnel for initial alerting the special fire fighters disseminated in special departments of the PE. Where they detect fires, they alert the special departments of the branches and specialised equipped personnel go onto the field to localise the fire. The special department gives notice to the fire departments as a part of local government, as well as the regional fire department, if the fire is of wider range. If the fire can not be localised, the responsible authorities are notified, such as the Directorate for Protection and Rescue, Centre for Crisis Management and General Headquarters of the Military for aircraft usage for extinguishing fire.

There were 2 434 forest fires in the period of 1998-2007 in the territory of the 30 branches of the PE "Macedonian forests" that for the same time cover all the national territory. In that period the total burnt forest area was 96 204 ha and damaged wood mass 1 141 892 m³. The total cost of the damage amounted to 30 812 366 EUR. This did not include the potential damages from declined production capability of the damaged crops and trees, damages caused to the other animal life, distortion of the land structure, damages that would be caused by secondary causers (harmful insects, plant diseases), as well as the damages from compromised and disturbed numerous useful functions. That means that total and potential harmful consequences can be many times higher than previously determined.

year		Months												total
		jan	feb	mar	apr	may	june	july	aug	sept	oct	nov	dec	
1998	N°of fires	2	3	30	51	1	1	16	41	3	2	1	0	151
	Area (ha)	11	3	139	164 9.7	20	10.5	198. 7	600. 8	126	91	9	0	285 8.7
	Wood mass (m ³)	0	0	237	184 33	0	40	438 2	272 4	288	0	0	0	261 04
1999	N°of fires	0	2	0	4	2	8	16	33	6	12	5	2	90
	Area (ha)	0	4.2	0	9.1	2	20.7	227. 5	909. 8	41.5	175	71.2	4	146 5

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	Wood mass (m ³)	0	45	0	76	0	43	530	277 4	210	152 7	255	227	568 7
2000	N°of fires	0	5	28	36	11	19	105	137	37	4	13	3	398
	Area (ha)	0	105. 5	987. 4	342. 5	46.5	100 4.8	818 1	160 32.4	350 1.5	82	263 3.3	22	329 38.9
	Wood mass (m ³)	0	500	267 1	229 2	791	631	777 85	427 561	113 06	60	150 06	0	562 303
2001	N°of fires	2	7	65	24	6	13	34	43	10	29	21	1	255
	Area (ha)	0	51	576. 7	233. 1	11	42.5	307 5.3	134 3.3	479. 2	137 8.2	118. 5	3	731 1.8
	Wood mass (m ³)	0	0	485 0	166	250	220	465 50	173 89	355	142 24	447	0	844 51
2002	N°of fires	0	15	46	19	3	8	13	1	0	5	11	0	121
	Area (ha)	0	198	634. 5	54	5	82.9	466. 3	10	0	56	219. 5	0	172 6.2
	Wood mass (m ³)	0	75	734 8	108	0	529	645	0	0	350	90	0	914 5
2003	N°of fires	0	1	31	12	16	1	42	66	14	4	1	5	193
	Area (ha)	0	4	231. 6	49.1	97.5	2	898. 45	627. 5	36	70.6	200	65	228 1.75
	Wood mass (m ³)	0	100	163 0	960	153 4.5	0	275	839 6	537	509	0	138 6	153 27.5
2004	N°of fires	1	13	42	23	0	0	6	28	35	8	5	0	161
	Area (ha)	6	199. 2	352	290	0	0	94	304. 5	318. 2	387. 8	82.5	0	203 4.2
	Wood mass (m ³)	0	15	128 2	421 7	0	0	0	202 1	215	731 0	70	0	151 30
2005	N°of fires	16	4	56	88	22	8	19	15	8	9	15	0	260
	Area (ha)	152	14.5	745. 9	128 0.1	59	75	213. 8	38	62.1	105. 1	615	0	336 0.5
	Wood mass (m ³)	381	9	84	250 1	143	200	203 7	63	0	182 0	75	0	336 0.5
2006	N°of fires	4	5	20	28	8	6	10	33	46	1	18	6	185
	Area (ha)	34	108	160	173. 7	51	28	141	529. 5	108 6.8	2	632	119	306 5
	Wood mass (m ³)	60	0	238	18	63	49	748	149 8	174 33	0	321 0	200	235 17
2007	N°of	87	6	133	127	13	14	167	48	17	8	0	0	620

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	fires													
	Area (ha)	113 4.7	21	301 4.1	219 3.45	507. 1	388	278 64.9	257 0.8	657	811	0	0	391 62.1
	Wood mass (m ³)	660 9	1	810 4	870 0	132 87	451 8	316 657	336 87	536	815	0	0	392 914
2008	N°of fires	112	61	451	412	82	78	428	445	176	82	90	17	243 4
	Area (ha)	133 8	708	684 1	627 5	799	165 4	413 61	229 67	630 8	315 9	458 1	213	962 04
	Wood mass (m ³)	705 0	745	501 44	374 71	160 69	623 0	449 609	496 113	308 80	266 215	191 53	181 3	114 189 2

The year of 2000 and 2007 were extreme were subject to several natural disasters in terms of the quantity and extent (volume of the damages caused) of forest fires. From the data analysis, most fires had occurred in July and August, with 37,4% of the total fires in that period and with 84,5% of the total damaged wood mass in the ten years period. The months of March and April have 37% of the occurred fires but with 7,8% of the total burned wood mass. Special analyses are needed to determine the real reasons and factors that caused such extreme and catastrophic events.

The early warning systems are not provided with sufficient resources. The satellite tracing of the forest fires is made by Hydrometeorological Service and it is in function since May 2009. In the department of meteorology, the division of agrometeorology carries out (among the other activities) activities related to: - working out phonological forecasts and forest fire forecast, - working out agrometeorological forecasts on occurrence of natural disasters, warnings, advices and recommendation for their mitigation, - working out agrometeorological forecasts and information on diseases caused by pests attacking cultivated plants and forecast on yield.

The entities that manage the forests are in need of their own gear for satellite tracking of forest fires. Also there is a need of new equipment and modernization of the gear required for tracking the forest space, e.g. new and sophisticated binoculars, radio connection for reporting of fires occurred etc., new software for making data base for better usage of the data. Planes for following the situation when fires of bigger scale occur and extinguishing fire are going to be purchased by the Government and new three planes are going to be part of the team that will fight the new fires of big scale.

The country has developed a system for local and regional notification system covering forestry. It is based on alarm through the Ministries of Foreign Affairs to the entities responsible for fire fighting, and putting into operation all means for extinguishing fires, as well as material means and human resources. The country has great cooperation with the neighboring countries for mutual help in fire fighting, especially with Greece (which contributed with airplanes for extinguishing fire), Albania, Bulgaria, Serbia, Croatia, and Slovenia, mostly countries of Western Balkan.

1.1.5. Economic value of the forest resources

Among the multiple important functions that the forest resources fulfil is the economic function.

In the FYRoM the annual fire wood demand is around 800 000 – 900 000 m³ and the demand is mostly satisfied with the production of firewood from the forests in state and private

property. The wood industry processes around 100 000 – 120 000 m³ wood that comes from the forests of FYRoM.

According to the statistic data for export – import for 2004, the import of wood products is bigger for 50 million EUR than the export. The biggest part of the import comes from plywood, coniferous lumber, carpentry and parquet.

Part of the deficit of domestic products which are covered by imports is due to the closure of former production facilities from forest industry, and part is due to the deficit in resources that Macedonia has in technical wood from coniferous tree species. Only 4-5% of forests are clean coniferous plantations and 4-5% is the participation of conifers in mixed plantations.

The production of firewood and technical wood requires engagement of manpower for logging, supplying and transporting and revenues covering their income. Most of these people are residents of the villages in the mountainous regions.

Other economic potential of forest products include: herbs, fruits, mushrooms and game. Each year part of the population is collecting forest products and uses them for themselves or sells them on the market. Some 50 species of mushrooms are collected, and the annual export amounts to around 320 tones, translating to a value of about 2 million dollars. From teas and spices are exported annually about 1100 tons with a value of approximately 1, 3 million EUR. Redemption and export have been performed by several companies (Alkaloid Bilka, Jaka, Coro and others).

From the wild fruits and fruit may be mentioned the blueberry which in 2001 was exported in quantity of 83 tons and worth 76 786 EUR . Chestnut is collected in the amount of 250 tons per year. This includes hawthorn, raspberry, blackberry, cornel cherry and blackthorn. Recently are requested and wild apple, pear, cherry, sour cherry as additives in fruit teas. (Source: Strategy for Biodiversity of FYRoM)

In recent times with increasing importance for the development of rural areas is the village and mountain tourism. Population living near forest areas has the opportunity to participate in this type of tourism through the provision of services to tourists who want to stay in the woods. For tourists who want beautiful natural landscapes, local population provides services consisting of: keeping the tourists along the walking trails, providing accommodation to tourists, preparing traditional dishes, etc. In some parts of the country, as Galichnik, Berovo, Brajčino (Prespa), there is already this type of tourism, in other parts this is under development.

As the economic potential of forests in private ownership is concerned, it depends on the size of the area, state of forest, growth, etc. Forests that have the potential to produce a technical wood weight have a greater economic potential for the owner. These forests typically have higher ongoing growth of coppice forests (over 4m³/ha). Coppice forests have lower ongoing growth (1 to 2 m³/ha) and having regard to the average size of forest areas in the country, the firewood is normally used by the owners for personal needs. Certainly the potential of the forest depends on other factors: the type of wood, the quality of the crop, field conditions, openness to roads, closeness to the market and so on.

Economic aspect of forestry sector

Forestry in the FYRoM is an economy sector participation to the Gross Domestic Product with 0, 3 – 0, 5%. If the multifunction uses are valorised, the contribution of the forestry is much bigger. The forest industry's contribution (paper and celluloses, primary and secondary wood processing, furniture etc.) is 2, 5 – 3%.

The following table is a part of table published in Statistical Review: National Economy and Finance; 3.4.9.02/613, Skopje 2009. It is Gross Domestic Product at previous year prices (for the years: 2005, 2006 and 2007) in Euros.

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GDP at previous year prices by economic activity in million EUR			
	2005	2006	2007
Forestry, logging and related service activities	12, 3	12, 7	15, 7
Manufacture of wood and products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	10, 4	14, 2	12, 2
Manufacture of pulp, paper and paper products	8, 9	11, 4	14, 5

As far as the employment is considered, the number of people that are employed in the forestry sector is following (the data is from State Statistical Office):

Overview of employees in forestry								
year	2000	2001	2002	2003	2004	2005	2006	2007
Employees in forestry	3006	2680	2980	2376	2250	2184	2242	2250

The information about the **export of timber** in the country is given in the table below (the data is from State Statistical Office):

A general overview of forest development								
year	2000	2001	2002	2003	2004	2005	2006	2007
Export in EUR	6027117	7416612	9512541	1823534	1493860	1419821	1596238	1964316

According to information from Economic Chamber of FYRoM for the year 2007, 0.83% of total export in the country derives from export of wood and wooden products, or 23 482 740 EUR. Total import of wood and articles of wood is 35 818 701 EUR. The deficit is 12 335 961 EUR.

The following tables are from the Report on Foreign Trade of Macedonia 2009 [Project for the business environment of USAID], translated into Euros for the export – import of Workmanships from wood and cork, Paper and workmanship of paper, Workmanship of caoutchouc, Wood, timber and cork, Cellulose and waste paper and Raw caoutchouc; for the period 2000-2008.

Export of semi products from Republic of Macedonia 2000-2008 (in million EUR)									
	2000	2001	2002	2003	2004	2005	2006	2007	2008
Workmanships from wood and cork	2, 4	0, 7	0, 8	1, 1	2, 1	2, 8	4, 4	8, 5	9, 3
Paper and workmanship of paper	6, 2	5, 1	5, 4	7, 0	8, 6	9, 6	12, 5	23, 6	22, 6
Workmanship of caoutchouc	1, 1	0, 9	0, 7	0, 2	0, 6	0, 5	0, 5	0, 8	1, 2

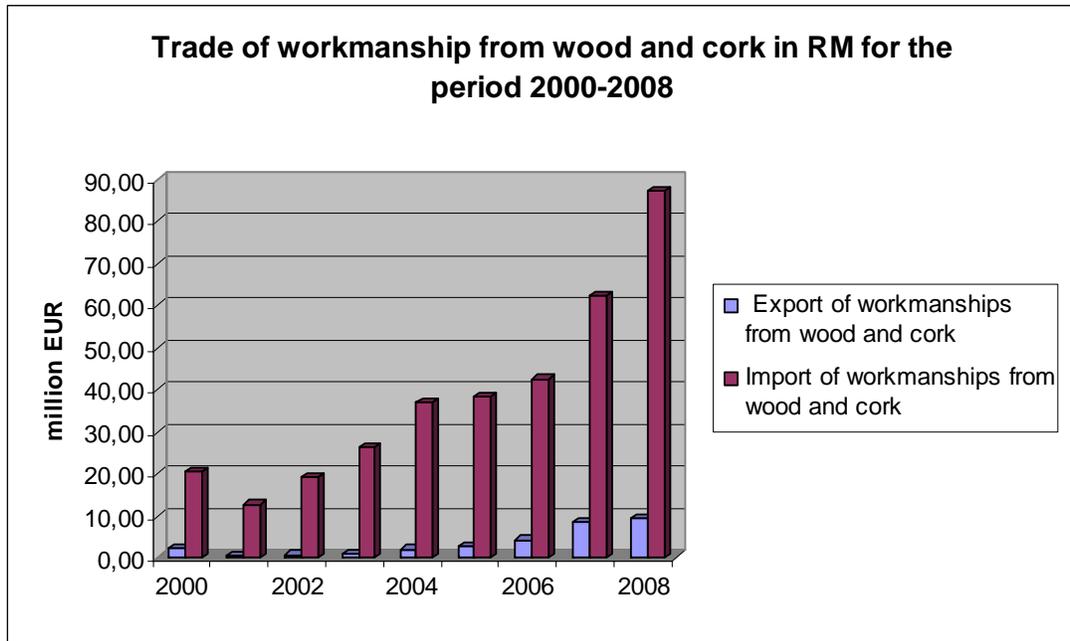
Import of semi products to Republic of Macedonia 2000-2008 (in million EUR)									
	2000	2001	2002	2003	2004	2005	2006	2007	2008
Workmanships from wood and cork	20, 5	12, 8	19, 1	26, 5	37, 1	38, 3	42, 5	62, 2	87, 2
Paper and workmanship of paper	42, 3	37, 0	47, 5	65, 8	91, 0	95, 0	104, 3	143, 2	193, 5
Workmanship of caoutchouc	15, 9	11, 5	16, 2	22, 8	31, 6	34, 4	36, 0	51, 1	63, 0

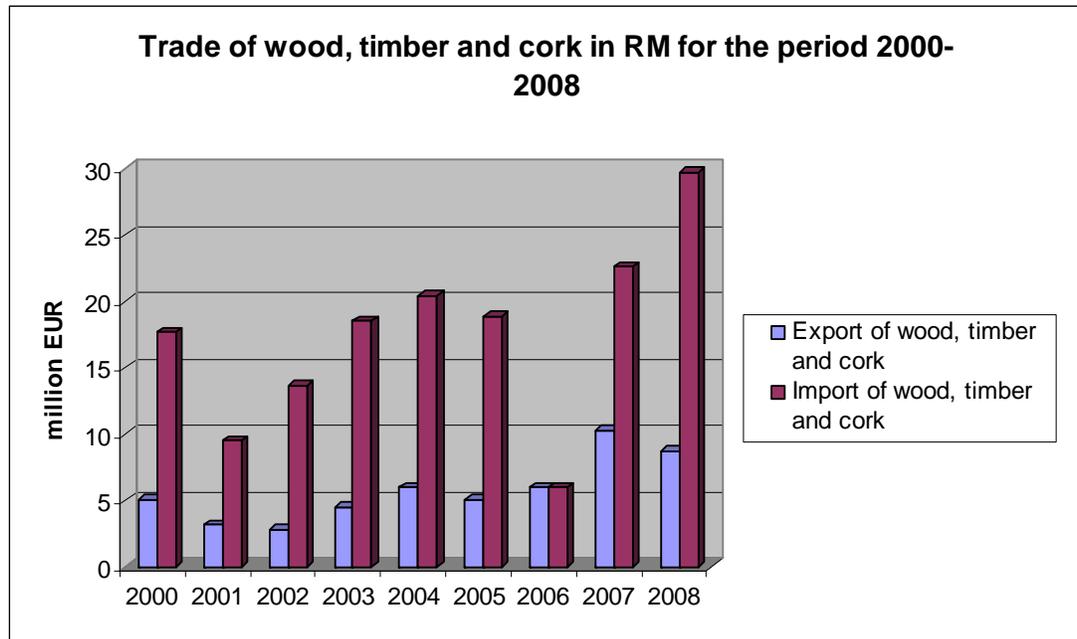
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Export of agricultural raw materials from Republic of Macedonia 2000-2008 (in million EUR)									
	2000	2001	2002	2003	2004	2005	2006	2007	2008
Wood, timber and cork	5, 1	3, 2	2, 8	4, 5	6, 0	5, 1	6, 0	10, 3	8, 7
Cellulose and waste paper	0, 2	0, 1	0	0, 1	0, 8	0, 8	0, 5	0, 9	0, 9
Raw caoutchouc	0	0	0	0	0	0	0	0	0, 04

Import of agricultural raw materials from Republic of Macedonia 2000-2008 (in million EUR)									
	2000	2001	2002	2003	2004	2005	2006	2007	2008
Wood, timber and cork	17, 7	9, 5	13, 7	18, 5	20, 4	18, 9	6, 0	22, 6	29, 7
Cellulose and waste paper	1, 6	1, 1	0, 4	0, 6	0, 4	0, 5	0, 5	3, 7	1, 03
Raw caoutchouc	1, 1	1, 1	1, 1	1, 2	2, 0	1, 6	0	1, 5	2, 9

The below charts cover selected semi products of wood and cork, as well as raw materials of wood, timber and cork which are closest linked to the economic value of the forestry sector and comparing the values of the export and the import.





In the period of 2000 – 2008, the export and import of the shown semi products and agricultural raw materials shows variations through out the years. What is evident is that the import exceeds the export for the whole period.

1.2. Forestry organization management

The Government of the FYRoM manages – administrates the forests and forestlands of state ownership through the following institutions:

- Ministry of Agriculture, Forestry and Water Supply;
- Ministry of Environment and Physical Planning;
- Public Enterprise “Macedonian Forests”;
- National Parks and Hunting grounds;
- Public Enterprise “Jasen

1.2.1. The Ministry of Agriculture, Forestry and Water Supply

The Ministry of Agriculture, Forestry and Water Supply performs activities related to:

- agriculture, forestry and water supply,
- utilization of agricultural land, forests and other natural treasures,
- hunting and fishing,
- protection of cattle and plants from diseases and pests,
- observing and studying the situation with waters, maintenance and improvement of the water regime,
- hydromeliorative systems,
- hydrological, agro-meteorological measuring, as well as anti-hail protection,
- studying and researching of meteorological, hydrological and bio-metrological occurrences and processes,
- supervision within competence and
- performs other activities stipulated by the law.

There are 33 regional offices of the Ministry of Agriculture, Forestry and Water Supply: Berovo, Bitola, Makedonski Brod, Valandovo, Vinica, Gevgelija, Gostivar, Debar, Delchevo,

Demir Hisar, Kavadarci, Kochani, Kichevo, Kratovo, Kriva Palanka, Krushevo, Kumanovo, Negotino, Ohrid, Prilep, Probishtip, Radovish, Resen, Sveti Nikole, Struga, Strumica, Tetovo, Veles, Shtip, Chair, Gazi Baba, Kisela Voda and Karposh.

Sector of Forestry in the Ministry of Agriculture, Forestry and Water Supply

Within the Ministry of Agriculture, Forestry and Water Supply, there is the Forestry Sector. Within the Forestry Sector, there are several departments which activities are described below:

Department for forestation and cultivation of forests:

- Annual Program for extended reproduction of forests;
- Agreements for forestation of bare lands, nursing of forest crops, and reclamation of degraded forests, for production of forest seedlings and other agreements;
- Decisions, approvals, opinions and other acts related to production, registration, export and import of forest seed material, and other forestation matters and
- Performs field insights on the implemented matters on the program and subsequently prepares reports.

Department of Forest Protection:

- Monitors health condition of forests;
- Proposes measures for the suppression of calamity appears of plant diseases and pests and epiphytocy from plant diseases;
- Monitors compliance with the protection of forests from fires and other abiotic and biotic negative factors;
- Prepares reports, information, analysis and proposals concerning the protection of forests from biotic and abiotic factors;
- Performs audits on the ground in connection with the occurrence of harmful insects and plant diseases and prepares reports based on the field situation;
- Performs other activities deriving from legal regulations, particularly regarding the protection of forests.

Department for regulation and use of forests:

- Organizes and monitors preparation of General and specific plans for forest management;
- Considers and keeps records of the prepared specific plans for forest management;
- Prepares decisions for approval of specific plans for forest management;
- Considers and gives opinion for amendment and supplementation of specific plans for forest management;
- Considers and gives opinion of programs for regulation of private forests;
- Prepares approvals of applications for logging in forests that are not covered by specific plans;
- Considers requests and prepares opinions for use of mineral raw materials, building investment and other objects in the forest;
- Collects and processes data and prepares information for regulation and use of forests;
- Prepares approvals for export of wood products and other forest products.

Department of Hunting

- Prepares reports, information and analysis on the situation in hunting;
- Prepares public tenders for the provision of game usage by concession;
- Performs the processing of complete documentation of received offers for use of the game in the hunting grounds;

- Prepares Decisions to the Government of Macedonia for the provision of game usage by concession;
- Prepares agreements for game use in hunting grounds and their changes and amendments;
- Organizes and monitors overall procedure for preparation and adoption of the Universal and hunting economic fundamentals;
- Performs control of processed annual programs for game management in public/state hunting grounds;
- Participates in preparation of documentation for approval of elaborates for construction of enclosed spaces in the hunting grounds;
- Prepares suggestions to the Government for the formation of raw centers;
- Prepares documentation and approvals for introduction of new types of game in Macedonia;
- Prepares documentation and approvals for game shot under permanent protection.

In addition the Ministry of Agriculture, Forestry and Water Supply includes several bodies/sectors such as:

- The State Inspectorate of Forestry and Hunting as a body that controls and supervises the enforcement of the Law on Forest, Law on Hunting and other laws and law binding acts that are in the function of forestry and hunting;
- The Forestry Police as a sector that protects the forests in compliance to the Law on Forests.

State Inspectorate for Forestry and Hunting

The State Inspectorate for Forestry and Hunting as a body within the Ministry of Agriculture, Forestry and Water Management, performs work in connection with the inspection supervision over the enforcement of legal regulations and bylaws of the Law on Forests, Law on Hunting, Law on reproductive material forest tree species, the Law on Protection of plants from diseases and pests, and other legal regulations that are closely related to this matter.

Tasks of the State Inspectorate for Forestry and Hunting are carried out through the Department of Forestry and Hunting, a specialized department for administrative affairs, and five regional departments:

Department for work in specialized administrative authority of the State Inspectorate for Forestry and Hunting in Skopje

1. Regional Department to carry out inspection supervision in the authority of the State Inspectorate for Forestry and Hunting in Skopje, Kumanovo, Kriva Palanka and Veles.
2. Regional Department to carry out inspection supervision in the authority of the State Inspectorate for Forestry and Hunting in Skopje, Gostivar, Tetovo, Kicevo, Struga and Ohrid.
3. Regional Department to carry out inspection supervision in the authority of the State Inspectorate for Forestry and Hunting in Skopje, Prilep, Bitola, Demir Hisar and Makedonski Brod.
4. Regional Department to carry out inspection supervision in the authority of the State Inspectorate for Forestry and Hunting in Skopje, Delcevo, Vinica, Kocani and Berovo.
5. Regional Department to carry out inspection supervision in the authority of the State Inspectorate for Forestry and Hunting in Skopje.

Forestry Police

Preservation of forests in state and private property is done by the Forestry Police in the Ministry of Agriculture, Forestry and Water Economy. Public company and legal entities, that carry out cultivation and protection of forests for special use, generate revenues totaling 2% of value of sold wood for financing the Forestry Police. These funds are channeled to a separate account of the Ministry of Agriculture, Forestry and Water Economy and are used to contribute to the financing of the Forestry Police.

Members of the Forestry Police in particular are authorized to:

- Keep the forest;
- Intervene, to stop and detain persons or legitimate persons caught in the exercise of criminal offenses relating to forests, or where there is reasonable doubt that they have committed such acts;
- Carry out review of all assets that transfer or transport wood and other forest products, in all places where they keep wood and other forest products, perform temporary removal of objects and resources with which the crime or the offence is made, and subjects that occurred or are assigned to carry out such work;
- Monitor and report on the state of forests in connection with illegal logging and forest theft, forest fires, plant diseases, forest pests, and other disasters and
- Inform the competent authorities for illegal appropriation of forests and forest land, and brings proceedings against offenders before the competent authority.

The Forestry Police control all entities that manage the forests, other legal persons and citizens and they must not hinder the execution of its powers.

Minister for Agriculture, Forestry and Water Management, in accordance with Minister of Interior affairs prescribes rules for performing the work of the Forestry Police. Staff of the Forestry Police must fulfill the general conditions as well as the following specific conditions:

- is physically and mentally capable of performing the duties of Forestry Police;
- have at least secondary education (this criteria can be waived where the person has at least three years experience as forest keeper in that service);
- has regulated the military service and
- be eligible for carrying weapons in accordance with the regulations on the possession and carrying weapons.

In performing their duties, the members of Forestry Police may use firearms to prevent the escape of a person caught in committing a crime with which causes damage to the forest, if there are reasonable doubts that the person will set use of fire or other type of weapon and to protect themselves against direct attack that endangers their lives.

In these cases, members of Forestry Police will use fire weapons only if the use of physical force or other means of coercion are not efficient. If the means of force and fire weapons are used in line with their authorizations, the responsibility of the member of the forestry police is waived.

For more efficient combat against illegal logging, within the Forestry Police there is a special mobile unit called the "Bears". This unit has trainings and courses in physical defense and in using fire arms. It is always present in the field, armed with automatic fire weapons and wearing protective vests. Pursuing illegal loggers this unit has often encountered fierce resistance, including attacks with chainsaw to avoid having to hand over illegally cut woods. At times, the members of the Forestry Police get serious body injuries.

1.2.2. The Ministry of Environment and Physical Planning

The Ministry of Environment and Physical Planning carries out activities related to:

- observing the condition of the environment,
- protection of waters, soil, flora, fauna, air and ozone from pollution,
- protection from noise, radiation, protection of bio-diversity, geo-diversity, national parks and protected areas,
- restoration of polluted areas of environment,
- proposing measures for solid waste management,
- physical planning,
- physical informative system,
- supervision within its competencies, and
- performs other activities set by the Law.

One of the main responsible authorities in FYRoM for management and sustainable use of the natural resources is the Ministry of Environment and Physical Planning. The Minister in charge provides the content of the special plan and annual programme that the subjects (public enterprises) that are responsible for managing and protection of the natural resource (ex. Natural Park) bring. The special plan should be in concordance with the Spatial Plan of the FYRoM and it is for period of ten years. For the national parks bringing the special plan is obligatory. Besides the Ministry of Environment and Spatial Planning, the Ministry for Agriculture, Forestry and Water Supply (in special cases also Ministry for Defence) give conformity for the Plans.

The Ministry of Environment and Physical Planning functions include the State Environmental Inspectorate for Protection of the Environment, which controls all legal juridical and physical persons in the area of the environmental protection. The environmental inspection is organized on 2 levels, i.e. State Environmental Inspectorate in the Ministry of Environment and Physical Planning on central level and inspectorates on municipal level. The State Inspectorate is lead by the Director of State Inspectorate on nomination by the Macedonian Government. There are 18 State Environmental Inspectors (SEI) and 10 State Inspectors of Nature Protection (SINP). The responsibilities of the State Environmental Inspectorate (Arts. 198 and 199 of the Law on Environment) include the supervision of installations with A-integrated environmental permit/A-adjustment permit and B-integrated permit/B-adjustment permit (if installation is located within nature protected area). Among the tasks of the SEI are:

- right to ascertain whether monitoring is performed on the sources of emission or immission,
- right to ascertain whether monitoring is performed in compliance with the condition contained in the integrated environmental permit,
- right to ascertain whether the devices and instruments used in the monitoring are approved through the procedure of verification and regularly maintained,
- right to ascertain whether the data obtained from the monitoring are submitted in a manner and under the conditions prescribed by the responsible body.
- right to ascertain whether the necessary data is submitted to the developer of Register of Pollutants and Cadastre of Environment
- right to ascertain whether a study on the EIA of the project has been prepared and submitted to the responsible body, and a decision has been made on the approval of the project implementation,
- right to carry out inspection and control whether the project is carried out in compliance with measures specified.

The State Environmental Inspectorate is a member of:

- ECENA (Enforcement and Compliance Environmental Network for Accession), REC Network on Environmental Inspectorates from EU candidate and potential candidate countries (from 2001 for former BERCEN Network);
- EU IMPEL (Implementation of Environmental Law), EU Network on Environmental Inspectorates (from May 2006);
- EU GREENFORCE (EU Network on Nature protection Inspectorates, from December 2007).

Furthermore, in the 85 municipalities in Macedonia there is an Authorized Inspector of Environment.

1.2.3. Public Enterprise “Macedonian forests”

According to the Law on Forests, the public enterprise responsible for **forest management is “Macedonian forests”**. This entity manages the forests in the FYRoM, through its thirty branch offices ("Malesevo" - Berovo, "Ravna Reka" - Pehcevo, "Osogovo" - Kriva Palanka, "Kratovo" - Kratovo, "Osogovo" - Kocani, "Serta" - Stip, "Plackovica" - Radovish, "Plackovica" - Vinica, "Belasica" - Strumica, "Salandzhak" - Valandovo, "Kozuf" - Gevgelija, "Demir Kapija" - Demir Kapija, "Bor" - Kavadarci, "Crn bor"- Prilep, "Babuna" - Veles, "Forestry"- Sveti Nikole, "Kajmakcalan" - Bitola, "Bigla"- Demir Hisar, "Lipa" - Krusevo, "Prespadrvo"- Resen, "Galicica" - Ohrid, "Jablanica" - Struga, "Stogovo" - Debar, "Lopusnik" - Kicevo, "Sandanski" - Makedonski Brod, "Shar" - Gostivar, "Leshnica" - Tetovo, "Karadzica" - Skopje, "Kumanovo" - Kumanovo and "Golak" - Delcevo). These branches are responsible for:

- managing high and low forests in accordance with the conditions of the natural environment, biological characteristics of types of the trees and the condition of the forests,
- regular revival of the woodcutting areas,
- helping natural (generative and vegetative) regeneration of the forests,
- protecting and taking care of the forests,
- introducing conifer species into wide leaves species forests,
- converting low forests into high forests,
- reforesting old unrevived woodcutting areas, areas affected by fires, bare and endangered territories,
- managing forests in a way that will not jeopardise and permanently keep their territory and increase their value, to provide highest growth according to natural conditions.

“Macedonian forests” manages the forests that are in state property. For efficient, rational and permanent forest usage, the forests are divided in forest commercial units. There are 186 forest commercial units in FYRoM. For each every one forest commercial unit there is a 10 year plan subject to approval and revision of the Minister for Agriculture, Forestry and Water Supply. In that plan, the natural conditions of the forest commercial unit, geographical features, types of trees, etc. determine the activities, goals and measures for management of all the units. Hence, it determines the volume of logging, areas to be restored with new crops, processing of the terrain, tree species and quality of seedlings, measures to protect the seedlings, supervision, inspection and examination of plants, etc. The specific plan for management of forests contains a reforestation programme for its forest commercial unit. Average annual reforestation volume is 3 200ha. Forest use is in line with the allocation and ensures permanent keeping of the forest’s value. The subjects that manage forests have to take protective measures to prevent fires, elementary disasters, floral diseases, harmful insects, illegal grazing and other damages.

1.2.4. Special purpose forests

Subject to the forest functions (production, protection and useful functions) as well as the forest management measures, the forests are divided into commercial forests, protective forests, special purpose forests and forests in protected areas.

Special purpose forests are forests that are natural and beauty rarities. They are designated as (Article 10, Law on forests):

- Forestry and hunting reserves for protection and breeding of rare species of forest trees, game and protection of biodiversity,
- Park forests for rest, sport and recreation,
- Memorial Forest to mark important historical events,
- Forests for the purposes of science education and training of professionals in the field of forestry and science - research purposes,
- Forests for defense needs that are suitable for carrying out activities in the field of defense and have strategic defensive importance and
- Forests for production of quality and recognized seed material.

Forests for special use shall be determined by the Government of the FYRoM, except for national parks, which are determined by law. Determination of forests for special purpose shall be made at the request of interested parties on the basis of expert, technical documentation for the purpose, necessity and justification for its determination. For forest for special purpose the following is determined: the purpose, mode of cultivation, protection of forest and legal persons that will be responsible for cultivation and protection of forests for special use.

Forests in national parks are designated for protection of the natural wonders and beauty and are determined by special laws for declaring national parks. There are forests under national park management in three national parks in Macedonia.

The oldest one and second largest is National park “Pelister”, founded in 1948, with location in the north massive of Baba Mountain, southwest part of Macedonia, on 10 870 ha. Pelister National Park is filled with exquisite flora and fauna. Among flora elements, especially significant is the presence of the five-needle pine molica (*Pinus peuce*) - a unique species of tertiary age being present on only a few mountains in the Balkan Peninsula. The beauty of the landscape is enhanced by the diversified wildlife: bears, roe deer, wolves, chamois, deer, wild boars, rabbits, several species of eagles, partridges, red billed jackdaws, and the endemic Macedonian Pelagonia trout. In the National park Pelister, more than half of its area (5 672 ha) is under forests and forestland.

National park “Mavrovo” is founded in 1949. It is the biggest of all, with area of 73 088 ha, 27 187 ha covered with forest. The park is located in the western – central edge of the country, situated between three Alpine mountain systems: Korab, Shar and Bistra. Natural rarities have been designated into five strictly protected zones with a total area of about 4 796 ha or 11 scientific research forested sections of 6 465 ha. The rest is a meliorative part of the national park is divided into six spatial units and one tourist and recreational zone. Mavrovo has 50 vegetation registered communities and 100 rare species.

The youngest one is the National park “Galichica”, founded in 1958, encloses area of 25 000 ha. South border of the park is a national border with Republic Albania, on west it borders with the shoreline of Lake Ohrid. In the north the border passes through several landmarks and connects both lakes (starts at St. Petka monastery in the village of Velgosti, continues in a straight line to the high point Visesla. From there, through the valley of Petrino, locality Istok, to the summit of Samar, and from there goes down to the locality of Sir Han near Lake

Prespa). Eastern border goes along the shore of Lake Prespa to the Albanian border and encompasses the Golem Grad Island in the Lake Prespa.

(According to the Action Plan of the Strategy for development of Sustainable Forestry, two more national parks are predicted for proclamation.)

The following are some of the **special purpose forests** in the FYRoM:

1.2.4.1. Park forests (near Skopje)

- Park forest "Vodno" with total area of 4 573 ha, length about 12 km and width of 5, 5 km, with a rich flora of 1 010 species, of which 868 are domestic and 142 are introduced.
- Park Forest "Gazi Baba" is built artificial forest with area of 105 ha. To the city itself, with all its assumptions about the future shape into park: asphalt paths, lighting, benches, and fountains.
- Park Forest "Francuski Grobishta" covers 15 ha of the central city area soon have to undergo transformation in the park, with all necessary attributes.
- Park Forest, "Zajchev rid" with an area of 15 ha is artificial forested area for protection from erosive processes in the city center.

1.2.4.2. (SRC) Sport and recreative centers near Skopje (park forests for rest, sport and recreation)

- SRC "Saraj, near Skopje, located between the Vardar River and Treska River, covers an area of 240 000 m². The main composite placement of vegetation is in the open landscape, with style character by entering deciduous species and natural characteristic band in the river area. The facility built a number of sporting facilities: football field with athletic tracks, handball, basketball, volleyball and tennis courts and others.
- SRC Lake "Treska" is located at the exit of the town and covers an area under the foliage of 186 678 m² and 132 080 m² lake surface water. Green is elevated with the use of native vegetation by adding decorative dendro material to achieve protective colorful and functional effects. Equipped with paved parking lots, pavements and roads, sanitary facilities, showers, wardrobes, benches, fountains, pools and restaurants and the SRC is a great place for rest and recreation.

1.2.4.3. Special Reserves (in the Republic)

- Reserve of sycamore (*Platanus orientalis* L.). It is located along the Iberliska River, between the villages of Iberlija and Chelevec (Demir Kapija). The area of the reserve is 25 ha. The forest is from domestic origin and is well preserved.
- Reserve with black pine (*Pinus nigra* Arm.). It is located in the locality Menkov meadow - Mariovo, in section 59 of Rozhdenski forests. The area of the reserve is 3, 5 ha.
- Reserve of fir and beech (*Fagus moesiaca* Ozeczott i *Abces borisii* regis). The reserve is in place, "Tumba" in Mariovskite forest-section 45 - Mariovo, near the Macedonian-Greek border. Takes an area of 5 ha.
- Reserve of white pine (*Pinus silvestris* L.). The reserve is located in the spring area of a big river Bistrichka Kozjak, Section 45 - Mariovo. In terms of space and quality of tree, this forest is very rare among us. Reserve's area is 4 ha.
- Reserve smrcha (*Picea excelsa*.). It is located in Shar Mountain, near the tourist center Popova Shapka. The area of the reserve is 5, 2 ha.
- Reserve of fir (*Abies Alba* Mill.). The reserve is located on Mount Baba in the locality "Rupa". It is in the ownership of the Forest-industrial enterprise "Prespa" from Resen, located within the retail, unit Brajčino I - Section 28. The area of the reserve is 7, 6 ha.

- Reserve of birch (*Betula verrucosa* Erhr.). The reserve is located in Mount Baba, near the localities called "Neprtka" and "Kjalozjana". It is in the ownership of the Forest-industrial enterprise "Prespa" from Resen.
- Reserve of beech (*Fagus moesiaca* Ozezczott). This reserve is located in Mount Baba, at the locality "Kolozana ". It is in the ownership of the Forest-industrial enterprise "Prespa" from Resen. It is located within the retail unit Brajčino I. In terms of dendrometric elements, composition and the picturesque beauty of particular interest is the beech ingredient that can be preserved in original condition. The area of the reserve is 5 ha.
- Reserve the Crimean pine (*Pinus pallasiana* Lamb.). This reserve is located 2, 5 km south of Strumica, near the Popchevo village and Lake Vodoča in the locality "Cham chiflik", on area of 428 ha.
- Reserve of curved pine (*Pinus mugo* Turr.). The reserve is located on Mount Jakupica, north of Solunska Glava, at locality Ruchica, at an altitude of 1500-2000 meters. The reserve is the only whole compact stored, as ingredient of curved pine in Macedonia. Actually, this is at the southeast site of it's dissemination in the Balkan Peninsula. The protected area is 1 000 ha.

1.2.5. National Association of Owners of Private Forests (NAOPF)

In the FYRoM there are around 60 000 owners of private forests. The forests are mostly small plots, in average smaller than 0, 6 ha. The association is non-governmental and non-political organization, formed in 1997 under the name NGO Private forests. In 2007 it had grown into an association that represents all owners of private forests in FYRoM. It is formed as a response to high prices and bad quality of services offered by the state. At the moment NAOPF has more than 1000 active members with total ownership of forests around 3000 ha.

1.2.6. Inter-institutional cooperation, institutional capacity and international cooperation in the management of forest resources

Inter-institutional cooperation in the form of an official body in the management of forest resources does not yet exist. According to the old Law on Forests¹ and for adequate coordination among interested parties, the Government should form a council for sector planning and coordination. The Council would consist of representatives from the Government, Ministry of Agriculture, Forestry and Water Management and other important ministries, representatives from the local government, private sector and other interested parties.

In the new Law on Forests², the Council for Sectoral Planning and Coordination is renamed to National Council. Its structure and functions are set out in Article 26:

- For monitoring and sustainable management, planning, management and keeping the forests and forest land in a way and in manner that permanently maintains their capability, biodiversity, capability for renewal and vitality in interest of the economic, environmental and social forest functions, National Council for forestry is formed as compatible body of the minister that heads the organ of state administration responsible for the affairs in the field of forestry.
- The Council is consisted of a president and ten members and are assigned by the minister that heads the organ of state administration responsible for the affairs in the field of forestry.
- The minister that heads the organ of state administration responsible for the affairs in the field of forestry by function is the president of the Council.

¹ Official Gazette of Republic of Macedonia" No 47/97

² Official Gazette of Republic of Macedonia" No 64/09

- The Council has the following members: one representative from the Sector of forestry and hunting in the Ministry of Agriculture, Forestry and Water Supply - forestry engineer - division forestry with five years experience in forestry, one representative from the State Inspectorate for forestry and hunting in the Ministry of Agriculture, Forestry and Water Supply - forestry engineer - division forestry with five years experience in forestry, one representative from the subject that manages state forests - forestry engineer - division forestry with five years experience in forestry, one representative from prominent experts in the field of forestry, one representative from the organ of state administration in charged for the matters of nature protection, one representative from the organ of state administration in charged for legislation, one representative from the Association of the units of local self government, one representative from the owners of private forests, one representative from the Ministry of Defense, one representative from the Directorate for Protection and Rescue. The members of the Council are appointed for four years and can be re-appointed.
- The operational manner of the Council is regulated with rules.
- Means for performing the works of the Council is provided by the Budget of the Republic of Macedonia.

Concerning the combat against illegal logging, there is cooperation at high level between the Forestry Police and the police from the Ministry of Internal Affairs. The police authorities which are responsible for suppression of all illegal activities in the country, including forest activities, take action against perpetrators together with the forestry police. The low number of police workers, lack of material equipment, insufficient professional capacity is situation that should be overcome for efficient combat against illegal logging. The institutional capacities for prevention of illegal logging inside institution are insufficient. Usually the means are their own and used for seminars and trainings that are mainly conducted by the professors from the Faculty of Forestry. Affected by the impact of the economic recession in the country, the state contribution is reduced. For capacity building, the foreign funds are more accessible, especially with the support from FAO, SNV, SIDA, Balkan Foundation for Sustainable Development, Sweden, etc. in frames of realization of certain projects. FYRoM does not have official bilateral agreements for combat against illegal logging with the neighboring countries. It has unofficial inter-institutional cooperation, mainly at ministerial level, with the neighboring countries, including the Balkan countries

The employees in the public enterprise “Macedonian forests” that manages state owned forests undergo trainings twice a year. Those are internal seminars and tribunes, which are organised by professors from Faculty of Forestry at the University “St. Cyril and Methodius” – Skopje. There is exchange of experience with the companies that manage forests from Serbia, Slovenia, and Croatia. It has been the experience that there are incompatible, unqualified and corrupted personnel within the competent forest managing authorities. Concerning the capacity of legal authorities in forest management, the vision is quoted in the Strategy for Sustainable Forestry:

“Management and employees in forestry will utilize state-of-the-art technology and will be continuously exposed to up-to-date scientific and technological achievements. There will be tight cooperation with scientific-educational institutions for training, specialization, scientific research, applicative activities. Through qualified representatives from state and non-governmental bodies, forestry will be member of all relevant international organizations and will actively participate in exchange of knowledge and experience. The forestry sector will employ qualified and expert personnel, procuring prominent salaries, social and pension security and social, cultural and recreational benefits. Management in forestry, state, regional or local, will be transparent, while decisions will be solely based on expert opinion. Qualified practice and management will enable coping with social, cultural, institutional, environmental and economical factors in our effort for establishing sustainable forest management.”

The number of NGOs involved in the forestry sector is very small. One of the largest initiatives from the civil society comes from the civil organization that organized citizens' initiative for afforestation on the territory of whole country. The action was entitled "Tree day". The first action in 2007 aimed at planting 2 million trees - equivalent to the number of the citizens in the country. In 2008 the numbers of seedlings were 6 million trees. The initiative was supported by the Government of the FYRoM, the Association of Local Self Government Units, the Assembly of the FYRoM, the EU representative office in FYRoM and other.

As mentioned above the responsibility of the Ministry of Agriculture, Forestry and Water Supply for forestry issues is divided among three bodies: State Inspectorate for Forestry and Hunting, Sector Forestry Police and PE "Macedonian forests". In terms of the areas of responsibility and their human resources:

- the State Inspectorate for Forestry and Hunting is responsible for legal questions and inspection of operations and has 18 employees. However, the cumulative number for employment in the State Inspectorate for Forestry and Hunting for the period 2009-2011 is 16 and for the Sector Forestry the number is 10.
- The Sector Forestry Police employees 109 forestry policemen in 19 stations designated in the territory of the country.
- PE "Macedonian forests" has 2900 employees designated in 30 branches and one Direction in Skopje. The number of the policemen in the forestry police is low and it has to be increased for more effective fight against all illegal activities, in first place illegal logging. For the period 2009-2011, according to the Dynamics of employment from 27th May 2009, approved number for employment of forestry policemen for 2009 is 10, indicative for 2010 the number is 20 and for 2011 is 25.

Apart from these numbers, the predicted employment in the Ministry of Agriculture, Forestry and Water Supply for the same period is 335 people, which is indication of insufficient institutional capacity. That adopted dynamic for employment is according to the National Programme for Approximation of the EU Legislation. With this programme implementation of necessary policies, reforms and measures are needed for harmonization of the national legislation with the EU *acquis communautaire*. The complexity and size of the EU legislation requires strong administrative capacity of the relevant institutions for harmonizing regulations with EU legislation and implementation. The current situation in FYRoM is characterized by insufficient number of employees both at central and local level.

2. LEGAL PROCEDURES FOR LOGGING

Logging in a forest can be done after the relevant territory has been properly marked. Marking entails choosing and marking of the tree trunks for logging and evidencing of wood mass for tree trunk logging, as well as marking of the area and evidencing of wood mass for surface clean logging. This has to be carried out in accordance with the special plans. Marking for tree trunk logging is completed until 30 September for the coming year and in volume of maximum of 80% of the predicted wood mass. The rest 20 % of the wood mass is additionally marked, especially the marking of the damaged tree trunks.

The Minister for the Ministry of Agriculture, Forestry and Water Supply prescribes the way of marking. According to the Article 62 of the Law on Forests, the marking has to be carried out by the person who has license for performing professional works in forest. The organ of state administration responsible for marking keeps a record in a Registry of the issued hammers for marking and stigmatation. For marking trees for logging, the means are provided by the owner/user of the forest. At the latest 15 days following the marking, the forestry inspector is notified for a revision to be performed by the inspector.. Logging can not be

performed if the marking is not done on the whole area of the subdivision/division and the verification by the forestry inspector is not performed.

Logging in state owned forest in order to meet the own needs of a physical person (i.e. fire wood) is allowed in accordance with the conditions set out in the Law of Forests, Article 37. The physical person submit requirement to the public enterprise "Macedonian forests" and pays compensation according to the issued permit for logging. The public enterprise is evidencing the logged wood mass on special form. The form and content is prescribed by the Minister of agriculture, forestry and water supply, along with the quantity of fire wood and the way of fulfilling the own needs of the physical person. For fulfilling the needs of one family, Article 66 of the Law on Forests, the maximum allowed cut for one calendar year is 15 m³ of fire wood. The citizens can obtain firewood for household needs only in areas intended for logging and after obtaining the necessary approval by licensed professional, on the request of the forest owner. For the issued permit for logging, licensed professional is obliged to submit report to the organ of state administration responsible for the affairs in the field of forestry. If the forest is owned by more than one owner, approval might be given under the joint procurement of all co-owners, or under the procurement of individual owner with authorization of the other co-owners. With the approval for the logging, the following is determined: wooden mass for logging and measures for renewal, grown and protection of the forests, as well as a deadline for their performance. The logging approval given to one person can not be passed to other person.

The Minister of agriculture, forestry and water supply determines form and content of the request, needed documentation, criteria for giving approval for logging and the way of performing the logging in the private forest.

To verify wood origin every logged wood has to be adequately marked with special stigma/mark. The dispatch note has water stigma, stamp and signature of the band/branch inspector.

There is **yet no system for felling licensing in FYRoM**. However, a Certificate for forestry, where licensed loggers should provide the service of certified logging by different classes of timber is planned for 2010. The advantages of a licensing scheme include reduced price of timber, improved quality and time frame for preparation of the wood (logged wood and sortiments) that will stimulate competition between the wood trader, loggers, companies that manage forests. The licensing scheme will introduce FYRoM as competitive country in wood market in the neighbouring countries and in the EU. By fulfilling the normative of the EU for introducing timber into EU market, the timber trade volume is expected to increase and expand. The licensing scheme would establish an open market where the price of wood would be determined through the auction of trees. The Government of the FYRoM so far determines the price of the timber, taking into consideration the economy conditions.

The public enterprise "Macedonian forests" announces a public procurement for logging and hires outside perpetrators through an auction.

There are normative requirements regarding the logging concerning the quality and quantity of the logged wood. Daily allowed logged quantity is 4, 5 m³ (based on collective agreement for the workers in PE "Macedonian forests" signed between the Syndicate of the workers in forestry and wooden industry and the PE "Macedonian forests") that should be performed by a logger and assistant logger in period of eight hours a day.

2.1. Logging in private forests

Owner of privately owned forests submits a request to the branch of the PE "Macedonian Forests" and then complies with the specific approval procedure. Services and professional workers of the PE "Macedonian Forests" follow the approval procedures set out in the Law on

General Administrative Procedure, Law of Forests and other legal and sublegal acts, secondary and general acts of the PE "Macedonian Forests". The owner of private forest submits approval for logging on a form provided by the public company (BOS - Form 1a, 1v).

The request for approval of logging is submitted to the archive of the branch and registered by an official employee of the subsidiary for which the applicant is issued an "adoptive" number and for every request an evident chart that has an archive number and lasting period of ten years is opened. The request of the owner of private forest should be accompanied by:

- Proof of ownership of the forest (property certificate not older than 6 months, the plan-outline of the parcel/plot, court certified agreement for sale, contract for a gift, inheritance effect solution).
- Form Number 1a - Request for approval of logging when the applicant is the sole owner of private forest, with valid ID card as proof of the identity of the applicant.
- Form Number 1v - Requests for approval of logging when applicants are more co owners of one parcel/plot.
- Authorization granted and certified by a notary public for an authorized person that is an applicant, with valid ID card as proof of the identity of the applicant.
- Declaration of the applicant that the submitted evidence of ownership and other submissions to the request are correct, for which the applicant answers personally.
- Confirmation that the forest which concerns application for logging is marked by individual traders, authorized surveyors and geodesy companies.

Requests are processed by an official employee of the branch of PE that will undertake an individual and joint evaluations on the basis of: Article 67 and 68 of the Law on Forests, other powers under the laws and general acts of the company and on the basis of the Decision for establishing the criteria for management the forests in private ownership and then will issue an Authorization for logging.

Logging is approved if the request met all the documentation conditions and insight on the spot prescribed in the Law on Forests; if with the Evident card logging is predicted under the criteria of logging in forests in private property, adopted by the Ministry of Agriculture, Forestry and Water Supply. Rejections are explained in writing with a summary of the reasons for denying the request. Request logging is rejected if not all the requirements of Article 68 are met and if:

- a. the applicant does not own proof of the identity of the forest,
- b. the change of culture is not made in the cadastral records,
- c. the boundaries of the forest that the application is submitter for are not visibly marked by individual traders, authorized surveyors and geodesy companies,
- d. the predicted measures envisaged in the approval of logging of the previous year are not carried out,
- e. there are significant deviations of the area of the cadastral parcel insight on the spot with the area in the Cadastre records,
- f. if the forest is not mature for logging,
- g. if the forest is in strictly protected zone of the complex of forests for special use,

Once an application has been approved an authorized person from the branch of the PE, having higher forestry education and at least two years working experience, carries out field inspection and based on expert evaluation determines the condition of the forest dendrometric and all the necessary elements and records them in the prescribed evident card for private forests.

Based on the forest condition, the evident card establishes the type and extent of logging for the subsequent ten year period, the type of forest and management activities, especially

artificial recovery in case natural would be overly cumbersome. An evident card is issued for each Cadastral parcel./ plot/.

Based on the determined annual cutting for the ten-year period, a resolution (decision) is prepared for approving the logging for the year relevant in the application. The decision is prepared in three copies, e.g. one is attached to the recorded cardboard, one stamped for the applicant and one for archive. The decision is provided to the applicant after it covers the administrative fee, according to the price list of PE "Macedonian Forests" for marking of logging and other services for the forest in private ownership.

The requirements for logging in private forests are communicated and well explained to the general public. For the owners of private forests, there is a Manual published by the Ministry of Agriculture, Forestry and Water Supply, describing in details the steps that the owners are obliged to take in order to undertake logging in their forest, in accordance with tailored plan for that forest.

According to State Statistical Office; Census of Agriculture, 2007; Basic statistics in agriculture, forestry and fisheries in Republic of Macedonia in the individual sector, by municipalities; Book II; the volume of logged timber in the households (56 311) in the FYRoM is 518 805 m³. 437 057 m³ was total wood mass logged for personal needs and 81 748 m³ was for selling. The biggest number of individual households that own the biggest forest area is in the municipality of Berovo (Eastern region) with 4088, 81 m³. Also in the municipality of Berovo is the highest total logged wooden mass, totalling 28 320 m³.

2.2. Wood tracking practices in place

Firstly, the field insight and marking for logging is performed pursuant to adopted plan for each cadastral municipality, particularly on the submitted applications for which interested parties are promptly notified.

As a rule, the marking of the logging is made before adopting the resolution/decision. The marking is made with waterproof color. For the state owned forests, the marking is in shape of circle with 32mm diameter and for the current year is in blue and for the following year is in green color.

For the forests in private property, the marking is in shape of equilateral triangle with 35mm length each side, with the text of the current year in black and the following year in red. The marking for logging is recorded on separate sheet and is attached to the decision of logging approval. After the logging is completed, a survey of the logged wooden mass is carried out in the place of logging, verifying whether the logging was according to the marking for logging (type of logging, quantity of logged timber, surface). In case of significant deviations, infringement procedure is initiated and the marking procedure and the issuing documentation for transportation interrupted. Furthermore, logging and timber export are carried out within the deadline prescribed in the logging approval.

The marking and issuing of dispatch note for timber transport is made on wood that is loaded on transport means at the place of logging, i.e. on the cadastral parcel/plot where the logging occurred, including completing special transport dispatch notes. The dispatch note should have the following data:

- name and surname of the owner of the trees,
- name and surname of the person performing the transportation,
- initial point of transportation - transfer (cadastral municipality - cadastral parcel, name of the place),
- final destination of transportation - transfer (city, village, street, number),

- duration of transport, taking the time of the beginning of the transport (date and time) written on the dispatch note; and for the time of arrival, the time needed for that type of transportation mean to come to the final destination, the distance, road and weather conditions are taken into consideration,
- quantity and type of tree,
- type of transport means and its registration number.

The dispatch note for transport - transfer could be issued only in certain periods of time. In summer, that is the period between 5a.m to 8p.m and in winter from 6a.m to 6 p.m.

2.3. Documents required from suppliers concerning the origin of wood

There are different procedures and documentation required in the forest use and wood trade in the state and private forests. The main difference is that private forest owners are subject to logging approval procedures and are not able to perform professional tasks by themselves, but are obliged to use the appropriate services which were established by the state in the designated public enterprises having the legal rights to carry out the professional services comprising the applicable procedures and documentation requests. Procedures relating to these companies are also required for other companies that own and manage forests regardless whether they are privately owned or not.

The contracts for wood purchase should specify quantity, type, sortiment, origin and stigma/mark of the wood that is for sale. The warehouses that sell wood should have invoice for the purchase of the wood that verifies the wood origin. If the wood is purchased from import, should have the documents needed to verify wood origin (customs declaration).

Suppliers	Required by	Procurement point		
		Standing forest	By the road side	At the mill gate
Forest owners	Law	-Marking of the trees for logging -Fulfilment of pre-conditions for issuing the approval -Approval for logging	-Dispatch note for logged wood	-Goods received note
	Company	-Approval for logging	-Payment of fees to the PE -Dispatch note for logged wood	-Goods received note
Public Enterprise "Macedonian forests"	Law	-Forest management plan -Annual plan -Marking of the trees for logging	Dispatch note for logged wood	-Goods received note
	Company		-Dispatch note for logged wood	-annual contract -Goods received note
Wood traders	Law	/	-Dispatch note for logged	-Goods received note

			wood	
	Company	/	-Dispatch note for logged wood	-Goods received note

2.4. Forestry products, felled timber and services for quarters I, II and III of 2009

In the table below, a data of the commercial timber production is shown for the first, second and third quarter of 2009. According to the State Statistical Office data³, the total commercial timber production in state owned forest, in the first quarter of 2009, in correlation to the same quarter in 2008, decreased by 47.8%. According to the State Statistical Office data⁴, the total commercial timber production in state owned forest, in the II quarter of 2009, in correlation to the II quarter of 2008, decreased by 1.7%.

Manufactured quantities are the highest for the coniferous logs and on second place are the manufactured quantities of the broad – leaved fuel wood.

Commercial timber production (manufactured quantities in m ³)			
	I-III 2009	IV-VI 2009	VII-IX 2009
Wood in the rough	52 494	205 461	246 845
Logs coniferous	684	10 449	13 033
Mining wood, coniferous	1 412	4 398	2 139
Other long coniferous	545	1 489	1 605
Stack coniferous wood	669	243	1 066
Coniferous fuel wood	1 744	79	4 034
Stack broad - leaved wood	-	-	-
Logs broad - leaved	2 362	24 057	20 262
Mining wood, broad - leaved	30	91	381
Other long broad - leaved wood	37	155	168
Broad - leaved fuel wood	44 986	164 372	199 702
Other wood in the rough, including chopped wooden poles and stakes	25	128	4 455
Other forestry products - Nursery forest trees, '000	542	2 100	9 855

3. DEFINITIONS OF ILLEGAL LOGGING

One of the main difficulties involving the discussion on *illegal logging* is related to the fact that there is no common definition of illegal logging, even in case only English language definition is taken into consideration.

Whilst most available definitions, describe illegal logging as the process of extracting forest resources in disregard to relevant national legislation, they differ as regards the fields of legislation, which are to be considered. Thus, whilst there is a consensus that logging without or in violation of logging licenses or permits would qualify the timber (obtained in this way)

³ State Statistical Office of Republic of Macedonia – news release; year XLVII, No: 5.1.9.14 from 20.05.2009

⁴ State Statistical Office of Republic of Macedonia – news release; year XLVII, No: 5.1.9.20 from 20.08.2009

illegal, there is considerable discussion as to whether and to which extent violations against taxation regulations (e.g. property-, income-, value added taxes) should be taken into consideration as well, and if so, how such requirements could be implemented.

In addition overlapping jurisdictions, resulting for example from decentralization of forest sector legislation, may obscure the definition of illegality (Brack et al. 2002). In the following sections a number of definitions of illegal logging are presented and fundamental differences of the term are pointed out.

3.1. Currently used definitions of illegal logging

According to the EU definition, illegal logging and related trade occurs when timber is harvested, transported, processed, bought or sold in violation of national or sub-national laws.

The harvesting procedure itself may be illegal, including using corrupt means to gain access to forests; extraction without permission or from a protected area; the cutting of protected species; or the extraction of timber in excess of agreed limits. Illegality may also occur during transport, such as illegal processing and export; fraudulent declaration to customs; and the avoidance of taxes and other charges. It should be noted however, that much destructive logging is legal and that destructive legal and illegal logging are often linked. Therefore, addressing illegally sourced timber alone is not sufficient.

One should distinguish between two **types of illegal logging**:

1. On the one hand, wood may be stolen by the local population due to their poverty to meet their living requirements. This mainly comprises firewood, and to a lesser extent construction wood. This form of illegal logging can only be tackled by improving the population's living conditions.
2. The greater proportion of illegal logging, however, is carried out by companies which sometimes have mafia-style structures and are part of organized crime. This form of illegal logging is closely tied to other criminal activities such as corruption, violence and money laundering. The local population can lose its livelihood through this commercially organized form of illegal logging and usually does not receive any benefit from the trade.⁵

Different stakeholders use different definitions of illegal logging. Environmental NGOs tend to use a broader definition including illegal logging relevant acts, as representatives of industry and governments do. However, all actors agree that illegal logging is a punishable act.

Even at the level of FAO there is no single definition, but a number of FAO-documents have undertaken compilations of definitions on the issue. A very comprehensive list is presented in (Rosenbaum 2003), which also includes some of the definitions presented more in detail below. It also starts out with the wide-ranging definition of "illegal logging takes place when timber is harvested, transported or sold in violation of national laws (Brack and Hayman 2001). Below is a list of samples of the many definitions of illegal logging. Most definitions differ only in detail, but some rather considerably.

⁵ Published in *Illegal Wood for the European Market, an Analysis of EU Import and Export of Illegal Wood and Related Products*, WWF, July 2008

1. A rather extensive definition of individual acts constituting illegal logging has been presented by the WWF/World Bank Alliance:

“Illegal logging is logging:

- *outside a concession area;*
- *in excess of quota;*
- *in a protected area;*
- *without appropriate permits;*
- *without complying with bidding regulations;*
- *without submission of required management plans;*
- *in prohibited areas such as steep slopes, river banks, and water catchments;*
- *protected species (as defined by CITES or other international law);*
- *with duplicate felling licenses;*
- *using girdling or ring-barking to kill trees so they can be logged legally;*
- *that contracts with local entrepreneurs to buy logs from protected areas;*
- *removing of under/over sized trees from public forests;*
- *reporting high volumes extracted from forest concessions to mask that part of the*
- *volume is from non-authorized areas outside of the concession boundaries;*
- *using bribes to obtain logging concessions;*
- *using deceptive transfer pricing and other illegal accounting practices to distort prices, volumes, cash flows and debt service levels (for example some companies will inflate the price of imported inputs such as machinery and deflate prices and volumes of their exports to reduce nominal profits, their tax liability with the host country and to illegally transfer funds abroad);*
- *that engages in the illegal transport and trade of timber or the smuggling of timber; that is processed with out the required licenses and that is not in compliance with environmental, social and labor laws. (WWF/World Bank Alliance 2003)*

2. FAO made a detailed identification of various possible types of illegal activities constituting “illegal logging”, stating that:

“There are many types of illegal forest practices.... Public servants may approve illegal contracts with private enterprises. Private commercial corporations may harvest trees of species that are protected by law from timber exploitation. Individuals and communities may enter public forests and illegally take products that are public property. Illegal activities do not stop at the forest. They travel down the line to operations in transportation, processing and trade of forest products. Individuals or corporations may smuggle forest products across international borders or process forest raw materials without a license. Corporations with strong international links may artificially inflate the price of imported inputs or deflate the volume and prices of their exports to reduce their tax liability and to facilitate the illegal transfer of capital abroad” (FAO 2001).

It is worth noting that the two definitions above both include fraudulent corporate activities aimed at price-distortions in their set of practices associated with illegal logging.

3. Further attempts have been made by other authors:

- *“Illegal logging activities include the harvest, transportation, purchase or sale of timber in violation of national laws. The harvesting procedure itself may be illegal, including using corrupt means to gain access to forests; extraction without permission or from a protected area; the cutting of protected species; or the extraction of timber in excess of agreed limits (Marijnissen et al. 2004).*
- *Illegal Logging takes places when timber is harvested, transported, bought or sold in violation of national laws. The harvesting procedure itself may be illegal, including*

using corrupt means to gain access to forests, extraction without permission or from a protected area, the cutting of protected species or the extraction of timber in excess of agreed limits. Illegalities may also occur during transport, such as illegal processing and export, mis-declaration to customs, or the avoidance of taxes and other charges (Brack et al. 2002).

- *The term Illegal Logging is used to refer to timber harvesting-related activities that are inconsistent with national (or sub-national) laws. Illegal and corrupt activities in the forest sector can span the entire industry from wood harvesting and transport, to industrial processing and trade. Illegal cutting includes logging inside protected areas or outside concession areas. Logging within allocated concessions can be illegal if it does not conform to the law. For example, cutting restricted species, or over the allowable limit, or before the concession or license is active, constitutes an illegal act. Other types of illegal activities include under-reporting the amount cut, false reporting of the species harvested to avoid higher taxes, the illegal transport of timber, and the poaching of wildlife in areas opened up by timber-cutting. Corruption can occur at many levels, from the issuance of licenses and concessions to local law enforcement (Smith 2002).*
- *Illegal logging takes place when timber is harvested, transported, bought or sold in violation of national laws. Types of illegal activity include illegally obtaining concessions (e.g. via corruption), cutting trees without permission, taking out more trees, undersized trees, oversized trees than is permitted, illegal processing or an under-declaration to customs of the amount being exported (FERN 2001).*
- *The Japan Federation of Wood-Industry Associations (JFW) defines illegal logging as the logging of forests and transport of wood in contravention of the laws and regulations of the country concerned (Kuga 2002).*

These definitions are broad and include almost any illegal act that may occur between the actual growing of trees to the arrival of the product in the hands of the consumer.

Other authors see illegal logging as a part of a broader term, “illegal practices” or “illegal activities” in the forestry sector (Contreras-Hermosilla 1997; Callister 1999; Contreras-Hermosilla 2002b; Guertin 2003):

- Logging protected species;
- Duplication of felling licenses;
- Girdling or ring-barking in order to kill trees so that they can be legally logged;
- Contracting with local entrepreneurs to buy logs from protected areas;
- Logging in protected areas;
- Logging outside concession boundaries;
- Logging in prohibited areas such as steep slopes, riverbanks and water catchments;
- Removing under/oversized trees from public forests;
- Extracting more timber than authorized;
- Reporting high volumes extracted in forest concessions to mask the fact that part of the volume declared is extracted from non-authorized areas outside the concession boundaries;
- Logging without authorization;
- Obtaining logging concessions through bribes;
- Buying logs from local entrepreneurs that have been harvested outside the concession;
- Contract with local forest owners to harvest in their land but then cutting trees from neighboring public lands instead; and
- Logging when in breach of contractual obligations (e.g. logging before the environmental impact statement).

A somewhat closer definition of illegal logging was suggested by FAO and UNECE for the preparation of country reports presented recently at the Joint UNECE/FAO Workshop on

illegal logging and trade of illegally-derived forest products in the UNECE Region (16 – 17 September, 2004). Focusing mainly on harvesting operations, this definition states that: *“Illegal logging refers to timber harvesting activities that fail to respect national and sub national laws and norms that regulate such harvesting operations”* (UNECE/FAO 2004).

In the Macedonian Law on Forests, **there is not a precise definition on illegal logging**. The activities of illegal logging are mentioned through out the articles, but not with precise definition. Only in article 69, some kind of definition for illegally logged wood in forest is given. According to the Article 69 *logged wood that is transferred or transported without dispatch note and is not stigmated and stored wood that is not stigmated and does not have dispatch note is considered as illegally logged wood.*

4. ILLEGAL LOGGING IN FYROM

Until the adoption of the Law on Forests, keeping the forests was in the jurisdiction of the forest guard service in the frames of forest commercial enterprises. This forest guard service counted 438 persons and in a time when illegal logging was less expressed. The Forestry Police was formed on 1 October 1998, with 150 forestry policemen although the foreseen number, according to the law, was 300. In 2001 this number of 150 was reduced to 87 and it achieved a number of 111 forestry policemen by way of juridical verdicts. That did not comply with the planned number of 300 forestry policeman and the needs were far greater. Organizations of the people that practice illegal logging are well defined and equipped, and immediate intervention for suppression of this activity is essential. The forest management is an obligation of all citizens, especially those from the forestry sector.

Illegal loggings cause invaluable damages from both economic and environmental aspects to the forests in FYRoM. Illegal logging in FYRoM is not a new phenomena, it is traditional. For instance, the volume of illegally logged wood mass that was detected by forest guard service until 1995 was around 7 000 m³ annually. Most of this wood was for satisfying the needs of the domestic population, and a relatively small proportion was commercial wood. Up until then, most endangered regions were the regions of: Skopje, Kumanovo, Prilep, Radovish and Strumica. As from 1995 a significant increase in illegal logging is noticed across the whole country, which causes great damages to the forest fund, especially in the surroundings of the cities: Prilep, Radovish, Kumanovo, Strumica, Veles, Tetovo, Gostivar and Makedonski Brod. The greatest damage is caused by illegal loggers that cut forest for gaining financial means by selling firewood. Beyond 2000, the illegal loggings are most expressed in the parts of the country subject to the war conflicts as those areas could not be controlled by the Forestry Police. The occurrence of illegal logging had spread in the other parts of the country and of massive appearance. The offenders have also become more aggressive, forcing the Forestry Police to often act jointly together with the Ministry of Interior Affairs.

Most common **reason for illegal logging** according to reports of the forest units of the PE "Macedonian forest" is unfavorable social condition, where loggings were undertaken to fulfill personal needs. However, the most massive illegal loggings are done by organized wood thefts that with the assistance of employed personnel in the PE gain big financial benefit. There are the cases of forest devastation in many areas, but most characteristic are the following localities: Breza, Buzalkovo (near Veles), Dobrino, Dejkovec (near Skopje), Crnilishte (near Prilep), Golak (near Delchevo), Smrdeshnik (near Radovish), Ograzhden (near Strumica) and all the areas that were covered with the war conflict, especially in Lipkovo and Tetovo region. Illegal logging cases of technical wood from recent date endanger the newly raised plantations of white and black pine in the regions of Prilep, Delchevo, Shtip, Berovo and others. Illegal logging has negative effect on the work of the

entities that manage the forests causing great damages upon the forests, especially in the locations where the wood thefts log the wood and leave devastation. They tend to cut the highest quality trees on height, damage trees connected with the logged trees and then escape. Illegally logged wood is sold on the national market to lower prices (excluding state taxes). This activity is also facilitated through the opening of numerous private lands for wood sale, where the illegally logged wood is sold.

There has been a steady increase of illegal logging and timber theft in 2002 and 2003, as result of the unfavorable social and economic conditions in Macedonia. The total number of illegal logging cases in 2002 - 2003 is 14 586.

In the table below there are submitted charges from the Forestry Police (2002-2003) to the administration of justice in the FYRoM, starting from the forest police station with highest number of submitted charges.

number	Forests police stations	Number of submitted charges		total
		2002	2003	
1	Strumica	1744	1408	3152
2	Radovish	764	883	1647
3	Kicevo	932	675	1607
4	Demir Hisar	875	582	1457
5	Prilep	519	450	969
6	Skopje	546	285	831
7	Struga	397	378	775
8	Gostivar	428	247	685
9	Bitola	276	375	651
10	Kochani	218	385	603
11	Shtip	206	206	412
12	Veles	147	241	388
13	Tetovo	87	237	324
14	Berovo	161	137	298
15	Valandovo	115	125	240
16	Kriva Palanka	87	95	182
17	Kavadarci	67	81	148
18	Delchevo	39	75	114
19	Kumanovo	45	58	103
	total	7653	6933	14586

Year	Total submitted charges to the authorized court of law	Total obtained judgments from the authorized court of law	% of solved cases
2004	6 461	4 159	64, 37
2005	6 870	4 608	67, 07
2006	6 321	4 987	78, 9
2007	6 075	5 372	88, 43
09/2008	3 327	3 536	106, 28

In the period of 2004 – 09/2008 an oscillation of the submitted charges is evident. But the percentage of solved cases has an increase that maybe should be related to more efficient authorities of the justice system and increase of their activities. The above percentage of 100

can witness the increased administrative and judicial efficiency, solving the cases from previous years.

year	Fuel wood (m ³)	Timber (m ³)	Other technical wood (m ³)	Evidenced wood on the field (m ³)
2002	2376, 16	63, 96	14,16	1231, 53
2003	2625, 31	113, 15	34, 32	2172,28
2004	2755, 75	145, 89	38, 99	5020, 63
2005	2067, 99	128, 97	55, 94	3172, 25
2006	1787, 68	139, 62	34, 85	2503, 82
2007	2574, 23	301, 95	64, 46	2829, 17
09/2008	1381, 89	289, 87	168, 40	928, 73
total	15569, 01	1183, 41	411, 12	17858, 41

The total illegally logged wood for 2002 – 09/2008 is 35 021, 95(m³).

In total, the volume of illegally logged wood in FYRoM presumably ranges from 25 to 30% (mostly fuel wood – more than 40%, for 2002- 09/2008 – 44, 45% of the total illegal logged wood).

The **main types of illegal logging** in the FYRoM are:

1. Logging without permission or concession from public forests.
2. Wood theft or illegal logging from private forests.
3. False declaration of volumes, species, values or origins of harvested wood.
4. Logging in prohibited areas.
5. Obtaining logging authorization through bribes.
6. Killing or burning trees so that they can be logged.

Illegal logging is identified as a major problem. Purpose of this activity is mostly unfavourable social and economic conditions, insufficient number of forestry policemen and inefficient working of the administration of the justice department in the country. There is difference in the cost of the logged wood when it is obtained on the illegal way, it is much cheaper. For legally paid 2 m³ of firewood, almost 3 m³ of illegal is obtained. If cheaper wood, even with better quality, is available, the gain is obvious. For example, the price of wood, depending of the species (beech/oak) for 1 m³ is 50, 49 to 57 Euros. The same could be obtained on the black market for between 42 to 45 Euros.

The Law on Forests provides measures for misdemeanour offenders not complying with the provisions of the law. Various fine ranging from 1 500 to 20 000 Euro in denar equivalent to punish legal entities and individuals who do not comply with the provisions of the law. Where somebody is caught in the act of carrying out illegal logging , the penalties are higher, i.e. from 3 500 to 4 000 Euros. If the logging is causing a more extensive damage the fine can be up to 8 000 for natural persons. For legal persons the penalties are up to 20 000 Euros.

The illegal logging is closely linked to organized crimes with cases where the organized crime is linked even to the employees in the authorities responsible for forest management.

5. INTERNATIONAL COMMITMENTS AFFECTING THE FORESTRY SECTOR

FYRoM is a signatory to many international commitments dealing with environmental protection, which influence directly or indirectly the development of the forestry sector. The most significant international commitments affecting the forest sector are the following:

- UN Framework Convention on Climate Change (UNFCCC) (1992). It is ratified with a Law of ratification (“Official Gazette of Republic of Macedonia” No 6/97) and entered into force on 28th April 1998.
- Convention on Biological Diversity. It is ratified with a Law of ratification (“Official Gazette of Republic of Macedonia” No 54/97) and entered into force 1998.
- Resolutions of the Ministerial Conference on Forest Protection
- Convention on Wetlands of International Importance (Ramsar) (1977). It is ratified with a Regulation of ratification (“Official Gazette of SFRY” No 9/77). FYRoM approached to this Convention by an act of succession and with nomination of Prespa Lake in the Ramsar List in 1995.
- Council Directive on the marketing of forest reproductive material (EEC/105/1999). According to the Law for Reproductive material of forest tree species (“Official Gazette of Republic of Macedonia” No 55/07) many sub laws are brought (“Official Gazette of Republic of Macedonia” No 131/08) for further transposition of this directive. Until June 2011 is expected to be brought Law for alteration and supplementation of the Law for Reproductive material of forest tree species with a goal for total alignment with the directive.
- Council Directive on the conservation of natural habitats and of wild fauna and flora (EEC/43/92). It is ratified with a Law of ratification (“Official Gazette of Republic of Macedonia” No 49/97) and entered into force in April 1999.
- Council Directive on the conservation of wild birds (EEC/409/79) is transposed in the Law on Hunting (“Official Gazette of Republic of Macedonia” No 26/09).

By signing and ratifying important international documents, FYRoM is committed to sustainable management of all forests. The following regulations are pending for ratifying:

- Council Regulation on protection of the Community's forests against forest fire (EEC/92/2158) pending
- Council Regulation on protection of the Community's forests against atmospheric pollution (EEC/86/3528) pending
- Council Regulation on establishment of a European Forestry Information and Communication System (EFICS) (EEC/89/1615) pending

5.1. International Support to the Forestry Sector

The international assistance and support to the sector is mainly for capacity building and development of strategic documents including the FAO through the project of technical support (TCP), Netherlands Development Agency (SNV), Swedish International Development Cooperation Agency (SIDA), Government of Finland, and the Netherlands.

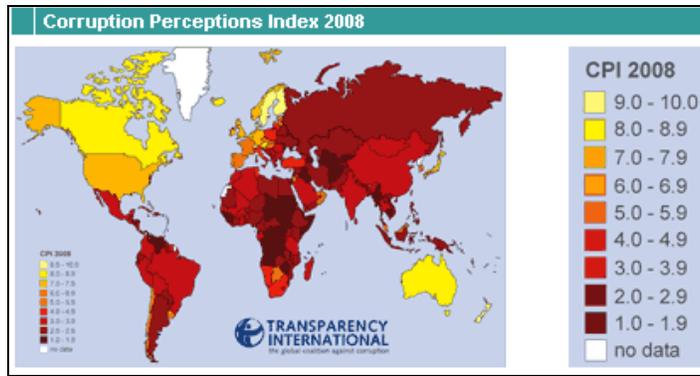
In the period 2004 - 2009 in the forestry sector the following projects have been realized:

- Food and Agriculture Organization of the United Nations, technical cooperation programme (TCP/MCD/3201), "Straightening National Forest fire Preparedness", 2009.
- Food and Agriculture Organization of the United Nations, "Institutional development and capacity building in forestry and forest industry subsectors" (TCP/MCD/3002 (A)), developed "Strategy for Sustainable Development of Forestry in the Republic of Macedonia", 2005-2006.
- Food and Agriculture Organization of the United Nations, "Introduction of Improved Agriculture, Mechanization, Irrigation and marketing", 2004-2005.
- Balkan Foundation for Sustainable Development, "Capacity Building for private forestry in Macedonia", 2006.
- Balkan Foundation for Sustainable Development, "Activities towards proclamation of Shara national Park", 2007.
- Balkan Foundation for Sustainable Development, "Classification of European Biomass Potential for Bioenergy Using Terrestrial and Earth Observations - CEUBIOM", 2008-2009.
- Confederation of European Forest Owners, "Private and community forestry - developing livelihoods on the basis of secure property rights in selected countries of South east Europe (SEE)", 2009.
- Swedish International Development Cooperation Agency (SIDA), facilitator in the preparation of the National Strategy for Sustainable Development of the Republic of Macedonia, financed by the Government of the Kingdom of Sweden, 2006.
- Netherlands Development Agency (SNV), supporting many projects for making strategies for touristic development of many municipalities in Republic of Macedonia.
- European Institute for Forestry - Joensuu, Finland (EFI) – "Strengthening capacities of education and training for forest policy and economics development in Western Balkan region" (FOPER)

In the above listed projects there were no projects that directly affected the capacity building and prevention of illegal activities in forestry.

5.2. Corruption Perception Index (CPI) of Transparency International (TI)

The annual *Corruption Perceptions Index (CPI)* was first released in 1995. It is the best known of Transparency International's (TI) tools. It has been widely credited with putting TI and the issue of corruption on the international policy agenda. The CPI ranks 180 countries by their perceived levels of corruption, as determined by expert assessments and opinion surveys. CPI index relates to value means that higher value indicates a lower level of corruption. The highest value index is 10.



Corruption Perception Index (CPI) for FYRoM 2003-2008

Rank	Index						
	2008	2008	2007	2006	2005	2004	2003
72	3.6	3.3	2.7	2.7	2.7	2.7	2.3

Looking at the CPI estimate for FYRoM it can be concluded that the index has a significantly small value, which indicates a high level of corruption. FYRoM is on the 72 place in relation to the list of 180 countries, which is very unfavorable position. An encouraging factor is the increase through out the five years for 1.3 points from 2003 to 2005.

6. LIST OF PERSONS AND THE BODIES WHO CONTRIBUTED WITH NECESSARY INFORMATION

- **PE “Macedonian forests”**
Angele Spirovski, Adviser to the General Manager,
Stojan Ivanov, Assistant Manager
- **Forestry Police, Ministry of Agriculture, Forestry and Water Supply**
Slobodan Manevski, Head of the Forestry Police
- **Ministry of Environment and Spatial Planning**
Sasho Sekulovski, Head of Public Relations Office
- **State Environmental Inspectorate, Ministry of Environment and Spatial Planning**
Darko Blinkov, State inspector of environment
- **University :St. Cyril and Methodi”, Faculty for forestry**
Ivan Blinkov, professor PhD

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