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Activity 2.7: Forestry and timber industry

Report on

Challenges and priority for adapting the management of Carpathians forests to new environmental and socio-economic conditions

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INTRODUCTION

1.1 THE CARPATHIAN CONVENTION - SARD-F

The Carpathians are shared by seven Central and Eastern European Countries: Czech Republic, Hungary, Poland, Romania, Serbia and Montenegro, Slovak Republic and Ukraine, five of which have already joined the European Union (EU). This increases the possibilities of sustainable development based on the rich natural, environmental, cultural and human resources of the region.

On 4 January 2006, the Carpathian Convention entered into force as a new international treaty to conserve the rich wildlife, wondrous landscapes and cultural heritage of the Carpathian mountainous region. The development of the Framework Convention on the Protection and Sustainable Development of the Carpathians began in 2002, the United Nations International Year of the Mountains, and mirrors the development of the Alpine Convention which predates it. On 22 May 2003 in Kyiv, Ukraine, the seven concerned Ministers of the Environment signed the Framework Convention on the Protection and Sustainable Development of the Carpathians. The Carpathian Convention provides the framework for cooperation and multi-sectoral policy coordination, a platform for joint strategies for sustainable development, and a forum for dialogue between all stakeholders involved.

On May 2007, in the context of the Carpathian Project, the Dept. TeSAF of the University of Padova signed a contract with the Environmental Information Centre UNEP/GRID-Warsaw within INTERREG IIIB CADSES "Carpathian Project", in order to carry out the Action 2.7 "Forestry and timber industry"-

The Carpathian Project has been developed by UNEP - Interim Secretariat of the Carpathian Convention and RTI Polska, together with Carpathian Convention Signatories and the broad project consortium. The Project originates from a fusion of the Carpathian Convention process with the conclusions of the INTERREG IIC Vision PlaNet Project.

The project is carried out within The EU Community Initiative INTERREG III B CADSES Neighbourhood Programme. The project duration: **September 2005 - August 2008**.

1.2 OBJECTIVES

The essential objectives of Action 2.7 were: - to provide a general overview of the current state of forest resources in the Carpathians and - to highlight the challenges and priorities for adapting the management of Carpathians forests to new environmental and socio-economic conditions. The outputs foreseen were two reports dealing with the forest status (Part I) and forest policies (Part II) of the Carpathian regions.

The first report (Part I) presents an analysis of the current state of forest resources in the Carpathians including the following elements:

- description of natural resources of forests;
- analyses of forest management systems;
- state of nature protection and forest health in the Carpathians;
- disturbances and damages to forest resources.

The present one deals with forest policies in the Carpathian countries and particularly on the following issues:

- past and present situation of the sustainable forest management related also to the forest restitution process;
- forest policy guidelines: analysis of current legislation at international, national and local level;
- analysis of the main achievements and obstacles to sustainable forestry in the Carpathian region: projects, funding, certification, tourism, illegal logging, etc.

1.3 METHODS

The study has been carried out through a bibliographic research, information requests to experts of each country and field trips.

The existing databases and other sources used for the relevant analysis include data collection in the context of major studies such as:

- Carpathian Convention and Carpathian Project document and publications from Workshops, Meetings, Conferences, etc.
- UNECE Statistical Databases and publications
- FAO forest data
- UNESCO documents
- UNFF reports
- EFSOS studies
- EFI databases, research reports and proceedings,
- National CSO (Central Statistical Offices)
- EURAC studies
- EEA publications
- National reports of Ministers, Forest Management Institutes, Forest Research Institutes
- National Forest Inventories
- IUCN
- Scientific publications
- WWF REPORTS
- Other NGOs and associations (websites and publications)
- Any other documents

During the project, field trips were organized to collect further information. The visited countries were:

- Romania, with the support of Ionel Popa, Experiment Station for Spruce Silviculture (ICAS) Suceava (from 10th to 14th August 2007)
- Ukraine, with the support of Yuriy Shparyk, Ukrainian Research Institute for Mountain Forestry (URIMF) – Ivano-Frankivsk (from 16th to 20th October 2007)
- Slovakia, with the support of Mikulas Cernota, Forest Research Institute (FRI) – Zvolen (from 17th to 20th October 2007)

After the first outlook of the different information sources, some problems emerged with the data, such as:

- the Carpathian boundaries have not yet been defined, so different sources report data referred to different areas;
- the available data were not homogeneous for all the Carpathian regions (i.e.: forest definition, forest types classification, etc);
- they were most often aggregated at national level, thus considering only the Carpathian area is somewhat subjective;
- many articles, publications, laws and websites were not in the English language (countries languages).

It was therefore decided to draw up a specific questionnaire in order to collect some basic harmonized information and to send it to reference persons (experts) in each country.

The information collected from the experts was essential for this study and the authors warmly acknowledge all the contributions. Clearly, the authors should be held responsible for any mistake and/or incorrect data that might be found in the reports.

Table 1 reports the list of the people completing the questionnaires.

COUNTRY	CONTACT PERSON	INSTITUTE	FOREST POLICY INPUT
CZECH REP.	Otakar Holusa	Ministry of Agriculture, Forest Management Institute	Questionnaire
HUNGARY	Csaba Mozes	Ministry of Agriculture and Rural Development – Department of Natural Resources	Questionnaire
POLAND	Czeslaw Koziol	Forest Gene Banks Kostrzyca Director	Questionnaire and other data, correction of the report draft
	Katarzyna Loskot	Forest Gene Banks Kostrzyca	Correction of the report draft
	Tomasz Wójcik	International Cooperation Department General Directorate of State Forests	Correction of the report draft
ROMANIA	Dragos Mihai	National Forest Administration ROMSILVA – Silvotourism Unit	Questionnaire
	Mihai Zotta	National Forest Administration ROMSILVA -	Questionnaire
	Mircea Verghelet	National Forest Administration ROMSILVA – Head of Protected Areas Unit	Questionnaire
	Ionel Popa	Experiment Station for Spruce Silviculture (ICAS) - Suceava	Database of Forest Management Plans of Suceava county,
SERBIA:	Rastko Jankovic	Ministry of Agriculture Forestry and Water Management - Directorate of Forests	Questionnaire and other data
	Sasa Stamatovic	Ministry of Agriculture Forestry and Water Management - Directorate of Forests	Correction of the report draft and other data
SLOVAKIA:	Mikulas Cernota	National Forest Centre – Forest Research Institute Zvolen	Questionnaire and other data, correction of the report draft
UKRAINE	Yuriy Shparyk	Ukrainian Mountain Forestry Research Institute – Ivano-Frankivsk	Questionnaire, other data and elaborations, correction of the report draft
	Liubov Poliakova	State Forestry Committee, Kyiv	Questionnaire and other data, correction of the report draft

Tab. 1 – List of the country experts contacted during the study.

Following an example of the questionnaire proposed to the experts is shown in figure 2.

COUNTRY:

The Agency completing the Questionnaire:

FOREST POLICY

1. FOREST OWNERSHIP PATTERNS 2007

OWNER	FOREST AREA (HA)	% OF TOTAL FOREST
STATE FOREST		
COOPERATIVE FARMS		
COMMUNITY (*)		
PRIVATE INDIVIDUAL		
PRIVATE GROUP		
PRIVATE BUSINESS		
OTHERS (pl. specify)		
TOTAL		

(*)Community Forests in above table is forest property owned by cities, towns, other settlements

2. If there is private forest ownership in your country, kindly further specify number of owners according to size classes of forest property (2007):

SIZE CLASS	TOTAL ha ha ha ha ha ha
NO. OF PRIVATE OWNERS							

3. What is the area of protected forests privately owned?

4. What are the obligations for a forest owner towards the administration? (taxes, social projects etc.)

5. What are the forms of government support to private forest owners:

- Personnel (forestry professionals)
- Incentives (monetary support, direct and indirect)
- Information
- Training of private forest owners
- Marketing of forest products
- Other (please specify)

6. GDP coming from forestry sector in your country

7. Is the privatisation process finalised in your country? What are the consequences and the expectation of these processes?

8. What is the trend on employment in the forestry sector during the last ten years?

9. Do private forest owners form groups or organizations (e.g. "association") in your country, which represents their interests?

YES NO If "YES", kindly specify:

10. Do private forest owners form groups to facilitate the management of their forests?
YES NO If "YES" please provide percentage of total number of private owners who are members of such groups: % . If "NO" please give reasons:

11. Organisations and associations present in the Carpathian regions working on forestry sector.

12. Adoption of new rules, laws for forest restoration, formation, forest health rehabilitation and designated forest uses in the last years
13. Forest ownership structure in Carpathian area
14. Employment at national level and in Carpathian area (no. etc...)
15. Wood removal and production for Carpathian area
16. Wood harvested/worker/day (m³/day)
17. Wood industry in Carpathian area (number, name of the most important, importance relating to national level....)
18. Import/export at national level
19. Obstacles for forest management
20. Forest certification in the Carpathian area: no forests. If yes , please insert name of forest, and surface and the certificated entity.
21. Illegal logging in the Carpathian area
22. Tourism in Carpathian area, mountains, sky resorts, national parks....

Figure 2 – Example of questionnaire used in this study.

PART II: FOREST POLICY AND SOCIO ECONOMIC STRUCTURE

The Carpathians have seen **substantial ecological changes** in the past, especially in terms of deforestation. Celtic tribes developed agriculture in the Carpathian foothills and fertile lowlands of southern Slovakia; and the Romans advanced north from the Pannonian Plain (e.g. along the Vah valley) and exploited forests for timber to build fortified settlements on the northern borders. In the 12th–13th centuries, Saxon colonists were invited by Hungarian monarchs to resettle in areas depopulated by Tatar raids and further forest damage is attributed to their mining and metallurgical activities. **Deforestation** is also reported from Poland to extend fields in the valleys and pastures on the higher ground where the tree line was significantly lowered. (Turnock, 2002)

By the mid-16th century, the foothills were completely colonised by a dense network of settlements, though commercial exploitation of the forests was limited by lack of navigable rivers. Following the Habsburg annexation of Galicia, with its consequent economic and fiscal pressures, land registers show fragmentation of landholdings, and intense forest exploitation (fast growing pine and larch favoured over deciduous forest dominated by beech).

Restructuring contributed to the overdevelopment of Carpathian valleys taking place almost everywhere during the railway age, with additional consequences for biodiversity because of alien species diffused by modern transport. The commercialisation of agriculture and the forest economy followed the main line railways and the building of narrow gauge forest railways; as did the more selective growth of mining, manufacturing and tourism. Human impact depressed the timberline in the Tatra, with recovery possible only after the Tatra National Park was established and human pressure was reduced.

During the 18th century all other forests became open to exploitation, 95% of the clear cuts were restocked with the introduced species Norway spruce. Tendencies towards monoculture have been reported from Ukraine since 1750 with the decrease of beech and oak and related woods and the increase of fir–spruce. There was also a tendency in the 19th century to use seed of foreign provenance (mainly Austrian) to re-forest bare lands after wind and insect calamities (Turnock, 2002) and the development of an intensive forest industry, mainly for timber export, fostered deforestation.(Enssle, 2007)

The dominance of deforestation was clear until World War I. Since World War II, a steady net increase in forest area has been reported in national forest inventories and in many locations in the Carpathians.

In 1989 (fall of communism) a wave of events, starting in Poland and including the 'velvet revolution' in Czechoslovakia caused the end of the communist regimes. Since then, changes have been rapid – reprivatisation of state-owned land, dramatic alterations in rural systems and incomes, the introduction of market systems and recession are just a few of the changes that have buffeted the region. In some cases, local deforestation pressures occurred in the Carpathians, mostly at the beginning of the 1990s, as a result of rural poverty, unemployment and side effects of changes in the forest management system (Kozak, 2007)

After the 1990 transition to a market economy, there was a sudden rise in illegal logging and poaching, as law enforcement was weak (Turnock 2002). A study for Ukraine, Slovakia and Poland has shown that harvesting increased immediately after the transition. The amount of increase varied among countries: a quick institutional change in Poland reduced impacts on forestry. In Slovakia, a slower institutional reform took place. Also, a stronger shift in ownership patterns led to higher fragmentation. Ukraine experienced the highest rise in harvest rates until 1994. This is the country that had already suffered heavy forest exploitation during Soviet times. (Enssle, 2007).

The Carpathian region spreads over the following countries: Romania, Poland, Ukraine, Slovakia, Czech Republic, Hungary, and Serbia. Before describing the forestry legislative situation (table 1) of the Carpathian countries, it is necessary to introduce a brief overview of the present political situation in the countries, dividing them into several different groups.

Firstly, there are countries which belonged to the Eastern Bloc before 1990: Romania, Poland, Hungary and the Czech and Slovak Republics, as the successor states of the CSSR. The Ukraine as part of the former USSR has a particular standing in this group, because it was not an independent state before. Serbia as a part of former Yugoslavia was non-aligned.

Secondly, except for the Ukraine and Serbia, they are all members of the European Union. This is important, because national conservation policy is regulated by EU laws. That means all member states have to subordinate their conservation legislation to EU standards.

Sustainability is understood not only as the sustained production of wood, but comprises the sustainability of the entire forest ecosystem with its multiple functions (environmental, social and economic) and processes. Environmental and nature protection is receiving more attention, which leads, at least in the medium-term, to restrictions of economically-oriented forest management.

All the Carpathian Countries have adopted **policies related to sustainable forestry management** aiming at preserving biodiversity and combating climate change. **Three main objectives** regarding the economic, environmental and social functions of forests can be identified from the policies developed in the region.

The first objective is **to strengthen the economic function of the forest**. The forestry sector constitutes an important source of income (wood) for Carpathian Countries. The preservation of this resource is seen as fundamental and, as recommended by the *National Biodiversity Strategy* of the Czech Republic, it can be achieved through forest management plans encouraging the adoption of environmentally-sound management methods.

The second objective is to **improve and protect the environment**. The overall objective is to maintain and appropriately enhance biodiversity, carbon sequestration, integrity, health and resilience of Carpathian forests. Regarding this, the objective of the *National Biodiversity Strategy* in Czech Republic and the *Strategy and Plan of Forestry Development* adopted in Slovakia is the maintenance and/or the increase of the current forested area in order to ensure the needs of forest biodiversity conservation. Moreover, the Czech Strategy for the Protection of the Earth's Climatic System, adopted in 1999, implements the Kyoto Protocol and proposes the creation of economic tools to promote energy savings and afforestation. These policies thus aim to enhance the protection of Carpathian forests and to preserve biodiversity.

The third objective is **to contribute to a better quality of life**. The Carpathian countries place great importance on preserving and supporting the cultural and social dimension of forests. To reach these objectives, the policies maintain and enhance the protective functions of forests: attractive to city inhabitants, they provide opportunities for recreational and healthy activities and represent a valuable part of the traditional heritage. (EURAC,2006)

Forest management planning, through which the main principles of forest protection are applied under concrete conditions, and conservation of biodiversity and the ecological functions of the forests are main concerns in the national legislations.

The Government of Ukraine, for example, has taken considerable steps to conserve its biodiversity. Since 2001, the country has increased the number and coverage of protected areas. It adapted new legislation to develop a "National Ecological Network" that integrates biodiversity conservation into sector development policies - especially for agriculture, forestry, hunting, and water management. At legislative level, the Parliament approved new codes for land, water, and forestry management (New Forest Code of 2006). To

harmonize policy and legal mandates with international standards, especially the European Union, Ukraine signed multi-lateral agreements, such as the European Neighbourhood Action Plan. (Enssle, 2007)

Poland has adopted a *Regulation on the improvement of forest management according to ecological rules*. It prescribes, for example:

- the maintenance of riparian forests and protection of forest wetlands
- the preparation of nature conservation programmes as annexes to forest management plans
- the promotion of natural forest regeneration
- restrictions on clear-cuts

In the same spirit, the Czech Act on Forests defines the preconditions for the preservation of forests, their care and regeneration, and support for sustainable forest management.

In the case of Serbia and Montenegro, the two Republics developed different policies and laws. In the Republic of Serbia, the *Law on Forests* is in force, but a new law is in preparation and the future legislation will be harmonized with the EU legislation.

Romania has developed many laws and regulations regarding forests, hunting and logging activities, which prescribes sanctions for illegal activities. These numerous acts are not always consistent with each other: for instance some aspects of the *Law on Hunting* are in contradiction with the *Law on Nature Protection Areas*, especially concerning permission for the hunting of protected species.

All the Carpathian countries have at least one act dedicated to forests and have adopted policies related to sustainable forestry management.

Nevertheless, only one of them is specific to mountainous areas: Romania succeeded in the adoption of the *Law of the Mountain Region and the Sustainable Development Strategy of the Mountain Region*, which provides principles, objectives and measures of sustainable development in mountain areas.

Ukraine is the only country that has a **specific law related to the Carpathian region**: *Moratorium on Clear Cuts on Mountain Slopes in the Beech-Fir Forests of the Carpathian Region* (2000). The Law lays down a moratorium on clear cuts on mountain slopes in the beech-fir forests, main-use cuts in high mountain forests, in forests of basins at risk of avalanche and sills, and in coast-protecting forest sections in the Ukrainian Carpathian region.

Table 1.1: Forestry legislation in Carpathian countries and year of enactment

Country	Forest legislation	Year
Czech Republic	Act on Forest	1995
	National Forest Programme	2003
Hungary	Law on Forests and the Protection of Forests	1996 (implemented in 1997)
	National Forest Program for the 2006-2015	2004
Poland	The Forest Act	1991
	State Forest Program	2005
Romania	Forestry Code	1996
	Law No. 120 / 2004, regarding forest regime and the national forests administration.	2004
Serbia	Law on Forest	1996 (the new law is now in the preparatory phase)
Slovakia	Forest Act	2005
	National Forest Program	2007
Ukraine	New Forest Code of Ukraine	2006
	State Programme "Forests of Ukraine 2002-2015" (Government resolution).	2002

The following table presents the integration of several principles of article 7 of the Convention into the forestry policies of the Carpathian countries.

Table 1.2: Principles reflected into the forest policy

Principles	Y/N						
	CZREP	HUNG	POL	ROM	SERB	SLOV	UKR
Sustainable management of forest resources and forest lands	Y	Y	Y	Y	Y	Y	Y
Protection of forests against pollution	Y	Y	Y	N	Y	Y	Y
Prevention and protection against fire, pests and diseases	Y	Y	Y	Y	Y	Y	Y
Public information on forest ecosystems	Y	Y/N	Y	Y	Y	Y	N
Public participation in development, implementation and planning of national forest policies	N	Y/N	Y	Y	Y	Y	Y
Recognition of vital role of forests in maintaining ecological processes and balance.	Y	Y/N	Y	Y	Y	Y	Y
Afforestation and reforestation	Y	Y	Y	Y	Y	Y	Y
Assessments of economic and non-economic values of forest goods and services	Y	N	Y	N	Y	Y	Y
Protection of natural forest areas	Y	Y	Y	Y	Y	Y	Y
Protection of ecologically-representative or unique types of forests	Y	Y	Y/N	Y	Y	Y	Y
Consideration of alternative uses of forests	Y	Y/N	Y	Y	N	N	Y
Ensure appropriate retention of precipitation in the mountains for flood prevention	N	Y/N	Y	Y	N	Y	Y

1. Sustainable management of forests is expressly defined and considered in all the Carpathian countries, mostly in policies and programmes.

In Serbia, priority is given to rehabilitation of forests in environmentally critical areas.

In Romania, efficient implementation is still a challenge, and in Hungary, sustainability is understood as a sustainable wood supply rather than sustainable forestry management.

2. Protection of forests against pollution is integrated in all the Carpathian countries' policies and laws, except in Romania where there are no regulations on this aspect yet.

In Hungary, the law brings stricter regulation on this topic, valid for protected forests.

3. Prevention and protection against fire, pests and diseases: Carpathian countries' policies on forest protection integrate these issues. In Hungary, the legislation is stricter in protected areas, while in Romania, there are debates between foresters and biologists as to whether or not these measures have to be strictly applied. Moreover, in Hungary forest fires are not a very significant issue.

4. Public information on forest ecosystems: Most Carpathian countries do not have special norms in forestry legislation or policy about public information, although they are provided by general legislation on access to environmental information. However, in Czech Republic the results of the Forests Inventory, as well as the annually published national reports, are available to the public.

5. Public participation in development, implementation and planning of national forest policies

Most of the Carpathian countries' policies regarding forestry incorporate public participation and information in the decision-making processes. The establishment of a Forest Forum as a platform for dialogue among stakeholders and people interested in forest use and conservation is an example of a public participation

mechanism. However, in practice no efficient mechanisms for public information and participation are in place, only formal methods.

6. Recognition of vital role of forests in maintaining ecological processes and balance.

These roles are recognized by the Carpathian legislation, in many cases these roles are neglected in practice because it is very hard to express these services in financial benefits.

7. Afforestation and reforestation

All the Carpathian countries' policies integrate these issues. For example, in Hungary the *National Forest Program* recommends the increase in forest from the current 19% to at least 25%. However the new forest will be established on former agricultural lands and possibly will not significantly affect the forest cover in the Carpathian region.

8. Assessments of economic and non-economic values of forest goods and services

All of these principles are not prescribed within the Carpathian countries' policies. For example, in Romania no forestry policy or law integrates this principle. However, indicators regarding the biodiversity of Romanian forests were developed in 2002, as well as other requirements in connection with forest certification.

9. Protection of natural forest areas

All the Carpathian countries policies' include protection of natural forest areas, but mainly in the national parks and nature reserves.

10. Protection of ecologically-representative or unique types of forests

Protection of unique types of forest is defined in all the Carpathian countries' policies. The conservation of these forests is fully implemented in national parks and nature reserves. For example, in Hungary the most important unique ecosystems are the steppe oak forest and the last remnants of flood plain forests. However, the protection of these forests is not ensured in all cases, especially when they are in private ownership.

11. Consideration of alternative uses of forests

Alternative uses of forests are only taken into account in half of the Carpathian countries. In the Czech Republic a specific law defines the alternative use of forests and describes the conditions for the management of these forests.

12. Ensure appropriate retention of precipitation in the mountains for flood prevention

Retention of precipitation in the Carpathians for flood prevention is not prescribed in all Carpathian countries. However, the *Romanian National Forestry Policy and Development Strategy (2001–2010)* includes all these aspects as strategic actions.

As there are many different actors in the Carpathian region an overview will be provided of the **national institution structures** that guarantee the protection, coordination of actions and sustainability of forests.

The table below shows that the Ministry in charge of forests in the Carpathian countries is often the Ministry of Agriculture, sharing its responsibilities with the Ministry of the Environment and with the support of specialized national authorities.

In all the Carpathian countries, the central public authority in charge of forestry has coordination, regulatory, monitoring and control duties in the field of forests, and is usually responsible for the improvement and use of forests and game. For example, in Poland, the Minister of the Environment manages activities focusing on the protection and economic use of forests, and the maintenance of biodiversity.

Table 1.3: Institutional structure in the Carpathian countries

Country	Ministry in charge of forests	National Forestry Authority
Czech Rep.	Ministry of Agriculture Ministry of the Environment	
Hungary	Ministry for Agriculture and Rural Development	The National Forest Authority
Poland	Ministry of the Environment	The National Forest Holding the State Forests The Forest Council
Romania	Ministry of Agriculture, Forestry and Rural Development	The National Forest Administration/Romsilva The National Forestry Authority
Serbia	Ministry of Agriculture, Forestry and Water Management Ministry of Science and Environmental Protection	
Slovakia	Ministry of Agriculture Ministry of Construction and Regional Development,	
Ukraine	Cabinet of Ministers of Ukraine Ministry of Agricultural Policy Ministry of Environmental Protection	State Forestry Committee

However, the main role in the field of forest management is played by the National Authority devoted to Forestry in the Carpathian countries where it exists.

In Poland, the National Forest Holding the State Forests supervises state-owned forests other than those that are within the national parks, while the Forest Council plays an advisory role for the Ministry at national level. It advises on the proposed activities for the protection of forests and the use of forest resources. It also evaluates the implementation of the State Forest Policy and the management of forests.

In Romania, Slovakia, Ukraine and Czech Republic there are institutions set up on regional and local level. For instance, in Romania at the regional level, the Territorial Directorates on Forestry and Hunting, directly subordinated to the Ministry in charge of forests, are the control and inspection authorities for forestry and hunting. At the local level, there are local Councils.

Moreover, there is a **certain overlapping of duties**. For example, in Ukraine, competences for forestry are divided among many authorities (State Forestry Committee, Ministry of Agricultural Policy, Ministry of Defence, Ministry of Emergency, Ministry of Environmental Protection, and other forest users) that have different interests and the coordination of their activities is not systematized.

In Romania, the main overlaps of responsibility occur between the National Forest Administration, which administers the majority of National and Natural Parks in the Carpathian region, and which is subordinate to the Ministry of Agriculture, Forestry and Rural Development, and the Ministry of the Environment and Water Management, which is the central public authority with respect to biodiversity conservation.

For the latter part of the 20th century, **Carpathian forests were owned and managed by the State**. Under the Communist system, the co-ordinated, centrally managed system had advantages in terms of forest management; advantages which are now being lost as State-owned forests are returned to their original owners in the **process of 'restitution'**. The restitution process has not yet been concluded in many of the seven countries. This procedure, only a small part of a wider process of privatisation, has major implications for the future of Carpathian forests.

Restitution, propelled by political rather than ecological imperatives, poses a challenge for the future of nature conservation in the Carpathians. Whereas small- and medium-sized forest properties used to be part of the

pattern of rural areas, this traditional pattern has been lost along with knowledge about how to manage forests. Under pressure from increasing rural poverty and lacking the skills for forest management, the temptation for the 'new' owners is to quickly clear their section of forest in order to make a rapid economic gain.

The challenge is therefore to encourage good - and particularly co-ordinated - forest management amongst the new forest owners, to educate and provide them with the capacity to implement good practices.

'Private owner associations' have been set up as a useful mechanism for encouraging co-ordinated management.

The biggest problem caused by the restitution, privatization process are: creation of very large numbers of private forest owners, many with small holdings (<5 ha) and limited background in forest management. (e.g. Romania: in the Carpathian area there are 828,138 private forests in 2007 for a total area of 2,257,423 ha). A brief overview follows of the main aspects of the restitution process in the Carpathian countries.

- **Poland:** Polish State Liberation Committee (Decree of 12 December, 1944): private forests owners (> 25 ha) lose properties in favour of the (State) Treasury. The national policy excludes privatisation of the State Forests.

- **Hungary :** the privatization process is declared finalized. Policy of the process:
Law on compensation (passed in 1991, entered into effect in 1992)
Law on the dissolution of socialist co-operative farms (1992).

- **Romania:** policy of the process:
Law no. 18/1991 : approx. 0.3 million ha of forests were returned to private owners;
Law no. 1/2000 : approx. 1.9 million ha of forests were returned to private owners;
Law no 247/2005: approx. 0.3 million ha were returned (at the end of 2006).

- **Serbia:** The restitution of forests to churches has not yet been done.

- **Slovakia:** the process is in the final phase. Still 5.5% of unresolved forests have not been given back to their original owners. There are several reasons:
 - no interest expressed in the properties /totally unknown owners /not possible to trace them in the records
 - no mutual agreement between the owners of shared ownership etc....

- **Ukraine:** restitution not a main issue in forest policy reform. Two reasons:
 - different historical developments of Western and Eastern Ukraine (ability to find information about former owners before the Second World War)
 - preventing restitution was a pervasive fear that forests would be destroyed immediately if privatized.

The data in the following table refer to the forest ownership structure of the Carpathian region in the different countries. Data about the Carpathian region in Czech Republic are not available.

Table 1.4: Forest ownership structure in the Carpathian countries

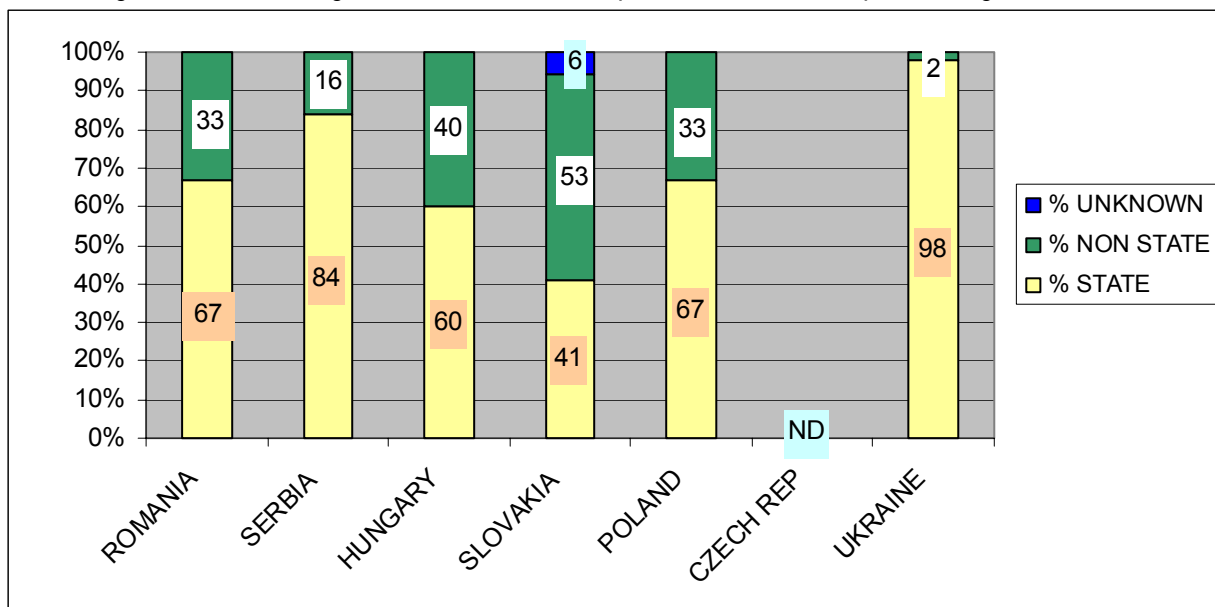
FOREST OWNERSHIP STRUCTURE IN 2007							
	HECTARES			%			HA
	STATE	NON STATE	UNKNOWN	STATE	NON STATE	UNKNOWN	TOTAL
CZECH REP	ND	ND	ND	ND	ND	ND	ND
HUNGARY	228,729	153,082	-	60	40	-	381,811
POLAND	509,814	250,620	-	67	33	-	760,434
ROMANIA	3,799,921	761,111	-	67	33	-	4,561,032

SERBIA	37,052	7,019	-	84	16	-	44,071
SLOVAKIA	794,047	1,032,680	105,322	41	53	6	1,932,049
UKRAINE	1,764,000	36,000	ND	98	2	ND	1,800,000
TOTAL	7,133,563	2,240,512	105,322	75%	24%	1%	9,479,397

It can be observed that 75% of forests in the Carpathian countries, not considering the Czech Rep., are owned by the State, 24% by private owners.

In Ukraine, almost 98% of forest lands are under the state forest enterprises; around 2% are community property and only 0.1% of forests are private property, so the situation can be considered similar in the Carpathian region. (figure 1)

Figure 1.1: Percentage of the forest ownership structure in the Carpathian region



The forests located in the Carpathian region amount to 53% of the total forests in the seven countries. It is difficult, for a number of reasons, to estimate the **contribution of the forestry sector to the national economy** of these countries but at present, in the Carpathian Mountains, forestry is a very integral part of the local economy. (Enssle, 2007). Information is lacking or difficult to analyze and compare in many areas.

The forest sector contributes less than 1% to the **gross domestic product (GDP)** of Hungary (2007), 0.6% to Czech Republic (2007), 0.5% to Romania (estimation 2006), 0.4% to Ukraine (2007), Poland 2.7% (2006), Slovakia 8.5% (2006), Serbia 1.3% (2002).

The following table presents the data **on wood removal, import and export in the Carpathian Region in 2006**, from an elaboration made by DITESAF University of Padova based on the UNECE Trade and Timber Division DB 2007 (in annex). The data were calculated on the basis of proportion of the forest area cover.

Table 1.5: Data of roundwood removal, import, export in the Carpathian region in 2006

Country	2006		
	1000m3		
Carpathian Region	removal	import	export
Czech Republic	2.068	346	149
Hungary	1.186	263	72
Poland	2.744	167	46
Romania	9.905	120	307

Serbia	55	2	1
Slovakia	7.869	350	1.233
Ukraine	2.541	29	450
TOTAL	26.368	1.277	2.258

In the Carpathian regions of Poland, in 2001, 384 thousand m³ of merchantable timber was harvested in private forests, which is 33% of the total merchantable timber harvested in Poland (from GUS data) (Zajac, 2005). The annual volume of prescribed cut in State Forests in the Carpathians is 2 367 thousand m³ of merchantable timber, and the actual average utilization of timber in the years 2002-2006 was 4 527.7 thousand m³.

The graph and table below present the trend of **wood production per hectare** (m³/ha) of roundwood in the Carpathian countries from 2002 to 2006. We can observe that wood production of the Carpathian countries increased till 2005. In 2006 the it amounts to 21,98m³/ha. The weigh for the Carpathian regions amounts to 2,66m³/ha in 2006, with a decrease from 2005. The wood production per hectares of the Czech republic is very high compared to the other countries, in fact it amounts to 6.67m³/ha in 2006. Ukraine and Serbia had the lowest amount of wood production, respectively 1.41 and 1.24m³/ha in 2006. Czech Rep., Poland and Ukraine, increased the production from 2002. Hungary maintained the same production in recent years. Slovakia had a drastic decrease in 2006. Serbia and Romania are also decreasing.

Figure 1.2: Trend of roundwood removal per hectare from 2002 to 2006

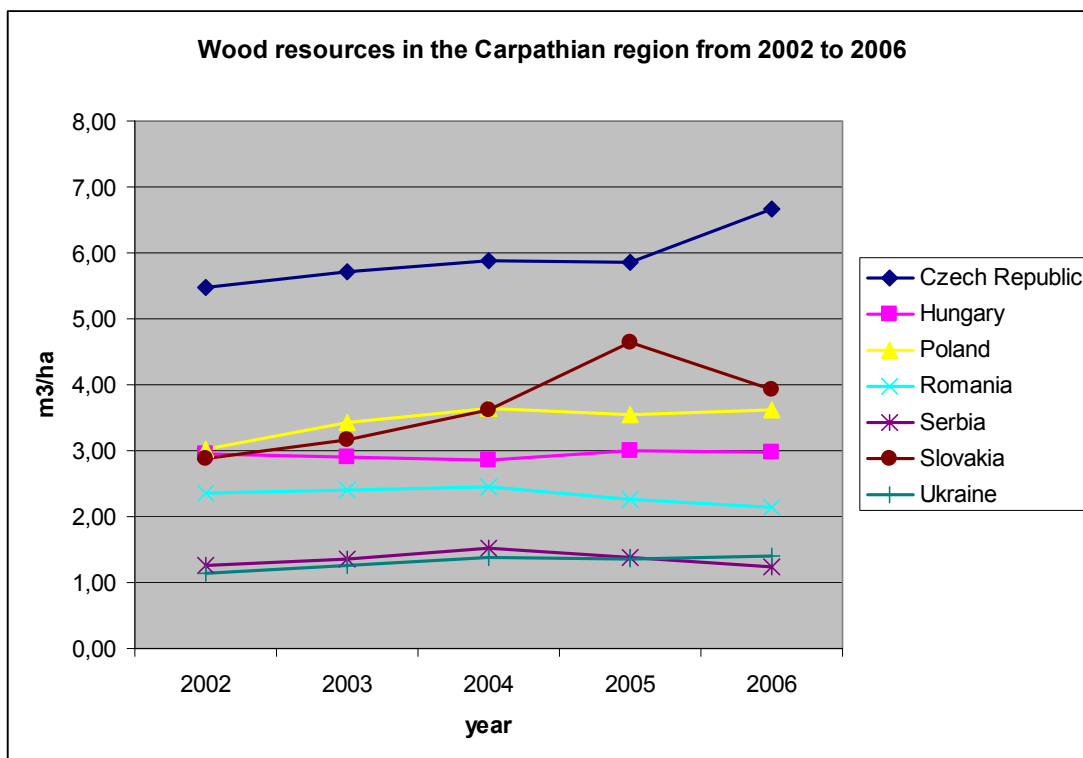


Table 1.6: Data of m³/ha of roundwood removal in the Carpathian region from 2002 to 2006

Unit value (m ³ /ha)	2002	2003	2004	2005	2006
Czech Republic	5.49	5.71	5.89	5.85	6.67
Hungary	2.94	2.92	2.85	2.99	2.98
Poland	3.02	3.43	3.64	3.55	3.61

Romania	2.36	2.40	2.46	2.26	2.15
Serbia	1.27	1.36	1.52	1.37	1.24
Slovakia	2.88	3.17	3.61	4.63	3.92
Ukraine	1.14	1.27	1.38	1.35	1.41
Total m3/ha	19,1	20,26	21,35	22,00	21,98
Total Weigh	2.41	2.55	2.70	2.81	2.66

As mentioned in the State of Forests 2007 the production non-wood forest products (NWFPs) is a very important function of forests and woodlands and has great impact on socio-economic development, but they are mainly part of small scale informal economic activities. In Slovakia, **promoting policies to meet increasing demand for wood and non-wood forest products and services**, through sustainable forest management is secured in following forest policy documents: Programme “Wood – the 21st Century Raw Material”, “Concept of the Forestry Policy of the SR by 2005” and “Midterm Concept of Forestry for the Period 2004-2006”.(UNFF, 2004)

Unfortunately, there are lacking data on market with non-wood products and services. Information on hunting management is sufficiently accurate.

Hunting is a source of income; it mainly organized by state forest enterprises both for supplying a source to local and foreign hunters.

Although the Carpathians extend across different countries, these have relatively similar historical backgrounds with respect to hunting legislation. The hunting tradition in Poland, Slovakia, Ukraine and Romania is deeply rooted in the culture of local people, and hunting activities are regulated by structured legislation.

The majority of the forested territory (up to 80%) of Poland, Slovakia, Ukraine and Romania belongs to the respective States, and so does the wildlife that lives in the forests. The territory of each country is divided into hunting management units, called hunting grounds (HG). Hunting legislation in four countries in the Carpathian Mountains; statutory bodies and laws regulating hunting activities, together with proportions of hunting grounds managed by the various bodies.

The strict legislation regulating hunting activities, such as payment of permits and hunting quotas, do offer valuable opportunities for the long-term conservation of LC in the Carpathians. Notwithstanding this potential, regulation of hunting activities is highly monopolised by hunting clubs (the majority of the Carpathian territory is managed by hunting clubs; and the law enforcement process is often unsuccessful as officers do not consider illegal hunting as a social offence.(Salvatori, 2002)

Information on **illegal logging** and trade in illegally logged material in Carpathian countries is very fragmented. The analysis of available materials shows that the problem of illegal logging is detected in all these countries, but it appears, according to the data collected during the study, that the problem of the illegal logging is not significant in the Carpathian region (less than 1%) (see table 7). However, there is a lack of further investigations on driving factors and official statistics.

WWF estimates illegal logging as a significant issue with the greatest impact on forestry practices in the mountain ecosystem of Romania. This impact is best described in the WWF report “Illegal logging in Romania”, written by: WWF Danube Carpathian Programme (DCP), March 2005.

Some information on illegal logging cases in the Carpathian regions in 2005 (WWF, 2005) are presented in the country report: in Gheorgheni State Forest District (Harghita), Agas State Forest District (Bacau), Borsa State Forest Districts (Maramures) and in Bucegi National Park.

Studies of illegal activities in Serbia were carried out by D.Sc. Branko Glavonjæ, University of Forestry and Vasiljeviæ, Forest Management; and UNECE in 2004.

WWF also reports on illegal activities in Slovakia in 2005.
The data refer to different years, depending on the information collected.

Table 1.7: Volume of illegally logged timber in the Carpathian region and at national level

	The volume logged illegally thousand m3 in the Carpathian region	The volume logged illegally thousand m3	% volume illegal logging Carpathian region/ wood removal at national level	% volume logged illegally/wood removal at national level
CZECH REP(2001)	ND	112.9	ND	<1%
HUNGARY(2003)	9.6	47.7	0.2%	0.8%
SLOVAKIA(2004)	62.4	62.4	0.8%	0.8%
UKRAINE(06-02)	11.1	65.7	0.1%	0.4%
ROMANIA(2003)	57.3	80.3	0.6%	<1%
SERBIA(2003)	non significant	12.0	non significant	<1%
POLAND(2006)	3.0	34.6	0.01%	0.1%

In Romania, there are no data available concerning the total amount of timber illegally harvested in the Carpathian region, but if we considered the forest area of the Carpathian region, it is possible to estimate the amount of illegal logging: 57,3 thousand m³, that is 0,6% of the volume logged in 2006.

In Hungary the volume of illegal logging harvested was estimated considering the forest ownership structure of the Carpathian region and the total forested area.

The Carpathian countries are not involved in any bilateral or multilateral initiatives on FLEGT. The level of involvement of Slovakia in international initiatives on FLEGT and state policy from the point of view of reduction of illegal logging have been assessed. There is no specific official policy in this field; in Slovakia, for example, the valid documents of state forestry policy and in forestry legislation include measures aimed at the reduction or elimination of illegal logging. In Romania to cope with illegal logging the Government approved the National Plan to Fight against Illegal Logging. (WWF, 2005)

About the **certification process**, in the Carpathian countries there is intense competition between the two schemes (FSC and PEFC).

But as we can observe in the following table the FSC process is surely more developed than PEFC, with a total forested area certified (forest management) that amounts to more than 2.5 thousand ha in the Carpathian regions, that is the 30% of the forests certified at national level.

The total PEFC forests certified in the Carpathian regions amount to less than 600,000 ha.

Table 1.8: Forests certified in the Carpathian region as of January 2008(FSC, 2008)

State	PEFC-National Data		Carpathian Regions data		FSC- National Data		Carpathian regions Data	
	ha	forest	ha	forest	ha	forest	ha	forest
CZECH REP.	1 849 754	1(678)	ND	0	14,554	4	0	0
SLOVAKIA	537,120	2	537,120	2	162,240	6	162,240	6
HUNGARY	0	0	0	0	265,683	3	0	0

POLAND	0	0	0	0	4,741,548	14	813,841	3
UKRAINE	0	0	0	0	846,726	10	469,426	1
ROMANIA	0	0	0	0	1,092,801	2	1,092,801	2
SERBIA	0	0	0	0	39,357	1	0	0
TOTALE	2,386,874	3	537,120	2	8,351,779	44	2,538,308	12

The FSC certification process started in Poland in 1996, when two Regional Directorates of State Forests (RDSF) in Gdańsk and Szczecinek were certified. Year by year Poland has increased the area of certified forest to over 6 million ha, which constitutes almost 80% of the country's forest area. SmartWood has certified RDSFs in Poznań, PiódŹ and Radom, and Experimental Forests in Rogów and Siemianice. Poland is also leading in chain-of-custody certification: close to 150 companies have now been awarded the FSC certificate. (www.nepcon.net-2003)

Figure 1.3: Relation between FSC certification at national level and FSC certification in the Carpathian region in 2008

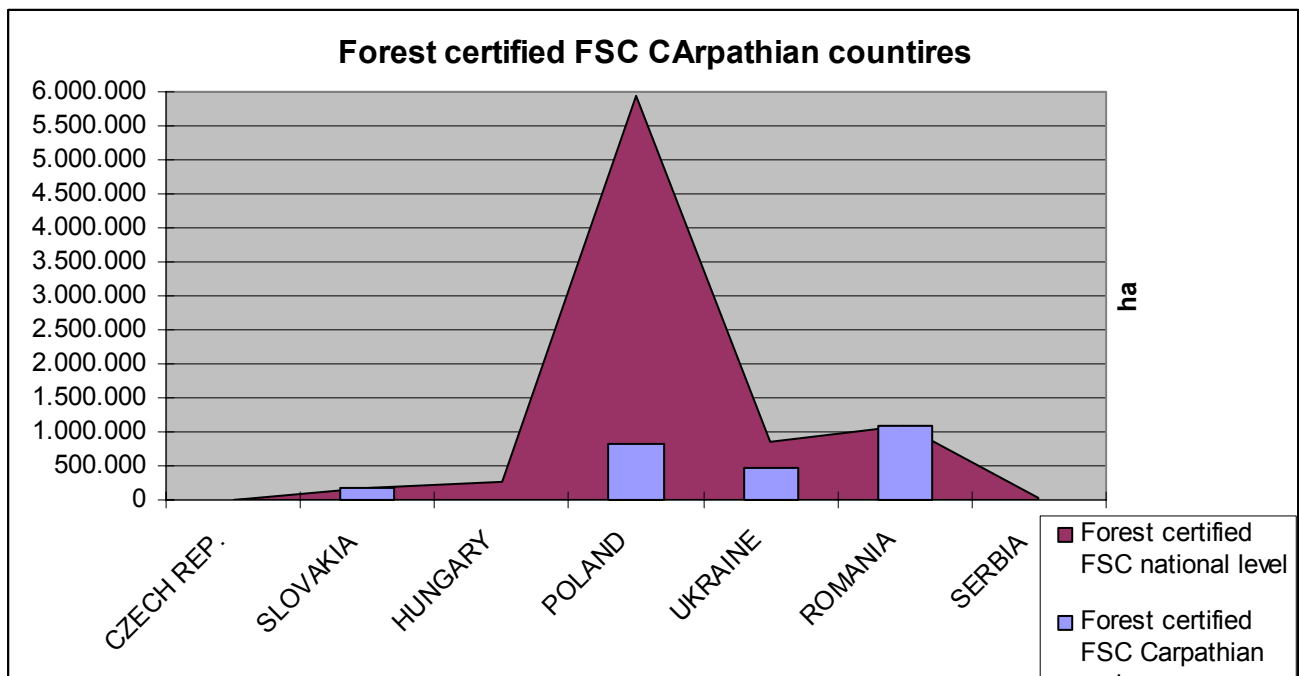


Table 1.9: Percentage of Carpathian forests certified (FSC and PEFC)

	Forests certified- Carpathian region	Forests in the Carpathian region	% of forests certified
Country	ha	M ha	%
CZECH REP.	0	0.31	0.0%
SLOVAKIA	699,360	2.01	34.8%
HUNGARY	0	0.40	0.0%
POLAND	813,841	0.76	107.1%
UKRAINE	469,426	1.80	26.1%
ROMANIA	1,092,801	4.60	23.8%
SERBIA	0	0.04	0.0%
TOTAL	3,075,428	9.92	31.0%

The above table shows that 31% of the forested area is certified in the Carpathian region. The data concerning Poland are explained by the fact that FSC certified organizations also manage forest areas outside the Carpathian region.

In some regions of the Carpathian countries **NGOs actively co-operate with the state forest** administration on issues such as forest certification, assessment of the state of protected territories and the development of recommendations for the improvement of their state, mapping of virgin forests, and preparation of proposals for the establishment of the environmental network. There is a unique international partnership achieving conservation of nature in the Carpathian mountains and at the same time, supporting the local economy and culture for the lasting benefit of people living in the heart of Europe: the **Carpathian Ecoregion Initiative**. This NGO is facilitated by the WWF, more than 50 organisations from seven countries are working together to make this vision reality.

In 1999, the conservation organisation WWF realised that a major international effort would be needed if the rich wildlife and culture of the Carpathians were to survive into the future. In response to this challenge, the Carpathian Ecoregion Initiative was launched, with the aim of steering the region's future development in a sustainable direction. The following table reports member NGOs and research institutes of the Carpathian Ecoregion Initiatives.

Table 1.10: the CERI member NGOs and research institutes

COUNTRY	CERI MEMBER NGOS AND RESEARCH INSTITUTE	CONTACT/WEBSITE
Czech Republic	Czech Environmental Partnership Foundation (EPCE– Czech Republic)	www.nadacepartnerstvi.cz ; www.environmentalpartnership.org
	Hnutí Duha Olomouc	http://centrum.hnutiduha.cz/olomouc/
	Bile Karpaty Education and Information Centre	www.bilekarpaty.cz/vis
	Civil Association Beskydcan	www.beskydcan.zde.cz
Hungary	Central and East European Working Group for the Enhancement of Biodiversity - CEEWEB	www.ceeweb.org
	E-misszió Environmental and Nature Conservation Association	www.e-misszio.hu
	Ecological Institute for Sustainable Development	www.ecolinst.hu
Poland	Foundation for the Support of Ecological Initiative	www.fwie.eco.pl (Polish language)
	Polish Environmental Partnership Foundation	www.epce.org.pl
	The Polish Tatra Society	www.ptt.org.pl (Polish language)
	Foundation for Eastern Carpathian Biodiversity Conservation	www.unesco.org/mab/ecbr
Romania	Association of Ecotourism in Romania – AER	www.eco-romania.ro
	Association "Milvus Group	www.milvus.ro
	Amicii Salvamont Association	Sabin Cornoiu, salvamont@eltop.ro
	Societatea de Stiinte din Cluj	Oana Moldovan, oanamol@hasdeu.ubbcluj.ro
	Transylvania University of Brasov - Faculty of Silviculture and Forest Engineering	www.unitbv.ro
	Kogayon Association	www.kogayon.ro
	Carpati Foundation	George Predoiu, fundatiacarpati@go.ro , gpredoiu@unitbv.ro
	Apuseni Mountain Club	www.cheile-rimetului.ro
Serbia	ECOLIBRI-BIONET	www.ecolibribionet.co.yu
	Association of Young Researchers Bor	www.etos.co.yu/mibor
	Centre for Multidisciplinary Studies of the Belgrade University	www.cms.bg.ac.yu
	Ecological Society ENDEMIT	www.endemit.org.yu (Serbian language)
	Ecological Society of Kladovo	Mirko Gavrilovic, ekomi@teleport.co.yu

	Birds of Prey Protection Fund	Saša Marinković
	Gorun – ethno-ecological Movement	Radomir A. Krisanovic
Slovakia	DAPHNE - Institute of Applied Ecology	www.daphne.sk
	Ekopolis Foundation - Slovak Environmental Partnership Foundation	www.ekopolis.sk
	Institute of Botany of Slovak Academy of Sciences	http://ibot.sav.sk
	Raptor Protection of Slovakia - RPS	www.dravce.sk
	Slovak Wildlife Society	www.slovakwildlife.org; www.medvede.sk
	FSC Slovakia	www.fscslovakia.sk
Ukraine	Ecological Club "Carpathians"	Yaroslav Dovhanych, Vasyl Pokynchereda http://cbr.nature.org.ua/ecoclub.htm
	Association "Our Home"	Yurij Vasidlow, ourhome@il.if.ua
	The Carpathian Biosphere Reserve - CBR	http://cbr.nature.org.ua
	Charity Information Centre "Green Dossier"	www.sheshory.org; www.dossier.kiev.ua
	Institute of Ecology of the Carpathian National Academy of Sciences of Ukraine	Aleksander A. Kagalo, kagalo@mail.lviv.ua; ecoinst@mail.lviv.ua
	Carpathian Ecological Club „Ruthenia“	www.ruthenia.iatp.org.ua
	Eco Pravo-Kyiv Environmental Law	Boris Vasylykivsky
	State Museum of Natural History, National Academy of Sciences of Ukraine	bprots7@fastmail.fm
International	WWF DCP (Danube Carpathian Programme)	www.panda.org/dcpo

All the Carpathian countries build upon **international agreements and commitments**, most importantly on Kyoto Protocol, but also agreements on air pollution, biodiversity, endangered species etc...

In the following table the international agreements of each country are presented. (Source: <http://www.bartleby.com/151/fields/18.html>)

Table 1.11: International agreements in the Carpathian country

<u>CZECH REPUBLIC</u>	party to: Air Pollution, Air Pollution-Nitrogen Oxides, Air Pollution-Sulphur 85, Air Pollution-Sulphur 94, Air Pollution-Volatile Organic Compounds, Antarctic Treaty, Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Wetlands signed, but not ratified: Air Pollution-Persistent Organic Pollutants, Antarctic-Environmental Protocol
<u>HUNGARY</u>	party to: Air Pollution, Air Pollution-Nitrogen Oxides, Air Pollution-Sulphur 85, Air Pollution-Volatile Organic Compounds, Antarctic Treaty, Biodiversity, Climate Change, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Marine Dumping, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Wetlands signed, but not ratified: Air Pollution-Persistent Organic Pollutants, Air Pollution-Sulphur 94, Antarctic-Environmental Protocol, Law of the Sea
<u>POLAND</u>	party to: Air Pollution, Antarctic-Environmental Protocol, Antarctic-Marine Living Resources, Antarctic Seals, Antarctic Treaty, Biodiversity, Climate Change, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Wetlands signed, but not ratified: Air Pollution-Nitrogen Oxides, Air Pollution-Persistent Organic Pollutants, Air Pollution-Sulphur 94, Climate Change-Kyoto Protocol

<u>ROMANIA</u>	party to: Air Pollution, Antarctic Treaty, Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Wetlands signed, but not ratified: Air Pollution-Persistent Organic Pollutants, Antarctic-Environmental Protocol
<u>SERBIA AND MONTENEGRO</u>	party to: Air Pollution, Climate Change, Hazardous Wastes, Law of the Sea, Marine Dumping, Marine Life Conservation, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Wetlands signed, but not ratified: Biodiversity
<u>SLOVAKIA</u>	party to: Air Pollution, Air Pollution-Nitrogen Oxides, Air Pollution-Sulphur 85, Air Pollution-Sulphur 94, Air Pollution-Volatile Organic Compounds, Antarctic Treaty, Biodiversity, Climate Change, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Wetlands signed, but not ratified: Air Pollution-Persistent Organic Pollutants, Antarctic-Environmental Protocol, Climate Change-Kyoto Protocol
<u>UKRAINE</u>	party to: Air Pollution, Air Pollution-Nitrogen Oxides, Air Pollution-Sulphur 85, Antarctic-Marine Living Resources, Antarctic Treaty, Biodiversity, Climate Change, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping, Ozone Layer Protection, Ship Pollution, Wetlands signed, but not ratified: Air Pollution-Persistent Organic Pollutants, Air Pollution-Sulphur 94, Air Pollution-Volatile Organic Compounds, Antarctic-Environmental Protocol, Climate Change-Kyoto Protocol

There is an urgent need for Europe to show progress towards halting the loss of biodiversity, and the protection of natural resources. This study presented an overview of the bases on which the forest management deals with in the Carpathian region. This study could be the beginning to enhance and facilitate cooperation of the seven Carpathian countries for the protection and sustainable management of Carpathian forests for the benefit of present and future generations.

Forest management in the Carpathian ecoregion have had fast evolution through an enormous development since the break down of the Soviet Union. Institutions have been and still are exposed to rapid changes. Traditional concepts of nature conservation are confronted with more modern approaches to conservation. Due to the dynamic nature of the political and societal changes occurring in the Carpathian countries, modern concepts of nature conservation have the potential to be accepted and applied faster than in western European countries, where nature conservation can be seen as a rather static and slowly developing discipline.

It is imperative that countries of the Carpathian region create strategies and models of sustainable development and implement them across the region. national, for example action against illegal logging (Flegt and Ena-Flegt; promotion of agri-environmental practices and traditional products (NWFP) and forest-environmental schemes (◇ tourism); action plans regarding afforestation and timber cut should be adopted including the transfer to gradual planned-selected cuts; improvement of the system of **environmental assessment** of forestry activities; establishment of forest resource database for the Carpathian region (harmonization of data)

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ANNEX 1

DRAFT

**Protocol on Sustainable Forest Management
to the Framework Convention on the Protection and
Sustainable Development of the Carpathians**

The Contracting Parties to this Protocol,

IN ACCORDANCE with their tasks, arising from the Framework Convention on the Protection and Sustainable Development of the Carpathians of 22 May 2003 (Kyiv, Ukraine), of pursuing a comprehensive policy and cooperating for the protection and sustainable development of the Carpathians;

CONSCIOUS of the fact that human pressure on Carpathian forest resources will continuously increase;

AIMING to increase the awareness of multiples functions of forests in the Carpathians especially with reference to natural carbon stock, water supply and biodiversity.

IN COMPLIANCE with their obligations under Article 7 of the Framework Convention on the Protection and Sustainable Development of the Carpathians;

RECALLING the RIO forests principles, the UN non-legally binding Instrument on All Types of Forests, the non-legally binding Authoritative Statement of Principles for a Global Consensus on Management, Conservation and Sustainable Development of All Types of Forests, chapter 11 of Agenda 21, the proposals for action of the Intergovernmental Panel on Forests/Intergovernmental Forum on Forests, the resolutions and decisions of the United Nations Forum on Forests, the Johannesburg Declaration on Sustainable Development and the Plan of Implementation of the World Summit on Sustainable Development, the UN Framework Convention on Climate Change and its Kyoto Protocol, the Resolutions and decisions of the Ministerial Conference for the Protection of Forests in Europe, the World Heritage Convention, the European Landscape Convention, the FLEG and ENA-FLEG processes;

NOTING further that the majority of the Contracting Parties as Member States of the European Union take into consideration the European Union Forest Action Plan;

AIMING at ensuring a more effective implementation of such existing instruments, and BUILDING upon other international programmes;

CONVINCED that efforts to protect, maintain and sustainably manage the natural resources of the Carpathians cannot be achieved by one country alone and require regional cooperation; and AWARE of the added value of transboundary cooperation in achieving ecological coherence;

DESIRING to cooperate on the protection and sustainable management of Carpathian forests;

Have agreed as follows:

CHAPTER I GENERAL OBLIGATIONS

Article 1

General objectives and principles

1. The objectives of the Protocol on Sustainable Forest Management (hereinafter referred to as “the Protocol”) is to enhance and facilitate cooperation of the Contracting Parties for the protection and sustainable management of Carpathian forests for the benefit of present and future generations.
2. The Contracting Parties shall therefore cooperate on:
 - a. maintaining and enlarging forest cover and restoring of natural types of forests through gradually changing of secondary forest stands;
 - b. ensuring the productive functions of the forests and their role in rural development;
 - c. promoting the sound use of wood as an environmental friendly material;
 - d. improving the health and biodiversity of the forests, also through the identification and protection of virgin forests;
 - e. enhancing the role of the forestry sector on global carbon balance;
 - f. improving the forest functions in preventing floods, landslides and in general in water cycle regulation;
 - g. promoting the cultural heritage of forests;
 - h. exploring possible schemes for payment of environmental goods and services provided by forests;
 - i. enhancing law enforcement on production and trade of forest products; strengthening the governance of the forestry sector.

Article 2

Policies aiming at sustainable management of the Carpathians forests

1. Each Contracting Party shall develop, harmonize and/or implement policies and strategies in its national territory aiming at sustainable management of the Carpathians forests.
2. Each Contracting Party shall take into consideration policies and strategies aiming at the sustainable management of the Carpathians forests, developed and implemented by other Contracting Parties.

Article 3

Integration of the objectives of sustainable management and protection of the Carpathians forests into sectoral policies

1. The Contracting Parties shall take into consideration the objectives of this Protocol in their other policies, in particular on biodiversity conservation, rural development, water and river basin management, tourism, industry and energy, cultural heritage and traditional knowledge conservation, spatial planning, transport and infrastructure.
2. The Contracting Parties shall cooperate on integration of the objectives of sustainable management and protection of the Carpathians forests into other sectoral policies and strategies adopted at the regional and/or the global level which could have influence on the sustainable forest management of the Carpathians.

Article 4

Participation of regional and local authorities and communities

1. Each Contracting Party shall define, within its existing institutional framework, the best level of coordination and cooperation between national institutions and regional and local authorities to encourage shared responsibility in the governance of the forestry sector.

2. Each Contracting Party shall involve the regional and local authorities as well as communities directly concerned in the various stages of preparing and implementing these policies and measures, within their sphere of competence and within the existing institutional frameworks.

Article 5

International cooperation

1. The Contracting Parties shall encourage active cooperation among the competent institutions at the international level with regard to the sustainable management and protection of the Carpathian forests.
2. The Contracting Parties shall remove obstacles to cooperation between local authorities in the Carpathians at the international level, and seek solutions to shared problems at the most suitable level.

CHAPTER II GEOGRAPHICAL SCOPE AND DEFINITIONS

Article 6

Geographical scope

1. This Protocol applies to the Carpathian region (hereinafter referred to as “the Carpathians”), as defined by the Conference of the Parties to the Framework Convention.
2. Each Contracting Party may extend the application of this Protocol to additional parts of its national territory by making a declaration to the Depository.

Article 7

Definitions

For the purposes of this Protocol:

- a) “Sustainable forest management” means the stewardship and use of forest lands in a way, and at a rate, that maintains their biodiversity, vitality, and their potential to fulfil now and in the future, relevant ecological and social functions at local, national, and global levels, and that does not cause damage to other ecosystems;
- b) “Forest biodiversity conservation” means the aspect of nature conservation, dealing with the protection, maintenance and restoration of forest resources;
- c) “Afforestation” means the establishment of a forest, stand or tree crop on an area not previously forested, or on land from which forest cover has very long been absent;
- d) “Deforestation” means the long-term removal of trees from a forested site to permit other site uses;
- e) “Virgin forest” (or “primary forest”) means the natural forest virtually uninfluenced by human activity means forest where there are no records of human direct activities on them;
- f) “Non wood forest products” means all forest products other than timber and fuelwood, including grass, fruit, leaves, animal products, soil, water and minerals;
- g) “Contracting Parties” means Contracting Parties to this Protocol;
- h) “Framework Convention” means the Framework Convention on the Protection and Sustainable Development of the Carpathians (22 May 2003, Kyiv, Ukraine);
- i) “Restoration of natural forest types” means a management applied in degraded forest areas which aims to assist the natural processes of forest recovery in a way that the species composition, stand structure, biodiversity, functions and processes of the restored forest will match, as closely as feasible, those of the original forest.

CHAPTER III SPECIFIC MEASURES

Article 8

Maintaining and enlarging forest cover

1. Each Contracting Party shall take measures in its national territory with the objective to maintain, through sustainable forest management, the existence forest cover as a key component of Carpathian landscape.
2. Each Contracting Party shall take measures in its national territory with the objective to enlarge the forest cover in the Carpathians if appropriate for achieving the goals of Article 1.

Article 9

Ensuring the productive functions of the forest and their role in rural development

1. Each Contracting Party shall take measures in its national territory with the objective to ensure the productive functions of the forests and their role in rural development through appropriate management plans adapted to the ownership structure as well as through the sound use of wood.
2. Countries shall promote and ensure sources of income from forest resources and therefore should take into consideration to provide services, including technical support, to the forest owners, managers and associations, to reduce the problems connected with land ownership fragmentation, to stimulate marketing initiatives, to enforce the law in the field of countering illegal forest activities, to promote the sustainable harvesting and marketing of non wood forest products and services to spread the use of systems of payment for environmental services.

Article 10

Identification and protection of virgin forests

1. Each Contracting Party shall take measures in its national territory with the objective to of identifying and protecting the virgin forests of the Carpathians, by establishing, if needed, and harmonizing specific measures of protection and compensation.
2. In particular, each Contracting Party should take specific measures for the preservation of gene resources of virgin forests.

Article 11

Improvement of the protective forest functions

1. Each Contracting Party shall take measures in its national territory with the objective to ensure the functions of the forests in preventing floods, landslides, avalanches, rock falls and by promoting forest management methods that enhance stability and resistance to natural and anthropogenic disturbances.

Article 12

Restoration of natural types of forests

1. Each Contracting Party shall take measures in its national territory with the objective to promote and restore potential natural types of forests, with particular attention to the different tree species composition and structure, through gradually changing of secondary forest stands.
2. The Contracting Parties shall consider, where appropriate, the establishment of programmes for protection and reintroduction of rare forest tree species in their natural ecosystem.

Article 13

Forestry and climate change

1. Each Contracting Party, taking into consideration the increasing global warming and the role of forestry in mitigating its effects, shall pursue policies aiming at enhancing the role of the forestry sector on global carbon balance, with particular attention to increasing carbon stock, promoting the use of

renewable wood energy, as well as the sound use of wood products also as substitutes of rough materials deriving from non renewable resources.

2. Each Contracting Party, taking into consideration the increasing global warming and the needs for adaptation policies to these effects, shall pursue policies aiming at increasing the stability and the resilience of the Carpathian forests.
3. Each Contracting Party, taking into consideration the increased vulnerability of forest to the fires and other extreme events due to global warming, shall develop appropriate management plans in order to reduce the risk and mitigate the effects.

Article 14

Social function of forests

1. Each Contracting Party shall define, within its existing institutional framework, effective schemes for coordination and cooperation between the institutions and regional and local authorities concerned with forest resources management, with the involvement of other local stakeholders, so as to enhance the social function of forests.
2. Each Contracting Party, taking into consideration the high value of forests in tourism development, shall adapt forest management plans to sustainable tourism policies.
3. Each Contracting Party shall consider promoting cultural heritage and traditional knowledge practises related to forest management, including education at all levels.

Article 15

Forestry and wildlife

1. Each Contracting Party shall apply sustainable wildlife management methods, especially by coordinated regulation measures in borderland regions, with special attention to the control of population size of hoofed animals that allows a natural regeneration of forests, and monitoring and protecting large carnivores within the carrying capacities of the forests ecosystem.
2. Contracting Party shall cooperate on harmonisation of their policies related to green corridors and the forests management plans' objectives and contents.

Article 16

Compatible monitoring systems

1. Contracting Parties shall cooperate on harmonisation of their forest monitoring programmes in the Carpathians which are conducive to achieving the objectives of this Protocol.
2. The Contracting Parties shall cooperate, in the framework of existing international initiatives, to develop and implement compatible monitoring systems and to ensure data comparability.
3. The Contracting Parties shall cooperate to develop a joint information system on the state of forests in the Carpathians (see Article 12 of the Convention).
4. Each Contracting Party shall cooperate in order to ensure that the national results of the research are integrated in a joint information system.

Article 17

Coordinated scientific research and exchange of information

1. Each Contracting Party shall coordinate and cooperate on scientific research undertaken in its territory or by its scientific institutions with regard to of the overall objectives of this Protocol.
2. The Contracting Parties shall encourage international cooperation among the scientific institutions with regard to sustainable forest management in the Carpathians, in particular on the harmonisation of monitoring systems, the provision and harmonisation of databases, and undertaking common research programs and projects in the Carpathians.
3. Each Contracting Party shall exchange information and experience with other Contracting Parties on methods related to activities listed under Article 1, points 2 and 3.

Article 18

Common programs and projects

1. Each Contracting Party shall participate, accordingly to its needs and possibilities, in common programs and projects on activities jointly undertaken in the Carpathians by the Contracting Parties.

CHAPTER IV IMPLEMENTATION, MONITORING AND EVALUATION

Article 19

Implementation

1. Each Contracting Party shall undertake the requisite legal and administrative measures for ensuring implementation of the provisions of this Protocol.
2. Each Contracting Party shall commit to explore the possibilities of supporting, through fiscal and/or financial measures, implementation of the provisions of this Protocol.
3. The respective national authorities shall be responsible for monitoring the effect of these measures.
4. During the first year after the entry into force of this Protocol, the Contracting Parties shall develop and adopt the Strategic Action Plan targeted on implementation of this Protocol, to be revised every five years.

Article 20

Education, communication and information of the public

1. The Contracting Parties shall develop and promote joint and several strategies on the education, communication and information of any relevant stakeholder regarding the objectives, measures and implementation of this Protocol.
2. Each Contracting Party shall ensure that the national results of the research are made accessible to the public under the existing institutional framework.

Article 21

Monitoring of compliance with obligations

1. The Contracting Parties shall regularly report to the Meeting of the Protocol (or, should the Protocol be ratified by all CFC Parties – the Conference of the Parties) on measures taken under this Protocol and the effectiveness of the measures taken. The Conference of the Parties to the Framework Convention shall determine the intervals at which the reports must be submitted.
2. The Meeting of the Protocol (or, should the Protocol be ratified by all CFC Parties – the Conference of the Parties) shall examine these reports in order to ensure that the Contracting Parties have fulfilled their obligations under this Protocol. It may also ask for additional information from the Contracting Parties concerned or have recourse to other information sources.
3. The Implementation Committee shall regularly draw up a report on the compliance of the Contracting Parties with the obligations arising from this Protocol, for the attention of the Conference of the Parties to the Framework Convention.
4. The Conference of the Parties to the Framework Convention shall take note of this report. If it finds that obligations have not been met, it may issue recommendations.

Article 22

Evaluation of the effectiveness of the provisions

1. The Contracting Parties shall regularly examine and evaluate the effectiveness of the provisions of this Protocol. They may consider the adoption of appropriate amendments to this Protocol where necessary in order to achieve objectives.
2. The regional and local authorities of each Contracting Party shall be associated with this evaluation within the existing institutional framework. Non-governmental organisations active in relevant fields may be consulted.

CHAPTER V FINAL PROVISIONS

Article 23

Links between the Framework Convention and the Protocol

1. This Protocol constitutes a Protocol to the Framework Convention within the meaning of Article 2 point 3 thereof and any other relevant articles of this Convention.
2. Entry into force, amendment of and withdrawal from this Protocol shall be done mutatis mutandis in accordance with Articles 19, 21 paragraphs 2 to 4 and Article 22 of the Framework Convention.
3. Only a Party to the Framework Convention may become Party to this Protocol.

Article 24

Signature

1. This Protocol shall be open for signature at the Depository from ... May 2008 to ... May 2009.
2. For Parties which express their agreement to be bound by this Protocol at a later date, this Protocol shall enter into force on the ninetieth day after the date of deposit of the instrument of ratification. After the entry into force of an amendment to this Protocol, any new Contracting Party to the said Protocol shall become a Contracting Party to the Protocol, as amended.

Article 25

Notifications

1. The depositary shall, in respect of this Protocol, notify each Contracting Party of
 - (a) any signature,
 - (b) the deposit of any instrument of ratification, acceptance or approval,
 - (c) any date of entry into force,
 - (d) any declaration made by a Contracting Party or signatory,
 - (e) any denunciation notified by a Contracting Party, including the date on which it becomes effective.

Article 26

Reservations

No reservations may be made to this Protocol.

Article 27

Depositary

The depositary of this Protocol is the Government of Ukraine.

Done at on in one original in the English language.

The original of the Protocol shall be deposited with the Depository, which shall distribute certified copies to all Parties.

In witness whereof the undersigned, being duly authorised thereto, have signed this Protocol

For the Government of the Czech Republic

For the Government of the Republic of Hungary

For the Government of the Republic of Poland

For the Government of Romania

For the Government the Serbia

For the Government of the Slovak Republic

For the Government of Ukraine

COUNTRY REPORTS

2. CZECH REPUBLIC

FOREST POLICY AND SOCIO ECONOMIC STRUCTURE

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ACHIEVEMENTS AND MAIN OBSTACLES TO SUSTAINABLE FORESTRY IN THE CARPATHIAN REGION

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FOREST POLICY AND SOCIO ECONOMIC STRUCTURE

2.1 BRIEF HISTORICAL OUTLOOK OF FORESTRY POLICY

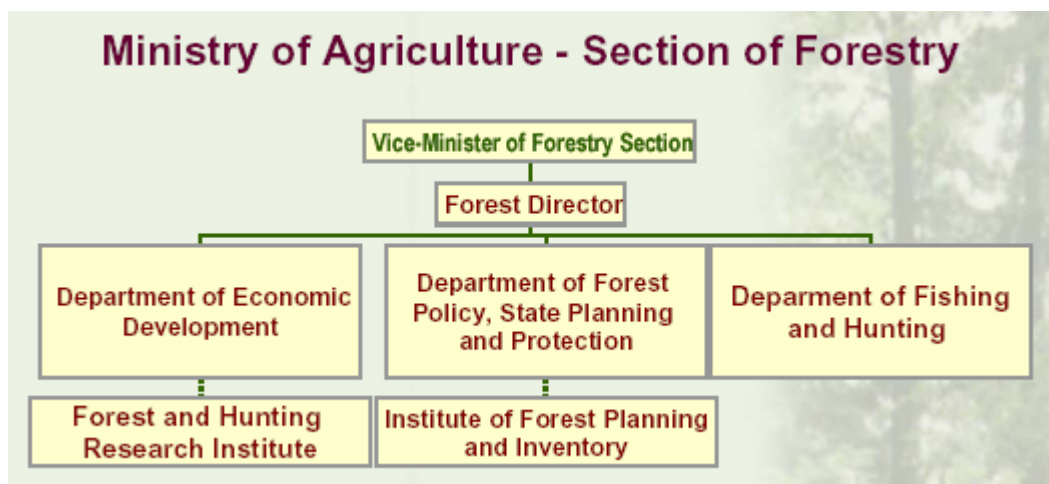
Over the last decade, the Czech Republic, as many nations in Central and Eastern Europe (CEE), has experienced a profound transformation or transition of its economy, from the central planning approach of a communist regime to a market-oriented approach. These changes are not only economic, but also encompass the political and social spectrum. The transition continues to have a substantial impact on virtually all aspects of life in these nations, including forestry. In the 1990s, the ownership of forested land experienced a dramatic shift in most of these “countries in transition” (CINT). The trend towards nationalization and central planning in the wake of World War II has been largely reversed, tending towards privatization, reduction of state influence, and a shift towards a market economy and pluralism.

The goals of this economic liberalization were to stimulate economic growth and improve living standards. Although these goals are still realistic, and there are some tangible improvements, the overall transition continues to cause substantial economic hardship. Political liberalisation and democratisation in CINT and global processes have resulted in greatly increased public participation in forestry issues, but the appropriate awareness is still lacking. Nevertheless, the relatively restricted and closed community of forestry professionals and the traditionally conservative society must now open up to wider public discussion. Overall, the public is demanding more information and a greater role in decision-making in forestry. Furthermore, the increasing and oftentimes substantial private forest ownership is also forcing more openness in the forestry sector. The private forestry sector and NGOs should perform a valuable watchdog role as they scrutinise the actions of state forestry administrations. Another point - forestry institutions, not only those focused on research, must now face increasing competition from national and international sources. However, new forest owners (mostly small ones) currently have many problems of their own and are not very interested e.g. in funding of research activities. (Vancura 2006)

2.2 ORGANISATIONAL AND INSTITUTIONAL STRUCTURE

The **Ministry of Agriculture** is the central government authority for agriculture; for water management, protection of natural water sources, areas of water accumulation and water quality; and for the food industry. The Ministry of Agriculture is also the central body for forest management, hunting and fishing, excluding the territories of National Parks. It controls the Forest Management Institute and the State Forestry Enterprise.

Figure 2.1: Structure of the Ministry of Agriculture- Forestry Section



Source: Lyzlov, 2007

The Forest Management Institute (FMI)

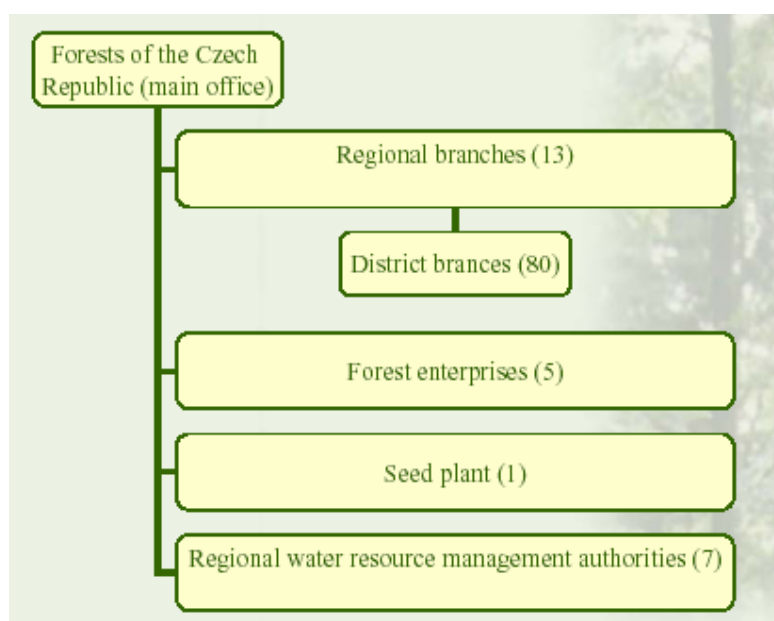
The institute comprises several units – e.g. in Olomouc, Frydek-Mistek and Brno – all of them near the Carpathians. They collect a wide range of data about forests.

The main activities of the FMI are:

- The compilation of a forest inventory for the Czech Republic (FI) – an independent survey of forest lands and their development. It collects information, focusing especially on growing stock and the forest's functionality as an important renewable natural resource and crucial part of the environment. The most modern terrain equipment is used for data collection.
- The compilation and administration of the Regional Plans for Forest Development (RPF) data, including the execution of a uniform forest typological system in the Czech Republic. The RPFs are the defining principles for forest management according to natural forest areas in the Czech Republic. They arise from the concept of sustainable forest management and are intended to minimise conflict between the interests of society and those of individual forest owners. These principles serve as information resources for the execution of forest management plans, forest management outlines, as well as support for government administration decision making.
- The work of the Information and Data Centre (IDC) for the forest and game management sector of the Czech Republic. The IDC administrates the central database and archives on forests and game management in the Czech Republic, which includes monitoring data and other related information. The most important function is the regular administration and entry of forest and forest management data collected in the Czech Republic and ensuring the accessibility of this data to the forest administration bodies in the government and to interested members of the public.
- The provision of information services for forest certification in the Czech Republic.
- In addition to the above activities, every year the FMI contributes to the “Forest and Forest Management Report of the Czech Republic”, and the elaboration of other analyses, methodologies, layouts and prognoses. The FMI is also involved in domestic and international research projects, as well as working in the area of consultation and in methodological and educational activities.

The **State Forestry Enterprise (Forest of the Czech Republic)** was created on 1 January 1992 by the Ministry of Agriculture. Its main activity is to manage more than 1.3 million ha of state-owned forests (more than 86% of the total area of state forests) and 20 thousand km of rivers and streams. The strategy is based on sustainable forest management, which should ensure the balanced fulfilment of all forest functions.

Figure 2.2: Structure of the State Forestry Enterprise



Source: Lyzlov, 2007

The main activities of the **Institute of Forest Planning and Inventory** are:

- Conducting of forest inventory
- Development and use of data of regional forest development plans (RFDP) and maintenance of a unified typological scheme in forests
- Function of an information centre (IC) for forest and hunting sector
- Consultancy and services for the forest certification process.

The **Ministry of the Environment** provides state supervision of forest management and the co-ordination of the Czech Inspectorate of the Environment. Through the State Fund for the Environment it supports sustainable forest management and carries out research projects.

The Ministry of Agriculture and the Ministry of the Environment co-operate only in the area of the co-ordination of subsidies given to farmers. Far wider cooperation and communication are needed.

National Park Administrations are the main state authorities for forest management within the national parks.

The regional governments (*kraje*) and **municipalities** are the state authorities for forest management. The range of their responsibilities is defined by Act No 289/1995 Coll. On Forests. They also represent the state authority within the Protected Landscape Areas (PLAs). This presents challenges for cross-sectoral co-ordination and co-operation, as proper forest management is crucial to the effective management of the landscape within each PLA. The SFA managers and corresponding PLA managers communicate on a regular basis, although the effectiveness of this communication could be improved. The PLA reviews and provides input to the annual forest management plan developed for each SFA district that overlaps with the PLA, although the PLA principally influences the management of zones 1 and 2 within the PLA. The PLAs also liaise with the responsible forest manager in the case of municipal or private ownership of forests within the PLA.(Eurac,2006)

ORGANISATIONS AND ASSOCIATIONS

There is a tradition of forest owners associations in the Czech Republic, dealing with the co-ordinated management of forests owned by many small owners. Near the Carpathian region there is a good example of such an association that has begun implementing environmentally-friendly measures in a flood-plain type of forest, resulting in the declaration of the forest as a protected area.

There are several organizations of forest owners. The most influential is the Association of the Communal and Private Forest Owners (1063 forest owners, 340 000 ha of forest, i.e. 13% of the forest area in the Czech Republic)(Eurac,2006).

2.3 FORESTRY LEGISLATION

BRIEF HISTORICAL ISSUES

The concern for and management of forests in the Czech Republic (CR) has a long tradition that dates back to the 14th century. The principle of sustainable forest management that has been applied for more than 200 years is based on forest management planning. It has been used for over 100 years in the major part of the country and for 40 years throughout. Systems of education and training in forestry also have a long history.

The CR is a signatory state of the Resolutions of Strasbourg and Helsinki Conferences. The national forest policy, adopted by the government of the CR in 1994, was based on these resolutions. The principles of sustainability, environmentally-friendly management and biodiversity improvement in forests were included in a new Forest Act that was passed by the Parliament of the Czech Republic in 1995. The Forest Act respects the contemporary trends in forestry and supports them both in legislative and economic ways. According to the Forest Act and National Forest Programme (2003), forests as national heritage are an irreplaceable element of

the environment, and the Act on Nature and Landscape Conservation lays down that forests are a significant factor in landscape use.

Forest policy is aimed at permanent maintenance of forests for future generations. The forest provides not only sustainable wood production but also fulfils public beneficial functions. The government is interested in permanent and balanced use of this renewable resource and utilisation of its benefits for the public interest (Ministry of Agriculture, 1994). Fundamentals of forest policy were updated in 1999 (Conception of Forest Policy for the Period before Accession of the Czech Republic to the European Union).

Long-term principles of Czech forest policy are:

- restoration and conservation of stable forest ecosystems,
- increase in diversity of forest tree species and achievement of nearly natural composition,
- significant decrease in air-pollution load of forest stands,
- protection and revitalisation of forest stands in regions damaged by air-pollution,
- maintenance and development of gene resources of forest tree species.

Short-term principles of Czech forest policy include:

- full restoration of property rights to forests, including the settlement of indemnities,
- stable organisational structure of state forests,
- maintenance of a high level of forest management planning,
- significant reduction in damage caused by hoofed game,
 - assistance to improve forest management (especially to small owners, through establishment of and support to groups/associations of owners), by increasing the professional level of the staff, consultations and
 - public awareness.

Legislative tools are applied to all forest owners, without exception, to restrict their activities for reasons of public interest. These restrictions are usually applied under the Forest Act (No. 289/1995), Nature Conservation Act (No. 114/1992) and Water Act (No. 138/1973, No. 254/2001). The present Forest Act, No. 289/1995, was passed by the Parliament of the CR on 3rd November 1995 and is a fundamental rule of new legislation in forestry. It respects the basic rights of forest landowners and the concerns of the State for the fulfilment of all forest functions and preservation of forests for future generations, while the leading principle is the sustainability of all forest benefits. The new Forest Act creates a legislative framework for the fulfilment of the major characteristics of the processes that are underway in Europe that respect the principles of environmentally-friendly forest management, sustainability and biodiversity. The Forest Act represented a milestone in financial support to forestry in the CR. The financial support system was completely changed in 1996. (Sisak, 2004)

At the end of the analysed period, the forest policy principles were adjusted by the material *Conception of Forest Policy for the Period before Accession of the Czech Republic to the European Union*, prepared by the Ministry of Agriculture in 1999. The National Forest Programme also started to be elaborated as a system of implementing projects of government forest policy. Apart from the completion of restitution processes, improvement of the condition of forest ecosystems, conservation and improvement of biodiversity in forests, development of non-market forest goods and services, support to the extending of wood utilisation and forest institutions, it specifically mentions:

- State forest administration,
- Management of state-owned forests,
- Forest management planning,
- Forest research,
- System of forestry schools and professional education,
- Consultancy, extension services,
- Grouping of small forest owners,
- Interdepartmental and international co-operation.

FORESTRY LEGISLATION

In the Czech Republic forestry is managed by the following documents.

Act No 114/1992 Col. on Nature and Landscape Protection as amended.

The object of the Act is to contribute towards the preservation and restoration of natural balance in the landscape, to the protection of diversity of all forms of life, natural values and beauty, to the economic management of natural resources, and to the establishment of the Natura 2000 system in the Czech Republic, in accordance with the legislation of the European Community.

The Principles of State Forest Policy 1994 adopted by Governmental Decree No 249/1994 on 11 May 1994. The priorities of this first strategic document were mainly oriented towards wood production: the document defined principles such as the regeneration and conservation of stable forest ecosystems; the increase in species diversity and natural species composition of the forests; the achievement of a significant reduction in the pollution load of forests; the regeneration and conservation of forests in areas damaged by pollution; the preservation and development of forest genetic resources.

Act No 289/1995 Coll. on Forests, as amended, of 3 November 1995.

The purpose of the Act is to define the preconditions for the conservation of the forests, for the care and regeneration of forests as a national asset that forms an irreplaceable component of the environment, and for support for sustainable forest management.

Based on these Principles, the **Programme on Sustainable Management and Forest Recovery** was adopted in 1997. It defines in detail the main procedures and measures to be undertaken within sustainable forest management.

Strategy for the Protection of the Earth's Climatic System was adopted by Government Decree No 480/1999 on 17 May 1999

This strategy was adopted in order to implement the Kyoto Protocol within the Czech Republic. It proposes creating economic tools to promote energy savings, afforestation, and some measures in the area of transport.

The Concept of Forest Policy was adopted by Governmental Decree on 12 January 2000.

This material was acknowledged as the preliminary policy before joining the EU. The document defines as the main policy:

- Finalization of the restitution process
- Improvement of the state of forest ecosystems
- Preservation and increase of biodiversity in forests
- Development of the non-productive functions of forests
- Wider usage of wood as a renewable resource
- Support for forestry institutions and monitoring the economic aspects of forest policy

The Concept was assessed according to SEA.

The National Forestry Programme was adopted by Governmental Decree on 13 January 2003. The strategic goals of this plan follow the forest strategy adopted by the EU on 14 December 1998. The main principles of this plan are:

- Sustainable forest management
- Limiting administrative interventions to the unavoidable minimum
- Motivation to support public interest
- Increasing the responsibility of owners

The strategy assumes these criteria from the EU policy:

- Preservation and reasonable increase of forest resources and their contribution to the global carbon cycle
- Preservation of the health and viability of forest ecosystems

- Preservation and support for the productive functions of forests (production of wood and other products)
- Preservation, conservation and enlargement of the biological diversity of forest ecosystems
- Preservation and increase of the protective functions of forest management
- Preservation of other socio-economic functions and conditions.

National Biodiversity Strategy of the CR, adopted by government under No. 620/2005 of 25 May 2005.

The National Biodiversity Strategy of the Czech Republic was prepared in accordance with the structure of the EC Strategy. The division of the individual chapters into strategic themes (ecosystem approach, in-situ conservation, ex-situ conservation, sustainable use, etc.) and the integration of biodiversity concerns into sectoral policies (agriculture, forest ecosystems, water and wetland ecosystems, etc.) have been maintained.

The chapter on sustainable agriculture defines the following measures:

1. Maintain or increase the current forested area as a minimum basis for ensuring the needs of forest biodiversity conservation, while maintaining all other forest functions.
2. Enact alternative methods for drawing up forest management plans on the basis of operational inventories, as an instrument for encouraging the transition to environmentally-sound management methods.
3. In the renewal of forest stands, ensure the proportion of tree species belonging to the natural species composition (NSC) in economic forests; promote the use of NSC species over and above the minimum framework. At the same time, provide for a certain proportion of ageing and dead trees in forest stands as refuges for communities of organisms associated with such trees.
4. Adopt measures to increase the proportion of the natural renewal of forest stands that are suitable from the viewpoint of species and genetic aspects.
5. Apply the principles of the ecosystem approach in the use of the components of forest biodiversity.
6. Using the results of research carried out to date and the outcomes of the monitoring of the effects of pollution levels on forests and forest land, specify the current problems related to the restoration of forest ecosystems in areas that have been exposed to higher pollution levels, particularly in the past.
7. Using the outcomes of research tasks that have already begun, finalise the methodology for describing the state and monitoring of the biodiversity of forest ecosystems and consider the possibility of incorporating the national forest inventories in the nationwide biodiversity monitoring system, in relation to, inter alia, Regulation (EC) No. 2152/2003 of the European Parliament and of the Council of 17 November 2003 concerning the monitoring of forests and environmental interactions in the Community (Forest Focus). Further develop the network of forest SPAs left to spontaneous development; resolve the issue of a reference network of monitored natural forests left to spontaneous development including the methodology of their monitoring; and finalise the preparation of a database of natural forests.
8. Draw up and put into practice a strategy for informing the public on issues related to the conservation of species diversity of forests and establish a platform for dealing with the issues of biodiversity conservation at the level of all sectors involved and the main stakeholders from NGOs and forest owners.

There is no especially designed policy for the Carpathian Region in the Czech Republic.

PRINCIPLES REFLECTED BY THE POLICIES

Table 2.1: Integration of the twelve principles of art.7 of the Carpathian Convention into the formal forestry policies (Eurac,2006)

Principles	Y/N
Sustainable management of forest resources and forest lands	Y 1)
Protection of forests against pollution	Y 1)
Prevention and protection against fire, pests and diseases	Y 1)
Public information on forest ecosystems	Y 2)
Public participation in development, implementation and planning of national forest policies	N
Recognition of the vital role of forests in maintaining ecological processes and balance	Y 1)
Afforestation and reforestation	Y 1)
Assessments of economic and non-economic values of forest goods and services	Y 1)
Protection of natural forest areas	Y 3)
Protection of ecologically representative or unique types of forests	Y 3)
Consideration of alternative uses for forests	Y 4)
Ensure appropriate retention of precipitation in the mountains for flood prevention	N

- 1) All of these principles are defined within the national forestry programme.
- 2) The results of the Forests Inventory as well as the national reports published annually are available to the public on www.uhul.cz. However, detailed data can be provided upon request for which the UHUL requests financial compensation.
- 3) Large areas of the natural forests in the Czech Republic are part of PLAs, nature reserves or Natura 2000 sites, although the exact figure is not available. The majority of unique types of forests are protected within nature reserves.
The overall area of forests in specially protected areas (as mentioned in the Act No. 114/1992, on nature protection and landscape preservation), is 715,600 ha, which amounts to 27.2% of the total forest land.
- 4) Act No 298/1995 Coll. defines the alternative uses for forests and describes the conditions for the management of these forests.

2.4 FOREST RESTITUTION AND FOREST OWNERSHIP STRUCTURE

The Czech Republic is one of the countries in transformation. The transformation process consists of:

- restitution of forests to previous owners
- creation of legal entity Forests of the Czech Republic

Today there are new problems following the transformation period.

The processes of compensation, restitution and privatization have created vast numbers of private forest owners, many with small holdings and limited background in forest management.

Problems of small owners:

- they have no idea of how to manage a forest;
- live in the town far away from their holdings;
- are already old and have fallen victim to dishonest profit-seekers who offer to provide services or purchase their forest holdings. (Koderová, 2004)

STRUCTURE OF PROPERTY RIGHTS AND RIGHTS OF USE

There were only 9,000 ha or 0.5% of state forests in 1918 when the Czechoslovak Republic was established. On the contrary 99.6% of forests were in state hands at the end of the 1980s. Act No. 229/1991 Coll. was the main tool for the process of restitution after the “velvet revolution” in 1989. (Ministry of Agriculture, 2002)

The restitution process is almost complete; however, the share of state property is still slightly decreasing. In legally complicated cases, courts decide on restitution claims in or outside an appellate procedure. There were no changes made as to the so-called patrimony, i.e. property that used to be owned by churches, religious orders and congregations. Under the provisions of § 29 Act No. 229/1991 Coll., as amended by subsequent regulations, such property is “frozen” until a specific legal regulation is adopted and may not be transferred from the ownership of the Czech Republic. (Ministry of Agriculture, 2006)

Only the minority of disputable claims have not yet been resolved because of unclear conditions - some of these must be adjudicated by the courts. A political decision must be taken on the restitution of church forests (about 170,000 ha or 6.5% of the total forest area). There is a need to settle ownership issues arising in the restoration of proprietary rights of communities and to promote grouping of forest holdings by purchase, sale, barter, gift and estate arrangements. (Ministry of Agriculture, 2002)

Table 2.2: Forest Ownership at national level

OWNER	FOREST AREA (HA)	% OF TOTAL FOREST
STATE FOREST	1 578 892	59.6
COOPERATIVE FARMS	26 491	1.0
COMMUNITY	413 267	15.6
PRIVATE INDIVIDUALS	617 251	23.3
OTHERS	13 246	0.5
TOTAL	2 649 147	100

The share of private forest area of the total forest area at national level is currently 23.3%. The State Forest owns 59.6% of the forests.

The total number of private owners is 137 260, who own 617 251 ha. 87% own forests with a total area of less than 3 ha.

Table 2.3: The size classes of forest property in 2007 at National level

SIZE CLASS	TOTAL	Under 3 ha	3-5 ha	6-10 ha	11-20 ha	21-50 ha	Above 50 ha
NO. OF PRIVATE OWNERS	137 260	119 443	10 954	4530	1124	660	549

No data are available concerning the structure of forest ownership in the Carpathian region.

SPECIALLY PROTECTED AREAS

Specially protected areas (SPAs) in the CR are situated on lands with all types of owners – state, municipal and private. State-owned lands in SPA are administered by state enterprises pursuing economic activities (LČR, s. p., VLS, s. p.) on the one hand, and on the other by allowance organizations or organizations financed from the state budget (4 administrative authorities of NP). Management methods in the SPA categories are obligatory for organizations of all owner groups.

With regard to their purpose-oriented mission, the management of forests in SPA is mostly an unprofitable economic activity, bringing higher or lower additional costs to owners that ensue from obligatory restrictions imposed by law (Act No. 289/1995 and especially Act No. 114/1992). The owner's compensation claim is declared legally if the loss is incurred due to protection conditions of SPA, but is not anyhow specified. Costs of special silvicultural treatments associated with SPA management are usually compensated satisfactorily; on the contrary the compensation when cuttings are restricted or entirely excluded is not defined, i.e. a system of financial compensations for permanent loss of production. A system of drawing resources from the State Environmental Fund is administratively complicated and lengthy, particularly in the case of buyouts of lands in SPAs. (Ministry of Agriculture, 2003)

2.5 THE FORESTRY SECTOR IN THE NATIONAL ECONOMY

2006 was the second very successful year of economic growth in the Czech Republic.

The supply of wood amounted to 17.678 thousand m³ in 2006, this means a year-on-year increase of 2168 thousand m³, i.e. by 14%.

The GDP of the forestry sector is 0.6%. (Sisak, 2007)

OVERVIEW OF FOREST PRODUCTS MARKETS AND POLICIES

After the accession of the Czech Republic to the EU, forestry began to be perceived (e.g. in relation to grant opportunities also in forestry sector) not just as one of the basic industries, but above all, as an integral part of rural development.

Rural development in the EU is becoming a policy that provides opportunities to realise a significant part of strategic plans in forestry. Only active forest management in individual member states can prove its unique economic, environmental and social role in the rural sector. When considering the ways of ensuring sustainable forest management, economic aspects again come to the fore, since the declared strategic goal cannot be reached without the economic viability of forest owners.

The technological platform based on forest management and its products creates a unique, for some economic sectors unfeasible, model of sustainable development based on renewable natural resources.

In 2006 the forest products market recorded a positive development in accordance with the overall development of the whole Czech economy. This is an exceptional and only temporary dynamics that was not achieved in the previous years. The main reason lies in salvage felling.

Total production amounted to 9.088 thousand m³ in 2006. The total production consists in 9.088 thousand m³ of which 5.080 thousand m³ is sawnwood, 1.529 thousand m³ of wood based panels and 1.421 thousand m³ of chips and particles.

Concerning all assortments, i.e. the total wood supply, 7.268 thousand m³ were exported, and 1.323 thousand m³ were imported in 2006 as presented in the following table.

Table 2.4: Wood removal, production, import, export at national level

(1000 m ³)	removal	production	export	import
Czech Rep	17.678	9.088	7.268	1.323

Source: UNECE TIMBER database, 1964-2006, as of July 2007.

Following, from an elaboration of the UNECE Trade and Timber Division DB 2007 (in annex), made by DITESAF University of Padova, the amount of roundwood removal of the Carpathian region in the last years.

Table 2.5: Estimation of Carpathian region of roundwood removal from 2002 to 2006

roundwood removal 1000 m ³	2002	2003	2004	2005	2006
Czech Rep- Carpathian region	1701	1771	1825	1814	2068

POLICY ISSUES INFLUENCING FOREST PRODUCTS MARKETS

The economy of the Czech Republic is fully liberal. The government does not intervene in these processes by any measures. It neither controls nor regulates them by any policies or other instruments. It neither controls nor regulates the production process, movement of goods within the EU or other trade, or other processes of economic development of the country. For potential regulation, general instruments such as tax, fees, etc. are used as in other countries of the EU and the free world. Should any other instruments be used apart from the above-mentioned ones, these comprise only such instruments as provided for by the Directives or Decisions of the EU. These concern automatic licences for raw timber that were cancelled upon the accession of the Czech Republic to the EU and that monitored the amount of exported wood. Trade in this commodity is fully liberal in the Czech Republic and there is also no duty introduced on imports and exports. In the Czech Republic, like in the EU, the export of raw timber is not limited by any licences.

Evaluation of the policies effective in the Czech Republic in 2006 show that medium-sized enterprises, wood or wood-products exporters make use of the programmes for development of enterprises, however to an absolutely insufficient extent. The reason for this lies in the harsh financing conditions of small and medium-sized enterprises as they have only limited option to obtain credit. Concerning the subsidy within the investment incentives, the evaluation shows that the projects of technological centres and centres of strategic services are advantaged. (Unece, 2007)

ECONOMIC AND CONSTRUCTION DEVELOPMENTS INFLUENCING FOREST PRODUCTS MARKETS

The Czech Republic uses a significant amount of domestic wood, the basic raw material for the wood-processing industry. However, the domestic raw material is not sufficiently processed in the Czech Republic and is exported, together with sawn timber, in large amounts. The use of wood per capita and per year amounts to 0.23 m³ in the Czech Republic. Over 20% of the harvested roundwood and over 40% of sawn timber is exported, and meanwhile large amounts of wood products – actually with higher value added – are imported. In Germany, approximately 7% of total house construction is made up of wooden houses; in Austria it is 10%, in Finland, Norway, Sweden, Denmark it is up to 60%, in USA 65%, in the Czech Republic only 0.5%. These examples point out the need for the use of wood and wood products to be increased in the Czech economy, mainly in the construction sector. Ecologists, designers, builders and various non-governmental organizations provide for different events in order to stimulate an increase in processing the wood and wood products. However, these events are organized for the purpose of personal lobbying rather than for the economy, although it is obvious that any benefits in this area – increase of competitiveness in the Czech Republic – will also increase the benefits for the EU. (Unece, 2007)

EMPLOYMENT

There has been a trend of a continuous decrease since 1989.

The year-on-year decrease in employment in the framework of forest activities was 9.0% in total, with the highest decrease in the private sector (by 12.2%) and the lowest in the communal sector (by 2.0%). (Ministry of Agriculture, 2005)

No data are available concerning employment in the forestry sector in Carpathian regions.

Table 2.6: Number of employees in forest activities

Forest sector		2002	2003	2004	2005
	Total	25 702	24 893	23 996	21 835
Of this	State forest	6 290	6 412	6 053	5 830
	Private forest	16 984	16 010	15 503	13 614
	Communal forest	2 428	2 471	2 440	2 391

Source: (Ministry of Agriculture, 2005)- CSO

2.6 RESEARCH IN THE FORESTRY SECTOR

The Forestry and Game Management Research Institute Jiloviste – Strnady (FGMRI) plays an important role by conducting research and expert and advisory activities for the state administration and forest owners.

FGMRI carried out a total of 102 activities for various submitters in 2005. There are two research programmes going on for the second year - "Stabilisation of the Forest Functions in Biotores Disturbed by Anthropogenic Activity under Changing Ecological Conditions" and "Breeding and Improvement of Forest Tree Species, Valuable and Threatened Gene Pool Preservation, Including Application of Biotechnology, Molecular Biology and Seed Management in Forestry". 9 projects were being conducted within the National Agency for Agricultural Research and National Research Programme. 7 research projects were being carried out for other submitters (Czech Science Foundation, Ministry of the Environment, Ministry of Education, Youth and Sports). Many other institutions are involved in forestry research activities in the Czech Republic, e.g. faculties of forestry at universities of agriculture and private research organisations.

Expert and advisory activities were also carried out for forest owners and managers in the following areas - Forest Protection Service, approval of gene pool, forest seed management, cultivation of fast-growing tree species, nursery management, forest regeneration and silviculture, animal gene pool conservation and forest protection against game damage.

Since its reestablishment in 1990, the Faculty of Forestry and Environment of the Czech University of Agriculture has achieved a significant position in the field of science and research at a national and international level. Scientific research activities at the Faculty of Forestry and Environment are focused on forestry – wood technology and landscape – environment. (Eurac, 2006)

NATIONAL FOREST INVENTORY (NFI)

In 2005, a further, more detailed evaluation was done of the National Forest Inventory (hereafter NFI) data. It was the second stage of NFI data evaluation.

Data on standing volumes of forests, forest percentage, representation of tree species and age classes according to their area, damage by game, etc. are among the very important results from the forest management aspect.

Other important results such as the occurrence and volume of lying dead wood, the classification of results according to site (ecological series), pedological characteristics, plant occurrence, data on forest edges, etc.

STUDIES RELATED TO SUSTAINABLE FORESTRY PRACTICES IN THE CARPATHIAN REGION

No studies related to sustainable forestry practices have been undertaken specifically in the Carpathian region, but several sources of data exist in different kinds of documents that can serve as an important source of information on forests in the Carpathian region.

Every year the Forest Management Institute publishes the Report on the Status of Forests and Forestry in the Czech Republic. This report concentrates mostly on economic issues: it evaluates forestry practice from the collection of seeds to the production of wood. From the environmental point of view it deals only with emissions and air pollution, and it mentions tourism as the only non-productive forest function. However, the health status of the forest, species composition and other factors are mentioned here, although only at the level of the Czech Republic. The 2004 report states that the portion of coniferous species is permanently decreasing. In terms of care for the environment, the report mentions only the two systems of forest certification adopted in the Czech Republic:

- The Programme for the Endorsement of Forest Certification Schemes (PEFC) is an international programme aimed at promoting sustainable forest management through independent third-party forest certification. The Czech national system of certification was adopted by the PEFC Council in 2001, and by the end of 2003 a total of 1,911,211 ha (i.e. more than two-thirds of the entire forests in the country) had been certified.
- The Forest Stewardship Council is an international organisation with a respected system and a recognised product label for promoting responsible management of the world's forests. This system is not as widespread as the above, but it guarantees genuinely high environmental standards for forest management. A total of 10,450 ha had been certified by the FSC system by the end of 2003.

The Forest Management Institute also works on the Inventory of Forests, which offers more detailed data according to regions (*kraje*). In 2004, the first phase for the collecting of data for the inventory was completed. The results are available on www.uhul.cz. Satellite photographs are used for the evaluation of the health status of forests in the Czech Republic.

Each natural forest area has its own Regional Plan for Forest Development, which contains a wide range of data on economy and ownership, and also on management in protected areas and ecological stability in parts of the territorial system. It also contains data on threatening factors and natural characteristics. These plans for all the natural forest areas are provided by the Forest Management Institute, and they are prepared for a period of 20 years. The natural forest areas do not correspond to any administrative units or to any protected areas, which may somewhat complicate the use of these data.

Each protected landscape area has a Management Plan, following the Regional Plan for Forest Development, in which the assessment and also the strategy and measures for forest management are formulated. These plans for all natural forested areas are also provided by the Forest Management Institute. (Eurac, 2006)

2.7 INTERNATIONAL COLLABORATION

Although the Czech Republic signed the Convention on Biological Diversity in 1994, it did not take part in the Expanded Programme of Work on Forest Biological Diversity.

The Czech Republic participates in the European Ministerial Conference for Forest Management, an activity coordinated by the Ministry of Agriculture.

The Czech Republic is involved in two international activities, also focused on forest certification: the Programme for the Endorsement of Forest Certification Schemes and the Forest Stewardship Council.

The Czech Republic and Czech NGOs participated in the trilateral Ramsar Initiative, which also includes forest management and forest practices.

With respect to the new EU regulations, it is mainly the future policy of rural development that involves forest management and focuses on three key areas – agriculture and food industry, environment and population, and rural economy in its broader sense. At the end of 2005, strategic directions were adopted as to rural development. A common framework was elaborated for their monitoring and assessment.

The representatives of the Forest Management Section of the Ministry of Agriculture actively participate in the sessions of the working bodies of the EU – Working Group on Forestry of the Council of the EU, Standing Forestry Committee and Standing Committee on Seeds and Propagating Material for Agriculture, Horticulture and Forestry.

The Ministry of Agriculture and LCR, in cooperation with the FAO Sub-regional Office for Central and Eastern Europe and the Timber Section of UNECE, organized a workshop called “Building Capacities in Sharing Forest and Market Information” held in Krtiny near Brno from 24 to 28 October 2005. The workshop was organized for countries of Central Asia and the Caucasus and was based on the agreement on cooperation between the Czech Republic and FAO.

The Declaration of Krtiny was published at the end of the workshop, defining basic obstacles of sustainable forest management in the countries of Central Asia and the Caucasus. It recommends the governments and state forest authorities to adopt specific measures to eliminate such obstacles. (Eurac, 2006)

NON-GOVERNMENTAL ASSOCIATIONS (NGOS)

There are two major NGOs involved in forestry issues within the Carpathian region in the Czech Republic, which co-operate closely. One of them, Hnutí Duha, works at a national level, while Beskydcan is a local NGO from the Beskydy Mountains. They organise summer camps for the public and participate in decision-making processes regarding forest management, while Beskydcan also has its own forest nursery where it produces deciduous trees native to the region. (Eurac, 2006)

ACHIEVEMENT AND MAIN OBSTACLES TO SUSTAINABLE FORESTRY IN THE CARPATHIAN REGION

ACHIEVEMENTS

All the conceptual documents, beginning with the Act on Forests, state policies and other documents, feature sustainable forest management as the starting point for state policy. This could be considered as a great achievement, if it were followed by concrete programmes, measures and financial support. However, more detailed steps have yet to be taken. The main principles of forest management in the Czech Republic are: sustainable forest management, increasing the environmental stability of forests, increasing biodiversity, environmentally-friendly forest management, and increasing the share of natural forest reproduction and the proportion of deciduous trees. There is a growing focus on the non-profitable functions of forests. While these are sound principles and represent a promising trend, forest management in protected landscapes, as described in the threats/root causes section, does not adequately consider landscape-scale habitat diversity and the importance of the grassland biotopes unique to the Moravian Carpathians. However, there are some achievements that have contributed to sustaining or improving the condition of the forests in the Czech Republic. Three protected landscape areas and a long list of smaller nature reserves, together with the adopted Natura 2000 sites and TSES, create a strong network of well-preserved forests with appropriate management. The Forest Inventory provides much valuable data, proving, among other things, that the percentage of natural afforestation is growing, as well as the area of forest with a greater natural species composition. (Eurac, 2006)

Other main achievements are :

- A completely new state forest administration formed
- A new forest policy declared and Forest Act passed
- Private sector originated
- New structure of forest owners come into being
- New structure of state forest establishments administering state forest lands occurred
- Quite a new system of forestry financing gradually formed

OBSTACLES

One of the main obstacles outside the protected areas is still the traditional method of logging, mainly using large clear cuts, as well as the non-natural species composition of the newly planted forest. A common problem within the Czech Republic is the overabundance of game (ungulates), which damage the newly planted trees. Although in some areas the number of some species has decreased (for instance deer in the Chriby Mountains), the extent of the damage caused by game is still high.

Subsidies for afforestation under the Ministry of Agriculture are also an issue (programmes for the afforestation of agricultural land and the afforestation of unused agricultural land).

Both programmes have vague criteria and limits that would prevent the afforestation of valuable land, but the arguments of the nature conservation authorities are not obligatory and the natural composition of tree species is not a requirement, so the programme can actually support the afforestation of some ecologically valuable localities such as wetlands, meadows etc., which are in evidence as agricultural land. (Eurac, 2006)

2.8 PROJECT

NATURA 2000

The Czech Republic has a system of nature-protected areas (15.6% of Czech land), which has been in existence since 1838. This system lacks effective economic support. Existing legislative regulations fail to allow nature protection to take priority over political and economic interests in these areas. At a national level, the prevailing attitudes to nature protection have allowed some nature-protected areas to be damaged by economic activities without incurring any legal penalty. Accession to the EU and the implementation of Natura 2000 in Czech legislation may improve the protection and management of some nature-protected areas. The introduction of compensation for the owners of land under nature protection is needed.

POLICY FOR SARD-M (SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT IN MOUNTAIN REGIONS)

Policy processes have been positively influenced by application of the rules used in the EU, but full transparency is still missing, especially in final processing of formulating policies and preparation of strategic documents. On the other hand, the involvement of NGO's, public and other stakeholders has greatly improved. Existing forestry policies do not provide enough tools to apply the methods requested for sustainable forest management.

Impacts of the measures taken to support rural development, local culture and country life help to preserve and develop some of the unique Carpathian phenomena, but are weak in supporting development and stabilisation of local economy, small local businesses and companies connected to local farming and forestry. No institution in the Czech Republic is involved or cooperates on an international level with FAO on SARD topics.

More attention has to be paid to development of a sustainable forestry policy. Within the RDP new measures supporting bigger and faster changes in the species composition of forests and other environmentally-friendly methods should be adopted. (Eurac, 2006)

2.9 FOREST CERTIFICATION

The ideas of sustainable management in forests have been applied in the Czech Republic for more than 200 years, and they are also the motto of forest policy, the forest law in force, and other legal regulations aimed at nature conservation.

There are two systems to certify forests in the Czech Republic – PEFC and FSC system. Most of the Czech forests – 75% of the total forest cover – possess the PEFC certificate. The C-o-C certificates are awarded to wood-processing entities, wood-trading companies, sawmills, paper industry and construction. Czech consumers and therefore also sellers increasingly require information on whether a wood product was made out of certified wood, including fuller details. So the certification process continues.

The Czech Republic has been a member of the Pan-European Forest Certification (PEFC) scheme since 2001. Sustainable forest management and custody chains can be certified. Regional organizations can apply for certification on behalf of individual forest owners (regional certification).

Other certification systems are poorly represented in the Czech Republic. Of these, the FSC certification is the most promising.

The Ministry of Agriculture directly supports the process of certification by providing the forest owners with financial contributions within the services provided by the government for forest management and indirectly by means of the so-called National Certification Centre, which has been established as a part of the Forest Management Institute (FMI), this Centre provides an information service and support for the implementation of forest certification in the Czech Republic.

The only forest certified by PEFC in the Czech Republic with a total area of 1 849 754ha (www.pefc.org-2008) with 678 of participating holdings. No data are available about the PEFC forest certificated in the Carpathian

region. Concerning the FSC certification: a total area of 14 554 ha of forests are certified, none located in the Carpathian regions. (www.fsc.org)

2.10 SOURCES OF FUNDING

Sources of funding (domestic and external) for implementation of activities related to sustainable forest management in Carpathian Region are the following:

- **The State Fund for the Environment** is one of the important sources for financing projects on biological and landscape diversity, although the orientation of the fund is much wider (covering air and water protection etc.). The fund is managed by the Ministry of the Environment. Its programme for environmental care and the protection and use of natural resources provides support for sustainable forest management, the strengthening of the non-productive functions of forests, and the drawing up of management plans for protected areas.
- **The Landscape Management Programme** – The goal of the programme is to support measures to preserve and renew the basic landscape functions (preservation of the soil, biology, microclimate, stability of the water regime etc.). It is often used as a financial resource for management in protected areas. Within the priority area Support for Biodiversity, measures can be promoted leading to an improvement of the condition of the forests and their stabilisation, especially within the system of TSES.
- The **Ministry of Agriculture** manages several sources of funding for forest management:
 - The restoration of forests damaged by emissions
 - The use of ecological and sensitive technologies in forest management
 - The afforestation of unused agriculture land.

There are also funds available from regional sources (Jihomoravský, Zlínský and Moravskoslezský region) for afforestation and reforestation measures, although not specifically for the Carpathians. Generally there is no special fund for sustainable forest management in the Czech Republic, despite the fact that sustainable forest management is defined as the main principle by state acts and policies.

SOURCES FOR PRIVATE OWNERS

The state provides services to help forest owners ensure forest protection against damaging agents.

Within consulting services, the state provides forest owners with up-to-date information concerning preventive protection of their forests and possibilities of protective measures against damaging agents. (Ministry of Agriculture, 2006)

The state compensates the costs of the service of a professional forest manager to owners of forests up to a total area of 50 ha.

For owners of forests up to a total area of 50 ha who do not have any forest management plans for their forests, the state compensates the costs of elaboration of forest management outlines.

Individuals who own over 50 ha are obliged to arrange the preparation of forest plans and obliged to comply with the provisions of such plans (the maximum total volume of felled timber and the minimum share of soil-improving and reinforcing species for stand regeneration). (Ministry of Agriculture, 2005)

2.11 ILLEGAL LOGGING

Illegal logging represents less than 1% (2004) of total harvesting mentioned in the Czech official statistics survey. An obligatory denotation and marking of forest products related to the location of their origin is not enforced by any law except reproduction material. No administrative or financial restrictions are placed on the trade in forest products. (Pasek, 2003)

In 1996 – 2002 the Ministry of the Environment conducted another study on illegal logging using a similar information source. The relevant data were provided by the County Czech Environmental Inspection boards and the district forestry state administration boards. The total figures resulted in summary conclusion given below: roughly 1,500 ha of forested area were illegally harvested, representing almost 550,000 m³ of commercial wood. The forest area of 53,000 ha was reduced below the limit of the minimum forest stand density. (Pasek, 2003)

Monitoring of the trade in products of illegal logging easily fail owing to lack of pertaining instruments. In designing and conducting any monitoring system of trade in illegal logging products, legislative and also technical obstacles may arise. An obligatory denotation and marking of wood related to the location of their origin is not ordered by any law. No administrative or financial restrictions are placed on the trade in forest products. Even the obviously criminal cases that are subjects of police and justice investigation often suffer from lack of material proof.

No data are available concerning illegal logging in the Carpathian region.

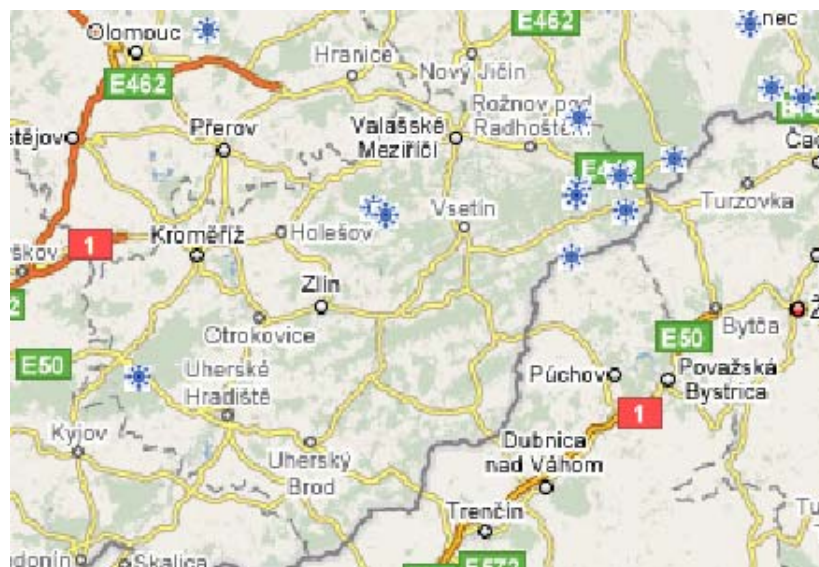
2.12 NON-WOOD FOREST PRODUCTS

Every individual shall be entitled... to collect for their own needs any forest products and dry brushwood lying on the ground. While doing so, they shall be obliged not to damage the forest, not to interfere with the forest environment and to follow the instructions of the owner or tenant of the forest and his staff (Act on Forests, 1995, Article 19). The Act pays special attention to beekeepers who ‘*may, with the consent of the owner of the forest and in the interest of the promotion of ecological balance, pollination of plants, use of honeydew and improvement of the production of seed of forest tree species, put their bee swarms on forest land*’. The Act prohibits activities such as lifting of seedlings and transplants of trees and bushes of forest tree species, felling or damaging of trees and bushes, the collection of seeds of forest tree species or fruit products in a manner damaging the forest and the collection of bedding, grazing of livestock, enabling runs of livestock through forest stand. (UNECE, 2004)

2.13 TOURISM IN THE CARPATHIAN REGION

The 13 most important ski centres in the Carpathian region (blue points in the map) (www.czecot.com)

Figure 2.3: Sky centres in the Carpathian region of the Czech Rep



Ten are located in **North Moravia and Silesia:**

1. Bílá

2. Mosty u Jablunkova
3. Dolní Lomná – Armáda
4. Javorový vrch (Oldrichovice)
5. Pustevny (Trojanovice 477)
6. U Sachovy studánky (Horní Becva)
7. Razula (Velké Karlovice)
8. Solán (Hutisko-Solanec)
9. Solán - sedlo (Hutisko-Solanec)
10. Kohútka (Nový Hrozenkov 241)

Two in **Central Moravia:**

1. Ski Centre Tesák (Ski areál Tesák) (Rajnochovice)
2. Troják (Rajnochovice)

And one in **South Moravia:**

1. Stupava

INTERESTING NATURE SITES

Bile Karpaty (White Carpathian Mountains) is part of the Carpathian system. Its southern part has been cultivated by people for centuries – however the local harmonic meadow countryside has been preserved here up to our days. Since 1996 it has been included in the UNESCO list of biosphere reserves.

North Moravia and Silesia

Enthusiasts of walking tourism and skiing are attracted to numerous places in the Jeseníky and Beskydy Mountains with renowned mountain centres – the Lysá Mountain, Radhošť, Prácheň, Pustevny, Ramzovské and Cervenohorské saddles. Reminders of the centuries-old tradition of the spa are the Jeseník, Velké Losiny and Klimkovice spas. The museum of cars is situated in Koprivnice, tourists are also attracted by a number of technical monuments, including the Czechoslovak military fortresses.

The tourist area of Beskydy-Vallachia is a part of the tourist region of Northern Moravia and Silesia and in terms of administration belongs in part to the Zlín region and in part to the Moravia-Silesia region.

Characteristic marketing characteristics of this territory are:

- picturesque landscape, mountains, forests, pleasant climate
- Vallachian folklore culture
- prestigious landmarks – open air museum in Rožnov, Pustevny
- image of a skiing region
- image of a well-preserved natural environment
- entertainment, sport, swimming, golf – Rožnov pod Radhoštěm, Velké Karlovice

Dominant forms and types of travel and tourism:

- active and sporting tourism – walking and cycling tours, winter sports, paragliding, recreational flying
- sightseeing and cultural tourism – folklore culture, picturesque natural landscape of Beskydy mountains, traditional cuisine
- recreation
- rural and agricultural tourism
- professional tourism – conferences, tourism to stimulate investment

The Protected Landscape Area of Beskydy is a rugged landscape interwoven with deep valleys, of which the Ostravice valley with its numerous rapids is particularly outstanding. The Beskydy region is characterised by its isolated settlements. The strong folk tradition is embodied in wooden structures, churches, chapels and belfries, built not only in the foothills but also on mountain ridges. Among the natural features of interest are

the remains of original virgin forests, small peat bogs, mountain beech-groves and meadows that provide an ideal location for rearing sheep. One of the most frequently visited spots is Lysá hora – 1,323 above sea level, which is the highest point in the Beskydy mountains. Its peak provides a superb view of the surrounding landscape. The Beskydy mountains have always been densely forested up to their peaks, with predominantly spruce trees, and only a few ridges are bare. There is a rich array of flora, with several protected species.

The area boasts eight national protected nature reserves, including Radhošť, Salajka, Cantoria and Mazák, over 80 natural monuments and 34 nature reserves, such as Klenov, Klíny, Jalovcová strán, Mionší, Sidonie and Travný potok. There are several nature trails – Jan Karafiát, František Palacký, Hradní vrch, Klenov and Radegast, a number of hiking routes and cycle paths – Moravská brána, Beskydy, Odersko, the surrounding area of Frýdek -Místek, the Beskydy circuit, Hostašovice-Pustevny and many more.

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www.uhul.cz
www.ifer.cz
www.nature.cz

3. HUNGARY

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FOREST POLICY AND SOCIO-ECONOMIC STRUCTURE

3.1 BRIEF HISTORICAL POLICY OUTLOOK

The base of sustainable forest management Hungary has a long tradition of planned forest management. After the first forest act in 1770, the Forest Order of Empress Maria Theresa, the first forest management plans were made at the end of the 18th century and the first national forest inspectorate was established at the beginning of the 19th century.

Several regulations on forest management have been adopted. The Forest Act in force (Act No. LIV of 1996) is the base of legal regulation reflecting the reconsideration of forestry policy in accordance with the general political and economic changes in the early 1990s.

The current legal background of forest management is up-to-date, complies with EU regulations and determines the basic criteria for sustainable forest management supported by positive and incentive financial means, aspects of forest protection, rights and obligations of forest owners, takes into consideration the role and needs of

History of the Hungarian forestry sector (Sylvacons, 2004)

- 1770 Order of Queen Maria Teresa on forests
- 1791 The first feudalistic Forest Law
- 1879 The first modern civil Forest Law
- 1920 The forest area decrease to 12% as a follow up of the 1st WW
- 1935 The Law on Forestry and Nature Conservation
- 1936 2nd Forestry World Congress and 9th IUFRO Congress in Hungary
- 1945 Nationalisation of forests
- 1959-60 Establishment of co-operatives
- 1961 The Forest Law based on socialist ownership form
- 1994 Privatisation (compensation) of state and co-operative forests
- 1996 The Law on Forest and the Protection of Forests – in accordance with the laws on nature conservation, game management and hunting

private forest owners, and provides the necessary means for the forestry authority to ensure the long-term protection of the interests of society. (Szolgálat, 2007)

EFFECTS OF THE EU ACCESSION

Hungary's recent accession to the EU has had some impacts on the country's forests. However, while, the transposition of the Habitats Directive (and, as a consequence, the designation of *Natura 2000* sites) has expanded the country's protected areas, there has been neither any aggravation of the legislation, nor any strengthening of its implementation. By the time of the accession, the environmental law harmonisation process had mostly been completed, and today the Hungarian legislative environment meets EU requirements. The designation of Hungary's *Natura 2000* network, despite missing its accession date deadline (1 May 2004), was decreed in September 2004, and the final list of the *Natura 2000* sites will soon be published. After some disagreement over the list, habitats with exceptional conservation value have now been included in the *Natura 2000* network.

However, this legislation in itself will not protect the forests. The Hungarian Regulation on nature conservation and effects on the ground, are, in certain respects stronger than the EU Habitat Directive. Thus, law harmonisation was only significant in the cases of *Natura 2000* sites which were newly added to the network of protected areas. More important, in practice, is the issue of implementation, in respect to which there are serious problems concerning both the national and EU legislation. For example, there are known cases in which permissions for intensive lumbering were issued for a designated *Natura 2000* site in October 2004 – immediately after the area had been designated as a *Natura 2000* site in September. Despite intensive NGO protest, the logging was carried out.

Moreover, the management plans for most of the protected – mainly State-owned – forests are in harmony with neither the spirit nor the prescriptions of the Habitats Directive. Not only is the development of the plans dominated by economic interests, but the reorganisation of the nature conservation authorities seems to diminish the effectiveness of their work by reducing human resources, ending their autonomy (through their integration into unified water management, environmental and conservation authorities), and decreasing the possibilities for public participation in and NGO control of the official processes. (Javor, 2005)

3.2 ORGANISATIONAL AND INSTITUTIONAL STRUCTURE

MINISTRY

The Ministry responsible for the Forestry sector in Hungary is the Ministry for Agriculture and Rural Development.

Some of the activities of MARD:

- Provides central governance for agriculture, game management and fisheries, the food sector, forest management and forest conservation, primary timber production, and the associated services, research and development, agricultural product turnover, agri-environmental management, plant protection, plant health, animal health, conservation of the quality of agricultural lands, cartography and land issues, as well as agricultural water management.
- Organises the agricultural market, and discharges the duties associated with the quality control of agricultural, food, forestry and primary timber products, with the exception of pre-marketing certification of consumer goods and post-marketing checks.
- Develops proposals for the sectoral support schemes and contributes to the formulation of the sectoral taxation and financial policy systems.
- Develops the overall rural development strategy, identifies short-, mid- and long-term targets, analyses the legal, technical and financial alternatives ensuring the achievement of such targets, and contributes to the development of means and programs to this end.
- Ensures proper operation of the national system of institutions managing the aids financed by the European Agricultural Guidance and Guarantee Fund.

The main administrative organisations contributing to the above tasks include:

- Plant Health and Soil Protection Stations
- Land Registry Offices
- Institute of Geodesy, Cartography and Remote Sensing
- National Forestry Services and its inspectorates

The regulatory and directing tasks are performed by a separate unit within the Ministry, the **Department of Natural Resources**. Primary and secondary magisterial management, organisation and administrative tasks are performed by the Forestry Directorate of the Central Agricultural Office (an exception is the supervision of propagation material production and distribution, which is performed by the Directorate of Plant Growing and Horticulture).

The proprietary rights of state-owned areas by the assignment of the Minister of Finances are practiced by the Treasury Property **Directorate** and - in the case of other areas by the **National Land** Fund Management Organization. The supervisors of these proprietors are the Minister of Finances and the Minister of Agriculture and Rural Development. The Directorate and the Organization, as proprietors, assign state-owned forest land areas into the custody of the 100% state-owned, mostly forestry corporations. Other areas are managed by forest managers registered by the forestry authority. Forest managers are private entities or legal persons exercising proprietary rights or the right of use for the area.(Eurac, 2006)

CENTRAL AGRICULTURAL OFFICE

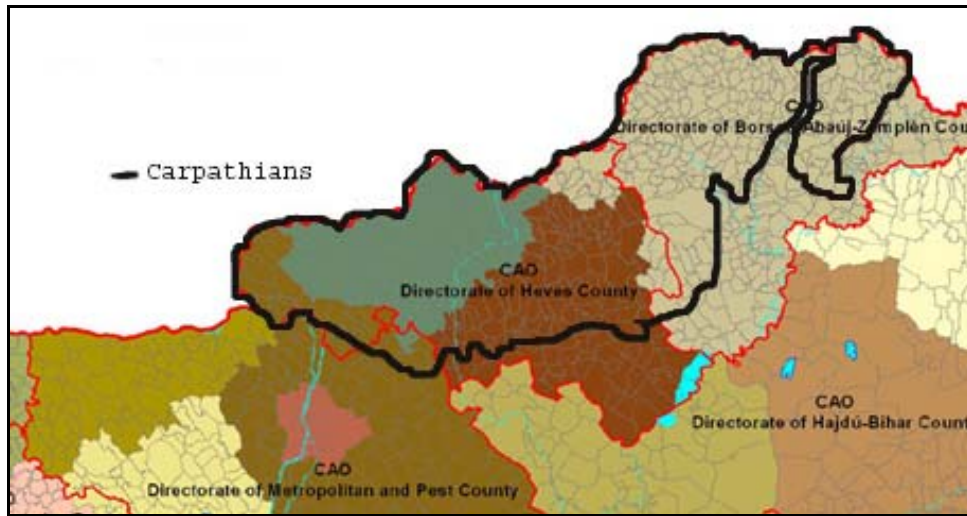
The Central Agricultural Office is a central budgetary organization working under the direct control of the Ministry of Agriculture and Rural Development. The organisation comprises nineteen regional offices (at county level) and a headquarters. The Forestry Directorate is one of the 12 directorates of the Central Agricultural Office that comprises 10 regional directorates, as part of the county offices. The major purpose of the Forestry Directorate to facilitate purposeful and controlled forest management.(www.aesz.hu)

There are three Regional Directorates controlling forest management in the Carpathian forests:

- Directorate of Heves County
- Directorate of Borsod-Abjúl- Zemplen County

- Directorate of Metropolitan and Pest County (a very small part)

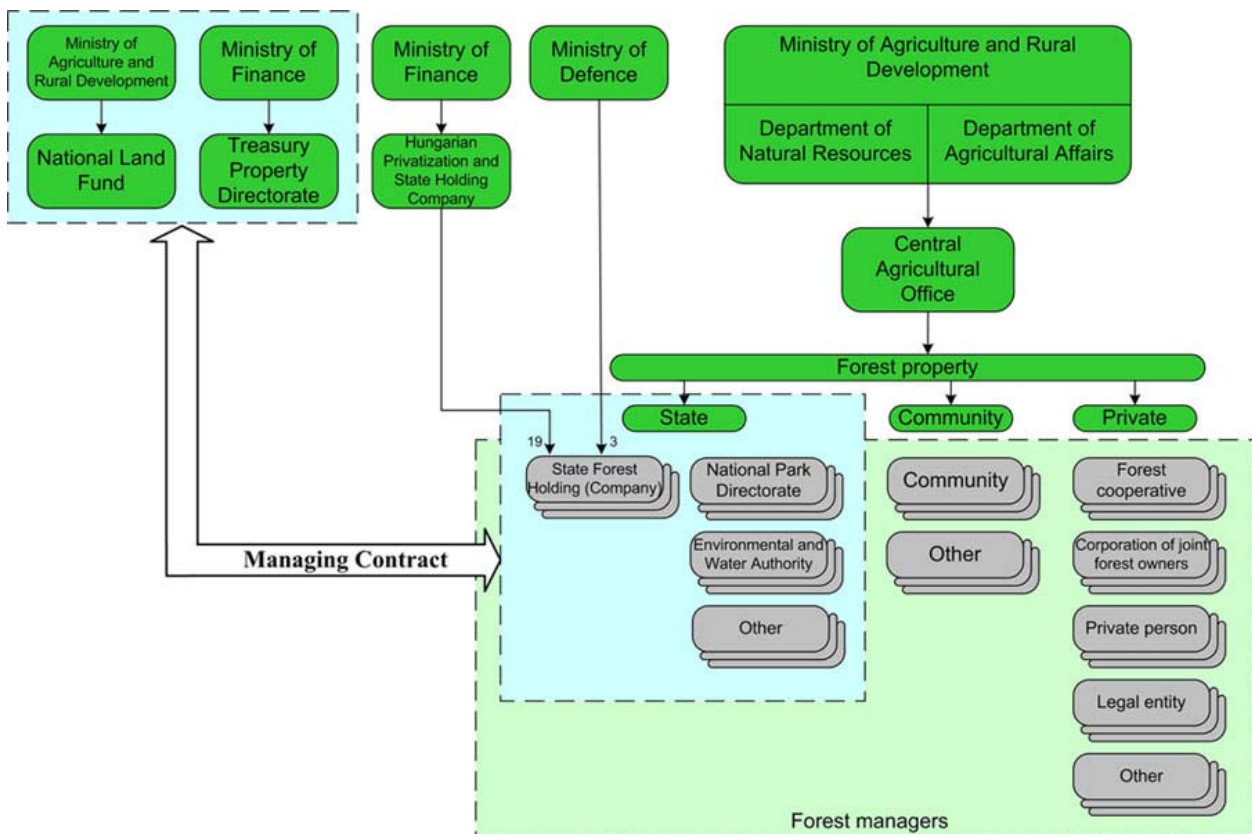
Figure 3.1: The Regional Directorate of the Carpathian region



Source: www.aesz.hu

The management of state-owned forests is primarily performed by the Ministry of Defence and the **22 forest management corporations** under the supervision of the Hungarian Privatization and State Holding Company. However, other national institutions like water resource directorates and national parks also manage state-owned forest land areas.

Figure 3.2: Institutional Structure in Hungary



Source: State Forest Service www.aesz.hu

AUTHORITIES

An important institution is the **Nature Conservation Authority**. Until January 2005 the 10 national parks were the nature conservation authorities. However in Hungary it is against the law to be manager and authority at the same time. So after 1st January 2005 the responsibilities regarding nature conservation legislation were transferred to the National Water, Environment and Nature Conservation Authority.

Their range of duties and functions extends to their whole administration area including:

- national parks, landscape protection areas and nature conservation areas,
- not protected areas where, in order to protect natural and protected natural values, they also have competence.

The primary duties of the national park directorates are

- the elaboration of nature conservation management plans for protected natural areas and their nature conservation management,
- providing nature conservation offence magisterial tasks,
- operation of the Rangers' Service,
- other national professional duties for nature conservation.

A very important role in national forestry is played by the **National Forest Authority**, through its 11 regional offices. This institution has two main roles:

- it acts as authority regarding the implementation of Forestry legislation.
- prepares the 10 year Forestry management plans.

These two authorities have a very important effect on forestry and protected forests. Collaboration between them was not always smooth, especially when the national parks were representing the nature conservation authority.

STATE FOREST SERVICE

The SFS is a governmental (budgetary) organization working under the direct control of the Ministry of Agriculture and Rural Development. The sphere of activities of SFS covers the total area of the country. The SFS consists of ten directorates and the headquarters.

The main tasks of SFS cover the following fields:

- forest inventory on the forested area of the country (the forest inventory is carried out annually on one tenth of the total forested area);
- preparation of district forest plans to be approved by the Minister of Agriculture and Rural Development and to constitute the base of the obligatory forest management plans related to the activities of forest managers;
- basic and thematic mapping, including the interpretation of aerial photos, GPS and geodesic measurements;
- management of the National Forest Stand Database, updated annually and providing information services;
- supervision of forest management, including the following:
 - approval of annual operational plans;
 - control of forest management practices (silvicultural and felling activities);
 - management of the forestry related financial means and subsidisation system;
 - forest health monitoring according to manual of ICP Forests (International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests launched and operating under the Convention on Long-Range Transboundary Air Pollution of UNECE); SFS is the National Focal Centre;
 - collection of data and data processing for statistics on forestry and primary forest industry;
 - development of application software and GIS application;
 - cooperation with international organization (among others FAO, ECE, OECD EUROSTAT, etc.);
 - providing information on the actualities and development of forest resources to governmental organizations and to the public;
 - providing information to - primarily private - forest owners (professional publications, technical expertise), who often have no professional (forestry related) background;

- as a new assignment due to EU membership, the tasks related to the EU subsidized forestation of agricultural lands.

The SFS completes the above-listed tasks sector-neutrally as far as the legal status of forests is concerned (irrespective of the ownership forms of forests) in harmony with the Act on Forests.

These two authorities have a very important effect on forestry and protected forests. Collaboration between them was not always smooth especially, when the national parks were representing the nature conservation authority.

So between the following institutions there is an active relationship during the process of authorisation. In many cases however this structure (as already mentioned) also creates tensions since the forestry and the nature conservation legislation is in some cases contradictory (for example in the case of exotic species) (Eurac, 2006).

LEADING FORESTRY ASSOCIATIONS

Two organisations were set up in order to represent the interests of the private forestry sector in the Carpathians: the Association of Private Forest Managers in Hungary (MEGOSZ) and the Union of Hungarian Forest Managers (MERSZ).

National Association for Private Forest Owners and Forest Managers (MEGOSZ) The most relevant and leading private forestry association in Hungary. Representative for individual and associated forest management units, companies. Established in 1994, MEGOSZ has about 30,000 members representing around 200,000 ha forests, which is a 12% share compared to the number of owners in general and a 28% share compared to the sum of private forest land (2004). MEGOSZ is an increasingly well-recognized partner in forest policy setting. It was actively involved in the process of the National Forest Programme of Hungary and is also present at the yearly negotiations of the national forestry incentive system. Its valid Work Programme is defined for the period of 2003-2008.

Other associations in the forestry sector:

Hungarian Forestry Association (OEE) Representative of forest engineers, technicians, entrepreneurs. The members of OEE are mainly forest owners and forestry professionals. The main goals of the association are to represent the interest of forestry and to ensure the protection of forest resources. OEE was founded in 1866 [http:// www.oee.hu](http://www.oee.hu)

Hungarian Federation of Forestry and Wood Industries (FAGOSZ) Representative of forest and wood industry employers <http://www.fagosz.hu>

3.3 FORESTRY LEGISLATION

The current legal background of forest management is up-to-date, complies with EU regulations and determines the basic criteria for sustainable forest management supported by positive and incentive financial means, aspects of forest protection, rights and obligations of forest owners, takes into consideration the role and needs of private forest owners, and provides the necessary means for the forestry authority to ensure the long term protection of the interests of society.

In Hungary no specific laws exist for the Carpathian forests and mountains. Forestry is managed by the following documents:

Table 3.1: Main laws in Hungary

Name	Year of adoption	Legal status	Scope
Law on forests and forest protection	1996	Parliamentary document	The main scope is to regulate the management and use of forests in Hungary.
Ministerial Decree on the implementation of the 1996/LIV law on forests and forest protection	1997	Ministerial Decree	Establishing details for the implementation of the Forestry Act
National Forest Program for 2006 - 2015	2004	National Plan	Development of forestry sectors with the involvement of stakeholders
Governmental Decree 1110/2004 on the implementation of the National forest program	2004	Ministerial Decree.	Implements the NFP.

Source: EURAC, 2006

The other main legal measures affecting forestry and forest management are:

- Law on Compensation (1991)
- Law on the Dissolution of Socialist Co-operative Farms (1992)
- Law on Associated Private Forest Management (1994): to strengthen and promote the association of private forests for a more efficient forest management.
- New State Forest Service (1997) combined functions of planning and supervision.

As a part of the new legislative process after the political and economical changes in the early 1990s, two main “green acts” were ratified:

- LIII Act of 1996 on Nature Protection
- LV Act of 1996 on Game Management and Hunting.

The basis of regulations concerning forestry is the **Forest Law** of 1996. As for the non wood services (other than hunting), their regulation is included in the forest and nature conservation acts. As the influence of nature conservation on forestry practice is increasing, the LIII Act of 1996 on Nature Protection is valid in forests, which are under any level of protection. Therefore every forestry intervention in nature conservation areas also requires approval from the nature conservation authorities. From 1996, the Forest Law was used to restrict private small-scale forestry, as the fundamental principle of forestry policy was to establish large scale joint private forest entities. Modification of the Forestry Act in 1998 provided more freedom for the owner to decide about independent management. Obviously there had been no reason for the previous practice, when it had been obligatory to establish associated forest management in the existing forests, while in the new afforestation individual forest management was permitted. (Meszaros, 2005)

THE NATIONAL FOREST PROGRAMME

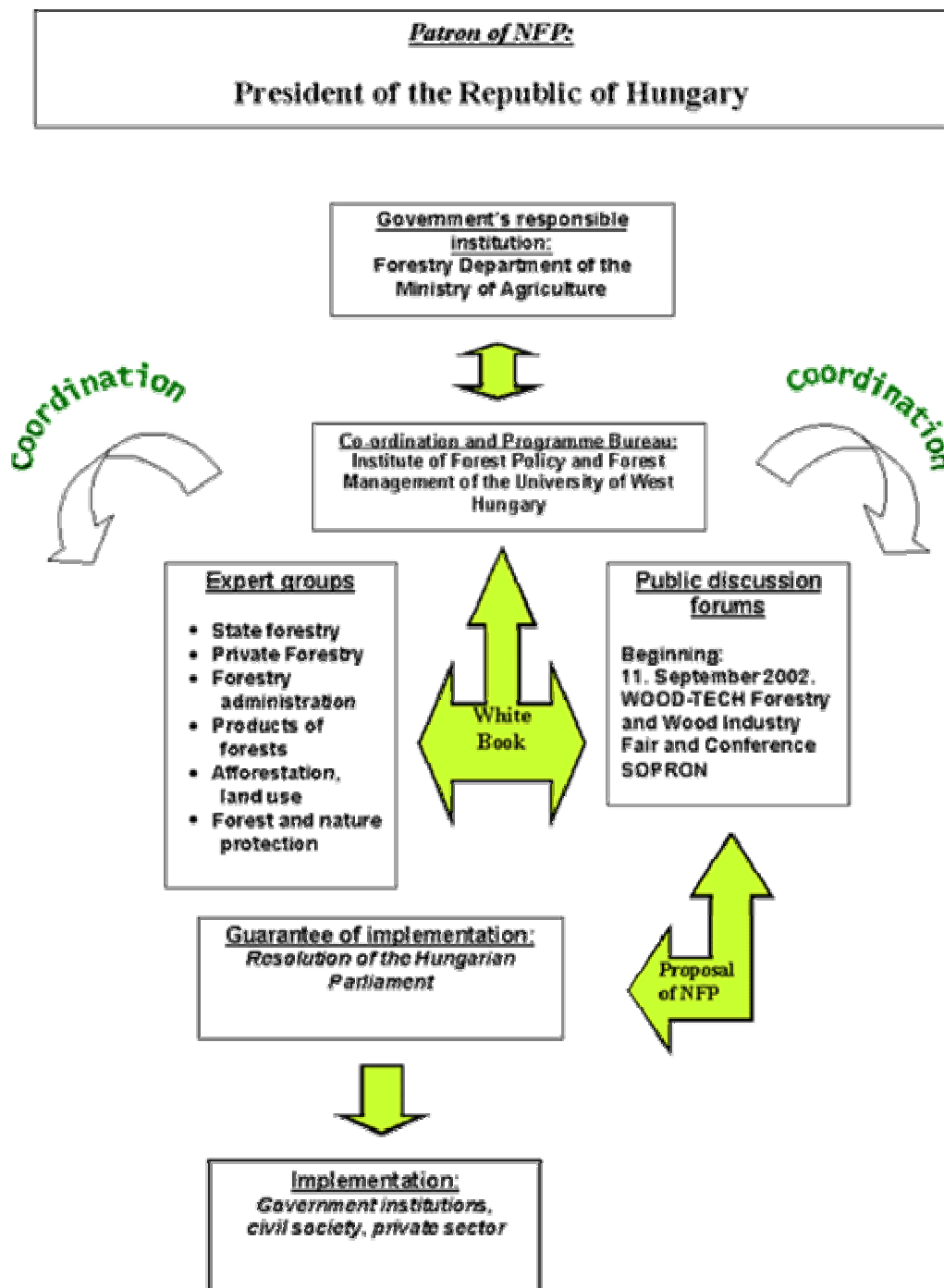
The **National Forest Strategy** is defined in Hungary as a national level document on long-term principles and objectives of forestry practice based on a holistic approach (NFP Co-ordination Bureau Hungary, 2002). It describes the following:

- Social value of forests - tasks of forests for the environment, ecology and economy in Hungary, tasks of the multifunctional forestry in Hungary
- Sustainable forestry in the sense of the UNCED-Rio definition 1992 and the Pan-European-MCPFE process
- Forest as environmentally-sound land use form

- Definition of the functions and tasks of the society-oriented maintenance of forests.

The National Forest Programme is based on the principles and guidelines of the National Forest Strategy, has a mid-term with a validity of 10 years for its implementation. The NFP is made up of sub-programmes concerning forests and related fields with concrete objectives to be achieved in this time frame. One of its major characteristics is that it will be elaborated not only with the participation of classic forest policy-making institutions but also of other stakeholders, e.g. other governmental sector representatives, NGOs, other actors in society with particular interest in forests (NFP Co-ordination Bureau Hungary, 2002). (www.quercus.enk.nyme.hu)

Figure 3.3: Flow chart of the process



Source: www. quercus.emk.nyme.hu

The primary aim of the National Forest Strategy and National Development Plan in Hungary is to increase the ratio of forest cover from the current level of 19.7% to 26-28%. This means planting 700,000 ha of new forest plantation in Hungary between now and 2035. Around 90% of the afforestation will be on private land, so the simultaneous improvement of farming and forestry is critical. (Andrasevits, 2004)

The NFP in Hungary has to answer conflicts and problems originating from the new conditions and structural changes of the political-economic system transition. These mean very different interests of stakeholders in the forestry sector by the implementation of sustainable forestry mainly by regulation and use questions.

PRINCIPLES REFLECTED BY POLICY

Table 3.2: Integration of the twelve principles of art.7 of the Carpathian Convention into the formal forestry policies (Eurac,2006)

Principles	Y/N
Sustainable management of forest resources and forest lands	YES.
Protection of forests against pollution	YES.
Prevention and protection against fire, pests and diseases	YES
Public information on forest ecosystems	YES/NO.
Public participation in development, implementation and planning of national forest policies	YES/NO.
Recognition of vital role of forests in maintaining the ecological processes and balance.	YES/NO.
Afforestation and reforestation	YES.
Assessments of economic and non-economic values of forest goods and services	NO
Protection of natural forest areas	YES.
Protection of ecologically representative or unique types of forests	YES.
Consideration of alternative uses of forests	YES/NO.
Ensure appropriate retention of precipitation in the mountains for flood prevention	YES/NO.

Sustainable management of forest resources and forests lands

However sustainability is not the correct term. The forest inventory in Hungary is focussed on the arboreal component of the ecosystems. Engineers working in forest inventory and planning do not have the knowledge or the possibility to make a full evaluation of the ecosystem involving species other than trees and the main herbaceous species. So sustainability in Hungarian Forestry is rather understood as a sustainable wood supply and not sustainable forestry management as defined by international organisations. The researchers working on the study regarding the naturalness of the national forests (already mentioned) proposed a modification of the forest inventory methodology. The basic idea is to introduce the naturalness index in the evaluation. The index includes characteristics of the herbaceous layer, the composition of tree species and the distribution of different age categories. The index also refers to the existence of deadwood in the forest and the effect on forest ecosystems of herbivores (in most cases extremely negative).

Protection of forests against pollution

In the Law on Forests and Forest Protection there is a separate article regarding this issue. The problem of litter is not very significant, it is more acute in the forests located close to human settlements. The Law on Nature Conservation brings stricter regulation on this topic, valid for the protected forests.

Prevention and protection against fire, pests and diseases

The Law on Forests and Forest Protection has regulations regarding these issues and the Law on Nature Conservation regarding pest control. Forest fires are not a very significant issue in Hungary, however this topic is also present in the legislation. In protected areas the use of chemical control has to be approved by the nature conservation authority. In 2004 and 2005, due to a gypsy moth invasion (*Lymantria dispar*), the state forestry companies used chemical control on a limited area, especially around areas with large numbers of tourists. Some of these forests are protected.

Public information on forests ecosystems

Access to information on forest ecosystem can be provided either by the managers (private or state) or by the state forest authority. Even if the legislation is in place in practice it is extremely difficult to obtain information from both bodies. Even the important NGOs like WWF, often have difficulties in obtaining information.

Public participation in development, implementation and planning of national forest policies

One of the last very important documents regarding Forestry is the National Forestry Program. WWF Hungary coordinated the involvement of the civil society in the development of this document. The final version of the document however incorporated only a very little from the civil recommendations. In general the work of NGOs and public is reactive.

Recognition of the vital role of forests in maintaining ecological processes and balance.

These roles are recognised by the legislation. In practice these roles are neglected in many cases because it is very hard to express these services in financial benefits.

Protection of natural forest area

There are a lot of problems, in many cases. Most of these are related to use of forests for income generation, and the use of exotic species in protected areas.

Protection of ecologically representative or unique types of forests

Probably the most important, unique ecosystems are the steppe oak forest and the last remnants of flood plain forests. Protection of these forests is not in all cases ensured, especially when they are in private ownership, as there are no financial subsidies / compensations for environmental or nature conservation limitations.

Afforestation and reforestation

The National Forest Program recommends the increase in forest from the current 19% to at least 25%. The new forests will probably be established on former agricultural lands and will possibly not significantly affect the forest cover in the Carpathian region.

In the Act on Forests and the Protection of Forests (1996), reforestation is defined as '*the activity of reproducing the felled or dead growing stock of the forest*'. It can either be performed by natural means from seed trees, from shoots sprouting from the root or stump of the felled wood, by selective cutting ensuring establishment and continuous maintenance of a mixed-age growing stock, or artificially in the course of which at the location of the felled or dead and removed wood a new growing stock is generated by seed sowing, sapling or shoot planting. In the case of artificial regeneration only propagating stock of species listed in the district forest plans and of quality specified in specific regulations may be used.

The country has not developed any afforestation or reforestation programmes in the mountain areas exposed to erosion and degradation.

Consideration of alternative uses of forests

Hunting as an alternative use of forest is a very important sector of the forest industry. Unfortunately the herbivore populations in many parts of the country are kept artificially very high. The overpopulation of forest ecosystems with these animals resulted in the elimination of almost all natural regeneration processes. Natural regeneration is only possible if an area is fenced.

AIMS OF FORESTRY POLICY

Three basic principles underline the goals of Hungarian forestry policy:

1. **Sustainable forest management:** this is in line with the principle of sustainable development declared at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992.
2. **Close-to-nature forest management:** this is closely related to sustainable forest management and this form of forest management should be carried out wherever feasible, starting with native forest ecosystems on forest soil. In planted forests, a close-to-nature stand structure should be developed wherever possible, taking into consideration site and economic-investment factors. Sustainable and close-to-nature forest management fulfils international commitments such as preservation of the diversity of the natural environment, maintenance of forest gene reserves, adaptation to undesirable long-term climate change, and sustainable fulfilment of the social demands made on forests.
3. **Plantation of new forests:** increasing forest cover by new planting is an old principle of Hungarian forestry policy that aims to achieve social and political goals (Janos, 1998)

NATIONAL MOUNTAIN POLICIES

The only specific mountain policy in Hungary is the Carpathian Convention, which was ratified by the Hungarian Government on 21st May 2004. Until recently the Convention has not entered into force, since the fourth country ratified the Convention on the 13th June 2005. Therefore, the legislation, policies and strategies required by the Convention are not yet in place.

However it is not expected that Hungary will develop policies and strategies focused specifically on the Carpathians because only a very small area of Hungarian territory is mountainous, so there is no real pressing need to treat the Carpathian region separately.

Northern Hungary includes the Carpathian Region so it will be used in the case of regional approaches.

3.4 FORESTRY RESTITUTION AND FOREST OWNERSHIP

PRIVATISATION PROCESS

Hungary chose a different course to restitution. The process was usually referred as "privatisation", or "compensation". The groups involved were the following:

- people who suffered political suppression (e.g. incarceration), or who sustained material losses under communist rule,
- former employees and members of socialist co-operative farms, who had been forced to merge their private agricultural land during the process of collectivisation.

The process, being part of a wider socio-economic privatisation effort, was not tailored to reflect characteristics of the forestry sector. Valuation of land selected for privatisation only reflected the value of the soil, and ignored both the material, and immaterial value of the growing forest stand. Forests and farmland were basically treated alike.

Former owners do not have legal claims either to their original forest area. Once a resident former member of a co-operative had stated his claims, he was assigned parcels of (forest-) land according to the percentage of the member's former individual holding in relation to the total area of the co-operative farm. Non-resident

former members received compensation in vouchers. Claimants who had lost valuables (including real estate), or who had suffered unjust persecution, received vouchers up to a maximum value of 5 million HUF (approximately 16,000 euro). Vouchers might either be used for bidding in land auctions, or freely traded and exchanged. Vouchers have been traded at the Hungarian stock exchange, although on a rather limited scale. The described process may therefore be generally defined as "privatisation by way of selling productive assets". The main characteristics of privatisation were as follows:

- Disregarding the value of forest assets;
- Limitations concerning the partakers to be native natural citizens of Hungary;
- Possibility of bidding downward on privatisation auctions;
- Absence of minimum limit of property.

As a result of the privatisation process there has been a dominance of undivided common properties in the ownership structure. (Meszaros, 2005)

Different phases in the process:

- Compensation vouchers for nationalised property (compensation)
- Sale of national property for compensation vouchers and cash (privatisation)
- Land and forest privatisation exclusively on auctions for vouchers. (Gerely, 2004)

The process has been declared finalized in Hungary. However, small changes within the private ownership structure is foreseen without influencing the total share of the private asset. As a consequence, private forest ownership reached its current level and gave birth to a new structure of private owners. Expectations can be formulated with regard to the private forest area owned by more than one owner but without clearly defined borders within the property. Under this aspect an even higher division of these areas are foreseen. On the other hand it is expected that more owners will be interested in their property, resulting in a decrease in the share of unmanaged private forest area.

LEGISLATION ON PRIVATISATION PROCESS

The Hungarian constitution is the basis for the entire privatisation process, as it prescribes the right to – and public protection of – individual private property (including means of production and real estates) and declares Hungary's commitment to the rule of law and democratic development. It also declares the state's commitment to environmental protection, and consequently forbids privatisation of formal conservation areas in compliance with nature protection laws. The latter exception, with its reversal tenor to the general commitment to privatisation, thus creates inherent tension, and calls for due consideration in the course of future legislation.

The Hungarian privatisation process rests on two bases:

- The law on compensation (passed in 1991, entered into effect in 1992)
- The law on the dissolution of socialist co-operative farms (1992).

According to the current legislation, foreign investors are forbidden to purchase agricultural land and forest by farmlands up to 0.6 hectares, flats and houses can be sold to foreigners. In order to maintain this prohibition, companies and enterprises are also excluded from land ownership, since a foreign presence cannot be supervised or restricted in Hungarian companies. As a result, partnerships, legal entities or companies are not allowed to own agricultural land and forest in Hungary. It is a generally accepted opinion that this prohibition was necessary due to the low Hungarian land and forest prices. The emotional part of this debate is also important: it is easy to generate a fear of rich foreign investors, who would buy out the whole country. However, even experts cannot agree on the results of this prohibition as this ownership restriction will maintain the current low prices of forest land, which is obviously against the interest of local inhabitants. (Meszaros, 2005)

FOREST OWNERSHIP STRUCTURE

Hungarian forests can be in private or public ownership. The most important public owners are the state forest companies (which in total manage 57% of the country's forests and more or less 60% of Carpathian forests).

National parks are also managers of some state-owned forests, especially the protected ones. For instance, in the Carpathians, Aggtelek National Park is the manager of almost all of the protected forests situated on its territory while Bükk National park for example has a direct influence on only a fraction of the protected forests situated within its boundaries. This situation often leads to serious conflicts, the Hungarian state is in many cases maintaining two institutions for the management of the same area: the state forest companies and the national parks. The solution is either to attribute the protected forests to the national parks or the state forest companies continue to manage the protected forests, in these case subsidies will be needed if the state wants to keep these companies as “for profit companies”

Table 3.3: National Forest Ownership patterns

OWNER(2006)	FOREST AREA (1000HA)	% OF TOTAL FOREST
STATE FOREST	1054	57
COOPERATIVE FARMS	5	0
COMMUNITY (*)	12	1
PRIVATE INDIVIDUAL	340	18
PRIVATE GROUP	147	8
PRIVATE BUSINESS	100	5
OTHERS	7	0
Private Unmanaged forests	204	11
TOTAL (area covered by forest stands)	1869	100

(*)Community Forest in the above table is forest property owned by cities, towns, other settlements

At national level, the majority of state-owned forests are managed by the 22 State Forest Holding companies, each with an average of about 50,000 ha of managed forest area. Some 250,000 private forest owners own around 795,000 ha of forest land; therefore the average property size is around 3 ha. There is no specific information available on the Carpathians but it is certain that this situation could be extended in this area.

Individual and co-operative management is pursued in some parts of privately owned forests, the management status of an ever-decreasing portion is still unresolved, mostly due to shared joint ownership, therefore no adequate forest management has yet begun in those areas.

During the restitution process between 1993 and 1998, the area of private forest property, formerly nearly non-existent, increased to over 40%. Distribution of forest land area by ownership, as in 2001, was 41% privately owned, 58% state owned. After the privatisation processes (1991–1998), the forest ownership structure in Hungary is today dominated by state and private property.

Forest area and ownership categories in the Carpathian counties

The total forest area in the 3 counties of the Carpathians is 381,811 ha.

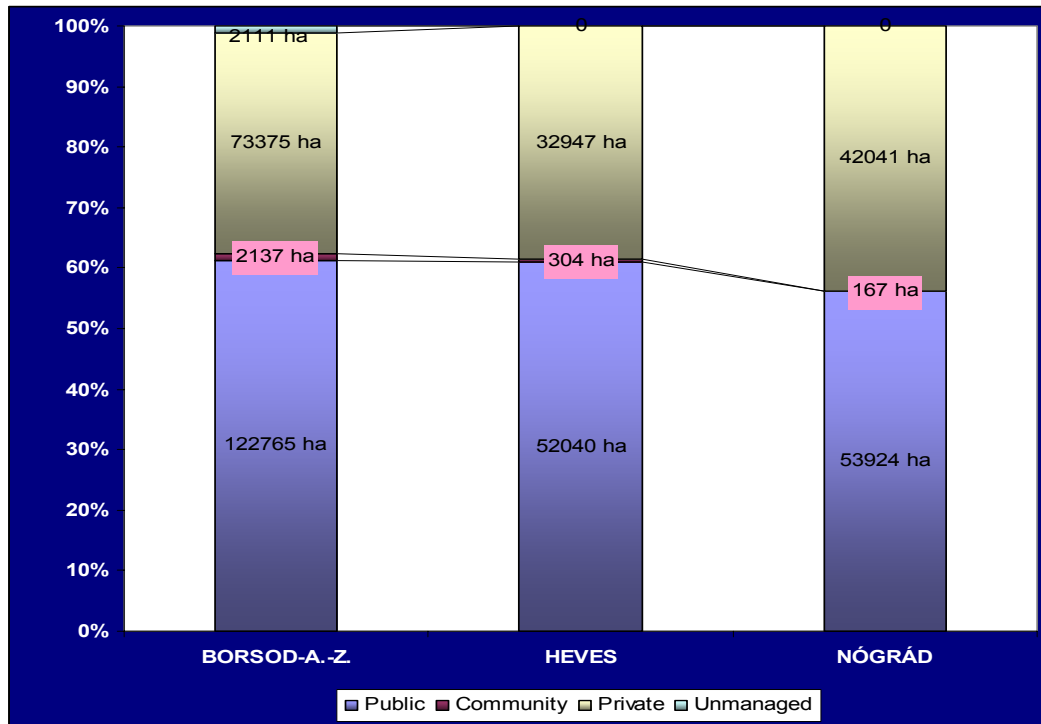
The state forest sector is dominant at present and represents 60%. The private sector owns 148,363 ha of forests which represents 39%.

Table 3.4: Forest Ownership patterns in the Carpathian region

	FOREST AREA BY OWNERSHIP – ha				Total
	Public	Community	Private	Unmanaged	
BORSOD-A.-Z.	122,765	2,137	73,375	2,111	200,388
HEVES	52,040	304	32,947	0	85,291

NÓGRÁD	53,924	167	42,041	0	96,132
Total	228,729	2,608	148,363	2,111	381,811
%	59.9	0.7	38.8	0.6	

Figure 3.4: Percentage of Forest ownership structure for every Carpathian county



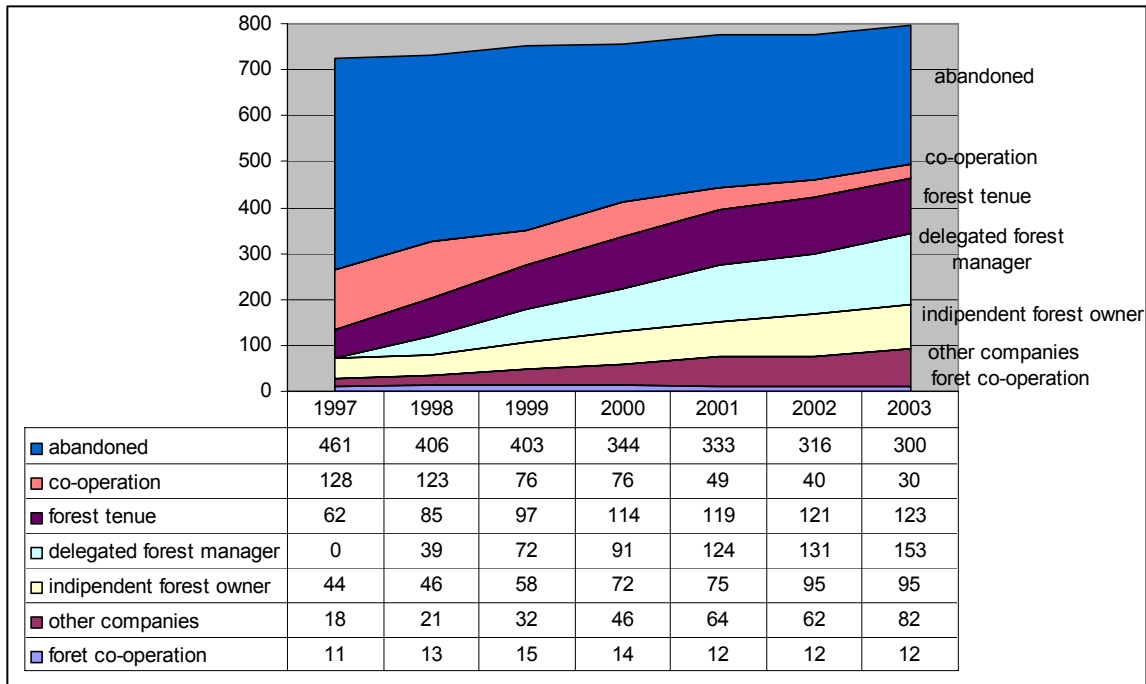
Forest owners

We must consider many landowners and forest owners as urban dwellers rather than real farmers, since most of them do not have the necessary equipment for agriculture, and they are not typically farmers. In order to establish a successful rural development policy, the level of knowledge, motivation, opinion and interest of forest owners have to be taken into account. Significant divergences can be observed in the intentions of the owners concerning the forests. Besides those wanting to deal with forestry, a considerable number of them do not have any long-term conception. They do not intend to perform forest management, they bought the forest just because it seemed to be a profitable investment, or it was the only way to utilise their privatisation tickets.

The economic orientation of private forest owners is very different. While some forest owners utilise their forest heavily, even without official permission or license, other forest owners practically abandon their forest and do not want to participate in any kind of management activity. The environmental orientation of forest owners is significantly high, compared to their economic orientation. The protection of natural assets and biodiversity were evaluated as a more important factor than economic functions. This result provides evidence for the standpoint that private forest owners have a low grade of economic rationality. Within economic functions the primary function of the forest is to develop an asset rather than to provide yearly income.

(Mészáros, 2005)

Figure 3.5: Private forest ownership and forest management at national level.



Source: (Meszaros, 2005)

3.5 THE FORESTRY SECTOR IN THE NATIONAL ECONOMY

INDICATORS OF NATIONAL ECONOMIC DEVELOPMENT

Following political change in 1989, Hungary changed its economic system from a centrally-planned system to a market economy. Hungary is an industrial country with a developed agricultural sector. The GDP of the forestry sector is less than 1%. The private sector accounts for over 80% of GDP (Mészáros, 2005).

LOGGING AND TRADE

Major threats to Hungary's forests include the intensive forest management methods used, and the pressure of game, the country's high stock of which makes some methods of forest regeneration enormously expensive or even impossible.

In terms of forest management, clear cutting forms the most common harvesting method (78%), while even regeneration methods use too short a rotation period, taking only 2-3 years from the opening of the stand until the final cut. Single tree selection and other nature-based management systems are of very minor, or just experimental importance. The result is the development of mainly even-aged forests dominated by one or two species, leading in turn to habitat and biodiversity loss. Meanwhile, despite remarkable forestation efforts in recent years, with plans to create 700,000 ha of reforested land by 2035, the preference for planting exotic species hinders the restoration of natural ecosystems in many sites. (Jávor, 2005)

CONSUMPTION OF WOOD

The national supply of wood amounted to 5.913 thousand m³ in 2006. The total production amounted to 1.084 thousand m³ in the same year, which 720 thousand m³ of wood based panels.

Concerning all assortments, i.e. the total wood supply, 1.860 thousand m³ were exported (principally to Austria and Italy), and 2.089 thousand m³ were imported, mainly from the countries of the former Soviet Union, in 2006 as presented in the following table.

Table 3.5: Wood removal, production, import, export at national level

1000m ³	removal	production	export	import
Hungary	5913	1084	1860	2089

Source: UNECE TIMBER database, 1964-2006, as of July 2007.

In the table below it is represented the Carpathian forest area with an economic role. The public and the private sector play the same role (50% each) with an equal importance in wood production. The forest area with an economic role in the Carpathian area represents the 11% (207.832) in respect to the total forest area in Hungary.

Table 3.6: Forests with an economic role by ownership structure

	Public	Community	Private	Unknown	Total
	ha				
Borsod-A.-Z.	51.250	1.221	51.783	289	104.543
Heves	20.295	64	20.649	0	41.008
Nógrád	30.814	61	31.406	0	62.281
Total	102.359	1.346	103.838	289	207.832

Following, from an elaboration of the UNECE Trade and Timber Division DB 2007 (in annex), made by DITESAF University of Padova, the amount of roundwood removal of the Carpathian region in the last years.

Table 3.7: Estimation of Carpathian region of roundwood removal from 2002 to 2006

roundwood removal 1000 m ³	2002	2003	2004	2005	2006
Hungary- Carpathian region	1.171	1.160	1.135	1.192	1.186

EMPLOYMENT IN THE FORESTRY SECTOR

The structure of the employment can be divided in three main groups:

- In the state administration employment is decreasing due to the overall reform of the civil service sector
- In management, there has been a slight decrease in numbers of the labour force in the state-owned forest holdings but the private sector has increased its employment
- In addition, an increasing social labour force is used in forest related works.

The number of employees in the state forest enterprises is approximately 7000 and the staffing level is one of the highest among in regional terms. However, a high level of employment may indicate a low level of efficiency: while in the EU the average level of employment is 2.4 persons per 1000 ha, in Hungary there is a much higher level of 7.9 persons per 1000 ha. This can be an explanation why the average labour incomes in forestry and wood processing industries are below the national average. In the medium-term there must be a

large-scale reduction of employment to improve the efficiency of the Hungarian forest industry. (Mészáros, 2005).

No data are available for the Carpathian forest area.

WOOD INDUSTRY

The Hungarian Federation of Forestry and Wood industries (www.fagosz.hu) is a non-governmental professional federation for Hungarian wood industries and trade. It has as members 44 wood industry companies, 31 forest management companies, 33 suppliers, 29 wood trading companies, 8 education and other institutions, the ESZT (Forest Propagation Material Council with around 750 members) and PANFA (Pannon Wood and Furniture Cluster with around 80 members).

The following are some of the wood industries located in the Carpathian region. (<http://www.woodinfo.hu>)

- EGERERDO Erdészeti Zrt. - Eger

Activity : Forest management (76 th ha), forestry services, game management, parquet production, wood trading, seedling and nursery (forest and ornamental tree saplings), charcoal trade. Parquet: mosaic, tongue-and-groove, twolayers finished.

420 employees

- ÉSZAKERDO Erdogazdasági Zártkörűen Működő Részvénytársaság - Miskolc

Activity: Sylviculture, wild farming, hunting, entertainment, adulterant production, timber-trade. Sawn timber, hardwood-floor frieze, batten, tongued-and-grooved parquet, solid wood panels, planking elements. Drying-steaming capacity. Education, forest school. 498 employees

- FAFÉMTEK Ipari Kereskedő Bt.- Mikóháza

Activity: trading, door production. 18 employees

- FAFIL Fafeldolgozó Ipari Szolgáltató Kereskedelmi Kft. - Pásztó

Activity : Production of plywood and (sliced)veneer facing of plywood, chipboard and fibreboard. 14 employees

- FAVILÁG 2004 Faipari, Kereskedelmi és Szolgáltató Kft.- Dunakeszi

Activity: trading

- FULL-FA Kereskedelmi és Szolgáltató Kft. - Fót

Activity: trading

- Gyetvai Pack Faipari Gyártó, Kereskedelmi és Szolgáltató Kft. - Szentdomonkos .6 employees

- JU-GO BÚTOR Kft. - Szerencs

Activity: furniture producing, trade. 30 employees

- L. HOLZIMPEX Kereskedelmi és Szolgáltató Bt. - Gyöngyös

Activity : Wood export import: Parquet, Deal floor, Stair, Banister, Glued wood, Turned woodwork, Sawnwood, Parquetry stave, Furniture stave, Door, Window. Services in wood industry. 2 employees

- MÁTRAPARKETT (Egererdo Zrt.) - Gyöngyös

Activity : Floorboards, mosaicparquet, solid strip flooring, lamparquet, industrial parquet, solid finished parquet, stairs.

160 employees

- TARNAFA Tarnamenti Erdogazdálkodási-, Faipari-, Kereskedelmi és Szolgáltató Kft. - BükkSZenterzsébet

Activity : Woodfelling and cutting, wood processing, production of sawn timber (oak, beech, Austrian oak, acacia, poplar), wine-prop manufacture, Timber trade. 32 employees

- EGRIFA Bútor és Faipari Kft.- Eger

Activity: producing furniture, producing saownwood, furniture, trading

- Stuller János, egyéni vállalkozó - Salgótarján

Activity: sawndwood production

- 2 KELE Furészipari Termékeket Gyártó és Forgalmazó Kft. - Salgótarján

- AGRIA-AJTÓ Faipari Termelő és Szolgáltató Kft. - Eger

- Árvai Attila, faanyagkereskedő - Mályi

- IPOLY ERDO Zrt. 2660 Balassagyarmat, Bajcsy-Zs. u. 10. state owned

Activity: Forest management (67 th ha). 160 thousand m³/year removals of hardwood. Wild-management, hunting service. Production of saplings, bedding-plants. Christmas tree. Reforestation. Transport. Repair of cars and trucks.

203 employees

- Gyetvai Zoltán -private- Szentdomonkos

Activity: Forestry management, sylviculture, felling, trading of logs. 12 employees

- HENC-OROSZI Ebt. -private- Gyöngyösoroszi

Activity (according to code table of FAKAT system): Sylviculture, Game management

- TARNAFA Kft. - BükkSZenterzsébet

Activity: Woodfelling and cutting, wood processing, production of sawn timber (oak, beech, Austrian oak, acacia, poplar), wine-prop manufacture, Timber trade. 32 employees

3.6 RESEARCH IN FORESTRY SECTOR

At the moment no such studies (gap analyses, assessments, etc.) are available related to sustainable forestry practices in the Carpathian region.

RESEARCH INSTITUTES

- Forest Research Institute (ERTI) www.erti.hu

The Institute tasks cover the study of the whole forest ecosystem and, with regard to international commitments the main research fields are forest ecology, forest tree breeding, plantation forestry, forest protection, forestry economics and yield.

- Faculty of Forestry, University of West Hungary (NYME EMK) www.erti.hu
- Central statistical office www.ksh.hu
- State Forest Service www.aesz.hu
- Institute of Ecology and Botany www.obki.hu. Located in Vacratot near the Carpathians, the institute has developed research on different issues (vegetation, climate change, lichens...) in the Carpathian area.

ACHIEVEMENTS AND OBSTACLES TO SUSTAINABLE FORESTRY IN THE CARPATHIAN REGION

When defining barriers, the opinions of different stakeholders vary considerably. NGOs consider the most important barrier to sustainable forestry management is the “for profit” orientation of the state forestry companies.

The State Forestry companies, however, see the ecological restrictions as a heavy burden reducing their incomes. Both sectors agree that subsidies for the management of the forests are needed.

One of the positive sides of the national forest legislation is the well-established planning and authorisation mechanism that is carried out by the National Forest Service. Management planning is done with money from the national budget, which ensures strict control on management. Another positive aspect (even if weakly implemented at the moment) is the positive discrimination for native species and there are tendencies showing an increase of native species in afforestation plans (Eurac, 2006).

3.7 PROJECTS

Within the framework of developing and implementing programmes for sustainable forest management, support for indigenous people and local communities a treaty has been established between the National Land Fund and the Hungarian Forest Association.

One of the main goals of NFP is communication focusing on people, forests and forestry.

The forthcoming EU accession and demands for new functions of forests as protection, health-social and tourism functions made preparation of the forest sector, particularly forest management for the changed social and economical circumstances, necessary. This special task was carried out within the framework of the FM No. HU 0102-04a Twinning-project (PHARE-program) in the following fields:

- preparation of the Hungarian forestry sector for EU accession and EU membership by the EU-conforming modernization of the forest information system, plus its legal and institutional background;
- harmonization and development of the Hungarian regulations, the main processes of administration and the information systems to EU standards;
- harmonization and development of data processing;
- development of the appropriate GIS based Forest Information System (Erdészeti Számítástechnikai Információs Rendszer (ESZIR)) to be brought into the system.

The project was been successfully completed in 2004. The results of the project are practiced and the established ESZIR is continuously tested (Eurac, 2006).

PRO SILVA HUNGARY

After privatisation, new initiatives were undertaken to strengthen the conservation of biological diversity in state-owned and private forests. Pro Silva Hungaria (PSH) was established in 1999 with a mission to advocate forest management based on natural processes to reduce ecological and economic risks. The goal of Pro Silva is to change the way of thinking and to teach low-input methods to state and private owners. To realise its mission Pro Silva engages in the following activities:

- exchange of information through publications and working groups;
- Establishment of demonstration sites;
- meetings and excursions in demonstration forests;
- Co-operation with educational and scientific institutions and other bodies.

Pro Silva started its activities basically focussed on state-owned forests.

Under the new regulations, an owner has to update his forest management plan every ten years. The State Forest Service draws up the plan in dialogue with the owner. Until recently there was no demand to introduce elements of low input forestry from either the owner's or planner's side. The PSH-FAO-IUCN goal is to have,

after four years, 1 200 ha of forests managed on a low-input basis. This will be measured through the Forest Management Planning System by the State Forest Administration, under the new regulations.

3.8 ACTIVITIES WITHIN THE CARPATHIAN REGION

The activities undertaken within the Carpathian region in Hungary by civil society organisations relevant for the purposes of the forestry aspects of art. 7 of the Carpathian Convention are the following: only a few NGOs are working systematically on forest issues in Hungary. In the first quarter of 2005 the NGOs active in this field established a coalition to co-ordinate their work. The main targets of the NGOs working on forestry is the situation of protected forests. Another important topic is use of the continuous cover forestry methods preferred by specialists in nature conservation and proved to be less damaging for the forest ecosystems.

The NGOs are also active in the implementation process of the Habitat Directive. Typically the NGOs represent a critical point of view in this matter, asking for stricter regulations. (Eurac, 2006)

3.9 FOREST CERTIFICATION

In Hungary the process of certification began in 2000 with the award to a large state owned forest and the commitment of a major saw mill to FSC certification. ERDERT, a former state owned wood processing and trade company, was rewarded with an order worth nearly \$ 1.5 million for finished timber from Scottish Woodlands Ltd. (one of the first largest UK company to achieve FSC certification), when beginning Chain of Custody certification in February 2000. (Pedersen,2002)

In Hungary there are three forest certified in Forest Management and Chain of Custody. No one of these forests are located in the Carpathian region(FSC, 2008):

Table 3.8: FSC Forests certified in Hungary

ENTITY	CERTIFICATION	LAND OWNERSHIP	FOREST TYPE	HA
Mr. Arpad Toth, jr.	FM/COC	Private	Semi-Natural and Mixed Plantation & Natural Forest	150.353
Nyirerdo Zrt	CU/FM/COC	Private	Semi-Natural and Mixed Plantation & Natural Forest	60.624
Mecseki Erdészeti Zrt (MEFA RT)	CU/FM/COC	Public	Natural	54.706

The total forest area certified from FSC in Hungary is 265.683ha that is the 67% of the Carpathian forests.

3.10 INTERNATIONAL COLLABORATION

Hungary participates in international (global, regional or sub-regional) initiatives relevant to sustainable forest management like the Expanded Programme of Work on Forest Biological Diversity and the Collaborative Partnership on Forests under the United Nations Forum on Forests. Hungary is not a member of other international processes at the moment.

3.11 SOURCES OF FUNDING

There is currently no domestic or external funding for implementation of activities related to sustainable forest management in the Carpathian Region. Forest management in this context means general managerial activities (for example, in agriculture, the owners receive subsidies based on the area where they grow/do not grow crops; in Forestry there is no such subsidy). The forestry sector is considered to be self-sufficient or

close to self-sufficient. Subsidies are provided for forest regeneration, after harvesting, from the taxes paid by the forestry sector and for the establishment of new forest. In the case of afforestation, the subsidies provided through the National Rural Development plan are partly financed by EU funds, topped up with national funds. For the establishment of new forests, the subsidies are provided through the financial mechanism related to the Rural Development Plan and are partly financed from EU funds.

In the field of reforestation (regeneration), a special financial institution exists in Hungary (managed by the State Forest Service) to promote sustainable forest management: Forest Maintenance Contribution.

NGOs and foresters consider it necessary to provide subsidies for management too, as happens for agriculture. In this case the ecological values of forests would be more effectively protected since the subsidies can be linked to certain managerial practices. It is also expected that from 2007 subsidies will be available to the owners of Natura 2000 forests. (Eurac, 2006)

3.12 ILLEGAL LOGGING

The participation proportion of the country is marginal in the field of the international timber trade, the illegal segment of which is practically nil.

The modern Hungarian forest laws (since 1879; the latest is the Act No. LIV of 1996 on Forest and the Protection of Forest) contain strict regulations suitable to the sustainable forest management principle with regard to preserving and utilizing the growing stock of the forest, in addition they oblige the forest owner or forest manager to protect the forest resource assets. The forest management plan and its observance is obligatory for all forest areas of the country in a 10 years rotation, and due to this (if it is different from its prescription) the level of illegal tree harvesting is marginal in Hungary. The products issuing from forests – by force of the forest law – are always accompanied by a certificate of provenance.

Table 3.9: The types of illegal logging at national level

	Number of cases	Volume m3
Logging without permission	131	27230
Logging exceeding permitted measures	5	1026
Collecting sticks from living trees	1	0
Use of forest without permission	15	0

Source: Unece, 2004

The above classification of illegal logging is followed up in the table below. (UNECE, 2004).

- Logging without permission or concession from public forests.

There are regions where, due to their social conditions, groups of inhabitants provide fuel wood or even the full income of their family from forests, primarily / mainly using illegal methods.

- Wood theft or illegal logging from private forests.

In forests with unclarified ownership, the legal procedure of calling to account for non-permitted logging means that penalization cannot be inflicted easily by the authorities.

- False declaration of volumes, species, values or origin of harvested wood.

Cases of such false declarations are when the characteristics of the logged mass of wood differ from the specification ratified in the forest management plans. Nevertheless, these cases are quite rare. However, there have been a few incidents, when, for instance, the forest manager executed final cutting instead of selection thinning.

- Logging in protected areas such as national parks.

Cases can be identified in the table below.

- Logging in prohibited areas.

No real disassociation can be identified from the previous group.

Table 3.10: Illegal logging in the state and private forests

Designation	Ownership					
	Public		Private		Grand Total	
	Volume(m ³)	Case(pc)	Volume(m ³)	Case(pc)	Volume(m ³)	Case(pc)
Non protected	12701	116	32154	164	44855	280
Protected	120	5	180	1	300	6
Highly protected	148	15	2431	5	2579	20
TOTAL	12969	136	34765	170	47734	306

Source: Unece, 2004

No data are available for the Carpathian forests, but it is possible to estimate the volume of illegal logging harvested if we consider the forest ownership structure of the Carpathian region is 20% of the national forest(see par. Forest ownership table 4). The estimation led to 2.814 m³ of illegal logging harvested in private forests and 6.521 m³ in public forests for a total volume harvested in the Carpathians of 9.631m³ per 62 cases.

Table 3.11: Estimation of illegal logging in the Carpathian region in private and public forests.

	FOREST OWNERSHIP STRUCTURE	HA	%	ILLEGAL LOGGING VOLUME M3	CASE OF ILLEGAL LOGGING
CARPATHIAN REGION	state	228.729	22%	2814	
	private	148.363	19%	6521	
	total	377.092	20%	9631	62
NATIONAL LEVEL	state	1.054.000		12969	
	private	791.000		34765	
	total	1.869.000		47734	306

At present, the direct connection with the initiatives of FLEGT is unknown, but Hungarian Forestry is involved in the general transparency of international trade.

By means of forest law enforcement “Act No LIV of 1996 on Forest and the protection of Forests”: Cited Article 90, 91, 102, 103 and 50 (1) c/ d/ (2) is the only policy to reduce or eliminate illegal logging. The volume of illegally-sourced wood exported and imported as a percentage of total wood exports is less than 5%.

The personnel of the forest authorities are responsible for preparing periodic inventories of the forests. If illegal activities have been reported an inventory must be prepared on the specific forest sub-compartment. There are cases where illegal logging cannot be identified because there is no clear evidence. Such cases are reported as understocked forest stand in the inventory.

Other mechanisms to monitor discrepancies between declared and actual imports and exports are the statistics and analyses of the Hungarian Customs and Finance Guard. (Unece, 2004)

3.13 NON-WOOD FOREST PRODUCTS

According to the Act on Forests and the Protection on Forests (1996), *collection of mushrooms, wild fruits, flowers and ornamental branches, not exceeding private needs is allowed on state-owned forest lands, unless a legal rule provides to the contrary* (UNECE, 2004).

Investigations on small-scale forestry in Hungary show that the most important non-wood forest products are honey and forest mushrooms in private forestry.

At the same time, Christmas trees and ornamental foliage have moderate importance, while ivy, pine cones, black alder, chestnuts and reeds were indicated as small important non-wood forest products. In relation to regional differences, the highest number (nine different products) of NWFP was identified in Transdanubia. It was reported that 23% of the private management units marked some kind of non-wood forest products in Transdanubia. In another respect, in the Great Plan only 10% of private forest managers indicated non-wood products in their forest management. This indicator is 20% in the northern mountains.

The total honey production is approximately 15-17 thousand tons per year in Hungary, but adverse weather conditions may reduce the output to a great extent.

In fact, in Hungary there are currently about 200 companies interested in medicinal plant management. These companies are mainly privately owned, but are not involved in forest management.

There are approximately 15 companies involved in the forest mushroom business in Hungary (Mezsaros, 2005).

National and local organisations studying non-wood forest products

- The only one located in the Carpathian area is:

Nagy Mihály Medicinal Plant Ltd. www.nam.hu

The others are located mainly in Budapest:

- University of West Hungary, Faculty of Forestry, Sopron www.nyme.hu/emk
- Corvinus University, Faculty of Horticultural Sciences, Budapest www.kee.hu/ktk
- Forest Research Institute, Budapest www.erti.hu
- Agro Chamber <http://www.agrarkamara.hu/>
- Ministry of Agricultural and Rural Development www.fvm.hu
- Ministry for Environment and Water Management www.kvvm.hu
- Herbaria Co. www.herbaria.hu
- Medicinal Plant and Product Advisory Council (GYTT)
- Federation for Forestry and Wood Industries (FAGOSZ) www.fagosz.hu
- Agricultural Marketing Centre www.amc.hu
- Gomba-Mez_ Ltd. www.boletus.hu
- Agro-Quality Ltd. <http://www.truffle.hu/>
- First Hungarian Truffle Society <http://falco.elte.hu/emsze/>
- APIMEL-R. health- and spa-tourism, tourism and honey-processing Reha Ltd. www.apimel.hu
- Honey Advisory Council <http://w3.datanet.hu/~meheszet/>
- Terra Foundation http://www.terraalapitvany.hu/index_en.html

Internet sites, institutions

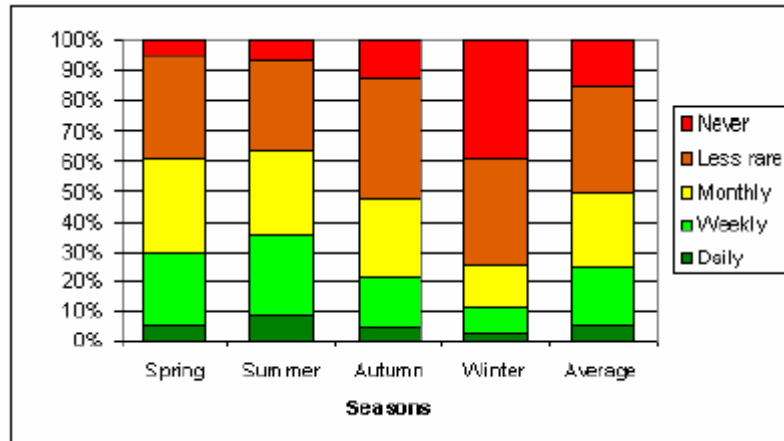
- Start point website for honey business <http://mez.lap.hu/>
- Start point website for mushroom business <http://gomba.lap.hu>
- Start point website for herb industry <http://gyogynoveny.lap.hu/>

3.14 TOURISM

In Hungary, limited studies are available describing forest tourism. In 2003, a countrywide survey was made on recreational use of forests, when 1100 people were interviewed. The most important results can be seen in Figure 6. The investigation shows that approximately 5% of people have visited forested area daily and only less than 10% of the inhabitants has no connection with the forest at all. (Mezasoc, 2005)

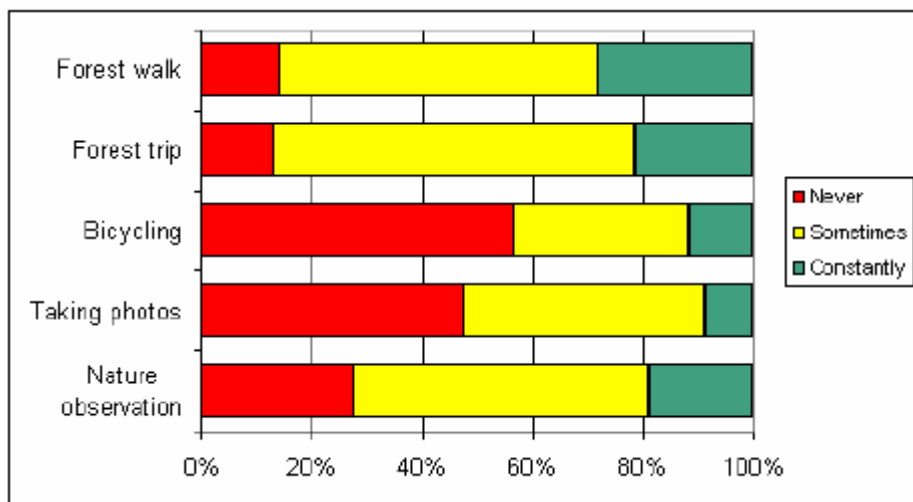
The study pointed out that the top five forest-related activities are forest walk, trip, bicycling, taking photos and nature observation. The study also mentioned the mushroom picking as a nature-based activity: almost one third of tourists gathered the forest mushrooms during their stay in the forests.

Figure 3.6: Frequency of forest visits in different seasons



Source:(Meszasoc,2005)

Figure 3.7: Top 5 forest-based outdoor activities



Source:(Meszasoc,2005)

In the Carpathians, the total forest area with a primary function of health-social tourism amounts to 3.318 ha (17% of the national forest area), of which 59% is in Heves county.

WORLD HERITAGE IN HUNGARY

Hungary legally enacted the convention on October 15th 1985. four sites have so far been designated as World Heritage Sites by UNESCO, one of these is located in the Carpathian national Park: the caves of the Aggtelek Karst (together with the Slovak Karst).

Divided only by the national border, the Aggtelek Karst and Slovak Karst are a geographically homogenous region extending over 60,000 ha and containing over 700 small and large caves (ANP 1998). Their morphological diversity, richness of formations, characteristic fauna, as well as archaeological and historical value, make this cave system one of the most complex underground karstic phenomena in the world. The caves of the Aggtelek Karst and Slovak Karst were placed on the World Heritage List in 1995, as the fourth cave system in the world achieving this title for its natural values. The caves are in an almost intact state and,

due to the strict protection legislation, can be preserved so, which has significantly contributed to their designation as a World Natural Heritage Site.

Understanding that better utilisation of the Hungarian World Heritage could significantly enrich the country's tourist industry, in 1997 the National Tourism Committee decided to develop a tourism strategy for each site. The strategies were completed by the end of 1998. As the actual development can only take place with the co-operation and joint financing of several ministries, authorities, local governments and civil organisations, the National Tourism Committee makes further decisions on the details of the practical implementation of the strategies.

Another site located in the Carpathians declared as a World Cultural Heritage Site in 1987 is the village of Hollókő. It has a population of 450. The settlement was developed mainly during the 17th and 18th centuries. The old part of the village - including a 16th century church and 55 houses - has become a "living museum" in the last decade. Visitors, 870 in 1999, can watch various craftsmen in work, buy handmade souvenirs in their workshops and become familiar with local customs on the village's holidays and special events. (Ratz,1999)

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Bukk National Park: www.bnpi.hu

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www.oeo.hu

www.fagosz.hu

www.woodinfo.hu

www.ksh.hu

4. POLAND

FORESTRY POLICY AND SOCIO ECONOMIC STRUCTURE

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FOREST POLICY AND SOCIO-ECONOMIC STRUCTURE

4.1 BRIEF HISTORICAL OUTLOOK ON FOREST POLICY

As a result of extensive deforestation in past centuries and a very widespread post-war afforestation of 1.42 million hectares (data GSO “Forestry 2006”, balance of 12.12.2006), Poland’s forests are highly fragmented and isolated spatially. The holding of the State Forests comprises 28,000 complexes, of which more than 6000 cover no more than 5 ha. The average size of a private holding does not even exceed 1 ha, and a holding of this size may often be made up of several separate plots.

The current forest policy is according to the National Policy on Forests, adopted in 1997 by the Council of Ministers. The document was prepared under the Ministry of Environmental Protection, Natural Resources and Forestry. The National Policy on Forests creates a comprehensive framework for forest activities and pays particular heed to:

- the provisions of the State Environmental Policy enacted by parliament in 1991, which are being developed in relation to forests under all forms of ownership,
- the Forestry Principles and Agenda 21 approved by the UNCED held in Rio de Janeiro in 1992,
- the European Declarations of Forestry Ministers on the Protection of Forests (Strasbourg 1990, Helsinki 1993, Lisbon 1998, and Vienna 2003), which set out i.e. guidelines for sustainable forest management and ushered in the process of establishing criteria and indicators.

As stated in the document, the overriding objective of forest policy is to designate the complex of actions shaping relations between society and forests. This shall be done with the aim of preserving the conditions for the permanent maintenance of multifunctional forests, their multi-faceted utility and protection, and their role in the shaping of the natural environment, in line with the present and future expectations of society.

4.2 ORGANISATIONAL AND INSTITUTIONAL STRUCTURE

The institutional structure of the Polish forest administration is organised as follows:

Ministry of the Environment,

In particular, the Minister is obliged to shape conditions underpinning the achievement of all the functions of forests; to provide constant supervision over the condition of forests and forestry management, over the forests within National Parks and over the preparation of programmes following national policy. A further statutory duty of the Minister is to present the annual “Report on the state of forests” to the government, which is later directed to sessions of parliament. The Minister of the Environment (previously of Environmental Protection, Natural Resources and Forestry) exercises supervision over the State Forests.

The central administration at a national level is the Department of Forestry, Nature Protection and Landscapes in the Ministry of the Environment. It has a coordination role and is responsible for:

- the implementation of innovations in forestry, hunting and forest land protection
- activities focused on the protection and economic use of forests, the maintaining of biodiversity, game management, and the developing of non-productive use of forests
- afforestation
- forest and game monitoring
- international cooperation
- supporting the Liaison Unit of the Ministerial Conference on the Protection of Forests in Europe
- supervising the activities of the State Forests, the Polish Hunting Society, the Institute of Forest Research and the Office of Forest Seed Production

- administrative services for the Forest Council.

- The **Forest Council** plays an advisory role for the Ministry at the national level:
 - advises on the proposed activities for the protection of forests and the increasing of forest resources
 - evaluates the implementation of the State Forest Policy
 - evaluates the state and management of forests
 - advises on the legal activities connected with joining the EU
 - gives opinions on forest research and its practical use
 - gives opinions on the use of forest resources.

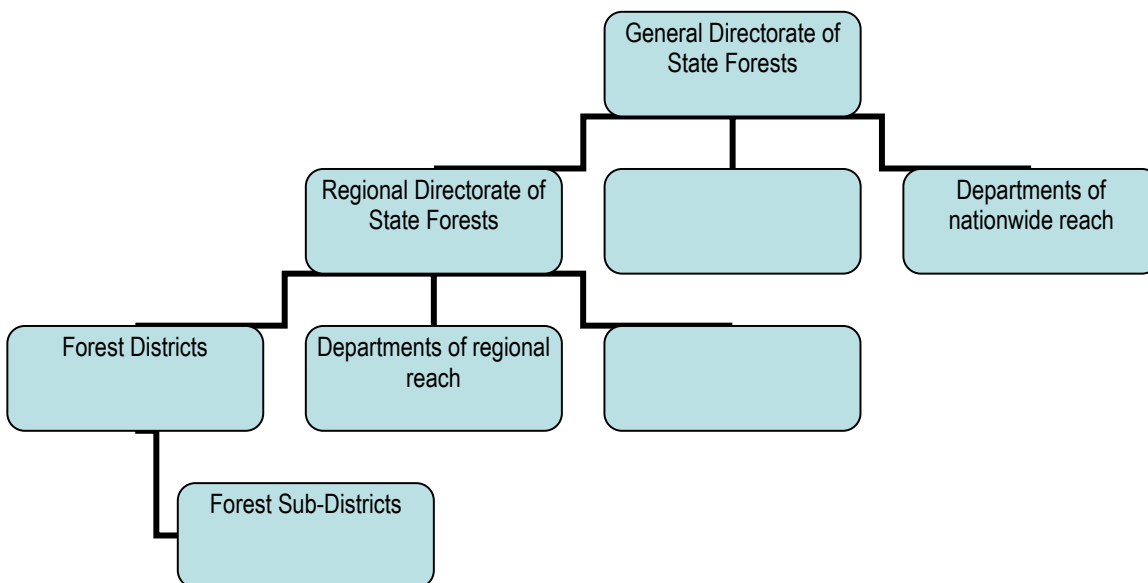
The Council is made up of 34 members, elected every three years. The members represent the different levels of forest administration, private forest owners, research institutions, and civil society organizations.

- Ministry of Agriculture and Rural Development
- State Forests National Forest Holding,
- National Fund for Environmental Protection and Water Management,
- Provincial Funds for Environmental Protection and Water Management.

STATE FOREST NATIONAL FOREST HOLDING

All state forests are managed by the State Forests National Forest Holding (*Państwowe Gospodarstwo Leśne Lasy Państwowe* – PGL LP). The PGL LP manages state-owned forests other than those that are within the national parks or given over for perpetual lease. The head of the PGL LP is the general director, whose office is in Warsaw. He is assisted by the directors of 17 Regional Directorates of SF (*Regionalne Dyrekcje Lasów Państwowych* – RDLP), three are in the Carpathians (see below). The basic organizational units are 428 Forest Districts (*nadleśnictwa*), of which 35 in the Carpathians, which are divided into sub-districts (*leśnictwa*) and administered by Forest Inspectors (*nadleśniczy*).

Figure 4.1: The three-tier organisation of the State Forest NFH



The state forest administration in the Carpathians is divided into:

- RDLP Katowice, with the forest districts Ustroń, Bielsko. Andrychów, Wisła, Węgierska Górka, Jeleśnia, Ujsoły, Sucha
- RDLP Kraków: Gorlice, Krościenko, Limanowa, Łosie, Myślenice, Nawojowa, Nowy Targ, Piwniczna, Stary Sącz.

- RDLP Krosno: Kołaczyce, Dukla, Rymanów, Brzozów, Dynów, Bircza, Lesko, Brzegi Dolne, Komańcza, Cisna, Lutowska, Baligród, Stuposiany.

Associations of private forest owners

Private forest owners forms groups to facilitate the management of their forests; the percentage of total number of private owners who are members of such groups is 0.6-6%. (SILP – data concerning SF).

Forest communities and associations are established according to the Associations Act of 07.04.1980.

The list of associated Carpathian forest private owners is below:

Słopnickie Association - 20 owners, 50 ha
Forest Owners Association in Szczawa - 22 owners, 90 ha
Kąty village Forest Community – 172 owners
Skalnik village Forest Community – 40 owners
Mytarz village Forest Community – 72 owners
Brzezowa village Forest Community – 74 owners
Brzyszczyki Forest Community – 98 owners
Lipnica Górna Forest Community – 54 owners
Samokłęski village Forest Community – 218 owners
Czekaj village Forest Community – 46 owners
Mrukowa village Forest Community – 113 owners
Jabłonica Forest Company – 284 owners
Malinówka Forest Company – 285 owners
Sulistrowa village Forest Community – 48 owners
Wojaszówka village Forest Community – 89 owners
Forest Company in Kobyle - 70 owners
Niebyleckie Private Forest Owners Association – 15 owners
Zawojskie Private Forests Owners Association - 75 owners
Kotarz Forest Community – 80 owners, 260.73 ha
Forest Community Skalka - 12 owners, 143.1 ha
Forest Community Stołówka- 16 owners, 125 ha.

4.3 FORESTRY LEGISLATION

In 1997 the Council of Ministries adopted the Forest Policy of the State. At regional level the basis of forest policy is created by the Regional Operation Programmes of Forest Policy. In 2005 the project of the State Forest Programme was completed and will probably be adopted in the near future.

LEGAL ACTS

The following legal acts refer to forests in Poland:

- Act of 29 June 1963 on Land Communities Management (Dz. U. No. 28, item. 169);
- Land Survey and Cartographic Law Act of 17 May 1989 (Dz. U. No. 30, item 163 with further amendments);
- Act of 7 April 1989 concerning associations (Dz. U. No. 20, item 104);
- **Forest Act** of 28 September 1991 (consolidated text Dz. U. of 2000 No. 56 item 679 with further amendments).

The latter is a basic act for forest management in Poland. It states that one of the most important aims of forest management is the conservation of forest biodiversity and the ecological functions of forests.

The most important document which confirmed the orientation of the forest economy towards sustainable use and ensured the so-called ecologization of forestry was:

- Act of 16 October 1991 on Nature Conservation (Dz. U. No. 114, item 492);

The protection of nature under this Act is to be understood as preservation, proper use and renewal of resources and natural elements, in particular wild flora and fauna, as well as nature complexes and ecosystems. Nature reserves in the territory owned by the State Treasury shall be supervised by organisation units of the State Forest Enterprise and in particular by the directors of local Forest Districts. On the territory of State Forests located within the borders of landscape parks, the nature protection tasks are performed directly by the director of the local Forest District, in accordance with the project of protection of landscape parks, included in the forest management plan.

- The Act on Protection of Environment - of 31 January 1980
- Act of 3 February 1995 on the Protection of Arable and Forest Land (Dz. U. No. 16, item 78);

The protection of forest areas under this Act means:

- 1) restricting their designation for purposes other than forest;
- 2) preventing degradation and devastation of forest areas, damage to forest stands and deterioration of forest production - resulting from activity unrelated to forest management;
- 3) restoring the economic value of the land, which lost its forest features as a result of activity unrelated to forest management;
- 4) enhancing their economic value and preventing decrease in their productivity.

- Environment Protection Law Act of 27 April 2001 (Dz. U. No. 62, item 627);

The Act on Protection of Environment (since 27 April 2001 – Law of Environment Protection) determines principles of protection and rational control over the environment and preserving its quality, in order to provide the present and future generations with favourable living conditions and the right to use the environment resources. Under the Act on Protection of Environment, organisations and individuals who use a land are obliged to protect the earth from erosion, mechanical devastation or pollution with toxic substances, and if their activity is related to agriculture or forestry they are obliged to use the proper cultivation methods.

- The Land Development Act – of 7 July 1994

The Land Development Act of 7 July 1994 was substituted by the Act on Spatial Planning and Development of 27 March 2003

- The Hunting Law Act – of 13 October 1995 with later amendments

The Act determines the principles of hunting, which means the protection of game and game management in accordance with ecology and rational agricultural, forest and fishing management.

REGULATIONS

Following the Polish forest regulations:

- of the General Director of State Forests no. 11A/1999 on the improvement of forest management according to ecological rules. The Order no 11°/1999 of the General Director of SF is not a commonly used Act of Polish law. It can be respected only by SF units in contradistinction to the decrees of a minister or board of ministers.

It prescribes, for example.:

- the maintenance of natural forest water courses and small water bodies
- the maintenance of riparian forests in river valleys
- the protection of forest wetlands and dunes
- the preparation of nature conservation programmes as annexes to forest management plans
- the promotion of natural forest regeneration
- restrictions on clear-cuts
- the leaving of selected old trees until natural death, and also the leaving of some dead wood as habitat for forest invertebrates.

The recommendations of this ordinance were implemented in the new *Rules of Forest Management (Zasady Hodowli Lasu, 2002)*, which is the basic operative document for Polish foresters.

- of the Minister of the Environment of 28 December 1998 on detailed principles of preparing forest management plans, simplified forest management plans and forest inventories (Dz. U. z 1999 No. 3, poz.16);
- of the Minister of the Environment of 24 February 1998 on detailed principles of timber marking, the patterns of marking equipment and of their use, as well as samples of documents concerning the legality of harvesting (Dz. U. No. 36, item 201 z 1998 with further amendments);
- of the Minister of the Environment and the Minister for Internal Affairs and Administration of 16 August 1999 on detailed principles of protection against forest fires (Dz. U. No. 73, item 824 z 1999).

Also participating in forest policy are:

- trade unions, which are active within forestry in line with their statutory entitlements; faculties of forestry of higher education establishments, the Forest Research Institute and other scientific institutions, through the conducting of research on the ecological and social functions of forests and their harmonisation with technologies and methods of production, as well as on the implementation of programs by which to educate society on nature and forests and to train forestry personnel;

- forestry scientific and technical associations (Polish Forest Society, Association of Forestry Timber-Industry Engineers and Technicians), in relation to the popularisation of knowledge on forests and the provision of opinions and proposals with respect to national policy in this sphere;

- forestry press and forestry publishing houses, in relation to information on forests, training and national policy.

PRINCIPLES REFLECTED BY POLICIES

Table 4.1: Integration of the twelve principles of art.7 of the Carpathian Convention into the formal forestry policies (Eurac,2006)

PRINCIPLES	YES/NO
Sustainable management of forest resources and forests lands	Yes
Protection of forests against pollution	Yes
Prevention and protection against fire, pests and diseases	Yes
Public information on forest ecosystems	Yes
Public participation in development, implementation and planning of national forest policies	Yes, the policy documents were released to the general public in the consultation phase.
Recognition of vital role of forests in maintaining the ecological processes and balance	Yes
Afforestation and reforestation	Yes
Assessments of economic and non-economic values of forest goods and services	Yes – in the case of economic values. Rather no – in the case of non-economic values. In practice it is not used to make assessments of the forest values that do not come from wood production. Even in national parks, when assessing the value of “state-owned property” only the commercial value of stands is taken into account.
Protection of natural forest areas	Yes, in the NP and in nature reserves. All natural

	forests are protected as nature reserves or belong to the national parks
Protection of ecologically representative or unique types of forests	Partly. Rare types of valuable forest ecosystems (e.g. mountain riparian forests near small water courses, patches of sycamore maple) are rarely identified in the standard forest documentation. On the other hand, in some forest districts nature conservation programmes have been elaborated, in which the natural values of forests are given in detail. The conservation of the described forests is fully implemented in national parks and nature reserves.
Consideration of alternative uses of forests	Yes, such uses are taken into account, but this is still undeveloped.
Ensuring appropriate retention of precipitation in the mountains for flood prevention	Yes

4.4 FOREST RESTITUTION AND FOREST OWNERSHIP

HISTORICAL BACKGROUND

Central and eastern Europe, including Poland, has recently undergone dramatic political, social and economic transformation. In comparison to other countries in the region, changes in forest ownership patterns have not been as drastic in Poland.

In the past, there were forests nearly all over Poland. The socio-economic processes in which economic goals dominated as a result of agricultural expansion and increased demand for raw wood materials have had a great impact on the changes in Poland's forests. By the 18th century, forest cover in Poland (within its then borders) had been 40%, to drastically fall to 20.8% in 1945. Deforestations and associated impoverishment of species structure of stands have led to a decrease in biological diversity in forests and impoverishment of the landscape, as well as soil erosion and disturbance of the water balance in the country. Efforts to reverse the process began immediately after the World War II and still continue. Today, the area of forest in Poland (as of 31.12.2001, according to data from the Central Statistical Office - GUS) is 8,942,000 ha, which is equivalent to 28.6% of the country's area. In line with the standard adopted for international assessments, which takes account of the land associated with forestry management, the area of forests in the country as of 1 January 1999 was 9,088,000 ha. Poland's forest cover in accordance with the TBFRA 2000 standard (related to land area excluding inland waters) as of the end of 2003 was 30.0% and was close to the Central European average. The comparison of the forest area per capita (0.24 ha) with the total land area is unfavourable for Poland and is one of the lowest in the region.

On the strength of a decision by the so-called Polish State Liberation Committee (Decree **of 12 December, 1944**), **private forest owners with more than 25 ha**, forfeited their properties to the (State) Treasury. During the transformation, actions were taken to reclaim nationalized forests, which belong now to the State Forests. Drafts of restitution (re-privatization) acts also appeared, which were changed many times.

As a result of national discussion, during which 100 thousand signatures were collected, forests were admitted to be the main part of developing the ecological and territorial security, and that is the reason why they should remain under national control (State Treasury). The main effect of this discussion was passed in the Act of 6 July 2001 on "retention of the country's character of the strategic natural resources". With this Act state forests and environmental (natural) resources of national parks were included in the country's strategic resources, which don't belong to property transformations. According to this law, the idea of returning the forest to former owners has collapsed.

National policy excludes the privatisation of State Forests. They are perceived as a national welfare and therefore ensure fulfilling not only productive functions, but also other, equally or even more important social and protective functions. This is also a consequence of a tradition of an uninhibited public access to forests for recreation, hunting and mushroom gathering. The privatisation process concerns only some forest complexes, which were taken from their owners and nationalized, according to the legal act Manifesto of 22.07.1944. Some of the forests owned by the State Treasury but not administered by the State Forests NFH (e.g. administered by the Agriculture Property Agency or Military Property Agency) are sold and pass into private ownership.

State forests are also not being privatized because of the fact that their administrator, State Forests National Forest Holding, fulfils the Forest Act very well, conducts sustainable forest management and has a very good financial situation, while its activity is highly appreciated by society.

FOREST OWNERSHIP

As far as the ownership structure of Poland's forests is concerned, public ownership predominates, accounting for 82.20%. The ownership structure of forests has not changed since World War II. The observed rise in the share of total forest area that is within the national parks is from 1.0% in 1985 to 2.0% in 2003 (according to GUS, state as of 31.12.2003)(Zajac,2005).

Table 4.2: National Forest Ownership patterns

Categories	% of land owned
Public ownership	82.20% Of which: State Forests 78.20% National Parks 2.00% Communities 0.90% Other 1.10%
Private ownership	17.80% Of which: single private owners 16.70% Associations, churches and other 1.10%

Source: Report on State of Forests in Poland, 2006.

The share of private forest in the total forest area in the Carpathians is, at present, 11.5%. The State Forest own 67% of the Carpathian forests. Only 4.4% of total private forests are in the Carpathians.

Table 4.3: Forest Ownership patterns in the Carpathian region

OWNER	FOREST AREA (HA)	% OF TOTAL FOREST
STATE FOREST	509 814.08	67.04
COOPERATIVE FARMS	13 887.67	1.83
COMMUNITY (*)	147 101.27	19.34
PRIVATE INDIVIDUAL	86 542.96	11.38
PRIVATE GROUP	1 022.05	0.13
PRIVATE BUSINESS	180.59	0.02
OTHERS (pl. specify): churches, land owners' associations, agriculture associations	1 885.22	0.25
TOTAL	760 433.84	100

Because of the high fragmentation of forests and relatively small forest cover, as well as few organised forms of its activity, the private forest sector has yet not been the subject of detailed studies. It is the subject of monitoring to a minor extent – for public statistics.

In the next page it is presented the list of 28 Carpathian counties. Only 13 of 28 Carpathian land counties were able to provide the requested data. Basing on their information, the number of private owners according to size classes of forest property in the Carpathian region:

The Framework Convention on the Protection and Sustainable Development of the Carpathians applies to the following voivodships and counties (data from the Ministry of Environment):

ŚLĄSKIE VOIVODSHIP

Bielski county: community Szczyrk, Buczkowice, Jaworze, Kozy, Porąbka, Wilkowice;

Cieszyński county: community Ustroń, Wiśla, Brenna, Goleszów, Istebna;

Żywiecki county: all communities;
town Bielsko-Biała.

MAŁOPOLSKIE VOIVODSHIP

Bocheński county: community Lipnica Murowana, Łapanów, Nowy Wiśnicz (town and landed), Trzciana, Żegocina;

Brzeski county: community Czchów (town and landed), Gnojnik, Iwkowa;

Gorlicki county: all communities;

Krakowski county: community Mogilany, Świątniki Górne (town and landed);

Limanowski county: all communities;

Myślenicki county: all communities;

Nowosądecki county: all communities;

Nowotarski county: all communities;

Suski county: all communities;

Tarnowski county: community Ciężkowice (town and landed), Gromnik, Pleśna, Ryglice (town and landed), Rzepiennik Strzyżewski, Tuchów (town and landed), Zakliczyn, Szerzyny;

Tatrzański county: all communities;

Wadowicki county: community Andrychów (town and landed), Kalwaria Zebrzydowska (town and landed), Lanckorona, Mucharz, Stryszów, Tomice, Wadowice (town and landed);
town Nowy Sącz.

PODKARPACKIE VOIVODHIP

Bieszczadzki county: all communities;

Brzozowski county: all communities;

Dębicki county: community Brzostek, Jodłowa;

Jasielski county: all communities;

Krośnieński county: all communities;

Przemyski county: community Bircza, Dubiecko, Fredropol, Krasiczyn, Krzywca, Przemyśl (town and landed);

Przeworski county: community Jawornik Polski;

Ropczycko-sędziszowski county : community Wielopole Skrzyńskie;

Rzeszowski county: community Dynów (town and landed), Błażowa (town and landed), Chmielnik, Hyżne, Krasne, Lubenia, Tyczyn (town and landed);

Sanocki county: all communities;

Strzyżowski county: all communities;

Leski county: all communities;

town Krosno.

Table 4.4: The size classes of forest property in 2007 in the Carpathian region

SIZE CLASS	TOTAL	< 1 ha	1,1-5,0 ha	5,1-10,0 ha	10,1-20,0ha	20,1-50,0 ha	>50,0 ha
NO. OF PRIVATE OWNERS	185 514	161 615	21 926	1144	480	192	147

The following counties were able to answer this question: Bielski county, Cieszyński county, Żywiecki county, Krakowski county, Limanowski county, Myślenicki county, Tarnowski county, Wadowicki county, Dębicki county, Krośnieński county, Przemyski county, Przeworski county, Sanocki county.

Other counties couldn't provide the requested data according to various reasons:

- Some of the counties do not have forest management plans, which are the main database for the requested information. Forest management plans are very expensive and the counties can only afford part of the plan during the year (e.g. the Gorlicki county can only afford 20% of the required plan in 2008).
- The data concerning forest grounds are available but not in the requested form. Some counties have only information concerning the number of forest plots, but not the number of their owners (1 owner can own more than 1 plot, or 1 plot can be owned by many owners).
- In some cases the counties do not have the requested data in the digital version, or the software they use cannot provide the data in the requested form.

The 87% of private owners hold small-size forests with an area lower than 1 ha. Forests are, to a great extent, part of agricultural farms. (Zajac, 2005). Only the 0,4% owned forests with a total area larger than 10ha.

State owned forests

Under the 1992 Act, state owned forest is the property of the State Treasury. State-owned forests are managed by the State Forest Enterprise.

Private forests

Private forest owners manage their own forests. The management of private forests is supervised by the 'Voivod', a political, administrative unit, or province, with governors appointed by the head of state.

The State Forest Enterprise is paid for its services by the 'Voivods' (state administration).

The supervision of private forests is based on the forest management master plan, prepared at the request of the 'Voivod' governors, and at the expense of the state budget, by the State Forest Management Bureau (eight regional branches) or commissioned from independent forestry professionals.

There is no systematic programme or scheme to train private forest owners in Poland. The 'Voivod' governors are responsible for this training. The State Forest Enterprise would be in a position to conduct training.

The obligations for a forest owner towards the administration are:

- The private forest owners must respect the Forest Act of 28.09.1991.
- Concerning the Forest Act, they are obliged to pay a forest tax for each ha of forest over 40 years old.
- The prices of timber harvested in private forests therefore include 7% or 22% of VAT tax.

The current large number of private forest owners and the virtual absence of forest owners' associations (FOAs) are considered to be weaknesses in the task of nature and biodiversity conservation and initiating sustainable development. Coupled with this is the poorly-developed structure of local community associations. The NGO sector is also severely hampered in its activities due to lack of finances.

Constraints: There may be resistance in some sections of Polish society to the further development of the private forest sector. This may manifest itself in a refusal to co-operate in the inclusive nature of project activities.

MAIN PROBLEMS AND RESEARCH QUESTIONS IN FOREST RESOURCES AND OWNERSHIP FOR ENTERPRISE DEVELOPMENT IN THE FOREST SECTOR

The following are selected major issues related both to forest research and practice in the above scope.

- Necessity to modify the way of assessing timber volume harvested through pre-commercial cutting (the tables do not reflect the reality).
- Modest database of the private sector, particularly with regard to the qualitative-dimensional and species structure of the harvested raw material.
- Lack of a tradition among private forest owners to form associations.

- Necessity to revise the principles of determining the rotation age of individual species and sites taking into account the changing market conditions, as well as public demand for utilisation of non-productive forest functions and maintenance of biodiversity.
- Analysis of the techniques and technologies used by forest service providers for timber harvesting with regard to compliance with the sustained forest management rules.
- Creation of transparent principles of forest utilisation within the scope of harvesting of both wood and forest non-wood products as an executive document to be used in forest practice – (underway).
- Emphasising the significance of the necessity to study the non-wood forest products base for their rational utilisation by local communities.

4.5 THE FORESTRY SECTOR IN THE NATIONAL ECONOMY

After many years of stagnation and negative tendencies, the period 2004-2005 was exceptionally favourable for the Polish economy and the forest-wood sector. The main development stimuli and trends in the wood market in this period were:

- Poland's accession to the European Union on 1st May 2004 which accelerated economic growth,
- increase in foreign direct investments inflow,
- periodically favourable foreign exchange rates (PLN to EUR) for exporters affecting growth of exports and production,
- relatively good demand for Polish wood products from foreign markets favourable for improvement of the economic situation of most of the wood sectors but at the same time – causing difficulty in the supply of wood from domestic raw material base,
- increase in demand for some wood assortments and industrial wood waste used as biomass for energy purposes which additionally magnifies problems in the roundwood market,
- increase in significance of EU standards concerning product quality. (Ministry of Environment, 2005)

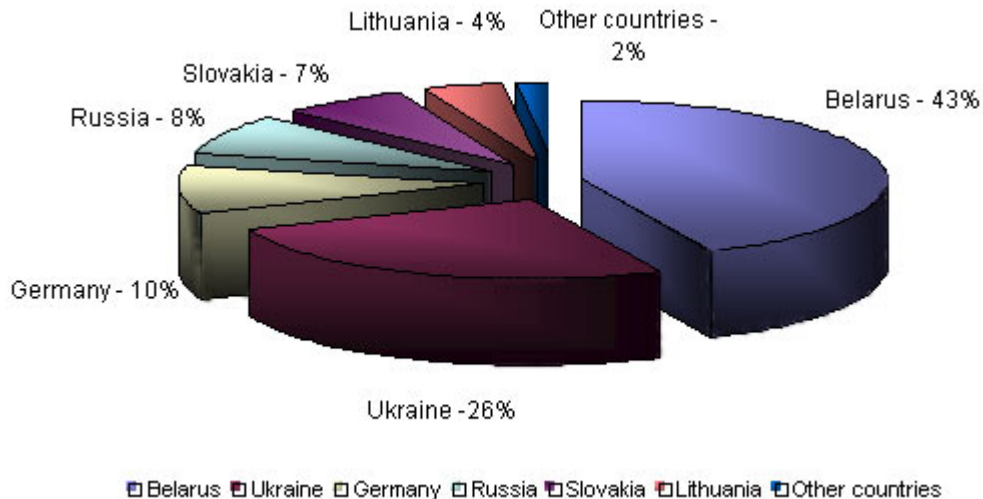
The contribution of forestry to the Gross Domestic Product (GDP) is 2.7% (2006).

The average of the Wood harvested/worker/day is 6.5 m³/worker/day. This is only an estimated value, due to the fact that all wood harvesting is conducted by private companies. The differences between particular SF Districts are very remarkable, e.g. in RDSF in Kraków the lowest value was 3.5 m³/worker/day, while the highest value (in the same Kraków RDSF) was 15 m³/worker/day.

WOOD PROCESSING INDUSTRY

Poland imported 4 468 thousand m³ of wood in 2006 (UNECE, 2007), mostly from its neighbours, especially the Ukraine, Belarus and Germany.

Figure 4.2: Geographical structure of wood imports to Poland in 2005 (Jan.-Nov) according to Polish Customs Office



Polish wood industry representatives have requested that the Government of Poland (GOP) permit the amount of wood cut annually to increase. They have also requested that the government change its practice of prohibiting small mills from signing long-term contracts for government-harvested wood. The new administration, elected in late 2005, has promised to look into this issue. The largest consumers of wood in Poland are the sawmill, chipboard, furniture, cellulose and paper industries. Most furniture and timber production is exported, mainly to other EU countries. Furniture manufacturers still hope to re-enter the Russian market, which collapsed a few years ago during an economic downturn in Russia. (Koniuszewska, 2006)

For many years, Poland has been an important European producer of MDF, OSB, fibre and particleboards. As there is no common forestry policy in the EU, individual member states are responsible for the implementation of multifunctional forest management. Consequently, Poland's accession to the EU in May 2004 did not bring any major changes to local forest management policy. Most processed wood is exported. The main export markets for Polish processed wood remain other EU countries, as well as the Ukraine, Russia and Belarus.

The national supply of wood amounted to 32 498 thousand m³ in 2006. The total production amounted to 14 829 thousand m³ in the same year, which 7 054 thousand m³ of wood based panels and 3 075 of sawnwood. Concerning all assortments, i.e. the total wood supply, 3 851 thousand m³ were exported, and 4 468 thousand m³ were imported in 2006 as presented in the following table.

Table 4.5: Wood removal, production, import, export at national level

1000m ³	removal	production	export	import
Poland	32.498	14.829	3.851	4.468

Source: UNECE TIMBER database, 1964-2006, as of July 2007.

Following, from an elaboration of the UNECE Trade and Timber Division DB 2007 (in annex), made by DITESAF University of Padova, the amount of roundwood removal of the Carpathian region in the last years.

Table 4.6: Estimation of Carpathian region of roundwood removal from 2002 to 2006

roundwood removal 1000 m ³	2002	2003	2004	2005	2006
Poland Carpathian region	2.292	2.604	2.764	2.698	2.744

Concerning the Carpathian regions, in 2001, 384 thousand m³ of merchantable timber were harvested in private forests, which is 33% of the total merchantable timber harvested in Poland (from GUS data)(Zajac, 2005).

The annual volume of prescribed cuts in State Forests in the Carpathians is 2 367 thousand m³ of merchantable timber, and the average timber utilization in the years 2002-2006 was 4 527.7 thousand m³.

According to the Polish Information and Foreign Investment Agency, the most active investors in the wood industry are companies from Germany (Pfleiderer AG owing 60% of shares in Pfeleiderer Grajewo SA, Roto Frank AG, Peletten Service Hamburg Beteiligungs GmbH). The same situation concerns the furniture industry, where most foreign investors come from Germany and Benelux countries.

Nowadays, almost 90% companies acting in wood industry are micro-enterprises (less than 9 employees)(www.paiz.gov.pl). The main scope of their activity is wood processing and furniture manufacturing (about 52%). 4% are trade and distribution companies. Additionally, around 74% of companies in wood industry perform services in the field of wood processing.(Information source: Polish Custom Office)

WOOD COMPANIES IN CARPATHIAN AREA

Timber industry in the Carpathians is based mainly on small and medium companies. Timber is sold in the internet, by negotiations.

For industrial use, the large timber (wood over 5 cm diameter at the smaller end) is very important. Large timber is divided into saw timber and pulp wood.

Short wood in the Carpathians is sold mainly to companies producing wood carbon. Individual customers usually buy this assortment as fuel wood.

Krosno RDSF

There are *circa* 700 companies registered on the timber market in the area of the Krosno RDSF. SF Districts in 2007 planned to sell 1 073 000 m³ of large timber.

The biggest consumers of large timber are:

- PPH DANKROS Sp. z o.o. in Krościenko – coniferous and broad-leaved (sale plan 2007 –38.6 thou. m³),
- „TRAX-BRW” Sp. z o.o. in Przeworsk – broad-leaved (sale plan 2007 – 13.2 thou. m³),
- PPD in Łukawica Sp. z o.o. - coniferous (sale plan 2007– 12.3 thou. m³).

Valuable assortments, especially from the broad-leaved species (plywood, veneer) are widely demanded by the consumers. The main consumer of this group is POLIKAT S.A. in Brzozów – broad-leaved timber (sale plan in 2007 – 7.8 thou. m³).

The largest consumers of middle-sized wood are:

- KRONOSPAN MIELEC Sp. z o.o. in Mielec – pulp wood, coniferous and broad-leaved (sale plan in 2007 –118.9 thou. m³),
- FIBRIS S.A. in Przemyśl – pulp wood, coniferous (sale plan 2007 – 33.7 thou. m³).

The largest company producing wood carbon out of short wood is „GRILEX ” Łużna – in 2006 the company bought 28.9 thou. m³.

Kraków RDSF

There are 550 companies in the Carpathian region administered by the Kraków RDSF. Their main activities are in the following areas:

- sawmills
- production of wooden pellets
- small companies processing wood in a broad range – from small wooden products to building
- tabular industry – 1 consumer who buys 6% of large timber produced in Kraków RDSF
- paper industry (1 consumer from Slovakia) 1-1.5% of large timber.

Other consumers are mainly individual customers buying fuel wood.

Katowice RDSF

The largest consumers of timber in the Carpathian region administered by the Katowice RDSF include:

- “PRO-DREWEX” in Węgierska Górka – wood products (80 000 m³ in 2007),
- Wood products “Zakład drzewny Jerzy Wlnkiel” (37 000 m³)
- „DREW-LAS” Sp. z o.o. in Ujszoły (33 000 m³)
- “PPHUT TRANSJONASZ” in Brenna (25 000 m³)
- „TRAKPOL“ Sp. z o.o. in Zywiec (27 000 m³)
- „DREWTRANS” in Kasinka Mała (25 000 m³)
- Sawmill and wood products M. Sporek in Ujszoły (28 000 m³)
- Sawmill “PILCH PPUH” in Brenna (27 000 m³)
- “EMANUEL” in Górki Wielkie (13 000 m³)
- “ŻYWIEC PERŁA” in Węgierska Górka (21 000 m³)
- Sawmill A. Kawulok in Istebna (12 000 m³)
- „E. SPERA” Sp. z o.o. in Myszków (66 000 m³).

EMPLOYMENT

In Poland the number of employees in the forestry sector is currently decreasing.

There is no available data on employment in forestry separated into subcategories (primary production of goods, provision of services and unspecified). To a significant extent such a separation is not feasible for the complex character of many forest related activities.

Table 4.7: Number of national employees in public and private forest sector in years 1996-2005

Year	Number of employees (thou.)
1996	65.5
1997	64.4
1998	62.0
1999	61.1
2000	57.3
2001	52.6
2002	51.7
2003	49.1
2004	44.8
2005	45.6
Average	55.44

Source: CSO, GDSF

In 2004, forestry employed 45.6 thousand people, including 19.8 thousand in the private sector (CSO, 2005). The forestry employment average in the Carpathian area over the last 10 years: 2.69 thousand people.

4.6 RESEARCH IN THE FORESTRY SECTOR

Poland gives continuous support to research activities in the field of sustainable forest management through land-use planning, nature protection in forests, etc. Most of the funds for research activities come from the Forest Fund of the State Forests National Forest Holding.

The results of research activities are essential for the provision of information to policy-makers on the future development of forests and practice.

Forestry research is aimed at achievement of sustainability, especially in the case of very fragile forest lands, especially mountain forest areas. Research pertaining to managerial issues of vulnerable river-basins is conducted by many institutions, such as the Forest Research Institute in Warsaw; Agricultural and Technical Universities in Cracow, Wroclaw, Warsaw, Poznan, Lublin; Institute of Meteorology and Water Management etc. The surveys cover issues of air and water pollution, soil erosion, flood protection and quality of the environment, as well as the influence of anthropogenic activities, especially those relating to water pollution.

Other institutes carrying out research in this field are: Institute of Environmental Protection, Institute of Dendrology PAS (Polish Academy of Sciences) in Kórnik, Institute of Ecology PAS in Dziekanów Lesny, Institute of Botany PAS, Mammal Research Institute PAS in Białowieża.

There is no current research programme on private forestry or forestry extension in the activity profile of the Forestry Research Institute in Warsaw. This is because the State Forest Enterprise only funds research connected to state forests. There is no funding available for forestry research on private forests and forestry extension. The personnel of the Forestry Research Institute in Warsaw were only vaguely aware that the University of Agriculture in Warsaw was conducting research on the economics of mixed (agriculture and forestry) private farm enterprises.

Research needs have been identified connected with forestry extension focused on the economics of private forests and forestation. Experimentation with, and demonstration of, agroforestry models and the search for economically interesting non-wood forest products to add value and immediate income possibilities to private forest (and forestation area) owners were mentioned in this context.

STUDIES-RESEARCH IN THE CARPATHIAN REGIONS

Each year the General Directorate of State Forests prepares a report on the state of Polish forests. It gives general figures for forest management and conservation. The most comprehensive study on the conservation and sustainable use of forests in Poland was published in 1996 by IUCN–Poland (Łonkiewicz, 1996). It included a general analysis of the values, state, threats and sustainable use management of mountain forests. Some of the basic conclusions were:

- the Carpathians in Poland have a high percentage of forests (41.4%) compared to the proportion of the forest area in Poland (28%)
- the natural forests in the Polish Carpathians cover a bigger area than in other parts of Poland
- the species least threatened by air pollution is the beech
- the mountain forests have very important functions not connected with wood production. These are: water retention, protection against erosion, recreation and tourism
- there is a need to change the species composition of stands in the lower montane belt (change of spruce monoculture into mixed beech-fir-sycamore forests)
- the protection of carnivores in the Carpathians should help to restore the ecological balance in the forests
- it is possible to bring together rational forest management and the conservation of forest biodiversity, and there is no significant threat to the present management for the maintenance of the natural values of Carpathian forests.

There is a strong need to set up a new study on the current state and conservation of forests in the Carpathians, paying particular attention to the situation in private forests.

ACHIEVEMENTS AND MAIN OBSTACLES TO SUSTAINABLE FOREST IN CARPATHIAN REGIONS

The main opportunity is the present state of the Carpathian forests, which have a more or less natural character in most of their area.

ACHIEVEMENTS

The main achievement is the strong trend in forest administration and authorities towards the “ecologization” of forest management and the observed legal and policy changes towards the sustainable use of forest resources.

OBSTACLES

The main obstacle is the lack of financial tools to turn private owners and forest managers towards sustainable forestry. Such a tool might be a forest-environmental scheme. Private owners have no other income from their forests apart from wood production, so in many cases they do not care very much about forest biodiversity. Another important obstacle is the conflict between pest control and biodiversity conservation. To protect against pests, dead and decaying wood is removed and thus the valuable habitats of, for example, invertebrates and fungi are destroyed. Many foresters in the state forests are not keen on new instructions for forest conservation, because they impose additional laborious duties within the same, or an even smaller, budget (in cases when wood production is to be decreased). (EURAC, 2006)

There are many kinds of obstacles for forest management in the Carpathians. The obstacles most commonly mentioned by the SF Districts and Regional Directorates are :

- rapid decline of spruce stands in Katowice Regional Directorate of State Forests
- fungal diseases (*Armillaria mellea*) and pests (*Ips typographus*)
- rapid disastrous phenomena: hurricanes, floods, etc.
- damage to the existing roads, old roads that are unsuitable for heavy transport
- deficiency of forest workers, who are usually old, there is not enough vocation among young people to work in the wood harvest industry
- very high work costs caused by difficult terrain conditions
- terrain conditions often exclude the mechanization of work
- many existing protected areas limit forest management
- in some areas high numbers of hoofed game cause a lot damage to forest stands and forest cultures
- very intensive tourism.

4.7 SOURCES OF FUNDING IN THE CARPATHIAN REGIONS

The sources of funding (domestic and external) for implementation of activities related to sustainable forest management in the Carpathian Region are the following.

Most of the education activities and, for example, the creation of nature conservation programmes, maintenance of non-forest habitats etc. are carried out by the Forest District Inspectors within their ongoing budget, which is based on the selling of wood.

In the forest areas administered by national parks, there are no specific sources for supporting forest conservation, and the conservation activities are carried out within the Parks budget (financial support from the Ministry of the Environment) or additional conservation programmes often supported by the funds for environmental protection and water management. There are no activities connected with forest conservation in private forests.

There is a strong need to develop and implement forest-environmental schemes oriented towards forest conservation with EU support.

STATE SUPPORT TO THE PRIVATE FOREST SECTOR

The State Forest Enterprise makes no distinction between state and private forests in relation to its forest fire and pest management activities, and thus provides services free of charge to private forest owners on the prevention, monitoring and combating of forest fires and pests.

Forest management plans are prepared for private forests with the approval, or based on, the initiative of 'Voivod' governors and with state budget funding. Tax exemptions are made for forests not older than 40 years. Occasional, non-obligatory or systematic marketing assistance is provided by State Forest District Offices for the sale of harvested timber. Seedlings are provided free of charge for forestation, but not as yet for reforestation.

4.8 INTERNATIONAL COLLABORATION AND ITS ROLE IN DEVELOPMENT OF NATIONAL FOREST POLICY

International cooperation in forest conservation is coordinated by the Liaison Unit of the Ministerial Conference on the Protection of Forests in Europe (MCPFE) in Warsaw. The MCPFE is a high-level political initiative that has developed as a dynamic process towards the protection and sustainable management of forests. This political commitment involves 44 European countries and the European Union and cooperates with other countries, as well as international organizations that participate as observers.

The Liaison Unit is an executive office supporting the Ministries of the countries taking part in the Conference. It was created on the basis of the secretariat of the II Ministerial Conference in Helsinki; which was, during the preparation of the III Conference, moved to Lisbon and later, in 1998-2003, to Vienna. Since January 2004 it operates in Warsaw and is responsible for the preparation of the upcoming conference (Warsaw, 2007). It is responsible for the organization of international meetings and for preparing the report and other documents for discussion.

Poland, as a Signatory of various international agreements, conventions, processes, etc., participates actively in ongoing discussions on development of directions for various international commitments, at the global level – FAO, United Nations Forum on Forests (UNFF), Convention on Biological Diversity (CBD), United Nations Convention on Climate Change (UN/FCCC), United Nations Conference on Environment and Development (UNCED), United Nations Commission on Sustainable Development (UNCSD), and regional level - United Nations Economic Commission for Europe (UN/ECE) - UNECE Timber Committee, Ministerial Conferences on the Protection of Forests in Europe (MCPFE), European Forestry Commission, and Baltic Agenda 21. Participation in these initiatives provides for harmonisation of the national laws with relevant international solutions, and forms the background for discussions and co-operation with other countries, in particular, Poland's neighbouring countries.

4.9 INITIATIVES UNDERTAKEN IN THE CARPATHIAN REGIONS BY CIVIL SOCIETY ORGANISATIONS

The numerous activities focused on the protection of natural forests in the Carpathians are carried out by the Workshop for All Beings, based in Bystra in the Western Carpathians. They are leading the project "Green Carpathians" together with the Slovakian NGO "Vlk". The project is focused on nature conservation activities in the Polish and Slovakian Carpathians. It includes, for example, ecological education, the creating of a point for legal consultations ("green phone"), training for local stakeholders, the building of local support for ideas on biodiversity conservation, the conservation of large carnivores, etc.

In 2003, the Coalition for Wild Nature, which includes 17 NGOs (coordinated by the Workshop for All Beings) appealed to the Malopolski Voivode to stop changes to the management plan of Popradzki Landscape Park that enabled the building of new skiing facilities in areas of high natural value, mostly mountain forests.

Also in 2003 the participants at the international conference "Forests and floods – the impact of forest management in the Carpathian forests on flood phenomena" (Bystra, 12.03.2003, organized by the Workshop

for All Beings and the Carpathian Heritage Association) sent to the governments of Poland, Slovakia and Ukraine and to the European Commission an appeal on the rules of forest management in the Carpathians in view of anti-flood prevention.

They appealed for:

- the cessation of hydro-technical works on forest water courses
- the elaboration and implementation of common guidance for forest management in the Carpathians, including, e.g.
- a ban on the exploitation of forests along water courses (50 m buffer zone)
- abandoning forest management in riverine forests
- an end to the use of water courses for wood transportation
- leaving dead wood near the streams
- using EIA procedures if building new roads that cross the slopes and in any drainage works
- a ban on the exploitation and drainage of peat-bogs and other wetlands (including transforming them into water retention water bodies)
- the implementation of integrated drainage area water management according to the Framework Water Directive in the Carpathian forests
- a ban on new skiing investments, which damage the forests
- the implementation of a system of compensation for the loss of retention capacity connected with sustainable forest management.

4.10 PROJECTS

After Poland's accession to the European Union (2004), the State Forest has also come under an obligation to implement the European NATURA 2000 programme.

Poland has participated in several international projects and programmes concerning nature conservation and the protection of the natural environment (CORINE Biotopes, ECONET, Natura 2000) and has acceded to international conventions (Ramsar Convention since 1978, the Paris Convention since 1976, the Washington Convention since 1990, the Bern Convention since 1995, and the Rio de Janeiro Convention since 1995).

The National Strategic Plan For 2007-2013 Rural Development

The National Strategic Plan for Poland was prepared on the basis of the Council Regulation (EC) no. 1698/2005 of 20 September 2005 on supporting rural development under the European Agriculture Rural Development Fund (EAFRD). The National Strategic Plan covers the 2007-2013 programming period. Based on the analysis of the social, economic and environmental situation conducted on the grounds of available statistical data, it specifies the priorities and directions of rural development in conjunction with the Community priorities.

The National Strategic Plan is the basis for the implementation of the Operational Programme Rural Areas Development for 2007–2013.

Strategies of the National Strategic Plan related to forestry:

Axis 1: Improving the competitiveness of the agricultural and forestry sectors

Axis 1 Balance: Improving the competitiveness of the agricultural and forestry sector

The 1993 National Programme For The Protection Of Forest Gene Resources And Selective Breeding Of Forest Trees In Poland For 1991 – 2010

The 1993 National Programme for the Protection of Forest Gene Resources and Selective Breeding of Forest Trees in Poland for 1991 – 2010 is of fundamental significance for ecologically-sound forest management.

This Programme places under protection more valuable forest resources in the form of selected seed stands, economic seed stands, plus trees certified by a commission creating a reproductive material base for restocking and afforestation needs.

The system of seed extractories and seed stores is among the most modern anywhere in Europe.

There is a Carpathian Gene Bank functioning in the Carpathian forests, carrying out the programme of preservation of the most precious gene resources in the Carpathian stands, mainly in the *in vivo* form, as the living clone and family archives, but also in the *ex situ* form, by storing seeds of the most precious origins in the cold rooms of Wisła forest unit.

The gene resources of the most precious trees and stands from the Carpathians are also stored in the Forest Gene Bank Kostrzyca, which stores the genetic material of forest trees and shrubs from all over the country.

The 1995 National Programme For Augmentation Of Forest Cover (Kpzl)

The 1995 National Programme for Augmentation of Forest Cover (as revised in 2003) is another document that expresses Poland's commitment to expansion of the national forest acreage. It is the basis for all afforestation activities in Poland. This programme anticipates an increase in Poland's forest cover to reach 30% by 2020 and 33% by 2050, as a result of afforestation efforts on lands of marginal significance to agriculture along with the definition of spatial priorities reflecting the role of forests in shaping the environment. In addition to afforestation of marginal or waste land, forest cultivation activities have to be implemented along with restocking of the areas from which mature trees have been removed.

The controlled mycorrhization programme: 2001-2010.

The goal of the programme is to increase the contribution of mycorrhized seedlings on the ecologically devastated, post-agricultural lands as well as areas damaged by fire. The programme is therefore strictly connected with the Augmentation of Forest Cover Programme.

The protection and restoration of english yew (*taxus baccata* L.) Programme: 30.06.2006

The programme was established by the General Director of State Forests. It consists of 2 elements: *in situ* and *ex situ* protection. In frames of the programme the following activities are conducted: the existing yew resources inventory, choice of populations for the extended reproduction, improvement of natural habitats as well as restoration of the yew's resources in existing forest ecosystems (in the areas of its natural range) and creating of the clone archive. Genetic, silvicultural, entomological and other researches, as well as the methods of *in vitro* culture will be another significant element of the programme.

The Progeny Testing Programme: 2005-2035

The goal of the programme is to denominate the genetic and breeding quality of forest reproductive material used in forest management. The other task is to elaborate the principles of rational use of the seed base, by elaborating the possible area of transport according to the principles of seed regions. The programme includes 3 phases of establishing the testing areas:

I: 2005-2015 – 30% of areas predicted in the programme

II: 2016-2025 – 50%

III: 2026-2035 – remaining areas.

After all the testing areas are established, the long-term observation of the objectives will start.

4.11 FOREST CERTIFICATION

The process of forest certification started towards the end of 1995 and early 1996, when a group of British wood product traders submitted an offer to certify the costs of firms submitting an application to operate in Poland's forests.

The most popular scheme used in Poland is the Forest Stewardship Council system. The Regional Directorate of State Forests in Krosno (managing ca. half of the Polish Carpathian forests) has not received an FSC certificate. They decided to abandon the certification procedure after the preliminary audit, claiming that the expectations of the auditors were too high and the criteria proposed by them for receiving the certificate could not be fulfilled. So far it is the only Regional Directorate in Poland that has not received this certificate.

In 2003, 6,800,000 hectares of forest areas was subject to certification

As a result of the controversy aroused by the FSC system, particularly among private forest owners in Europe, and due to the lack of reference in the FSC system to the national standards of carrying out forest management in Poland, it was decided in 2003 to join the PEFC (Pan-European Forest Certification) organization and start work on building a certification system based on the PEFC rules, requiring development of a national standard of principles, criteria and indicators for carrying out forest management. (Jakubowicz, 2004)

On January 2008 the forests certified by FSC(www.fsc.org) in Poland are 14 per a total area of 4.741.548 ha. In the Carpathian regions only 3 forests (forest management and chain of custody) were certified by FSC for a total area of 813.841 ha. And are the following:

- Regional Directorate of State Forests Krakow : Natural 173.166 ha ,Public
- Regional Directorate of State Forests Katowice : Semi-Natural and Mixed Plantation & Natural Forest- 635.000 ha Public
- Letny Zaksad Dowiadczalny w Krynica :Semi-Natural and Mixed Plantation & Natural Forest 5.675 ha – Public

The Experimental Forest in Krynica was established in 1968 as a supplementary holding of the Krakow Agricultural University. Today, it consists of a forest district and a Center for Game Breeding. The major functions of the Experimental Forest in Krynica are carrying out scientific and economic research, providing facilities for training Krakow Agricultural University students, and conducting forest management.

In Poland there are no forest certificated by PEFC.(www.pefc.org)

4.12 ILLEGAL LOGGING

Illegal logging undergoes notification in Poland following the requirement to mark wood and certify the legality of the sources of wood originating from forests other than those owned by the State Treasury. The Forest Guard, who co-operates with the State Police, Fishing Guard, Nature Protection Guard, and other related services is held responsible for preventing theft and other illegal activities in forests. The Forest Guard has the power to investigate and track down perpetrators and to monitor illegal felling in private owned forests (i.e. felling done in violation of the current simplified forest management plan). Under the Act on Forests, personnel of the Forest Guard are also authorised to inspect wood shipments carried on public roads and used in wood processing plants.

The volume logged illegally thousand m³ in 2006 in the Carpathian regions was 2 964 m³, that is 0,07% of the volume produced in the Carpathians. At the national level 34,6 thousand of m³ are illegally logged in Poland

4.13 NON WOOD FOREST PRODUCTS

Collection of forest fruits from herbaceous cover is allowed in state owned forests both for own needs and for commercial goal the collection for commercial purposes requires a contract with the forest district (The Act Concerning Forests 1991). Chapter 5, Section 30 of the Act defines activities that are prohibited in forests, e.g. the destruction of trees, shrubs and other plants, the gathering of litter, disturbance of the soil surface, and the over-use of mushrooms (UNECE, 2004).

Non-wood products harvested in private forests should include, as in the case of state forests, forest floor fruit and mushrooms, ornamental and Christmas trees. However, there are not even rough estimates of the volume and value of non-wood products harvested in private forests. The volume and value of forest floor products is estimated proportionally to the share of private forest area in total forest area and can amount to 1,887 tons of berries, forest floor fruit and fresh mushrooms worth PLN 8.309 thousand. With reference to 1 ha of forest area, we have 1.30 kg of forest floor products per ha worth PLN 6. It is noteworthy that the purchase of forest floor products is very strongly regionally differentiated (see Table in Forest Ownership section) and in spite of its low estimate values, it is of great importance to the inhabitants of rural areas as an additional, seasonal source of income.

Table 4.8: Characterization of private forests

Province (Voivodship)	Number of private forest holdings	Harvest level of merchantable timber ['000 m ³]	Total afforestation in individual farms in 1992-2000	Volume and value of forest floor products purchased in 2001 r.	
	2002	2001		tones	'000 PLN
1	2	5	3	4	5
Poland	838,608	1153.2	77,393	12,021.0	52,925.2
Dolnośląskie	12,956	10.7	1,856	90.0	535.9
Kujawsko-Pomorskie	16,615	32.2	3,289	267.0	919.0
Lubelskie	130,841	192.4	7,188	2,945.0	6,894.8
Lubuskie	5,022	12.3	668	260.0	1,545.2
Łódzkie	73,988	75.8	9,001	198.0	694.8
Małopolskie	120,699	198.3	4,207	130.0	512.3
Mazowieckie	147,375	126.1	13,673	962.0	4,255.3
Opolskie	7,917	9.8	415	0.0	0.0
Podkarpackie	83,225	100.5	7,878	635.0	1,229.8
Podlaskie	66,202	84.5	5,960	1,312.0	7,902.2
Pomorskie	16,746	64.9	3,563	1,744.0	7,280.7
Śląskie	47,201	85.2	2,738	27.0	123.6
Świętokrzyskie	54,180	61.7	5,493	374.0	975.4
Warmińsko-Mazurskie	15,869	35.9	3,631	273.0	883.1
Wielkopolskie	33,276	54.4	6,822	1,759.0	16,097.9
Zachodniopomorskie	6,496	8.5	1,010	1,045.0	3,075.2

Source: Zajac, 2005

In 2001, the amount of NWFP in the Carpathian regions in private forests was 792 tons, which was 6.6% of the total production in Poland; in the Podkarpackie regions alone the amount was 5.3% (635 tons).

National and local organisations studying non-wood forest products and services and their special field of work. Only the first is located in the Carpathian regions.

· Agricultural University of Cracow, Faculty of Forestry, Department of Forest and Wood Utilisation.

· Forest Research Institute, Warsaw

· Warsaw Agricultural University, Faculty of Forestry, Department of Forest Utilisation

· August Cieszkowski Agricultural University of Poznan, Faculty of Forestry, Department of Forest Utilisation

Christmas trees – each State Forests District sells Christmas trees from the areas that are not forested (e.g. under electrical lines), but where low trees and shrubs can be bred. In 2006 State Forest Districts in the Carpathians sold at total of **2869** Christmas trees.

Game management is conducted by the Polish Hunting Union. Only some of the hunting areas are administered by State Forests (In Krosno Regional Directorate of SF, there is a Hunting Bureau "Bieszczady", organizing commercial hunting, also for foreigners).

According to annual plans, the number of game hunted in 2007, was:

- Red Deer: 1291,
- Roe Deer: 2508,
- Wild Boar: 797.

Other products include products of forest cover, e.g. mushrooms, herbs or fruits, as well as seeds for the needs of regeneration of stands, research and storage.

4.14 TOURISM IN THE CARPATHIAN REGIONS

Tourism information is easily accessible in the Carpathians. There are numerous websites of State Forest Districts (each district has an official website), National Parks, Landscape Parks, communities and private individuals. The Regional Directorate of State Forests in Krosno offers an interactive map available at the following address: <http://www.krosno.lasy.gov.pl/mapa/>

Information is also provided in other forms, as informative tables, maps, brochures and books, available in bookstores and online, as well as in the local information centers. State Forests Districts and National Parks also hold the centers of environmental education.

For example, the Babiogórski National Park provides information on the website available in 3 languages: Polish, Czech and English: <http://www.bgpn.pl/bgpn.php?index>

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www.stat.gov.pl

5. ROMANIA

FORESTY POLICY AND SOCIO ECONOMIC STRUCTURE

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FOREST POLICY AND SOCIO ECONOMIC STRUCTURE

5.1 BRIEF HISTORICAL OUTLOOK FOR FORESTRY MANAGEMENT

Romania's history and civilization has continuously been linked with forests. The first regulations governing forest management were issued in the 18th century, then in 1843, by Mihail Sturza in Moldavia and in 1847, by Alexandru Stirbei in Vallachia. In 1851, after the establishment of the first Silviculture School in Bucharest, led by three French foresters, these regulations acquired practical importance. The French forester group, together with young Romanian students and foresters, constituted the Forest Commission of Vallachia between 1851-1853. Their main focus was forest management.

The first forestry code, issued in 1881 stipulated continuity principles in Romanian forestry, and the necessity of having skilled forest administration and management personnel for state-owned forest property (created in 1863). This led to the foundation of the Silviculture Special School in 1883 in Bucharest.

The Progresul Silvic Society, a non-governmental association of foresters founded in 1886, has lobbied continuously for forestry extension, and tried to influence forest policy to provide sustainable forest management. Important Romanian personalities have become members of this Society to promote forestry extension principles.

The Society also organized symposiums, workshops and seminars to promote civic awareness in forestry, as well as a yearly 'tree-planting activity'. The foundation of Progresul Silvic Society and its Forest Journal, 'Revista Padurilor', in the same year were the most important events in Romanian forestry. The Forest Journal collection is the best synthesis of Romanian forestry.

The first professional school of forestry was founded in Branesti in 1894, and the first mid-level forestry school was founded in Timisoara in 1919. The first instructions for forest management issued in 1923, aimed at unifying the different regional management plans and the Law of Forestry Education. Three levels of forestry education were stipulated - lower level (Vocational Forestry School), mid-level (Medium Forestry School, Timisoara, Pantelimon and Herastrau) and graduate level (Silviculture Section of the Technical Institute, Bucharest). (Borlea, 1997)

Between World War I and World War II, and then from 1948 to 1989, forests were over-cut to support industrial development and generate export revenue. In the 1990s, forest managers have been able to reduce the annual timber harvest to levels significantly inferior to the long-term permitted harvest as a means of enabling forest recovery. However, past over-cutting has left a legacy of large areas of degraded forest land. This negative environmental impact has been compounded by the lack of a suitable forest road network. As a consequence, close and accessible areas have been over-harvested, while more remote, inaccessible areas have remained either unharvested or under-harvested.(Mitchell, 1998). From 1953 until 1990, forestry higher education was concentrated in Brasov. After 1990, new forestry faculties were founded in Suceava and Oradea. An Environmental Engineering section was founded in Timisoara at the Faculty of Hydrotechnics of Technical University. Private, higher education in ecology is developed in Bucharest, Timisoara, Arad, Deva. (Borlea, 1997)

5.2 ORGANIZATIONAL AND INSTITUTIONAL STRUCTURE

STATE ADMINISTRATION OF FORESTRY AND STATE SUPERVISION IN FORESTS

The **Ministry of Agriculture, Forestry and Rural Development (MAFRD)** is the central public authority that has coordination, regulatory, monitoring and control duties in the field of agriculture, forests and rural development. The MAFRD has **5 main directorates led by 5 state secretaries**: agriculture, forestry, rural development, EU integration, and administration.

The National Forestry Authority/ Romsilva

The main role in forest management is played by the **National Forestry Authority/Romsilva**, which functions under the authority of the MAFRD. The specific legal bases under which the National Forest Administration/Romsilva functions and is organized are Law no. 26/1996 (the Forest Code) and Government Decision no. 1105/2003, with its subsequent modifications and completions.

The main goal of the National Forest Administration/Romsilva is the unitary management of state-owned forests, in accordance with the forest management plans and forestry regulations, in order to increase the forest contribution to a better environment and to supply the national economy with wood and other forest-related products and services.

The NFA has financial autonomy and manages the State Forest through its 41 County Forestry Directorates. The NFA includes the Research and Management Planning Institute, which carries out the State Forest Inventory and undertakes forest management for private or community owned forests on a contractual basis. The Administrative Council and a General Director ensure the management of the Forest Directorates. The Administrative Council of the NFA makes strategic decisions, while the General Manager performs the day-to-day management.

The NFA plays a very important role in the conservation of biodiversity in Romania because the MEWM has delegated (through a contract) the administration of national and nature parks, which include forests.

In the Carpathian Mountains, with one exception (Ceahlau Natural Park, administered by Neamt County Council), national and natural parks are administered by the NFA. Three park administrations have been established within the NFA structure as models, through the GEF Biodiversity Conservation Management Project, and 13 new administrations were established after 2003. In conclusion, the NFA administers 16 of the national and natural parks out of the total of 18. With the establishment of new protected areas through GD 2151/2004, the NFA has again manifested its intention to administer another 4 national and natural parks situated in the Carpathian Mountains. (Eurac, 2006)

REGIONAL LEVEL

The **Forestry Directorate**, led by a state secretary, has the following main subordinate directions: Forestry Policies, Strategies and Regulations, Forestry Management, Forestry Development and Property Consolidation, Wildlife/Game Management Service, and the Control of Forestry Regime Application General Direction.

In the field of forestry subordinated to the MAFRD, the **Territorial Directorates on Forestry and Hunting**, which are the control and inspection authorities for forestry and hunting, operate at regional level.

LOCAL LEVEL (MUNICIPALITIES AND LOCALITIES)

- Local Councils
- Forest owners, not yet very organized.

Private and local public administration forests may be managed by:

- Private Forest Districts, established by private forest owners or local public administrations as required in the regulations published in the Official Journal of Romania 597/12.08.1999, and Law 26/1996.
- The NFA – County Forest Directorates, through their Forest Districts, on a contractual basis. The agreement is made between private owners and state Forest Districts.
- Individuals might also manage forests by themselves, but there are specific activities that are undertaken by state Forest Districts (e.g. selecting and marking trees to be extracted, providing documents for timber transportation, etc.).

Extension services should be provided by the Territorial Directorates for Forestry Regime and Hunting.

The main overlaps of responsibility occur between the NFA, which administers the majority of National and Natural Parks in the Carpathian region, which is subordinate to the MAFRD, and the MEWM, which is in fact the central public authority with respect to biodiversity conservation.

Functioning within the structure of the National Forest Administration/Romsilva are territorial units (at county level) with no legal status (**Forest Directorates**) and one unit with legal status (**the Research and Management Planning Institute**). The organizational and functional structures of the territorial units are approved by the administration council of the National Forest Administration/Romsilva.

County Forest Directorates, which are territorial structures, are responsible for supervising all forest district activities in their area of authority. A Manager manages the day-to-day activities of the County Forest Directorates, and the Steering Committee decides on management strategies. County Forest Directorates have legal entity status and are delegated by the NFA in certain areas of responsibility:

- supervising forest district activities
- organizing standing wood and log auctions
- contracting logging activities and signing harvesting contracts
- controlling wood harvesting activities (wood harvesting, felling reports, sanitation felling)
- participating in the revision of forest management plans.

Forest Districts are the management units directly dealing with forest management and are managed by the Head of the Forest District. Forest districts do not have legal entity status and are represented in all contractual issues by the County Forest Directorate. Forest districts implement the forest policy and norms in accordance with management plans, undertaking specific management tasks as follows:

- ensuring forest regeneration
- preventing and stopping illegal activities
- supervising and controlling wood harvesting and transportation activities
- establishing and implementing operation plans mentioned in the forest management plans
- monitoring forest health
- game management, harvesting non-timber forest products
- marking trees to be extracted during the harvesting process, with a numbered hummer marker, both in state forests and privately owned forests.

This country has recently established a **National Agency of Mountain Areas** under the Ministry of Agriculture, Forestry and Rural Development in order to implement government policies related to mountain regions, and the Inter-Ministerial Committees and the County Committees for the mountain regions with the objective of coordinating and supervising the policies, projects and strategies for environmental protection and sustainable development of the mountain regions at national and local levels. But these structures are not mature enough to successfully operate and utilize the existing legislative bases. They often lack appropriate coordination and clear vision of the strategy and goals.

ORGANISATION AND ASSOCIATIONS

There are institutions that function under the coordination of the MAFRD, such as the **Academy of Agricultural and Forestry Sciences “Gheorghe Ionescu-Sisesti” (AAFS)**, which is the national forum for scientific recognition as well as the specialist public institution entitled to manage and coordinate activities regarding scientific research and technological development in the field of agriculture, forestry, the food industry and environmental protection.

The **General Association of Sport Hunters and Fishermen (GASHF)** plays a special role in game and fish administration. They have lease contracts with the NFA for different unit areas for hunting and fishing. They administer almost 60% of the entire national surface provided for hunting (*fonduri devanatoare*). The GASHF has county branches.

Forest District Office

The 2000 round of restitution, which is still being implemented, requires the restored owners to commission management plans from authorized organizations, now often consultancies. Furthermore, the forest

administration must be conducted by a professional forester, working with an Ocol Silvic (OS) [Forest District Office].

Crucially, some of these OS's are now private institutions, in other words they have been established outside the traditional national hierarchical structure of the Regia Națională a Pădurilor (RNP) [National Forest Administration], but are still subject to national forest legislation. The decision to form a private OS rests with the District Chief, in association with his or her staff, but in making that move into the private sector the Chief must demonstrate that the owners of at least 8000 ha of privately-owned forest are requesting his services, and are formed into an association to manage funds. (Eurac, 2006)

NON-GOVERNMENTAL ASSOCIATIONS (NGOS)

The activities undertaken by NGOs in the field of forestry protection are the same as the activity of Romanian NGOs for biodiversity conservation.

The people who are working in the forestry management system (NFA) established an NGO ten years ago—Societatea Progresul Silvic/Silviculture Progress Society—that focuses mainly on promoting research activities and public awareness in the forestry domain. This Society was more active in the past than it is now.

Another NGO focusing mainly on forests is the Carpathian Foundation, based in Brașov. This NGO was created following the implementation of the Carpathian Large Carnivores Project. The Brașov Carpathian Foundation is composed mainly of researchers, who work at the Brașov branch of the Research and Management Planning Institute. Their activities are mainly in relation to research and the management of large carnivores in the Carpathians.

Mention should also be made of the advocacy activity realized by an NGO coalition (the Ecological Club Transylvania in Cluj Napoca, the Cicloturim Club Napoca, and other NGOs) regarding the public consultation procedure for a World Bank loan project on forests – the “Forestry Development Project”.

Following the pressure exerted by these Romanian NGOs in partnership with the CEE Bankwatch Network, the start of the project was stopped in 2003. Finally, after all procedures were completed, the project was begun in 2005.

Other campaigning activity, but in a more militant way, is the campaign against the hunting and poaching of bears in the Carpathian Mountains. The main NGO involved is the Aves Foundation in Odorheiu Secuiesc, Harghita county. (Eurac, 2006)

5.3 FOREST OWNERSHIP STRUCTURE AND FOREST RESTITUTION

RESTITUTION PROCESS

In common with other former-Soviet countries in Central and Eastern Europe (CEE), Romania initiated a process of restitution (return of state-appropriated property to pre-communist owners) soon after the restoration of democracy. The case of restitution of forests is notoriously problematic and controversial. In Romania, a first round was approved by law in 1991, returning 1 ha of forest to each legal heir of pre-WW2 individual owners. This added up to about 350,000 ha, or 5% of Romania's total forest area. Under the law of 2000, up to 10 ha are being returned to individuals, up to 30 ha to churches, and all forests are being returned to communities, returning a total of about half of the total forest area in Romania.

Policy adopted for the forestry restitution:

- Law no. 18/1991 : approx. 0.3 million ha of forests were returned to private owners;
- Law no. 1/2000 : approx. 1.9 million ha of forests were returned to the private owners;
- Law no 247/2005: approx. 0.3 million ha were returned (at the end of 2006).

Reactions to the 1991 experience were largely negative, particularly with respect to the consequences for the forest resource. At the same time, forestry academics recognised that the impact of the first phase of restitution varied from one region to another. In response, the law has been adjusted to require management plans. Crucially, these 'must be drawn up by authorized organizations or management planning companies in cooperation with the forest owners.' In some cases, the state forestry commission (Romsilva) has taken responsibility for this.

Social outcomes of forest restitution, on the other hand, have been little discussed. They may include sudden unexpected wealth; increased social inequity in rural communities; strengthened cultural identity and sense of place; renewed respect for traditional rural knowledge and practices; enhanced community organisation and relations with bureaucrats; chaos, confusion and disappointment. And the contextual causes of ecological and social impact are also neglected; outcomes may be affected by community coherence, the condition of the resource at the time of handover, local understanding of legal rights and responsibilities, market knowledge and access, cultural strength, history of land tenure (some forest areas were not nationalised, and have not lost the continuity of knowledge), and relations between community and forestry services, whether private or state-provided.

At the end of 2006 the total forest area returned to the former owners is approximately 2.5 million ha. The forest land restitution process is ongoing. At the end of this process, it is estimated for the private forest area to be around 50% of the total forest area in Romania. (Lawrence, 2005)

The restitution process is still not finalized. At the beginning the tendency was to cut much more wood from the forests than before the restitution process (the surface of clear cuttings has increased) Expectations could be raised of the welfare level of the local communities through further sustainable forest management.

FOREST OWNERSHIP STRUCTURE

The restitution process has led to the current structure of forest ownership at Carpathian region level as presented below:

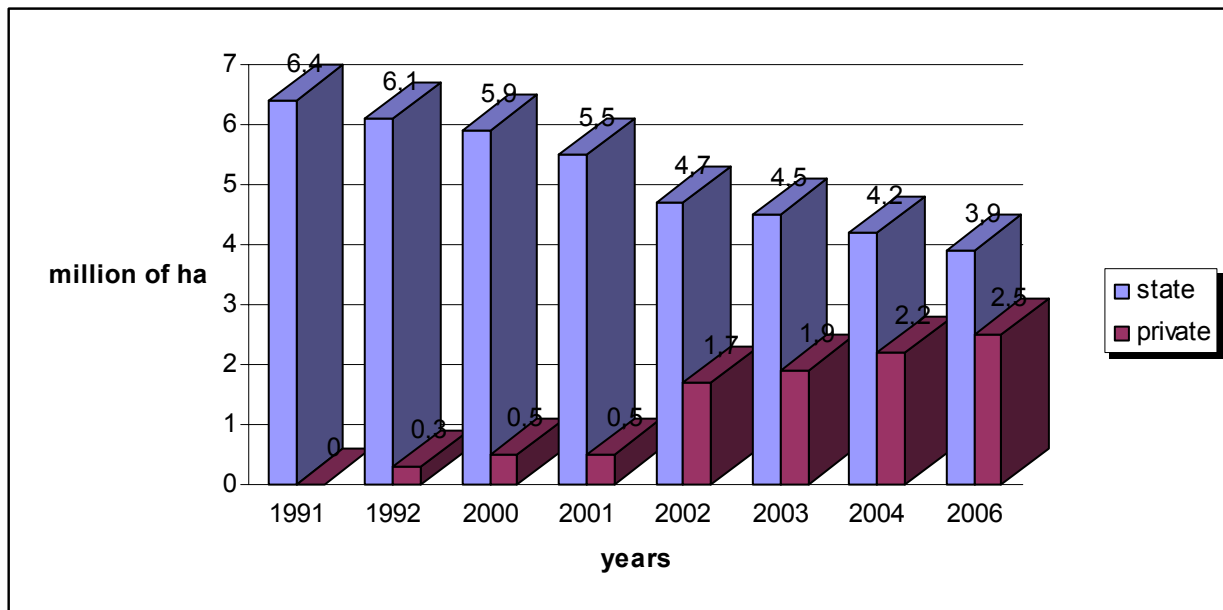
Table 5.1: Forest Ownership patterns in the Carpathian region

OWNER	FOREST AREA (HA)	% OF TOTAL FOREST
STATE FOREST	3,799,921	67
COOPERATIVE FARMS		
COMMUNITY (*)	206,349	13
PRIVATE INDIVIDUAL	428,762	11
PRIVATE GROUP		
PRIVATE BUSINESS	126,000	8
OTHERS (pl. specify)		1
TOTAL	4,561,032	100%

Some individual owners manage the forest by themselves whilst some of them are gathered in owner associations/other forms of group management. Individuals own areas from less than 1 ha to 10 ha.

The following graph represents the evolution of forest ownership from the first restitution law in 1991 until 2006 in Romania.

Figure 5.1: Forest ownership structure from 1991 to 2006 at national level



Ownership at national level (Mihai ,2007)

Private forests

Also, private forests are grouped into small forest areas - In the Carpathian area there are 828,138 private forests in 2007 for a total area of 2,257,423 ha. (UNIDP, 2007)

Approximately 15% of the private forest owners organize together to better manage their forests (1997).

In 2007 in the Carpathians there are 2 big voluntary forest owners associations and 1 forest administrators association. They do not manage the forests, they facilitate the exchange of information between forest owners, provide consultations and information and promote legislation amendments.

Less than 10% of private forest owners form groups to facilitate the management of their forests because they are still unaware of the importance of participating in forest associations.

The administration and management of private forests is done by private owners themselves on the basis of local forest management plans. Any forestry activity in private forests must be supervised by the local forest district of Romsilva RA. All land owners in Romania can reforest their own land without restriction. This concerns harvesting and marketing the wood (Forestry Code 68/1996).

5.4 FORESTRY LEGISLATION

The main laws regulating the forestry domain are (Eurac, 2006):

- Law no. 26 / 1996 – **The Forestry Code**

This law contains provisions concerning the management of national forest areas and other areas covered by forest vegetation, forest protection and forest logging operations.

- Law no. 103 / 1996 – **Hunting** grounds and game protection law, modified. The law contains general provisions concerning the management of hunting grounds, game protection, hunting activities, and legal sanctions with respect to poaching operations. A new law on hunting is currently being drawn up.

- Ministerial Order no. 572 / 1991 – Regulations concerning the terms, modalities and timing of **forest logging** and wood transportation operations within the national forest area. This Order specifies the legal aspects in connection with forest logging authorization, the transfer of areas to be felled and of felled surfaces, and other forest logging rules.

- Government Decision no. 971 / 1994 . Establishes, and sanctions contraventions of, sport fishing grounds and activities.
 - Law No.141 / 1999 – Law for the approval of GO No. 96 / 1998 **regarding forest regime** and the national forests administration, and Law No. 120 / 2004, which modifies GO 96 / 1998 regarding forest regime and the national forests administration.
 - EGO no. 226 / 2000 on the regime of the juridical circulation of forest lands, approved by Law no. 66 / 2002
 - Law no. 289 / 2002 on the legal regime of **forest curtains for protection**
 - Law No. 18 / 1991 – Land restitution law, modified by GO No. 1 / 1998; Law No. 54 / 1998; GO No. 102 / 2001; Law No. 545 / 2001 – establishes the legal basis for land and forest restitution and regulates land use.
 - Law No. 81 / 1993 for establishing compensation for **damage** caused to the forests; includes the methodology for evaluating the economic value of damages.
 - Law No. 1 / 2000 – regarding the restitution of agricultural and forest lands to the former owners in accordance with Law No. 18 / 1991 and Law No. 169 / 1997, modified by GO No. 2 / 2001; GO No. 102 / 2001
 - Law No. 400 / 2002 – regulates the restitution of agricultural and forest land, establishing procedures to be followed, the maximum surface to be given back, where, and how it should be managed.
 - Law No. 31 / 2000 – legal measures for forestry law offences.
 - GD 1046 / 2000 – for organizing and operating the control of enforcing the forest regime at central and local level.
 - GO No. 2/2001 – regarding procedures in the case of law offences.
 - MO No. 635 / 2002 – for the approval of the norms regarding seasons, modalities and periods for wood harvesting in forests and other types of forest-like vegetation.
 - Law No. 160 / 2004 – which modifies GD No. 105/2003 regarding the reorganization of NFA/Romsilva.
 - GD 427 / 2004 regarding specific norms for timber transportation as well as the monitoring and control of timber transportation and sawmill activities.
 - GO No. 41 / 2004 – regarding the establishment of the Territorial Directorates for Forestry Regime and Hunting.
 - GD No. 85 / 2004 – to approve timber-selling rules for the owners of public forests.
 - Law No. 31 / 2000 concerning illegal activities in forests and related penalties, concerning the control of wood processing, transportation and other matters, referring to measures for enhancing the forest guard and forestry control activities in order to prevent illegal logging.
 - **Mountain Law** Decree No. 596 of 13 July 2004 : this Law establishes basic rules relative to the conservation and development of mountain areas in Romania.
-
- Regulations for the forest guarding system and the prevention of illegal activities.
 - Technical norms for establishing and implementing forest activities (types of cutting).
 - Technical norms for the evaluation of timber volume.
 - Technical norms for forest management planning.

With respect to the main inconsistencies:

- There are two strategies on forestry in force, a fact that sometimes generates confusion
- Some aspects of the Law on hunting are in contradiction with the Law on nature protection areas, especially the permission for the hunting of protected species, such as bears. The new Law on hunting, which will be issued during the next period, will address these aspects.

The main strategies in the field of forestry are:

- The Sustainable Development Strategy for Romanian Silviculture in the period 2000–2020 (MAPPM, 1999);
- The National Forestry Policy and Development Strategy (NFPS) for Romania (2001–2010) (MAAP, 2001)

The following laws were approved in 2005:

- The Law 183 / June 2005 for modification of paragraph 1 – art. 32 from 0916/1998 which lays down penalties for **tree cutting or destroying**, seedlings from national forest fund.
- The Order of Agriculture, Forests and Rural Development Ministry – MAPDR, no. 693 of 14th July 2005 for the approval of authorisation methodology of specialised units to elaborate forest managements, summary management studies and for the conversion of grazing to forests.
- The Order MAPDR 729 / 29th July 2005 to approve the attestation of project chiefs for forest management and the experts who certify work quality from the technical point of view.

MAPDR has issued a Law and set of norms which is to be submitted for Parliamentary approval, mentioning the projects:

- The Order of Urgency concerning forest management in Romania, which regulates the management of around one million ha which changed ownership by application of the Law 247 / 2005 regarding the reform of property and justice.

Legislation adopted on trade markets of wood and forest management

In the last period, the main characteristic of the activity in the legislation field is the concern for harmonization legislation in Romania with the European laws. Within this context is (Unece, 2007):

- Law 265 / 2006 regarding environmental conservation. Together with the measures of interest for the whole economy, as are those regarding the technologies of production processes to minimize or eliminate the pollutant factors, the Law contains, a separate chapter dedicated to forestry, a better forest fund management being foreseen through forest preservation plans, forestry arrangement, as well as through elaboration of the afforesting strategy and the program for avoiding soil erosion.
- The Romanian Government Decision 475/2007 for approval of the National Plan for R & D and Innovation in the period 2007 – 2013. Among the objectives of interest for the wood market are:
 - a. the creation of products, processes and technologies and turning wastes into account;
 - b. the scientific substantiation and development of technologies for preservation, reconstruction and enhancement of biological and ecological diversity;
 - c. technologies for turning into account the energy of biodegradable wastes, as fuel gases or liquids.

The Ministry of Economy and Finance elaborated the operational sector Program “The economical Competitiveness Improvement”, which answers to the first priority of National Plan of Development 2007-2013: the enhancement of economic competitiveness and economy development based on knowledge, but also assures the premises of economic competitiveness enhancement in the long-term. The document was approved by the European Commission on 12th July 2007.

the Program of Products Competitiveness Enhancement is ongoing, approved by GD 357/2004. In 2006, the overtake works were finalized of the Norms afferent to the Directives 89/106 EC, 98/37 EC and 2001/405 EC.

The employment associations in the field make an efficient contribution to legislation improvement, supporting access to information, as well as the initiation of business relationships with domestic and foreign companies.

In the period 27th – 30th June 2007, The Association of Romania Forest Rangers played host to the Third Biannual Meeting of Partners within the Framework of the COMFOR Project, financed by EU. The assembly – seminary and field trip – constituted a good opportunity for the 31 participants from 10 countries, to exchange information on work, safety and performance in forest exploitations. (Unece, 2007)

PRINCIPLES REFLECTED BY THE POLICIES

Table 5.2: Integration of the twelve principles of art.7 of the Carpathian Convention into the formal forestry policies (Eurac,2006)

Principles	Y/N
Sustainable management of forest resources and forest lands	Yes
Protection of forests against pollution	No
Prevention and protection against fire, pests and diseases	Yes
Public information on forest ecosystems	Yes
Public participation in development, implementation and planning of national forest policies	Yes
Recognition of vital role of forests in maintaining ecological processes and balance	Yes
Afforestation and reforestation	Yes
Assessments of the economic and non-economic values of forest goods and services	No
Protection of natural forest areas	Yes
Protection of ecologically representative or unique types of forests	Yes
Consideration of alternative uses of forests	Yes
Ensure appropriate retention of precipitation in the mountains for flood prevention	Yes

Sustainable management of forest resources and forests lands

This is the approach used in all policies, laws, norms and regulations. However, the efficient implementation into practice is still a challenge.

Protection of forests against pollution

There are as yet no regulations on this aspect.

Prevention and protection against fire, pests and diseases

This aspect is addressed by the Strategies on Forestry and also by the Forestry Code. There are debates between forestry and biology specialists as to whether or not these measures are to be applied in strictly protected areas.

Public information on forest ecosystems and Public participation in development, implementation and planning of national forest policies

There are no provisions in the Strategies on Forestry, although there are general laws regarding access to information and public participation (Law no. 544 / 2001 regarding access to information of public interest; and Law no. 86 / 2000, which ratifies the Aarhus Convention), which also cover the domain of forests. Information must be of public interest and not classified. However, in practice no efficient mechanisms for public information and participation are in place, only formal methods.

Recognition of the vital role of forests in maintaining ecological processes and balance

Assumed by the Forestry Code and the Strategies on forestry.

Afforestation and reforestation, Protection of natural forest areas, Protection of ecologically representative or unique types of forests, Consideration of alternative uses of forests, Ensure appropriate retention of precipitation in the mountains for flood prevention

The National Forestry Policy and Development Strategy (NFPS) for Romania (2001–2010) includes all these aspects as strategic actions. Furthermore, regarding the **protection of natural forest areas**, the NFA administers the majority of the National and Natural Parks in the Carpathian region, which include forestlands, under a contract with the central public authority in this domain – the MEWM.

Assessments of economic and non-economic values of forest goods and services

No forestry policy or law approaches this principle. However, indicators regarding the biodiversity of Romanian forests were developed in 2002 by ICAS, and further developments on this issue are required, perhaps in connection with forest certification in the program with the FSC.(Eurac, 2006)

5.5 THE FORESTRY SECTOR IN THE NATIONAL ECONOMY

In Romania, 2007 represents the sixth consecutive year of economic increment. The preliminary data supplied by the National Institute of Statistics confirms this. National GDP amounts to 98.2 billion USD in 2005 (World Bank report), with an increase in 2006 and slight decrease in 2007. Estimated GDP coming from the forestry sector amounts to 0.5 billion Euro in 2006.

The supply of wood amounted to 13 839 thousand m³ in 2006. Total production amounted to 8369 thousand m³ in the same year, of which 4 470 thousand m³ is sawnwood(>50%) and 2 524 thousand m³ of wood residues.

Concerning all assortments, i.e. the total wood supply, 3 441 thousand m³ were exported, and 1 356 thousand m³ were imported in 2006 as presented in the following table.

Industrial production was 6.3% higher in the first seven months of 2007 in comparison with the same period of 2006, thanks to the 7.4% increment by the processing industry. High increments were also registered in the wood processing and wooden products (+ 24.3%); the pulp, paper and paper products (+ 13.1%) and furniture production (+ 10.8%).(National Institute of Statistics-2007).

The wood harvested (produced) per worker per day amounts to 3-5 m³/day.

Table 5.3: Wood removal, production, import, export at national level

1000m3	removal	production	export	import
Romania	13839	8369	3441	1356

Source: UNECE TIMBER database, 1964-2006, as of July 2007.

Following, from an elaboration of the UNECE Trade and Timber Division DB 2007(in annex), made by DITESAF University of Padova, the amount of rowndwood removal of the Carpathian region in the last years.

Table 5.4: Estimation of Carpathian region of roundwood removal from 2002 to 2006

roundwood removal 1000 m ³	2002	2003	2004	2005	2006
Romania- Carpathian region	10.846	11.051	11.315	10.379	9.905

WOOD INDUSTRY

A study done on the investment of the Italian wood industry in Timis county concluded that: in 2002, there were 44 registered Italian wood companies, which constitutes 7% of the total sector; (D .G .F. P Timis, elaboration data: c. M. P. E. / c .c. I. A. Timisoara); in December 2002 the wood industry business amounted to 9.8 million euro (7%); employees working in the wood industries amounted to 861; in 2001 turnover was 294.3 mld rol.

Wood, paper and cellulose industry in Timis county: ARHEMA Timisoara, GREENFOREST Timisoara, PLAPAF Deta, SAS BERTON Timisoara, ESSIADIMOD Lugoj, AGACHE Lugoj.

Timis has a forest area of 109,057 ha, 2% of the total Carpathian forest area. (Iovescu, 2003)

Since 2004, the domestic wood processing industry has been confronted with dramatic surges in prices for raw material.

Wood harvesting and primary processing are very important to Romania's rural economy and the sector is generally thought to have some opportunities to compete in the global market place. Raw material availability (including wood varieties appreciated on

international markets like Europe, USA, and Asia), the still low labour costs, and geographical proximity to Western customers are key to its potential development. Nonetheless, it is still an inward-oriented industry, which misses appropriate international standards, market links and focus on international markets.

The equipment is generally old and wood utilization generally inefficient, often resulting in inconsistent product quality. With the country's imminent EU integration, operators are under increasing pressure to revamp their business and become competitive.

Specific areas for improvement include log milling, lumber steaming, kiln drying and processing lumber to parts for furniture. Most wood in Romania is air-dried and the moisture content does not go below 20%. Materials made from wood wastes, like oriented-strand board, are much needed by the domestic furniture industry and still represent a business opportunity.

About half of domestic lumber production continues to be produced by small rudimentary factories. The authorities' recent efforts to introduce discipline in this rather distorted industry (aimed at limiting illegal timber removals and tax evasion by such operators) will be part of the new Forest Code, with specific requirements on equipment quality and environmental permits for sawmill owners.

The wood processing sector in Romania, nonetheless, has attracted important investments (including foreign: Italian, Austrian), especially in higher value products like MDF, particleboard, laminated board and veneer, growing in tandem with a very dynamic furniture industry.

The percentage of the manufactured production (wood and wooden product except manufacturing) related to the other industrial activities grew from 3.2% in 2000 to 5% in 2005.

There are currently over 7000 industries in wood and wooden products manufacturing (except furniture), of which just less than 100 qualify as large enterprises (INSSE, 2005).

The following list of manufacturers, members of the WOOD BUSSINESS PORTAL (<http://www.afacerilemn.ro/>) are located in the Carpathians.

ADY COM LEMN SRL BILBOR Products : Logs, Timber, Wooden houses, Wood stairs, Windows	EUROFOREST EXIM SRL TARGU NEAMT http://www.euroforest.ro
ALEXWOODRO SRL SIGHETU MARMATIEI http://www.romcibex.com/alexwood/ Products : Logs, Timber	Products : Logs, Timber, Wooden houses, Doors & Doors skin, Pallets & Europallets, Solid wood panels, Parquet, Windows, EXPIND LEMN SRL SEBES Products : Timber, Pallets & Europallets
ALMAR FOR 06 SRL NEHOIU Products : Logs, Timber, Wooden houses, Pallets, Solid wood panels	EXPLOFOREST SA TARGOVISTE Products : Logs, Timber, Wooden houses, Doors & Doors skin, Pallets & Europallets, Solid wood panels, Wood stairs, Windows
ALPIN HOUSE SRL PETROSANI http://WWW.ALPINHOUSE.RO Products : Logs, Timber, Wooden houses, Pallets, Parquet, Wood stairs	FOREX PRODSILVA SRL NEHOIU Products : Timber
ALPSTRAT ALPROM SRL PITESTI Products : Logs, Timber, Plywood, Fibreboard & MDF & OSB	GALLET EXIM SRL REGHIN Products : Logs, Timber, Doors & Doors skin, Pallets & Europallets, Solid wood panels, Plywood, Parquet, Wood equipment, Furniture,
ALTAIR BRASOV HTTP://WWW.ALTONA.RO Products : Timber, Wooden houses, Chemical for wood, Wood stairs,	GREROM IMPORT EXPORT SRL BUCOV http://www.grerom.com Products : Logs, Timber, Parquet
ALUTUS SRL TIMISOARA Products : Logs, Timber, Doors & Doors skin, Chipboards, Blockboard, Solid wood panels, Plywood, Laminated floors, Fibreboard & MDF & OSB,	GRILLTEX SRL LUPENI http://WWW.GRILLTEX.RO Products : Timber, Wooden houses, Pallets & Europallets, Parquet,
ANIA SRL BAI A MARE	HOLZ LOGISTIK SRL BAI A MARE Products : Timber, Wooden houses, Solid wood panels, Plywood, Parquet, Wood stairs, Furniture,
ATC SA GHIMBAV Products : Logs, Timber, Wooden houses, Furniture	HOLZINDUSTRIE SCHWEIGHOFER SRL SEBES http://WWW.SCHWEIGHOFER.RO Products : Logs, Timber
BISER IMPEX SRL PLOIESTI	IMPREGNAT TRAVERSE DIN LEMN SUCEAVA http://www.impregnat-traverse.ro/ Products : Logs, Timber, Chemical for wood
BONA DEA IMEX SRL RESITA http://WW.BONA-DEA.RO Products : Timber, Wooden houses, Wood stairs	LIGHTRONIC PRODCOM SRL BAI A MARE Products : Timber, Pallets & Europallets, Solid wood panels, Parquet, Wood stairs, Windows, Furniture,
CRICKET SRL INTORSURA BUZAU LUI Products : Timber, Garden furniture	LONNE EURO MOB SA CLEJA Products : Logs, Timber, Solid wood panels, Parquet, Furniture,
DALMARIS COM SRL PIATRA NEAMT Products : Logs, Timber, Pallets & Europallets, Solid wood panels,	LZ FOREST SRL MIRECUREA CIUC HTTP://WWW.LZFOREST.RO Products : Logs, Timber, Pallets & Europallets
DELFOREST SRL ORADEA Products : Timber	
DORNA ECO HOUSE SRL VATRA DORNEI HTTP://www.dornaecohouse.ro Products : Logs, Timber, Wooden houses, Doors & Doors skin, Solid wood panels, Laminated floors, Wood stairs, Windows	

MAGIRUS COM SRL PIATRA NEAMT

Products : Logs, Timber, Pallets & Europallets, Solid wood panels, Plywood, Fibreboard & MDF & OSB,

MOLD IMPEX SRL ODORHEIU SECUIESC

Products : Logs, Timber, Wooden houses

MOLDSILVA SA SUCEAVA, Romania

<http://www.moldsilva.ro>

Products : Logs, Timber, Wooden houses

MONDMARC SRL CIUCEA, Romania

Products : Timber

MORANA AUTO SRL LIPOVA, Romania

Products : Logs, Timber, Pallets & Europallets

NELSEN COM SRL BAIA MARE, Romania

<HTTP://WWW.NELSEN.RO>

Products : Logs, Timber, Wood equipment

NOVAARTIS SRL VISEU DE SUS

Products : Timber, Pallets & Europallets

ONE HEART COMPANY SRL BRASOV,

HTTP://WWW.RUSTIC_HOUSES.COM

Products : Timber, Wooden houses, Laminated floors, Parquet, Windows,

P&D FOREST COMPANY ONESTI

Products : Logs, Timber

PHOENIX COMPANY SA MIERCUREA CIUC <http://www.phxcompany.ro>

Products : Timber, Solid wood panels, Windows, Furniture,

RANCOS FOREST SRL PRUNDUL BARGAULUI

Products : Logs, Timber

REBEL GATER SRL Lupeni

<http://www.rebelgater.ro>

Products : Logs, Timber, Pallets & Europallets

REISAN SA ZETEA

Products : Timber, Solid wood panels

REMARTOP SRL TOPLITA

Products : Logs, Timber, Solid wood panels, Windows, Furniture

SEZAR FOREST SRL BRASOV

<HTTP://WWW.SEZARFOREST.RO>

Products : Timber, Solid wood panels, Parquet, Wood equipment

SOLAREX LIDER SRL ANINA

Products : Timber, Pallets & Europallets

STAIRS PROD-EXPORT SRL BACIU

Products : Logs, Timber, Solid wood panels, Wood equipment

TABILO SRL GHEORGHENI

<http://WWW.TABILO.RO>

Products : Timber, Wooden houses, Doors & Doors skin, Chemical for wood, Windows

TRANS FAG FOREST SRL PONOARELE

Products : Logs, Timber, Veneer, Chipboards, Blockboard, Plywood, Fibreboard & MDF & OSB,

TUPROD SRL CRAIOVA

Products : Logs, Timber

VEDA SRL VALENII DE MUNTE

Products : Timber, Chipboards, Plywood, Fibreboard, Furniture

WOOD LINE SRL ARGES

Products : Logs, Timber, Veneer, Pallets & Europallets

WOOD PLANET COMPANY SRL COMANESTI

Products : Timber

WOODCO SRL SF.GHEORGHE

Products : Logs, Timber, Pallets & Europallets

XYLON SA GRADINARI

<http://www.xylon.ro>

Products : Logs, Timber, Solid wood panels, Parquet, Wood stairs

ZAPO CONSTRUCT SRL DOFTEANA <http://www.zapoconstruct.com/>

Products : Timber, Wooden houses, Pallets & Europallets, Solid wood panels, Windows,

ONE HEART COMPANY SRL BRASOV,

HTTP://WWW.RUSTIC_HOUSES.COM

Products : Timber, Wooden houses, Laminated floors, Parquet, Windows,

P&D FOREST COMPANY ONESTI

Products : Logs, Timber

PHOENIX COMPANY SA MIERCUREA CIUC

<http://www.phxcompany.ro>

Products : Timber, Solid wood panels, Windows, Furniture,

RANCOS FOREST SRL PRUNDUL BARGAULUI

Products : Logs, Timber

REBEL GATER SRL Lupeni

<http://www.rebelgater.ro>

Products : Logs, Timber, Pallets & Europallets

REISAN SA ZETEA

Products : Timber, Solid wood panels

REMARTOP SRL TOPLITA

Products : Logs, Timber, Solid wood panels, Windows, Furniture

SEZAR FOREST SRL BRASOV

<HTTP://WWW.SEZARFOREST.RO>

Products : Timber, Solid wood panels, Parquet, Wood equipment

SOLAREX LIDER SRL ANINA

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VEDA SRL VALENII DE MUNTE

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WOOD PLANET COMPANY SRL COMANESTI

Products : Timber

WOODCO SRL SF.GHEORGHE

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XYLON SA GRADINARI

<http://www.xylon.ro>

Products : Logs, Timber, Solid wood panels, Parquet, Wood stairs

ZAPO CONSTRUCT SRL DOFTEANA

<http://www.zapoconstruct.com/>

Products : Timber, Wooden houses, Pallets & Europallets, Solid wood panels, Windows,

TRADE

Exports of solid wood materials (log and lumber) are de-regulated, but monitored via licenses issued by the Ministry of Economy and Trade, in order to prevent domestic market shortages.

While exports of both hard and soft industrial round wood decreased in 2005 compared to 2004 levels, Romania's softwood log imports more than doubled within the same period, Ukraine, Slovakia and Hungary being the main suppliers. The country's sawnwood imports (mainly from coniferous species) had a similar trend. This phenomenon is reportedly due to two major factors: first, the high starting prices set up by the National Forest Administration (from its monopolistic position) for the standing timber auctioned to be cut, which drastically suppressed operators' participation; second, the unfavourable weather conditions (i.e. repeated floods in 2005) that prevented wood harvesting and further deteriorated the already precarious forest infrastructure, equally affecting the quality of the wood.

Many companies from the furniture industry have begun to seek alternative raw material sources, especially during winter, when domestic wood supply is insufficient and sporadic.

The main destinations for the country's softwood log exports in 2005 were, as in the past couple of years, Bulgaria, Turkey, Italy, Austria, Slovenia, and Hungary. The same traditional partner countries absorbed most of the hardwood round wood shipped by Romania, ranked as follows: Turkey, Austria, Spain, Hungary, Bulgaria, Italy. (Cionga, 2006)

EMPLOYMENT

The staff of the national forest administration consists of 25,288 employees, out of which 13,283 forest staff (2500 diploma engineers), 9,800 workers and 2,205 staff with different training. In Romania the number of employees in forestry sector is decreasing because of the process of forests restitution (Mihai, 2007).

5.6 RESEARCH IN THE FORESTRY SECTOR

The only research project on the topic of private forestry in Romania, completed by the Institute of Forest Research and Management, has proposed several variants for private forest management:

a) Private forests are managed by the local forest districts of Romsilva RA. - private owners receive the corresponding usufruct for the owned area. This represents the value of the annual growth, from which costs for specific forestry activities, performed by Romsilva RA, are deducted. This method is considered the best for private individual forests where owners, including ex-owners family members do not live on their land. This includes approximately 80 000 ha of private forests owned by 150 000 people.

b) Simple management plans have been made for private forests integrated into Romsilva RA production units:

- forest districts, specifically delimited in the field and managed according to the norms, for state-owned forests;
- simple management plans taken from the local management plan for each private owner;
- specific rules for wood harvesting;
- the minimum requirement of a ten year period of cooperation between private owners and Romsilva RA forest districts.

c) Production sub-units - private forests are managed as production sub-units having the following areas:

- minimum 250 ha for high-forest;
- 200 ha for selection system;
- 50 ha for coppice.

These are based on local management plans and on the technical norms for state-owned forests. Management studies and plans will be undertaken for each private forest production sub-unit based on the forest management plans. Services for specific forestry operations (network) can be provided by the local forest districts of Romsilva RA. The minimum period required for cooperation between Romsilva RA forest districts and private owners is ten years.

- d) Management series - if the area of a private forest sub-unit falls below the limit required, it will be included as a management series in the territory of the forest districts. A management study will be issued for each management series based on the local management plan.
- e) Private forest associations - associations must have a minimum of 50 ha of forest and will be managed on the basis of management regulations issued by the Institute of Forest Research and Management or certified private companies.
- f) Individual management of private forests based on simple management regulations - the management plans will be issued at the local level and contain a brief description of forests, total wood volume; annual potential and recommended forestry operations.

ACHIEVEMENTS AND MAIN OBSTACLES TO SUSTAINABLE FORESTRY IN THE CARPATHIAN REGION

ACHIEVEMENTS

In summary, the main achievements are :

- the existence of policies and regulations, although this still needs improvement
- the interest of the NFA in involvement in the management of nature protection areas in the Carpathian region
- the availability of the NFA to co-finance and attract external funds for forest protection

OBSTACLES

The main obstacles and barriers may arise from:

- the restitution of forests involving up to 70% of the entire forest area, without having efficient regulations in place
- possible barriers and obstacles in communication/cooperation between the MEWM, which is the state authority in the field of biodiversity conservation (including nature protection areas), and the NFA, which administers the majority of national and natural parks in the Carpathian region, and which is subordinated to another ministry, the MAFRD
- lack of infrastructure (especially roads) in the forests,
- lack of funds to be invested in forest management in private forest areas (for paying specialized administration first of all),
- lack of modern installations and forest machines,
- low level of training and bad working and living conditions for forest workers.

In addition, since illegal logging is the main threat and possible obstacle, listed below are some of the main findings of the WWF DCP report “Illegal Logging in Romania” regarding this very important issue:

- weak enforcement of the existing legislative framework for forestry;
- gaps in the reporting system that do not allow for a monitoring of the wood flow;
- no reporting system in place for wood harvesting and processing companies, which would allow for the tracking of wood coming from illegal activities;
- lack of data on wood volumes processed by the very many existing small companies;
- lack of human and financial resources and equipment in the control institution.

5.7 PROJECTS

The main ongoing projects in Romania are:

- The Sustainable Development Strategy for Romanian Silviculture in the period 2000–2020 (MAPPM, 1999);
- The National Forestry Policy and Development Strategy (NFPS) for Romania (2001–2010) (MAAP, 2001);
- Danube Carpathian Program (the contribution to the forest protection domain by the WWF), which has established an office in Bucharest, Romania. They are implementing a project financed by IKEA focusing on the National High Conservation Value Forest. In Romania, the WWF and IKEA Cooperation on Forest Projects supports the development of a national FSC (Forest Stewardship Council) standard.
- Romania started to implement the Forest Development Programme (FDP) financed by Romanian Governmental funds and a loan from the World Bank. FDP has been designed to address the major current concerns of the forestry sector in Romania, which are related to the extension of the private forest sector and

the creation of adapted institutional structures, instruments and procedures. The implementation of this project is considered remarkably important for the Romanian forest administration, aiming at the sustainable development of the existing forest resources. FDP will strengthen the capacity of the forest administration and enable it to properly assist the private forest owners in participating in and benefiting from the forest measures under the EU rural development support scheme (EU SAPARD programme, ongoing measure 3.4-diversification and recently approved measure 3.5-forestry), including mechanisms to engage forest owners, private sector and local communities in the planning and management of forest conservation areas.

Other important ongoing biodiversity projects are: GEF/WB, Phare CBC, PIN MATRA/IUCN, WWW, LIFE-Natura.

5.8 INTERNATIONAL COLLABORATION AND ITS ROLE IN DEVELOPMENT OF NATIONAL FOREST POLICY

Through the MAFRD, Romania is involved in the following international processes with respect to forests:

- The United Nations Intergovernmental Forum on Forests
- The Ministerial Conference on Forest Protection in Europe
- The Romanian party has no significant presence at the initiative on forests under the CBD.

Romania ratified the UNESCO World Cultural and Natural Heritage Convention, the Bern Convention for the conservation of European wildlife and natural habitats, and the Convention on Biological Diversity. With GEF support and World Bank assistance, Romania prepared the National Biodiversity Conservation Strategy and Action Plan (BSAP). In order to address priorities identified in the BSAP, with the assistance of the World Bank and GEF, the Government of Romania has prepared a Biodiversity Conservation Management Project (BCMP), which is implemented by the Ministry of Agriculture, Food and Forests (MAAF) and the National Forest Administration (NFA). The BCMP project established effective and sustainable conservation management at three largely forested areas of the Carpathian Mountains, and the mechanisms of replication of this best practice was successfully used by NFA with other priority conservation sites throughout Romania. NFA and its Research and Management Institute are very much involved together with other organisations in the implementation of other existing ongoing projects in Romania: (in connection with the Action Plan for BCM): standardisation of the protected areas in Romania-Ministry of Water and Environmental Protection-MWEP Standards forms (in process), Life-Natura, WWF Large Carnivores, PINMATRA/2001/ KNNV-(Royal Dutch Society for Nature Conservation in cooperation with IUCN and experts; Inventory and strategy for sustainable management and protection of Virgin Forests in Romania), PHARE CBC- transboundary project- *Natural Park - Mures River Meadow* under Directia Silvica Arad management. All these projects will lead to a national network of Forest Protected areas which could contribute to the sound use of forest resources and to poverty alleviation of the local communities. The silvotourism will very much develop due to the existing NFA network of chalets.(Dumitriu a 2003)

CARBON SEQUESTRATION PROJECTS

The legislative framework in Romania includes the Afforestation of Bad Lands Law. The financial means in order to implement this Law (in the framework of Articles 6 and 12 of the Kyoto Protocol) could be provided by the Prototype Carbon Funds - PCF funds projects or by Joint Implementation projects. The large area suitable and available for afforestation in Romania could provide important benefits to the forestry sector by carbon trading within the context of the above-mentioned mechanisms.(Dumitriu a 2003)

5.9 FOREST CERTIFICATION

Forest certification in Romania is regarded as a forestry policy issue with an important commercial component but with positive effects on the sustainable management of forests.

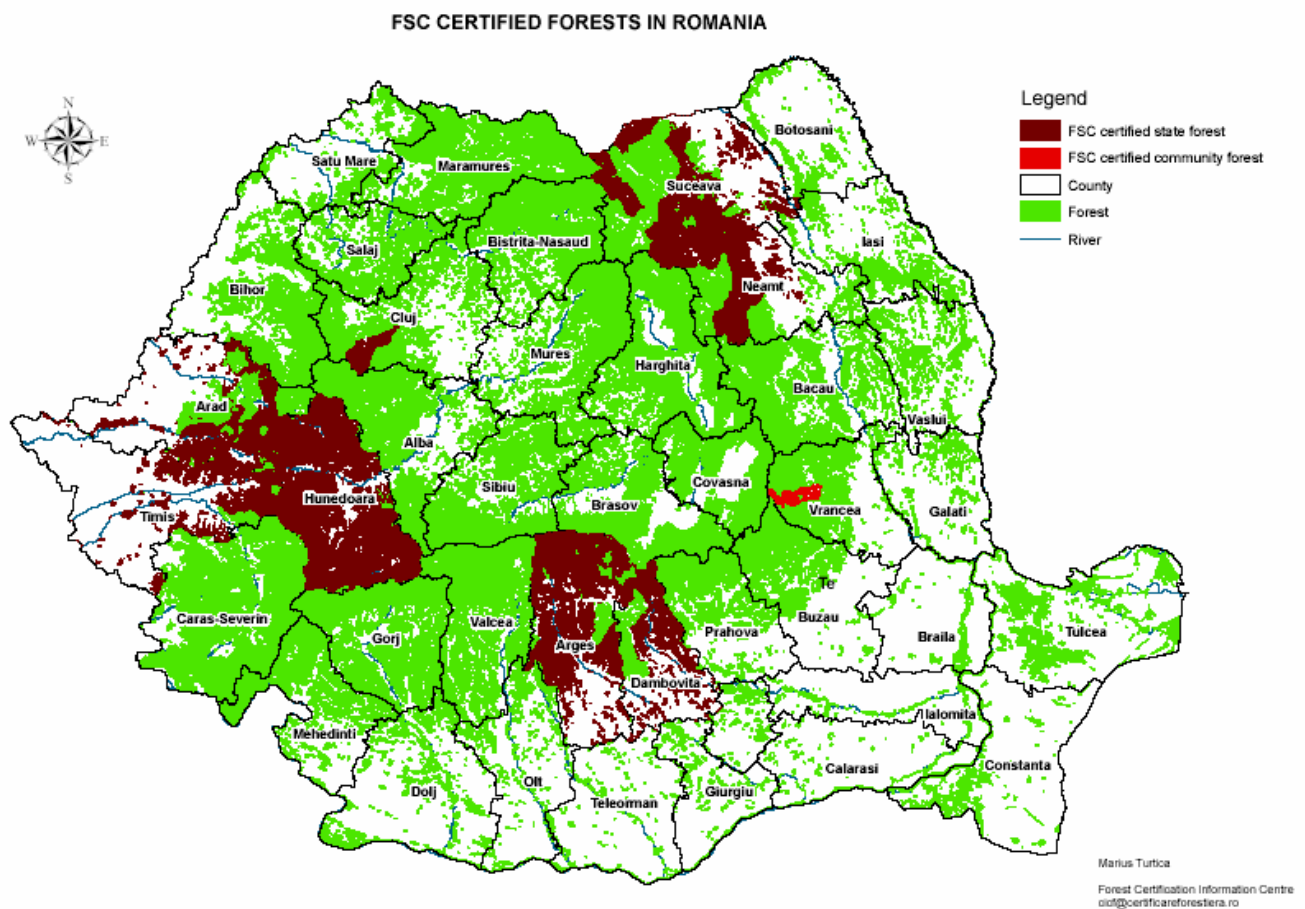
In 2001, two state forest districts (Varatec and Targu Neamt, included in Vanatori Neamt Forest Park) applied for FSC certification within the framework of the Biodiversity Conservation Management Project (financed by the Global Environmental Facility, the Romanian Government and National Forest Administration). The second one is located in the Carpathian regions. One year later the certificate was issued by Woodmark Soil Association for the first 31,611 ha of Romanian state forests. (Abrudan, 2003)

The National Forests Administration concluded with Woodmark Soil Association, an organism accredited by FSC, a contract for forests certification on 1 million ha located on the areas of 8 Forestry Regional Districts. The National Forests Administration has selected as method, the “group certification”. This method allows small modifications of the areas being certificated.

The current forestry policy has as a target the forest certification in Romania, also other recognized certification systems at international level (for example PEFC) and pleads for mutual recognition of certification systems.

However, for various reasons, including the very small proportion of private forest in Romania and the lack of resources within the Association of Private Forest Owners, the PEFC scheme has not been promoted in practice and there is presently no PEFC National Governing Body established and endorsed by PEFC Council. (Abrudan, 2003)

Figure 5.2: Forest certified in Romania



Source: (www.certificareforestiera.ro)

The Information Centre regarding Forest Certification, established in 2006, is developing intensive activity within the framework of the project for Forest Management improvement, ongoing by the WWF – The Program Danube – Carpathes in partnership with the company IKEA.

With a monthly traffic of more than 800 visitors from Romania and abroad, the Centre assures information to the users through its website (www.certificareforestiera.ro). It also represents an information source for foreign companies interested in buying wood or certified products, an appropriate advertising source for companies that want to promote a certain product or wish to sustain a credible certification system (Forest Stewardship Council), nearby one of the biggest world-wide NGO's (World Wide Fund for Nature). (Unece, 2007)

In 2007 the total area of forests in Romania certified by FSC (forest management and chain of custody) amounts to 1,092,801 ha. The first is managed by Romsilva for a total area of 1,075,512 ha and the second, is a community forest of Asociatia Obstilor Vrancene- Ocolul Silvic Naruja- Area: 17,289 ha (www.fsc.org)

5.10 SOURCES OF FUNDING

The main sources of funding (domestic and external) for implementation of activities related to sustainable forest management in the Carpathian Region are:

NATIONAL

- The state budget, through the MAFRD
- The NFA/Romsilva, which is a state company that generates revenues and makes profits that are invested in different works including reforestation, forest protection, and protected areas management.

EXTERNAL

- The GEF/World Bank. One example is the Biodiversity Conservation Management Project (BCMP), which is implemented by the MAFRD and NFA/Romsilva. The BCMP project has included biodiversity conservation management in three pilot sites in the Carpathian Mountains, and the mechanisms for the replication of this practice are now used by the NFA in other National and Natural Parks in the Carpathian Mountains.
- The GEF/UNDP. One example is a medium-sized project for Maramureş Mountains Natural Park, started in 2005.
- World Bank loan. An example is the Forestry Development Project, which started in 2005.
- Life Natura. There are different projects in the Carpathians with the involvement of the NFA or the Research and Management Planning Institute on Forestry.
- The MATRA PIN, for projects of the Research and Management Planning Institute on Forestry relating to the virgin forests inventory or the development of ecological networks in the Carpathian Mountains.
- PHARE CBC, with the involvement of the Apuseni Natural Park, administered by the NFA.
- SAPARD Programme, which has a measure relating to “promoting forestry, including reforestation, investments in forest holdings owned by private forest owners and the processing and marketing of forestry products”.
- Prototype Carbon Funds under the Kyoto Protocol. (Eurac, 2006)

STATE SUPPORT OF PRIVATE FORESTS

Features of state support of private forests include:

To support the private forest owners in order to ensure the integrity of the forests and their sustainable management, the law provides that the state will allocate necessary funds annually to:

- reconstruct the forests affected by natural calamities or forest fires with unknown causes;
- reconstruct the forest roads destroyed by natural calamities;
- control forest pests in the private forests;
- elaborate forest management plans for individual forest owners;

- grant compensations to private owners of forests with special protection functions for the counter-value of the goods they don't harvest because of the forest management plan provisions;
- finance, if necessary, the expenditures for forest regeneration which are over the regeneration fund, which they are obliged to set up in this respect;
- support the establishment and development of the forest owners associations.

5.11 ILLEGAL LOGGING

This is certainly the main problem that has the greatest impact on forestry practices in the mountain ecosystem. This impact is best described in the WWF report "Illegal logging in Romania", written by: WWF Danube Carpathian Programme (DCP), March 2005.

The WWF defines illegal logging and forest crime as the harvesting, transporting, processing, buying or selling of timber in violation of national laws. It lies within wider forest-related crime which includes both the large- and small-scale theft of timber, the breaking of license agreements and tax laws, as well as issues of access to and rights over forest resources, corruption, and poor management.

The most important aspects of illegal logging in Romania are:

- incorrect estimations (underestimations) of wood volume and quality
- illegal harvesting operations
- illegal wood transportation (misuse of transportation documents, lack of knowledge of timber on the part of the control personnel from the police or the financial guard)
- illegal wood imports (misuse of import documents, volumes and quality difficult for untrained customs or police personnel to estimate)
- using certain types of cuttings hides forms of illegal logging: for example "sanitation" and "conservation" harvesting could be used to harvest high quality trees, sometimes at a very low price. This type of harvesting neglects the original goals of sanitation and conservation cuttings, i.e. to extract damaged trees through sanitation felling and to promote natural regeneration through conservation felling in forests where other types of harvesting are not allowed.
- illegal exports (misuse of export documents, wood volumes difficult for untrained customs or police personnel to estimate)
- illegal logging from areas covered with forest trees that are not included in the official statistics (management plan database). No clear evidence and almost no control exists for these forests outside the officially registered national forest land.

There are also other aspects connected with the unsustainable exploitation of forests, such as the selective extraction of economically (and ecologically) important trees, and the introduction of non-native species, which have had a negative impact on biodiversity.

Inadequate private forestland management also represents a very real problem. The new owners are seeking a quick return on their new forest assets. To date, 17% of the private forests have been illegally cut. (WWF, 2005)

In Romania, to cope with illegal logging, the Government approved the National Plan to Fight against Illegal Logging.

Policies to cope with illegal logging, main stages:

- in 1998-2000 a political initiative was taken by the Ministry of Water, Forests and Environmental Protection at that time to cope with illegalities in the forest sector;
- the plan has specific objectives and means, with the scope of enhancing professional integrity amongst forest staff. Several forest officials, including the head of national forest administration (Romsilva), were dismissed;
- the plan fell down in 2000 with the change in the coalition following the legislative elections;
- between 2000 and 2006, there have been no other specific policies to fight corruption in the forest sector, besides regular controls;

- the creation in 2003 of the National Authority of Control determined strength of control in the forest sector. The origin was a prime-minister's statement about the necessity to stop deforestation in private forests (around 30000 ha in ten years);
- a major change occurred in June 2006, when discussions started to formulate a National Plan to Fight against Illegal Logging in the forest sector, to comply with commitments taken within the ENA-FLEGT process;
- the Plan (NPFIL) was officially discussed with the main stakeholders on 23-24 November 2006, and approved by the different ministries involved;
- the NPFIL is on the Ministry website since the end of January, submitted to discussion with civil society and forest professionals.(Boriaud, 2007)

At the national level in 2003 the volume logged illegally is 80.3 thousand m³, less than 1% of the total volume logged (UNECE). There are no data available concerning the total amount of timber illegally harvested in the Carpathian region, but if we considered the forest area of the Carpathian region, it is possible to estimate the amount of illegal logging: 57,3 thousand m³, that is 0,6% of the volume logged in 2006.

Examples of illegal logging activities in the Carpathian regions in 2005 (WWF, 2005).

Gheorgheni State Forest District(Harghita)

A volume of 42,000 m³ illegally cut from private forests was legalized using legal wood transportation documents

Agas State Forest District(Bacau)

444 ha of private and state forest have been illegally cut

Borsa State Forest Districts(Maramures)

In summer 2004 a volume of 14000 m³ was illegally cut

Bucegi National Park

A harvesting company that was authorized to harvest 550 m³ harvested and sold 2100 m³.

Table 5.5: the volume and intensity of illegal logging in different ownership categories in Suceava (Source: Directia Silvica Suceava):

Volume of illegal logging(1999)	m³
in state forests	10,391
in private forests	25,428
in municipal forests	1,068
Intensity of illegal logging	m³/100 ha of forests
in state forests	2.2
in private forests	150.0
in municipal forests	12.7

5.12 NON WOOD FOREST PRODUCTS

The Forest Code of Romania (1996) permits grass cutting in the forests belonging to the state's public property fund. The location free of charge of beehives is permitted with the approval of the competent forest bodies. Grazing is prohibited in state forests. Chapter II, Section 5 specifies products specific to the public forest fund. According to the Code, '*non-wood products (...) shall be harvested conformably to the technical rules elaborated by the central public authority responsible for forestry*'. In forests belonging to the private property fund, grazing is prohibited in stands in the process of regeneration and in forests with special

protective functions, in naturally-regenerated or replanted stands of less than ten years of age or with heights of less than three meters, and in poplar or willow forests under five years of age (UNECE, 2004).

Expert teams have developed silvicultural-wildlife management studies and management plans, studies on the honey-bearing and mushroom potential in the forest areas, as well as plans for many pheasant and trout farms, basketry workshops, units for processing and trade of forest fruits and mushrooms, for soft drinks and other units for the trade of non-wood forest products. Although these are only auxiliary to the forest administration, they have contributed, at the same time, to the strong enhancement of the efficiency of forest management. Moreover, even nowadays the production of the above-mentioned products has a significant input to forestry income. Obviously, this contribution will decrease due to the transition towards a use and trade of wood according to a market economy and when the forestry expert interest involves mainly the major activity, which is silviculture.(Popescu, 2004)

5.13 TOURISM

Before the Second World War tourism in Romania had experienced a slow but steady growth. After the War tourism development in Romania was strongly influenced by the ideology and personality of its Communist leaders. In the period directly after the war there was little interest in developing tourism. Because of that Romania did not have much to offer to tourists in the period when the package tour sector began to flourish (early 1960s). By the late 1960s, however, Romania started to make large investments in tourism infrastructure, mostly on the Black Sea coast. A Ministry of Tourism and Sports was established in 1971. By the early 1970s two thirds of the country's tourism was focused on the coast, which was particularly popular with the nationals of other Central and Eastern European states. For western Europeans Romania offered an inexpensive alternative to Greece and the Spanish coasts. Domestic tourism also increased rapidly during the socialist period.

During the 1980s tourism declined rapidly. The regime of Nicolae Ceausescu introduced severe measures in order to pay off Romania's foreign debts. The result of these measures (i.e. reducing domestic consumption and investment) was a notable decline in living standards for Romanians and also hardly any income from tourism.

Until 15th June 2003, the tourism policy was directed by the Romanian Ministry of Tourism. After that date, its duties were taken over by the MTCT (see www.romaniatravel.com). Under the command of this Ministry, the National Tourism Authority is the institution responsible for the drafting and implementation of the Romanian Tourism Policy, with the prerogatives to promote Romania as a tourism destination, to evaluate and protect the tourism environment, to issue licenses for accommodation units and travel agencies and to control the quality of services.(Van Den Bergh, 2006)

In the Carpathians, there are well-known ski resorts in Bucegi Natural Park, Brasov, Maramures county, Vatra Dornei in Suceava county, Semenic National Park, Parang Mountains. Ecotourism activities are in Apuseni Natural Park, Calimani National Park, Brasov county with Piatra Craiului National Park, Retezat Natural Park.

THE CASE OF THE RETEZAT NATIONAL PARK

RNP was founded in 1935 and is the oldest Romanian national park covering an area of 38,138 ha. It has more than 20 mountain peaks over 2,000 meters and more than 80 glacial lakes.

The park has a high number of widespread and legally based endangered species of plants and wildlife, which makes it a relevant area in the Carpathian Mountains for protection. Local communities and cultural sights from around the park area add a special value to that of the landscape and biodiversity inside the park. 3 Communities on the edge of the park also have land use rights in the alpine pastures for their livestock. These are Salasu de Sus, Râu de Mori and Campu lui Neag. People in these communities still practice traditional agriculture and preserve some of the traditional lifestyle of the area.(Van Den Bergh, 2006)

Table 5.6: Main tourist attractions in the Retezat National Park in the Carpathian region

	MAIN TOURIST ATTRACTIONS		
	What	Number	Location
SOCIO-CULTURAL	Historical monuments	1	Râu de Mori
	Medieval fortresses	2	Râu de Mori, Malaiești
	Monasteries	1	
	Museums	1	
	Castles	2	Santamaria Orlea
	Festivals (annually)	2	Pui, Salasu de Sus
NATURAL	(Endangered) wildlife		RNP
	Bird watching		RNP
	Glacier lakes	81	RNP
	Natural forests		RNP
	Mountain peaks + 2000 m	15	RNP
	Natural reserves near RNP	15	Around RNP/ Retezat region
	Caves and sinkholes	200	RNP, Pui (Sura Mare caves)
	Bucura Lake (Romania's largest)		RNP
	Zanagoa Lake (Romania's deepest)		RNP
	Alpine meadows		RNP
	Ravines		RNP
	Mountain streams		RNP
RELIGIOUS	Churches	9	Densus, Pesteana, Râu de Mori (2x), Râu Mare everglade, Santamaria Orlea, Nucsoara, Râul Barbat, Salasu de Sus
ACTIVITIES	Hiking/ walking/ trekking		Cârnic, Buta, Gura Zlata / Retezat region
	Rock climbing	3	Bucura walls, Peretii Judele, Coltii Pelegii
	Skiing (Nordic)	2	Râusor, Cheile Butii
	Mountain biking		Around RNP
	Caving		
	Fishing (trout)	8	Zanoaga, Stevia, Lia, Ana, Viorica, Slavei

Van Den Bergh 2006- Retezat National Park Management Plan, 2003

Main tourist attractions

There are many things to do and see in Retezat region. There is a rich diversity of cultural and historical sites, but RNP gains no additional income from these activities. In most communities these sites can be visited free of charge. Also paleontological, speleological and natural botanical reserves that house dinosaur remains, coral caves and forests are near RNP, which make the region more attractive. Development of new attractions and new amenities such as view-points could add more value to RNP and Retezat region. Development of event attractions such as skiing, rock climbing, fishing and conservation of natural attractions all form part of the development of RNP. Local people seldom speak any foreign languages, such as English or German; this is a problem when catering for tourists, but also for establishing links with the foreign market or promotion via Internet and brochures.

Services offered

There are few guides at RNP (the precise number is lacking) and there is ONE Romanian tourist map available named 'Parcul National Retezat Rezervatie a Biosferei - Harta Turistica'. There is ONE English folder and people can buy T-shirts and pins as a souvenir at the RNPA visitor centres. There are several well-marked trails to point out hiking routes. RNPA and the rescue team organize several youth camps to teach children about nature in a playful way. There are several education publications, such as brochures on conservation, a bibliography related to environmental education and the creation of materials related to environmental awareness.

Tourist profile

- Low visitor rate (15,000 to 22,000 per year)
- More tourists come during summer than winter
- More than 75% of all tourists who visit RNP are Romanian
- Most foreign tourists come from France
- Most tourists in RNP travel in organized groups or with family/ friends
- RNP tourists like hiking, nature, historical sites, meeting other people, experiencing local culture
- RNP tourists dislike road conditions, RNP accessibility, unmarked trails, lack of camping places, pollution

The park has currently relatively little impact on the economy of the region. However a substantial increase in visitor volumes to and adjacent to the park would start to place it as an important source of jobs and salaries. Despite being the oldest national park in Romania, RNP is a relatively new and still unknown destination (low visitor rate) competing against destinations that have high profile names (Retezat National Park STDS, 2006).

STRENGTHS PER CATEGORY	WEAKNESSES PER CATEGORY
<ol style="list-style-type: none"> 1. Biodiversity, wilderness, rare (endemic) species 2. Alpine areas ideal for summer and winter sport tourism (several target markets) 3. PAN Park certification 4. Rich diversity of cultural and historical sites in Retezat region 5. Visitor centres 6. Positive tourism attitudes of population 	<ol style="list-style-type: none"> 1. Overgrazing by sheep and biodiversity loss 2. Lack of financial resources RNPA and Retezat region 3. Quality of (social) infrastructure 4. Aging of population Retezat region 5. Collaboration between administrative (local) authorities and private sector (nature conservation and tourism development) 6. Marketing and promotion

Financial situation

RNPA income for the year 2006 comes from 3 different parties:

1. The NFA (budget based on estimated expenses of US\$ 193,000 per year)
2. The GEF Project (World Bank initiative, runs till September 2006 with a total budget of US\$ 5.5 million for Romania)
3. The LIFE-Nature Project (EU project that started this year with duration of 3 years with a total budget of € 512,150)

The total income of RNP in 2005 was € 21,797. The total expenses of RNP in 2005 were € 27,180. This means there was a deficit of € 5,383. (Van den Bergh, 2006)

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6. SERBIA

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FOREST POLICY AND SOCIO ECONOMIC STRUCTURE

6.1 BRIEF HISTORICAL OUTLOOK FOR FOREST MANAGEMENT

During the Middle Ages, the writers (Adam Gijon, 1332) travelling through Serbia described it as a country rich in large and immense forests. La Martin in 1833 travelled through dense oak forests of Šumadija, which he compared to the forests of North America.

The development of the idea of sustainable management started as far back as the Czar Dušan's Law (ban on clearing). Although the freedom of Serbia was very far, aware that the forests are cleared without justification, Prince Miloš issued an order in 1821 (only 17 years after the First Serbian Uprising, or 8 years after the Second Serbian Uprising), which prohibited forest clearing to prevent the destruction of acorn fodder and fuelwood. "Mindful of the extent of forest clearing without any benefit,..., if in future forest felling in this way is not prevented, we shall lose not only all the acorn fodder, from which we have the greatest benefit, but we shall also have the shortage of fuelwood." The forest clear cutting hazard was emphasised by the academician Josif Pančić in 1856 in his description of waterless barrens of the west slopes of Kopaonik and Raška.

The National Assembly passed the first Forest Law in 1891 based on the need for a radical change in the attitude to forests.

A series of previous state regulations, orders and decisions had an insufficient effect on the harmful practices in forests, and even the "Forest Regulation" (1839): "At places where the forest is thin, where it can be readily destroyed by mere harvesting, it is necessary to establish young plantings which should not be touched so that they can become forests, and the forests can be harvested if regenerated".

The law addressed primarily the prevention of forest destruction and clear cutting by forest classification, delimitation, rules of harvesting and regeneration for all forests regardless of the ownership, which indicates that the common interest was given priority. The significance of the community - national interest is shown in the report of the Assembly Board stating, inter alia: "Forests are nowhere, nor can they be anywhere owned by one generation, they are common wealth, which each generation should give over to the next generation, conserved and intact, in the state in which they were inherited. It is only the interest that can be used, and not the capital."

The actuality of this message should never be questioned, irrespective of the natural resource, and especially regarding forests. There are never too many words spoken or written when sustainable forest management is defended, as an everlasting principle above all principles. A provision of the Forest Law in 1929 also defends it clearly: "The permission for clear cutting and conversion into other types of crop will not be given, if it is not a public interest, such as the general economy, public security, defence of the country, or the protection of climate and hygiene interests and economic needs of a region."

It is not necessary to search further for evidence on the hazard of forest clearing, devastation and irrational and unnecessary wasting.

Sufficient proof is the passing of the above laws (even during the wars with the Ottoman Empire), as well as their key provisions.

After the First World War, during and after the Second World War, forest exploitation became the most intensive and the most profitable economic activity. Forests, together with ore extraction, were the major supporters of economic welfare.

The role of forests in that period was exclusively economic. It is logical that forest stability and the principle of sustainable management of the best complexes were endangered by over-felling to the extent that forced the establishment of the Fund for forest enhancement (FUŠ), or rather the healing of the forest wounds.

The economic significance of forests brought about an intensive normative regulation, but it was more directed to organisation, financial, staff and supervision issues and less to forest development and improvement. Education, scientific and professional-operative activities, i.e. the forestry sciences, developed parallel

between the two wars, and the period after the Second World War can be considered as the most fertile. Thanks to the development of forestry sciences and their application in forest management, the trend of the economic role of forests has been maintained. The principles of sustainable forest management could be effectuated thanks to a very significant support by society, i.e. by the establishment of self-management interest communities (SIZ).

The idea – principle of continuity and rationality, i.e. sustainable management, manifested in Czar Dušan's law (clearing banned and pasturing allowed), can be developed and sustained in the actual state of the growing stock by persistent, very careful and consistent application of scientific knowledge and experience, both in planning, and in the realization of plans in time and space. (MAFWM, 2004)

ACTUAL POLICY

To date, Serbia has not had a comprehensively founded and defined forest policy. Forest policy has been defined by legal regulations and individual strategic documents, as the base of forestry sector development. The global forest policy is subject to significant conceptual changes from an exclusively economic orientation, to an increasingly important protection role in all forest functions. In harmony with European and world forest policy trends, forest policy in Serbia should find a balance in meeting all the forest functions (economic, ecological, and socio-cultural). The last official documents which can be taken as the components of forest policy are the Spatial Plan RS and the Forest Law in 1991. As these documents are out of date and as there are no other strategic documents, it is necessary to formulate the National Forest Policy of the Republic of Serbia, as a long-term strategic document which should address all the significant elements and factors of Serbia's forestry. (MAFWM, 2004).

6.2 ORGANIZATIONAL AND INSTITUTIONAL STRUCTURE

RECENT POLITICAL HISTORY

The Republic of Serbia is one of the six countries formed after dismantling the Socialist Federal Republic of Yugoslavia, which was created after the First World War in 1918 as the "Union of Southern Slavs".

Serbia's recent history has been marked by its involvement in military conflicts on the territory of the Republic of Yugoslavia (Balkan wars of the 1990s), the rule of authoritarian leadership, severe economic devastation of the country, international isolation and NATO bombardment.

The recent maturity test of Serbian democracy were the parliamentary elections held in January 2007. It took more than four months to reach agreement over the composition of the new Serbian Government, leaving in the meantime reform initiatives pending, and concerns over fragile democracy quite alive.

Serbia is a potential candidate country for EU accession. (Tar, 2007)

NATIONAL LEVEL

The central body responsible for the area of forest management is the **Ministry of Agriculture, Forestry and Water Management**, re-established in Serbia in 2004. It is the leading governmental agency in charge of rural development and agriculture, and is therefore the main focus of evaluating instructional capacity for SARD in Serbia. However, it is the Ministry of Science and Environment, and its Directorate for Environment, that is in charge of coordinating direct implementation of the Convention.

MAFWM long-term responsibilities are defined in the Agriculture Strategy of the Republic of Serbia in the areas of disease control, food safety, environment, animal welfare, extension service, rural development, and policy development, exercised either directly or through subordinate institutions.

However, in the transition period from a planned to a market economy, the Ministry has additional temporary responsibilities that would not feature in an established market economy, such as roles of privatization, development of the institutions for registration, policy development and clarification of the public and private responsibilities in water management, developing of credit market, improving marketing of farm output. Once these problems are solved, these responsibilities would either disappear or become monitoring functions only.

MAFWM is organized in five sectors (in charge of analytic and agrarian policy, rural development, legal and general affairs, agrarian operations and inspection), five directorates (veterinary, forestry, plant protection, water management and department for control and monitoring) and a number of departments in each of them. Generally, it is in charge of several issues dealt with in the Carpathian Convention: land resources management, integrated water basin management, agriculture and rural development. (Convention Articles 3, 6 and 7)

The programming of the policies and measures is placed within the Ministry's Sector for Rural Development and Sector for Agrarian Policies, while the majority of operational implementation and processing is within the Sector for agrarian operations.

At the same time (2004), the **Directorate of Forests** was transferred from the Ministry for the Protection of Natural Resources and Environment to the Ministry of Agriculture, Forestry and Water Management and incorporated in its structure. The Directorate of Forests is the body responsible for forest administration in both state and private forests. The Directorate executes tasks of state direction and professional operations regarding forestry policy; the improvement and use of forests and game; the execution of protection measures for forests and game; the control of seeds and seedlings in forestry; and other tasks determined by law.

The Directorate pursues normative and regulatory functions through two departments: the Department for Inspection Co-ordination and the Department of Forestry and Hunting.

The **Department for Inspection Co-ordination** controls a total of 162 municipalities distributed in five regions. These regions do not correspond to administrative regions in the country.

The **Department of Forestry and Hunting** is responsible for reporting to the Minister, Government and Parliament on all matters pertaining to forestry and hunting; drafting laws and regulations on forests, hunting, plant productive material and plant health protection; controlling the consistency of forest plans with other plans, laws and directives; approving forest and wildlife management plans; commenting on draft plans and programmes submitted by other ministries; all analytical and normative work in forestry and hunting management; finance activities for the improvement and protection of forests; forest health condition monitoring; and forest seed and nursery production monitoring.

The **Ministry of Science and Environmental Protection** co-ordinates natural resource management activities with other ministries and institutions, carries on control and monitoring activities, and provides financial support for environmental protection activities. The responsibilities of the ministry comprise the system of environmental protection, which includes nature protection; the protection of the environment from pollution; and protection against ionizing and non-ionizing radiation, noise and vibration, the production, sale and disposal of hazardous substances, etc, through the concept of effective ecological support of the economic reforms and development, privatization and infrastructural projects.

DECENTRALIZATION PROCESS IN SERBIA

The citizens of Serbia have adopted a new Constitution in 2006 which sets the base for the territorial organization of the country. The European Commission expert body, the so-called Venice Commission, has assessed the Constitutional provisions related to territorial organization, as less than coherent, giving generous provision of principles and rights but not really filled with substance. The Venice Commission finds the Constitutional regulation of the division of competences between the State, autonomous provinces and units of local self-governance, rather complicated and leaving quite a wide scope for interpretation and specification through legal acts of lower rank. At the same time, the Constitution does not include any explicit guarantees for the financial autonomy of the municipalities, though it lists the sources of revenue. This is further regulated by the **Law on Financing Local Self Governance** that came into power on 1st of January 2007, stipulating that the budget of local self governance be composed of its own income and "hand-over income sources" such as transfers, incomes linked to crediting and other incomes and instalments regulated by the Law. The position of local governance in Serbia has not yet been properly recognized in the Serbian

legal system. However the process of decentralization and deconcentration of power in Serbia concentrates on establishing new own competences of local government, and transferring larger number of competences from state to local level. This would improve the position of the settlements in relation to central administration and satisfy the needs inflicted by living in a specific environment.

Serbia is divided into 165 municipalities (without Kosovo, currently under UN administration), which are the basic units of local autonomy. Each of the municipalities consists of local communities (so called "mesne zajednice"), which mostly correspond to settlements (villages) in the rural areas (several small villages can comprise one local community, and large villages can contain several communities). Urban areas are also divided into local communities. Their roles include communication of elected municipal representatives with citizens, organization of citizen initiatives related with public service and communal issues. The role of local communities is far more important in rural areas; due to their proximity to municipal centres, many urban local communities are dysfunctional. Continuing the positive legacy of the socialist times - when these units were the primary cells of public life - local communities are a valuable infrastructure potential for participatory democracy and direct involvement in decision-making. (Tar, 2007)

THE CARPATHIAN REGION

The Carpathian Region spreads over 13 municipalities organized in four districts.

For the purpose of assisting in rural development programming, the Baseline Analysis (BA) of the EU project 21 presents and analyzes the basic characteristics and the economic and social structure and trends of four main types of rural areas in Serbia. This regional approach gives a good starting point for consideration of regional specificities of the four main types of rural areas, which are considered adequately homogeneous:

Region 1 – Highly productive agriculture and integrated economy - Vojvodina and Macva

Region 2 – Small urban economies with labour intensive agriculture - northern parts of Central Serbia, Sumadija, parts of Macva and Stig

Region 3 – Natural resources oriented economies, mostly mountainous – which incorporates the Carpathian region of Serbia and extends to Eastern and South East Serbia

Region 4 – High tourism capacities and poor agricultural structures – represents the part of Serbia with the greatest tourism potential and the highest rate of tertiary sector contribution to its economic structure, including Macva, Kolubara, Zlatibor, Raska, and Rasina districts. (TAR, 2007)

PUBLIC ENTERPRISES

The “Srbijašume” and “Vojvodinašume” public enterprises for forest management are responsible for the management of state-owned forests and for providing the maintenance of private forests. The state-owned forest area in Serbia is divided between eight public enterprises (Srbijašume, Vojvodinašume, 5 National Parks PEs, and Beli izvor), as well as several waterworks and agricultural organizations, and the educational research bases of the Faculty of Forestry, Belgrade. “Vojvodinašume” PE is a new public enterprise, created by a law enacted in 2002 and in force since January 2003. It is responsible solely for the management of state forests in Voivodina, while the “Srbijašume” PE manages the rest of the Serbian state forests. Under the provisions of the Forest Law, “Srbijašume” and “Vojvodinašume” manage all forest districts. Their responsibilities include the cultivation, protection, conservation and utilization of forests; the raising and utilization of game; the engineering, construction and maintenance of forest roads; the preparation of management programmes and plans; technical operations in private forests; the advancement and utilization of the public-beneficial functions of forests; and wholesale and retail trade in forest products.

Public enterprises are entrusted under the Forest Law with the performance of professional and technical operations in the management of private forests. Prior to the enactment of the Forest Law of 1991, municipalities were responsible for these operations. Private forests are now managed in accordance with the general principles and programmes of private forest management laid down in the annual schedules of management. (EURAC, 2006).

Companies are organized in three levels, but by territory they are organised in 5 levels (company, management, forest administration, compound and area). The lowest level is practically covered by forest

technicians that besides forest growing and protection, perform forest security. There are 624 forest security guards currently employed in Serbia. (UNECE, 2004)

The **National Parks Public Enterprise of Serbia** was formed pursuant to the National Parks Law of 1993. It covers 5 national parks with a total area of 159,525 ha. The forests in national parks are managed in accordance with special protection programmes, based on the Republic Spatial Development Plan. (EURAC, 2006).

UNDERDEVELOPED PRIVATE AND CIVIL SECTOR INSTITUTIONS IN THE CARPATHIAN REGION

Though there are several institutions such as the Centre for economic development and cooperation, the Regional centre for development of Timok region, the Chamber of Commerce of Timok region, etc. there is need for effective local development organizations, which could, engaging the local authorities and private entrepreneurs in joint actions, successfully mobilize the development potential of the local economy.

It was not possible to obtain precise information on the number, size and productivity of the active companies in the region. However, the following figures to some extent illustrate the institutional and entrepreneurial capacity. (TAR, 2007)

Table 6.1: Number of various entities per municipality

Table 4: Number of various entities per municipality (legal persons, entrepreneurs, NGOs)

	Municipalities	Legal persons	Private entrepreneurs	NGOs
1	Golubac	142	279	1
2	Zagubica	152	188	1
3	Kladovo	272	437	2
4	Bor	612	805	25
5	Majdanpek	164	377	5
6	Petrovac	450	720	6
7	Boljevac	142	177	2
8	Negotin	388	1077	11
9	Zajecar	744	1278	22
10	Kucevo	178	411	1
11	Cuprija	605	895	6
12	Paracin	1008	1748	9
13	Despotovac	294	690	5
	Total	5,151	9,082	96

Source: Statistical Office of Republic of Serbia and Centre for Development of Non-profit Sector.

On the territory there are 5,151 various institutions and public service providers (including public companies, schools, health services, local government, transport and infrastructure, etc.), and 9,082 entrepreneurs, mostly private shops, traders and small businessmen. This base is insufficient for generating enough growth to assure integrated and sustainable development of the region, and preservation of the population.

Examination of the civil society organizations shows that less than a hundred associations are registered in all 13 municipalities (in almost half of the municipalities, five or fewer NGOs exist, sometimes as few as one only). However, there are successful initiatives of various kinds – such as community development, human rights, economic development, social provisioning, gender issues, resource centres, environmental – overall the NGO community is weak. Even if involved in decision-making, it does not have a wide membership, particularly in rural communities. On the other hand, its capacities and management skills are often equal to those in the public and private sectors, which could be of great benefit for future positioning.

Being a black hot spot, the citizens of Bor and the area around have a tradition of forming environmental alliances. Several institutions: the Bor Technical Faculty, the “Timok” Public Health Institute, the Zaječar Agricultural and Technological Research Centre, and the Society of Young Researchers from Bor have been

organising scientific and professional conferences on Natural Resources and Environmental Protection every year since 1993.

NON-GOVERNMENTAL ASSOCIATIONS (NGOS) IN FORESTRY

Environmental NGOs play an important role in raising public awareness in forestry. They have contributed significantly to biodiversity protection, the development of Local Environmental Action Plans, and various actions related to increased public participation in different local, regional and national forestry and environmental issues.

The **Forestry Movement of Serbia** is an NGO involved in the afforestation of bare mountain areas and degraded forestland, the restoration of degraded pastures and meadows, the greening of residential areas, and the production of seedlings. Its goal is to reforest all bare lands in Serbia by 2050.

The **Serbian Association of Hunters** is involved in the establishment of principles and criteria for the selection of hunting sites; the incorporation of these in a new law on game management and hunting that needs to be drafted; the protection of wildlife against diseases; and adoption of measures to reduce poaching.

The independent forestry-environmental association **ECOSYLVA** was established in 2002 by forestry experts in response to the unsatisfactory conditions in the organization and publicity work of management bodies in the forestry sector in Serbia. (EURAC, 2006).

Apart from the locally-based organisations, there are several national NGOs that are active in the Carpathian region, such as Endemit, Mustela, Agro-project Timok and Ecolibri Bionet, which have done significant work in the research of Carpathian biodiversity. Ecolibri Bionet has developed a GIS biodiversity database of the Carpathian region in Serbia, and is at the same time the focal point for Serbia at the **Carpathian Ecoregion Initiative 'CERI'**, an international network of NGOs and research institutes from seven countries dedicated to the protection of the Carpathians.

INSTITUTES

The **Institute of Forestry, Belgrade** was established in 1946 as an independent scientific research organization. In 1998 it became part of "Srbijašume". Its main function is to conduct basic, applied and development studies which correspond to the needs of users. In addition to research in forestry, the Institute is involved in scientific research and engineering in horticulture, wildlife management, erosion control, forest utilization and wood processing. Scientific research and applied development work at the Institute is focused on the following activities: forest utilization; management and hunting; seed and nursery management, meristem and genetics; the protection of forests; bioecology, pedology and plant nourishment, phytocenology and microbiology; environmental protection and improvement; spatial planning; the management of forest and other plantations; erosion protection; and GIS application in forestry and environmental protection.

The **Serbian Institute for Nature Protection** has an important role in forest management. It is responsible for the establishment of protection systems in national and natural parks and other protected areas, as well as for the protection of wild fauna and flora. This is a public authority responsible for the implementation of nature protection policy, in particular protected area documentation; terms of nature protection (physical plans, technical documents etc.); analyses of activity impacts on nature; issuing licenses for species collecting; preliminary (one-year) protection of particular areas; and expert control (supervision) of protected areas (in coordination with environment and forest inspectors). (EURAC, 2006).

6.3 THE DJERDAP NATIONAL PARK

The Djerdap National park is one of the five National Parks in Serbia and is located in the Carpathian region. The Park is Managed by the Public Enterprise "National Park Djerdap".

Table 6.2: Djerdap National Park

National park	Year	Community	Managed by	Employees
DJERDAP	1974/93	Golubac, Majdanpek, Kladovo	Public enterprise "NP Djerdap"	37

Source: Prokic, 2003

The legal principles of protection and development of the national parks:

1. Protection, preservation and promotion:
 - of biogeographical features of the area,
 - of ecosystems and diversity of the original flora and fauna,
 - of the genetic fund and its renewal,
 - of the representative biological, geomorphological, geological, hydrographic and scenic features,
 - ethnological heritage and cultural-historical values.
2. Prevention of activities which might deteriorate basic features and other properties of the national park.
3. Development:
 - of activities in scientific research,
 - of activities in culture and education,
 - of activities in presentation and popularisation of the natural and cultural values,
 - of tourism, recreational and other development functions in utilisation of the natural and cultural values of the national park within the limits and in the manner providing protection, preservation and promotion of these values.
4. Management and building of objects, for purposes:
 - of preservation, renewal and promotion of the natural and cultural values
 - of presentation, reclamation and revitalization of the endangered parts of the national park.

In order to bring these valuable habitats, as the protected natural values of national significance owned by the state, into the function of performing total protection and development, by the Law on National Parks, public enterprises were formed for managing the regions of the national parks.

6.4 FORESTRY LEGISLATION

LEGISLATION IN THE FORESTRY SECTOR

According to the Constitution of the Union State of Serbia and Montenegro, many of the competences of the former federal state were transferred to the republic decision level. The same applies to forestry, which is the responsibility of the Ministries of Agriculture, Forestry and Water Management, both in Serbia and Montenegro. There is no common forest policy or institutions at the level of the Union. The Republic of Serbia and the Republic of Montenegro develop their own forest policies and institutions without any co-ordination at Union level (EURAC, 2006).

National legislation affecting the forestry sector.

- Constitution the Republic of Serbia (2006)
- Forest Law (1991)
- Law on the Environmental Protection (1991 and new one 2004 both are relevant for protected areas)
- Law on Inheritance (1995)
- Law on Hunting (1993)
- Law on Water (1991)
- Law on Agricultural Land (2006)
- Law on National Parks (1993)

Forest policy in Serbia is not clearly defined by the current legal regulation.

- **The Law on Forests** (Off. Jour. of RS, No. 46/91, 83/92, 54/93, 67/93, 48/94, 54/96) is currently in force. It lays out the conditions and modes of forest management, including forest protection, improvement and use, as well as the conservation of forest soils and other forest potentials. The law prescribes that forests as public welfare must be maintained, regenerated and utilized in such a way that their values and multiple benefits are conserved and increased, their sustainability and protection is ensured, and their increment and yield are permanently increased. The same law defines the forest regions, so that measures for the management of forests, woodland and other forest potentials in defined territories can be carried out rationally. The forest regions include both state-owned and private forests. In this way, all forest management operations and tasks must be equally implemented in all forests, irrespective of the category of ownership.

The new Law on Forestry is in the preparatory phase.

NEW FOREST LAW

The formulation of a new forest policy for Serbia took place in the period 2003–2005. It was helped by the FAO through the Project TCP/YUG/2902 “Institutional Development and Capacity Building for the National Forest Programme of Serbia”. It is expected that the Serbian Government will adopt a draft of the forest policy document by the end of 2005. This document was developed with the participation of most of the stakeholders in the forestry sector (forestry industry, wood processing industry, representatives of environmental protection, private forest owners and local communities). More than 20 workshops were organized, with 250 people actively participating in the elaboration of forest policy goals and measures. According to the National Forest Policy, the Government will promote and support the implementation of the sustainable management of forest resources, which implies their rational use, growth, promotion and protection under the multiple benefit principle and the maintenance of ecological balance.

The implementation of basic national policy decisions, in the conditions of the unfavourable state of forest resources, demands a changed attitude on the part of the State to this unique, specific and renewable part of nature. This includes, first of all, a definition of the optimal forms of forest management and specific economic policy measures. The Government will ensure the permanent financial mechanisms to promote the state of forests and the development of the forestry sector, because the economic function of forests is highly significant for the achievement of the final goals of forest policy. The Government will support the development of the forestry sector by providing the regulatory, institutional and economic frameworks for the implementation of sustainable forest management, by decisions in favour of the rational use of wood and other products and services, and will thus reduce the pressures on forests. The Government will harmonize the future legislative and institutional framework with the European Union in a foreseeable time. The Government will ensure active participation in international governmental and non-governmental organizations and programmes, especially in the preparation and implementation of global and pan-European resolutions. Pursuant to the national policy and regulations, the Government will support the different forms of forest ownership, under equal legal protection. The Government will provide the organization and professional strengthening of institutions for the implementation of the adopted forest policy and the consistent application of regulations in the field of forestry, as the basic instruments of forest policy. In order to achieve the goals of forest policy, the Government and the Ministry of Agriculture, Forestry and Water Management will launch activities on the formulation of the National Forestry Programme, as the strategic framework for the development of the forestry sector. Within the overall legal system, the Government will, based on the general significance of forests for the well-being of the nation, the specificities of forest management and the biological characteristics of resources, provide the mechanisms for a real valuation of forests and quality and efficient sanctioning of illegal actions related to forests. The Government will promote communication, co-ordination and co-operation with other forestry-related sectors. The National Forestry Programme will be developed within the project “Forestry Sector Development”.

Most of the institutional shortcomings in the forestry sector derive from the lack of a visible forestry policy, and from an outdated legislative framework, an overly optimistic forestry development plan, and forestry institutions that are not structured, organized and equipped to deal with the challenges that are emerging in the sector due

to the fact that the country is making sustained efforts to achieve its major foreign policy goal of accession to the European Union. The main activities that will be implemented in the 2005–2007 period are the following: the establishment of the Forest Forum as a platform for dialogue among stakeholders and representatives of the sectors interested in forest use and conservation; the designing of a strategy for decentralized participation in forest policy implementation and debate; the establishment of a Technical Committee to draft a national forest action plan which will guide the implementation of the national forest policy and legislation; the submission of the forestry action plan for public discussion; the finalizing of the plan and its submission to the Government for official approval; and the maintenance of the mechanism for continuous debate and the updating of the plan, as necessary (EURAC, 2006).

Recommendations for the new forest law

A group of national forestry experts has recommended the following items to be included in a national forest policy:

- The precise definition and structuring of the objectives of forest policy at the federal level (Federal Forest Law), in keeping with the principles of viable development, ecological and economic needs, and the bio-technical and economic peculiarities of the forest sector
- Financial support for the development of the forest sector (mainly from sources outside the sector)
- An increase in the forest road network density
- The creation of conditions for dealing with the issue of forest ownership
- The creation of conditions for starting up a selective process of privatization in the forest production segment
- The settlement of the issue of control over and management of private-sector forests (such as the establishment of a network of test estates and the monitoring of their performance, and the establishment of associations of owners of private forests)
- Insistence on the development of the concept of viable eco-agro-forestry
- The strengthening of the material basis for scientific research in the forest sector, including the acquisition of equipment necessary for monitoring changes in the forest ecosystems and the development of information systems. (EURAC, 2006).

Reforms conducted by the Government are conducted in all sectors including the forestry sector. The preparation of new Law on Forests is ongoing, which will approach the EU laws in many segments, with the consideration of all domestic specificities. National forestry action plan is being implemented with the support of FAO into whose realization all available (human) capacities are involved. Important segment of this program is the realization of activities for promoting the usage of wood as renewable source of energy. (UNECE,2007)

PRINCIPLES REFLECTED BY THE POLICIES

Table 6.3: Integration of the twelve principles of art.7 of the Carpathian Convention into the formal forestry policies (Eurac,2006)

Principles	Yes/No
Sustainable management of forest resources and forest lands	Yes*
Protection of forests against pollution	Yes
Prevention and protection against fire, pests and diseases	Yes
Public information on forest ecosystems	Yes*
Public participation in development, implementation and planning of national forest policies	Yes*
Recognition of vital role of forests in maintaining the ecological processes and balance	Yes
Afforestation and reforestation	Yes
Assessments of economic and non-economic values of forest goods and services	Yes
Protection of natural forest areas	Yes
Protection of ecologically representative or unique types of forests	Yes
Consideration of alternative uses of forests	No
Ensure appropriate retention of precipitation in the mountains for flood prevention	No

* New forest policy

In the new national forest programmes high priority is given to the rehabilitation and sustainable management of forests and trees in environmentally critical areas, recognizing the linkage between forest protection and sustainable development and improving the co-ordination among such policies and programmes.

6.5 PRIVATISATION PROCESS AND FOREST OWNERSHIP STRUCTURE

HISTORICAL ISSUES OF THE PRIVATISATION PROCESS IN SERBIA

Until the end of World War I, Slovenia and Austria were both parts of the same state, the Austrian-Hungarian Empire, whereas Serbia was an independent state until then. During the period before World War II, when Serbia and Slovenia were now both part of the same state (SHS), there were six different categories of property (*state, private, community, rural, church and cloister forest*). After World War II - Serbia and Slovenia were now both parts of Yugoslavia - a reverse process started, back to public property and societies' main interests focused on state issues. Austria, on the other hand, from the end of World War I onwards, had a chance to develop more or less independently. In former Yugoslavia - in contrast to most communist European "Eastern-Block" countries, during the entire period after World War II, private forest property existed as an individual category of ownership.

The private sector (by the way, not only in the field of forestry), after the disintegration of former Yugoslavia could not keep up in parallel with the rapid development of Serbian society; the current unfavourable situation in the forest sector is a direct result. There are no specific provisions in forest legislation nor policy for different categories of ownership. In spite of a policy declaration towards equal treatment of forestry within both – state and private - sectors, the main preconditions are still absent: This includes a) clear definitions, b) a long-term policy and strategy of the state forest administration with respect to the private forest sector, as well as c) the absence of an organized and effective system of state support for private forests management. (Nonic, 2006)

LEGISLATION ON THE PRIVATISATION PROCESS

It is typical (not only) for the Serbian forest sector that state forest enterprises regularly manage large consolidated areas of forests, mostly located in large complexes with relatively adequate property structures. Private forest estates, on the other hand, usually only own small forest areas, scattered in smaller complexes and highly fragmented in numerous small parcels. This unfavourable development was fostered by the 1953 *Law about Land Maximum*, and also by the *Law on Inheritance* which provided for division of forest parcels in smaller pieces without any limitations to minimum areas.

The *Constitution of the Republic of Serbia* provides for the possibility to regulate private forestry in the necessary way, however based on a plain legal act. In Serbia, right now, the political process to mend the Constitution is going on; provisions of the amended new Constitution will represent the legal basis for all future regulations.

According to the Law on the bases of ownership relations in Serbia, natural resources in the state property can be in the ownership of natural and legal persons only when the law rules so. This should be included in the text of the new Law.

The *Law on Resources Owned by the Republic of Serbia* provides for disposal of state property, which also includes their forests and forest land. In order to avoid undesirable development and to provide for sustainable forest management, it will be necessary to clearly set the legal conditions for future owners of forests which now are in state property.

When it comes to expropriation of agricultural or building land, there are clear mechanisms of compensation, which will be made in cash based on the market price of that land. When it comes to expropriation of forests or forest land, compensation for the expropriation of a young forest shall be calculated according to the expenditures for raising such a forest, increased by the factor of value growth matching the value of a mature forest.

The state has the authority to limit the owners' rights of disposal or even to expropriate forests or forest land whenever this is required in the general interest.

Organization of forestry in Serbia during the last 15 years has been built on a firm and centralized institutional framework, as laid out in the 1991 *Law of Forests*. However, in the context of the important political and economic changes after 5th October 2000, as well as reform processes within the public administration, significant changes in field of forestry also followed, especially with respect to stakeholder relations and forestry-linked sectors.

Forest administration has been installed as an independent institution (Directorate of Forests) under the *Ministry on Protection of Natural Resources and Environment*, established under the 2002 *Law on Ministries*. That way of strengthening the state administration clearly pointed towards a new orientation of forest policy, reflecting enhanced influence and connection of all stakeholders in the Serbian forest sector.

Besides state institutions in the field of forestry and environment, in the period of transition in Serbia, also non-governmental organization were installed and developed progressively, whose work and efforts affirmed their influence on the private forest sector and significantly contributed to the promotion of its organization. Activities of these NGOs represent one of the basic differences in quality with respect to the organization of the forest sector in the previous period, and at the same time confirm the necessity for continuous support and strengthening of the non-state sector in this field.

By way of restructuring of the state forest administration, the general position of the forest sector within the state administration was consolidated to a point where promotion of relations with the private forest owners would also be possible. Adequate strengthening of capacities in this sector, however, as by installation of new services which would support private forest owners, are still absent.

The present model to convey services to private forest owners through public enterprises has not proven to be effective under Serbian conditions, just like the previous one, which was operated within the framework of community services.

Public enterprises lack the necessary specialists and organizational-technical capacities for provision of extension services, and at the same time also any interest in covering that important activity in private forests, which is a huge problem for further progress in management of these forests. It is especially the forest experts from state enterprises, who do not have the capacity and training to accomplish activities and develop skills, to communicate with the private forest owners. (Nonic, 2006).

Table 6.4: National Forest Ownership patterns

Ownership	Total area (ha)	% of total forest
State forest	1 132 703.95	53%
Private individual	1 020 478.06	47%

Ownership structure at national level

The Djerdap National Park is managed by the Public Enterprise “National Park Djerdap”. The total area of the National Park is 63 600 ha and the protection zone consists of another 93 968 ha.

The Carpathian region is divided as follows:

- 44 071.19 ha forests and forest land, of these 37 052.89 ha are owned by the state
- 7 018.30 ha: private lands.

Table 6.5: Forest Ownership patterns in the Carpathian region

FOREST & OWL(ha)							
State	37.052	84.1%		stocked	32.976	89%	74.8%
				shrubs	2.964	8%	6.7%
				pasture	1.112	3%	2.5%
Private	7.019	15.9%		stocked	4.010	57.1%	9.1%
				shrubs & pasture	3.009	42.9%	6.8%
						100%	
Total	44071	100%					100.0%

State land: 89% is covered by forests, 8% shrubs and bushes, and 3% by pasture.

Private forest: 9% is covered by wood stock volume (data based on 10 years forest management plan for state forest in National park (2000-2009)).

PRIVATE FOREST STRUCTURE

Forests in Serbia are both state and privately owned. State-owned forests make up little over 53% and are mostly managed by Srbijašume (85%). Smaller portions are managed by Vojvodinašume (7.5%), national parks (6.5%) and educational and research institutions (1%). Srbijašume and Vojvodinašume are public enterprises founded by the state to manage state-owned forests, to develop silviculture, maintain and regenerate forests, manage plantations, reconstruct and reclaim forests and brushland, produce forest seeds and nursery stock and establish new forests and forest plantations, etc. The remaining 47% of the forest area is owned and managed by private owners. Privately-owned forests are scattered, fragmented and small in size (on average approximately 0.5 ha). Bigger holdings with more substantial potential for development are very rare, but produce good quality hardwood timber used in solid wood furniture manufacturing. All activities conducted in privately owned forests are done under the supervision of Srbijašume and Vojvodinašume. (SIEPA, 2005).

6.6 THE FORESTRY SECTOR IN THE NATIONAL ECONOMY

GENERAL ECONOMIC ISSUES AFFECTING THE FOREST AND FOREST INDUSTRIES SECTOR

Reforms started in previous years successfully continued during 2006 and the first nine months of 2007. GDP has the highest growth rate compared to the South East Europe countries. In the first half of 2007, its growth rate was 7.7% compared to the same period in the previous year. Inflation is also under control. With a GDP of \$130 million in 2002, forest products accounted for 1.3% in the total GDP of Serbia, with sawnwood, veneer, wood-based panels (plywood, particle board), furniture, joinery, parquet and wooden houses making up the most important component of the total. (Glavonjic, 2005)

The economy of the Carpathian region contributes to 3.3% of the GNP of the Republic (data for 2004), and 4.5% in overall employment and equally in unemployment in the country. (TAR, 2007)

POLICY MEASURES RELATED TO TRADE AND MARKETS OF FOREST PRODUCTS OR FOREST MANAGEMENT

The policy measures taken in Serbia over the past 18 months that might have a bearing on the Reform process generally presented below in this Report will be additionally accelerated by the CEFTA Agreement (*Central European Free Trade Agreement*) which took effect on May 1, 2007. Thus, conditions for overcoming all trade barriers which impeded the process of wood and wood product trade have been created. This Agreement is of huge significance for companies dealing with wood processing in Serbia both for exporting

their products and importing raw materials and semi-finished products, first of all for parquet producers. The first results of the implementation of this agreement show intensified competition on the domestic market, as well as fewer problems in importing raw materials and semi-finished products from the Agreement signatory countries, first of all from Ukraine.

In mid-September Parliament ratified the Kyoto Protocol, which created the prerequisites for accelerated solving of problems in the environment protection sector.

Among other measures, it is necessary to highlight the Government measure in the domain of corporate income tax which is the lowest in the region, at only 10%, as well as numerous simulations for investors who are building factories in Serbia. (UNECE, 2007)

FOREST MARKET

In Serbia, most wood processing and furniture production companies are privately owned (about 96%) with little use of foreign capital (about 98% of the capital is of domestic source) (2005). However, forthcoming reforms in business law aim to increase the number of companies with foreign or mixed capital in the next few years. In this sense, existing laws and regulations currently enable foreign investors to have significant preferences, such as the free duty on the import of machines and equipment, incentives for employing new workers, and different tax benefits etc. With the new law reforms, these benefits will be even greater.

About 88% of the total industrial wood production comes from State forests, while the production from private forests is only 12% (Glavonjic, 2005).

The forestry and forest industry sectors are important elements of the economy. The current contribution to the national economy is 1.3%, but could be in the order of 4-8% considering the values of non-wood products, and multiplier effects. The potential of the sector as a provider of employment is even bigger, and has the potential to account for as much as 6-8% of the total labour force. In areas rich in forests, the percentage could go as high as 15-20% (Glavonjic, 2005).

Changes in the organization and management of "Serbia Forests" are moving towards privatization of the forest resource sector. It is hoped that this will lead to an improvement in the condition of forest roads (giving access to the forest) and an increase in modern, mechanized harvesting equipment.

The national supply of wood amounted to 2 876 thousand m³ in 2006. Total production amounted to 573 thousand m³ in the same year, of which 481 thousand m³ was sawnwood.

Concerning all assortments, i.e. the total wood supply, 238 thousand m³ were exported, and 870 thousand m³ were imported in 2006 as presented in the following table.

Table 6.6: Wood removal, production, import, export at national level

1000m ³	removal	production	export	import
Serbia	2876	573	238	870

Source: UNECE TIMBER database, 1964-2006, as of July 2007.

The regeneration cutting plan, means planned cutting volume which needs to be realised through cutting with the purpose of natural regeneration amounts to 225,282 m³ (2 151 ha); the thinning plan, is the volume which need to be realised through silviculture measures that amounts to 750 472 m³ (27 341 ha). The data are based on 10 years forest management plan for state forests in national parks 2000-2009.

The cutting volume in 2006 in the Carpathian region amounts to: State 30 000 m³ (approximation on average no more than 50 000 m³ per year), 8 000 m³ higher rate of wood utilisation than in the previous years.

Following, from an elaboration of the UNECE Trade and Timber Division DB 2007(in annex), made by DITESAF University of Padova, the amount of rowndwood removal of the Carpathian region in the last years.

Table 6.7: Estimation of Carpathian region of roundwood removal from 2002 to 2006

roundwood removal 1000 m ³	2002	2003	2004	2005	2006
Serbia- Carpathian region	56	60	67	60	55

6.7 COLLABORATION IN THE FORESTRY SECTOR

FORESTRY RESEARCH

The qualified research staff in forestry is the column of forestry development in all sectors.

The main problems of forestry research are the insufficient research capacities in the existing research institutions (staff, and especially resources, e.g. insufficiently equipped and outdated laboratories), lack of coordination in identifying the needs for resolving the acute issues in practice, which often lead to overlapping research and wasting of the very modest human and material resources. The above deficiencies in scientific research, and also the numerous problems of the forestry profession, require in addition to the multidisciplinary approach, also an imperative change of the orientation from the predominantly fundamental research to applied research intended for the user, both large systems (state enterprises), and private forest owners, small and medium enterprises. In this sense, the co-ordination of research activities is extremely significant.

The objective is to obtain new knowledge and develop technologies in forestry through the advancement of research in research institutions. This will be realised by:

- establishment of the consultancy - co-ordination body for research consisting of the representatives of the forestry sector, with the task of strengthening the relations between the State, education and research institutions, private sector, NGOs and final users, and formulating the national plan and research strategy in forestry,
- institutional strengthening and building of the existing research capacity in forestry, the wood industry and nature protection,
- implementation of the national plan and research strategy in forestry with the participation and material support of the Government and final users,
- establishment of the control system of realization and implementation of the research results,
- support for applied research for the needs of private forest owners, small and medium enterprises and local communities,
- development of a modern science information system, which will be compatible with the information and communication systems of the European Union by data unification at the sectoral and the State levels,
- strengthening of international co-operation in research and capacity building in forestry and the wood industry,
- undertaking of research on carbon sequestration in forest ecosystems and the use of wood as biofuel. (MAFWM, 2004)

FORESTRY EDUCATION

The objective of forestry policy in education is to prepare qualified employees for the forestry sector capable of carrying out their tasks efficiently and effectively. These tasks are aimed at sustainable management and development of forest resources, with due consideration being given to environmental, social, cultural and economic impacts. The state will be responsible for the development, organisation and maintenance of the national forestry education and training system. It will create suitable conditions for the education and training of the requisite number of qualified employees for all forms of forest ownership.

The curricula of the forestry schools, at the professional, technical and vocational levels, will be adapted to the needs of forestry practice in the changing socio-economic, scientific and technological conditions, particularly with regard to acquisition of new knowledge in ecology, social and cultural functions of forests, forestry legislation, economics, forest business management, competition in international timber trade, labour, and forest products. Attention will be paid to the special needs of private forest owners.

Professional education in Serbia is given at the *Faculty of Forestry* in Belgrade and technical education at 3 high schools, *Forestry School* in Kraljevo, *High School for Nourishment, Forestry and Chemistry* in Sremska Mitrovica. (Glavonjic, 2005)

Faculty of Forestry of Belgrade University provides forestry education at professional level. The faculty has a four-year course, which may be followed by postgraduate courses for Master and Ph.D. levels.

The objective of forestry policy in education is to prepare qualified employees for the forestry sector capable of carrying out their tasks efficiently and effectively.

INTERNATIONAL COLLABORATION

Serbia and Montenegro participates in the Collaborative Partnership on Forests under the United Nations Forum on Forests.

It also participates in the Expanded Programme of Work on Forest Biological Diversity.

Serbia is the signatory of many international acts dealing with environmental protection, which directly or indirectly influence the development of forestry sector. (EURAC, 2006).

International commitments affecting the forestry sector (MAFW, 2004):

- UN Framework Convention on Climate Change (UNFCCC) (1992)
- Convention on Biological Diversity (2001)
- Convention on Long-range Transboundary Air Pollution (1979)
- Convention on Wetlands of International Importance (Ramsar) (1977)
- Convention on International Trade in Endangered Species (CITES)(2001)
- Protection of the World Cultural and Natural Heritage (1972)
- Resolutions of the Ministerial Conference on Forest Protection (2003)
- Council Directive No. 43/92 on the conservation of natural habitats and of wild fauna
- Council Directive No. 409/79 on the conservation of wild birds (1979)
- Council Directive No. 105/99 on the market of forest reproduction material (1999)
- Council Directive No. 2158/92 on EU forest protection against fire (1992)
- Council Directive No. 3528/86 on EU forest protection against atmospheric pollution
- Council Directive No. 1615/89 on the establishment of information-communication system on European forests (1989)
- Council Directive No. 89/68 on framework law of the member states on the classification of wood raw materials (1968)
- Council Directive No. 1232/98 on statistical classification of products per activities in the European Economic Community (1998)
- UN Convention on climate change (1992)
- Biodiversity Convention (2001)
- Agenda 2000

ACHIEVEMENTS AND MAIN OBSTACLES TO SUSTAINABLE FORESTRY IN THE CARPATHIAN REGION

The main barrier to sustainable forestry in general, and in the Carpathian region in particular, is the lack of funding, including inadequate governmental support for forest planting and protection. The Djerdap NP Public Enterprise has full responsibility and management rights in the Djerdap National Park. The Republic of Serbia therefore has no specific obligations to support and fund forest management in this area. The Djerdap enterprise is limited in its competences because it is obliged to follow the Law on National Parks, and all its forest management activities must be verified by the Serbian Institute for Nature Protection. The possibilities for its authorities to maintain the management, planning and control of natural resources are still limited. The lack of funds forces the Djerdap NP, as well as other national parks, to sell timber from their forests in order to meet basic financial needs. There is no new forestry legislation to support reforms in the forestry sector.

After a long period of Serbia's isolation from the international community, the Serbian forestry sector is not yet in a position to track international developments. New concepts and holistic approaches in managing economic, ecological, social and cultural sustainability are relatively unknown. The war in which Serbia was involved in 1999, and the social disruption that lasted for the whole of the 1990s, resulted in a decrease in the production and processing of wood, increasing unemployment in forest regions. Unfortunately, international assistance for the development of sustainable forestry is still inadequate.

One of the priority needs for multi-purpose forest resource management planning is a sound and reliable database, which is presently lacking. The existing forest resource database is old and incomplete for state forests, and completely unreliable for privately owned forests. The system should accommodate not only forest resource data but also other data that would facilitate planning. It is also important that the new system should be in harmony with the European Forestry Information and Communication System.

The forest ownership structure is the biggest problem for the efficient management of the forests.

Private forest holdings are small, averaging 0.5 ha. There is little or no co-operation among owners. Government support policies are inadequate and management plans are rarely made.

Support for the inspectors of the Ministry and "on-the-ground" control is provided by forest engineers from public enterprises.

The current Serbian Forest Law has no provisions on how the state should be reimbursed by the public forest enterprises for the use of state-owned forests. The only obligation on these enterprises is to pay a flat 3% tax on sales to the Ministry of Finance. This requirement applies to all forest users. Three percent of the total collected from all public funds (water, forests, roads, raw minerals, agricultural lands, and other natural resources) are earmarked for forest operations (afforestation, silviculture, and so on).

The existing institutional capacities are weak, especially with regard to the enforcement of forestry standards and regulations. Forest authorities need to develop new sustainable forest strategies to improve existing legislation, to harmonize it with EU requirements, and to create a Geographic Information System (GIS) as the basis for better forest management. (EURAC, 2006).

Table 6.8: Following the SWOT analysis related to the current situation of the Serbian Carpathian Mountains.(TAR, 2007)

POLICIES	
<p>Strengths Several new strategic documents and laws recently adopted Harmonization with EU legislation in some areas like EIA, SEA etc.</p> <p><u>Environmental</u> Abundant natural resources - land, water, biodiversity Presence of protected areas including National Park "Djerdap"</p> <p><u>Economic</u> Good potential for rural tourism (unused housing infrastructure that could be transferred to rural tourism accommodation capacities) Meaningful potential for nautical and fishing tourism in the National Park Djerdap</p> <p><u>Social</u> Nine out of 13 municipalities in the Carpathian region in Serbia are included in LFAs, which should have a positive implication for the use of support funds and subsidies. Small but active network of NGOs</p>	<p>Weaknesses Lack of legal framework for specific mountain rural and agricultural policies The sustainable development strategies and goals for the mountain regions often stipulate only general measures without concrete actions in place and clear budgetary priorities. Pending negotiation process of posting candidacy for EU accession</p> <p><u>Environmental</u> Poor environmental management even in protected nature areas</p> <p><u>Economic</u> Regional and local development lagging behind national trends</p> <p>Low concentration of private entrepreneurship Mono-structural economy Difficulties in transferring innovation along the chain Low investment in innovation activities Innovation is funded by public money</p> <p><u>Social</u> Inadequate social support network Distance from the main transport corridors and routes Low participation in national employment Lack of gender-responsive policies</p>
<p>Opportunities Nine out of 13 municipalities in the Carpathian region in Serbia are included in LFAs, which makes the region open to special regional development programmes Proximity to river Danube and Pan-European transport Corridor VII as strategic waterway through Europe Medicinal herbs and various NTFP that are especially abundant Rural tourism; Nautical tourism; Mountain tourism</p>	<p>Threats Negative demographic trends as key limitation to the development of the Carpathian region Limited mobility and remoteness Poaching and illegal fishing, unauthorized logging, and illegal building</p>
INSTITUTIONS	
<p>Strengths Improved institutional support for business initiatives through training, advisory services and information related to business set up, financing and marketing. Development of local economic support institutions such as the first business incubator in Serbia developed in Knjazevac (outskirts of the Carpathians in Serbia), Ongoing and already implemented programmes, building capacities of for local institutions and governance Ongoing municipal financing and institutional reform</p>	<p>Weaknesses Weak political drive and commitment to sustainable development both on strategic and operational levels. Low cross-sectoral cooperation Lack of capacity, staffing and ability to fulfil new tasks of central and local government Weak local institutions and undeveloped local infrastructure Lack of professional organisations Weak management skills Low use information technologies</p>
<p>Opportunities Available donor funding for capacity building programmes Establishment of Farm Registry and Integrated Administrative and Control System (IACS) Farm Accounting Data Network (FADN)</p>	<p>Threats Inadequate social support institutional network Low inter-country level of regionalization Shortcomings in the institutional structure and overall inconclusiveness of monitoring and auditing procedures are coupled with a lack of evaluation practices</p>

6.8 PROJECTS

The main projects for forest in Serbia are:

Institutional Development and Capacity Building for the National Forest Programme of Serbia, is activated on initiative of the Ministry for Protection of Natural Resources and Environment-Directorate of Forests, with a request for assistance in the forestry sector to FAO. The project is supported by FAO, financially and technically, with leading and control by the Directorate of Forests. The expected results are: definition of the national forest policy and strategy, revision and innovation of forest legislature, creation of the institutional framework capable of ensuring the sustainable development of the forestry sector (including development of the private forestry sector), national capacity building for the development of forest policy and programme;

Programme for forestry sector in Serbia, supported by the Norwegian Government. Development of the forestry sector in Serbia stagnated over the last period because of the war, isolation and lack of finances. It is necessary to improve forestry practice, to be able to apply the modern approaches to sustainable utilisation of natural resources. The NFG (Norwegian Forestry Group) participate in the project, in cooperation with the Faculty of Forestry, Belgrade University and Institute of Forestry, Belgrade.

The Programme for the Forestry Sector in Serbia will be carried out in two parts: Pilot Project "National Inventory of Forests", which should identify the methodology and propose the implementation of the national inventory of forests, and "Introduction of GIS to forest planning and management", which should organise and functionalise the information system, with the necessary information for the sustainable management of forests and hunting resources.

Public Relations Strategy - the project for creating the PR strategy of the Directorate of Forests-Republic of Serbia has been prepared in cooperation with the Canadian agency CESO. The expected results are well-trained forestry professionals in PR and an established plan for future training of forestry professionals in PR.

Work on the **National Forest Programme** started in 2003 in collaboration with the FAO. The Government of the Kingdom of Norway supports the current project "Programme on Sectors of Forestry of Serbia", which includes a national inventory of forests, the implementation of and training in GIS technology, forest management planning, forest certification, the production of seed material, the rehabilitation of the lumber industry and development of private forests.

This project is intended to assist the Government of Serbia to formulate a new forest policy, to revise the existing Forest Law, and to organize the private forest sector so that private forest holdings can be managed on a sustainable basis. In this process, which ensures a participatory approach, due emphasis is given to biodiversity conservation in all types of forests.

Policy for SARD (Sustainable Agricultural and Rural Development in Mountain Regions)

The Carpathian zone in Serbia has not been sufficiently benefiting from the SARD support measures implemented by the Ministry of Agriculture in the last years. Overall rural development policy framework and spending has improved significantly, shifting from direct market to structural support policies. Still, due to several limitations that include lack of information, absence of support structure and focus on larger farms, the share of the total budget resources that directly support SARD-M is very low, almost insignificant.

The level of decentralization and delegation of policymaking and policy implementation related to SARD is low. The majority of the funds for financing implementation of SARD-M policies in the Carpathians comes from state budgetary funds. Serbia is not eligible for IPARD yet (newly established mechanism of EU support to rural development) and practically none of the donor funds went to directly financing rural development measures.

In brief, the development potentials of the Carpathian region in Serbia are mostly based on rich natural resources.

Forestry Development Strategy

The Directorate for Forestry, within the MAFWM, developed the Forestry Development Strategy in 2006, as a framework document that provides guidelines and orientation for forest policy development. The strategy emphasizes the need to include forest policy in the rural development policy, in particular bearing in mind the principle of multifunctionality of forests and forestry, which should follow the existing principle of sustainable management and development.

Apart from the Carpathian Framework Convention, which is in the process of ratification, there are several other international documents relevant for the protection of the Carpathian ecosystems and diversity, such as the Convention on Biological Diversity, the Framework Convention on Climate Change, as well as the Danube and the Ramsar Conventions.

Serbia is included in the umbrella project “Support for the implementation of the Carpathian Convention in the framework of the Alpine-Carpathian Partnership” carried out by the Regional Environmental Centre for CEE and EURAC, which resulted in the national assessment of the policy, legislative and institutional frameworks related to the Carpathian Convention, as well as the stakeholder meeting which was organized jointly within the activities of ANPED network by local partner the Organization of Young Researchers of Serbia.

The Carpathian region of National Park Djerdap is under initiative to be included in the list of Ramsar protected areas, giving a possibility to another international process for implementation of the Carpathian convention in Serbia.

International projects in the environmental field that Serbia is participating in include:

- _ Project «EMERALD network of Serbia»
- _ Inventory of marshlands and wetlands in Republic of Serbia
- _ Ex situ protection of aquatic ecosystems in Serbia
- _ Harmonization of national nomenclature for classifying of habitats with International community standards
- _ Important plant areas (IPAs)
- _ Important bird areas (IBAs)
- _ Establishment of the Green Belt according to the European Green Belt Project
- _ INTERREG IIIA “Establishment of integrated model for sustainable monitoring grounds, planning and management in order to promote protected areas”.

Transborder cooperation

The area covering the Carpathians in Serbia is not yet deeply involved in the setting of transborder Euro regions. Initial attempts are made with the "Danube for the 21st century" Euro region, which encompasses the areas of Eastern Serbia with several municipalities in South Western Romania and the urban region of Vidin (Bulgaria). There is strong activation and mobilization in order to strengthen the partnerships that have not yet been institutionalized. This initiative is a valuable possibility for Serbia to mitigate negative effects of the new border barriers established with the Bulgarian and Romanian accession to the EU, as well as to access funds allocated for the promotion of transregional cooperation. (Interreg, EU Cross Border Cooperation Programmes, etc.)

Though strategic solutions for the development of rural mountainous areas are not explicitly stated, all of the strategy papers previously mentioned refer directly or indirectly to rural areas as territories with increased vulnerabilities in terms of infrastructure, poverty, environmental fragility, etc. There is therefore a need for increased awareness of the specifics of mountainous regions and the benefits of the strategic planning framework that should be developed. Next to these strategies, it is the Ministry of Agriculture which is the most involved in SARD-M policies on the more operational level, which will be reviewed in the next section. (TAR, 2007)

6.9 SOURCES OF FUNDING

Sources of funding (domestic and external) are not sufficient to insure the implementation of activities related to sustainable forest management in the Carpathian Region.

The Djerdap NP Public Enterprise is fully responsible for forest management within the territory of the National Park. Therefore, all activities related to sustainable forest management are funded from resources managed by this public enterprise. Every national park in Serbia is divided into areas with different levels of protection. In areas under the first level of protection, no forestry activity is undertaken. In areas under the second level of protection only sanitary logging is permitted, and within areas under the third level of protection logging and the sale of timber is permitted, owing to the very flexible interpretation of the legal definition of “sustainable forest management”. (EURAC, 2006).

6.10 FOREST CERTIFICATION

The process of forest certification, which started in the latter half of 2006, continued intensively during 2007. By the end of September 2007, the total area of certified forests was about 10% of the total forested area. All certified areas with forests are state-owned and are certified according to the FSC system. Simultaneously with the certification process of state-owned forests, the process of establishing an association of private forest owners began and, among other things, its task is to start a certification process in this area according to PEFC system. The Government strongly supports the forest certification process with its measures.

Demand for certified products, first of all for logs, is rising, which partly influenced price increases of these assortments. However, the total production of sawn timber and other wood based products with FSC certificate is exported because the domestic market does not show any need for such products. (UNECE, 2007)

Till now, no certificated forests are located in the Carpathian region. Vojvodinasume passed the main auditing for FSC, with all the 136 000 ha state forest under its jurisdiction waiting for a certificate in 2007.

6.11 ILLEGAL LOGGING

Illegal logging in state forests was 12,007 m³ in 2003.

Illegal logging is most intense in forests bordering the territory of Kosovo and Metohija, where access to border areas is hard. The total registered quantity of illegal logging in this part of Serbia was 5,463 m³ or 45.5% of the total illegal logging in state forests of Serbia, in 2003. (UNECE, 2004)

There is also wood from private forests. Its value is significantly higher than the value of illegally harvested wood in state forests. The estimate is that the value of illegally harvested wood from private forests was about 2.4 million US\$, in 2003. Given the modest raw material potentials of softwood and oak wood in its forest fund, Serbia imports significant quantities of logs and sawnwood of these species. More than 95% is imported from Bosnia and Herzegovina. Considering the lack of numerous laws and custom regulations in Bosnia and Herzegovina, but also technical problems, and weak equipment on some boarder crossings, there is an illegal log and sawnwood trade between Serbia and Bosnia and Herzegovina.

Control of laws and sub-laws in the field of forestry is the task of the Department for Management Supervision in the Ministry for Agriculture, Forestry and Waters. This service employs 85 forest inspectors who oversee the control of forest laws. During 2003, 13,963 supervisions were performed. The illegally harvested property of 2,281 m³ of technical wood was confiscated. In this period 3,279 law violation charges were submitted, 30 reports for economic violations, and 60 criminal charges.

From the registered data on the illegal logging in state forests, and based on estimates received from experts on the spot about the true situation, the estimate is that the annual illegal logging or theft in state forests is from 1 to 5% of the total harvest. In private forests this percentage is much higher, at over 50%.

The rich forest resources represent a significant potential for the economic and social development of the Carpathian region in Serbia. However, their use is currently unsustainable due to poor management practices, extensive illegal logging, often done by tractor in the plains and by skidders and horses in the mountains (TAR, 2007).

The amount of illegal logging harvested in the Carpathian region is not significant.

OFFICIAL POLICIES TO REDUCE OR ELIMINATE ILLEGAL LOGGING

The Government of Serbia tries by numerous measures and changes of law in the tax system to reduce illegal activities in the whole economy, including in the field of timber sales, to the lowest level. In that sense VAT has been adopted, applied from 1st January 2005, which should have a significant influence in decreasing the illegally harvested wood trade.

6.12 NON-WOOD FOREST PRODUCTS

Exploitation of other non-wood forest resources, such as forest fruits, snails, mushrooms, frogs etc. is often beyond control and no environmental impact assessment is carried out in the harvest areas (TAR, 2007).

6.13 TOURISM

The Tourism Strategy of Serbia is another new strategy paper adopted by the Serbian Government in 2006 and prepared by the Ministry for Tourism, Trade and Services (currently tourism is within the Ministry of Economy and Regional Development). It sets down the potentials for the development of tourism. Among a number of others, two types of tourist offers that could be applicable in the SARD-M context are interesting for this review because of its significant potential to diversify the rural economy (TAR, 2007):

- Mountain and lake resources
- Rural tourism.

The Strategy outlines that mountains and lakes are the strongest potential tourist product, from the point of view of resources, but are almost non-existent from the point of infrastructure and marketing. Significant investments in physical infrastructure, training and visibility are necessary in order to attract tourists to mountain areas in both summer and winter.

Rural tourism is another important product of the future tourism of Serbia, as it emphasizes commitment and orientation towards nature and sustainable tourist development. Though not sufficiently competitive, its potentials are evident: rich nature resources, arable land, significant share of rural population, non polluted environment, potentials for the production of organic and "healthy food", possibility for complementary activities like horse riding, traditional gastronomy etc. Its development potentials are emphasized when it comes to better protection of cultural heritage, nature resources, traditional architecture and way of life, which are all preconditions for a balanced socio-economic development of rural areas. Apart from the two above-mentioned niches for tourism development, the "special interests" cluster of services could have relevance in the Carpathian region. The special interests tourist products include several particular market niches. These relate to activities that usually take place in unusual, exotic, remote surroundings or in the

The territory of Eastern Serbia, which is a Carpathian region, is an area with untouched natural values, but also a strong cultural basis in the form of medieval heritage and antique monuments which make it a future trump card for tourism in Serbia. According to the Marketing Strategy for Serbian Tourism, the main idea underlying commercialization and promotion of Eastern Serbia (including the Carpathian region), is displayed in the slogan: *"Still untouched, still undiscovered"*.(Tar, 2007)

wilderness. On such occasions, tourists expect an event involving (controlled) risk and excitement, or a calm atmosphere, testing primarily the capacities under a defined activity. The product is based on outdoor activities as well as those focusing on the cultural heritage of a destination. Special interest activities are frequently associated with other tourist products.

Activities that could be envisaged in the Carpathian region (but also in many other mountain regions in Serbia) are adventure camping, hiking, cycling, river expeditions, 4x4 rides, activities relating to nature, horse riding, fishing, hunting, etc. as well as more "extreme" sports of canoeing and kayaking, canyoning, caving, mountain biking, cross-country skiing, climbing, paragliding, rafting, rock climbing, jeep safaris, etc.

This list of interesting ideas, incorporated in the Tourism Strategy, needs to be fully operationalised through action plans and incentives for field initiatives, therefore giving support to diversification of the rural economy base. Currently, none of these potentials for specific tourist offer development is even remotely used.

TOURISM IN THE DJERDAP NATIONAL PARK

Attractions and facilities in the National Park Djerdap show that this is an independent and complete tourist resort which is in many respects unique in the whole of Europe and the world. The attraction of this area, with its morphological and hydrographical profiles, without exaggeration, surpasses all similar phenomena in the national parks of Europe. Another attractive feature are Djerdap landscapes, based not only on relief diversity and hydrographical profiles, but also on a broad range of combinations of flora and vegetation forms. Its cultural and historical heritage, various forms of human activity and highly specific folklore provide rare, attractive and unique tourist offerings throughout the year.

1. Excursion tourism: Visits to numerous cultural and historical monuments; Excursions to nature reserves; Visits to caves ("Rajkova pecina", "Gradašnica", "Dubocka" "Ceremošnja" "Ravništarka"); Visits to natural monuments ("Vratnjanske kapije" "Valja prerast"); Out-door school; "Health tours"; Photo safari; Boat excursions; Visit to the power plant Djerdap, Fishing Enterprise Kladovo, Copper Mine Majdanpek, Jewellery Enterprise Majdanpek etc.
2. Hunting and fishing tourism
3. Nautical tourism: Sailing; Motorboats; Rowing; Water sport competitions.
4. Stationary tourism: Hotel "Lepenski Vir" Donji Milanovac; Hotel "Golubacki grad" Golubac; Hotel "Đerdap" Kladovo; Youth Camp Karataš; Motels in Dobra and Tekija; Accommodation in Oman and Ploce;
5. Manifestations: Sailing and rowing regatta ("Djerdap Cup"); Catfish fishing competition ("Zlatna bucka Djerdapa -Tekija); Fish pot cooking competition ("Zlatni kotlic" - Golubac); Folklore festivals ("Jorgovan fest", "Seoska olimpijada") etc.

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7. SLOVAKIA

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FOREST POLICY AND SOCIO ECONOMIC STRUCTURE

7.1 BRIEF HISTORICAL OVERVIEW

The tradition of Slovak forest management goes back centuries to the era when the **mining industry** started to develop. In the Middle Ages some regions of Slovakia (namely Pohronie, Spis and Gemer) belonged to the most important mining regions in Europe. Medieval smelters were huge consumers of raw timber and charcoal. Their "hunger" gradually resulted in a mass destruction of vast areas of forest. This fact directly threatened the very existence of the mining industry itself. As contemporary Slovak mines represented the main source of royal income, rulers were forced to resolve this precarious situation as fast as possible (till the end of the First World War Slovakia belonged to the Austro-Hungarian Empire).

Royal directives issued by King Zigmund in 1426 ordered the Zvolen regional government to harvest the intact sections of forests (clearings) and only then spread logging further. This way, harvesting was given clear spatial organisation

In 1565 King Maximilian issued the so-called **Constitutio Maximiliana** Forest Guidelines, which were aimed at more rational forest management practices. These guidelines were the result of a **2-year forest inventory**, historically the first ever recorded on our territory.

In 1769 the Terezian Forest Guidelines were issued. These guidelines already reflected the eve of the forthcoming capitalist industrial production relations.

The **first Slovak forest management** plans in the true sense of the meaning date back to **1764-65**. They were prepared for the forests of Banska Stiavnica, Kremnica and Zarnovica towns.

In 1807 the first forestry higher educational institution in the territory of today's Slovakia, called the **Forest Institute**, was established within the Banska Stiavnica Mining Academy.

The Hungarian Forest Law was issued in **1879**. This law enforced the duty to manage forests according to previously approved forest management plans for 3 contemporary forest ownership categories, i.e., for royal, municipal and community & land owners association forests.

However, the dissatisfactory state of the majority of private forests logically gave origin to another legal document called **Governmental Order No 97 from 1930** that legalised **the implication of approved forest management plans to the management of all forests exceeding 50 hectares**. These forests at that time formed approximately 85% of the forested land in the former Czechoslovakia. Forest management plans for state forests were elaborated by **Measurement Departments** of particular Forest Enterprises. **Forest Departments** of local District Offices were responsible for the rest of Slovak forests. On top of that, there were also a few authorised **civilian working-plan officers**.

The Second World War brought considerable chaos to the forest management plan field.

With the onset of socialism, **Law No 206 Coll on Afforestation, Establishment of Windbreaks and Shelterbelts and on Pond Formation** came into force **in 1948**. One of the most progressive provisions of this law was the obligation to use site suitable tree species for establishment and regeneration of forest stands.

Lesoprojekt as an independent institution was established on **January 1, 1952**. In the same year, **Act 61/1951 Coll** officially dissolved all other organisations previously authorised to prepare forest management plans. This step led to unification of the methodology used for forest management plan elaboration.

1958 saw the publication of **Directive No 75 on Forest Management**. This directive unified the content and form of forest management plans within the whole territory of the former Czechoslovakia.

In consequent stages, development of forest management was determined by the character of contemporary valid forest laws and their related legal regulations. While **Forest Law No 166/1960 Coll** gave preference to more environmentally-friendly forms of management, **Forest Law No 61/1977 Coll**, quite the contrary, brought an opinion shift to a large-scale area approach which is far less close-to-nature. **Revisions** of this law in 1991 and 1993 coupled with consequent legal norms meant a return to management practices more acceptable from the point of view of preserving all forest functions.

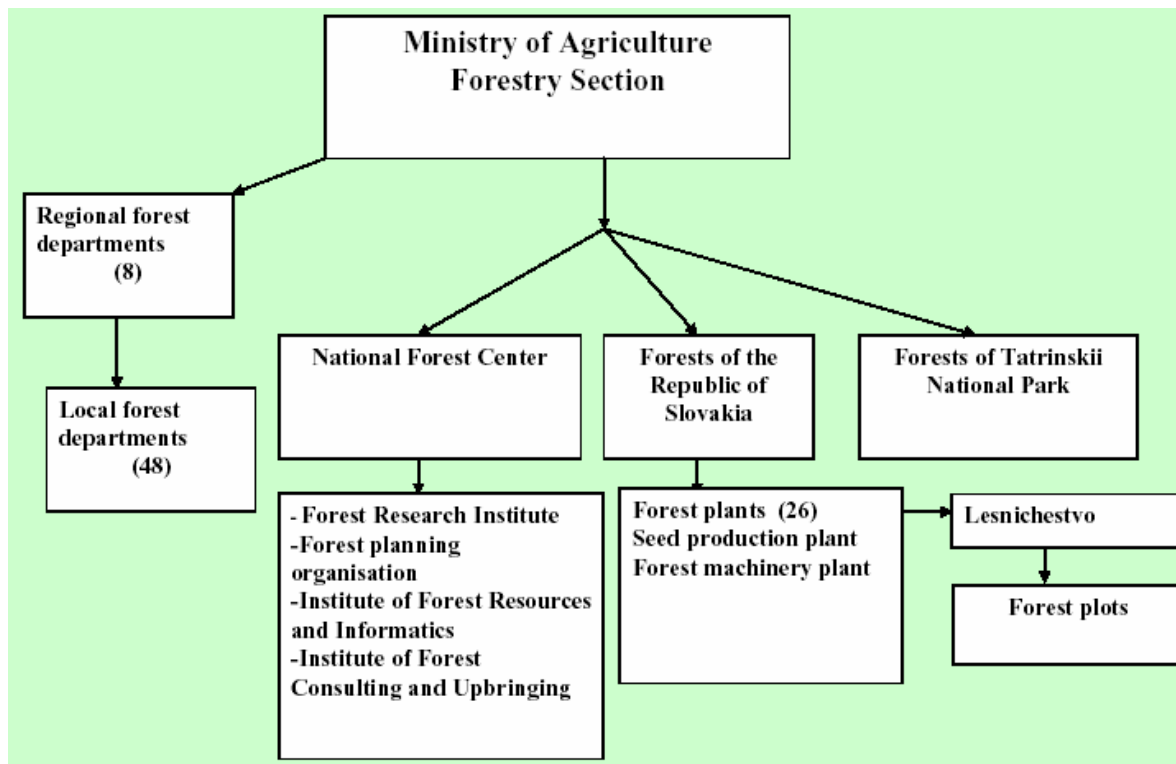
The principal, but so far not fully obvious change to forest management was brought about by the efforts to change the Slovakian economy to the open-market one following the so-called **Velvet Revolution in 1989**. (Gemerské, 2006)

7.2 ORGANIZATIONAL AND INSTITUTIONAL STRUCTURE

CENTRAL ORGAN OF STATE FORESTRY ADMINISTRATION

The **Ministry of Agriculture**, is the central state administration body responsible for agriculture, forest management, water management (within a specified scope), fisheries, hunting and the food industry. It carries out state administration and expert supervision of the farming sector, as well as the expert supervision, direction and inspection of administration that is legally carried out by other bodies and organizations in the farming sector and by territorial state administration authorities. It directs and guides the state's economic policy in agriculture in line with the government's Policy Statement. In order to implement and facilitate activities, it establishes and systematically directs state public benefit enterprises, organizations and agencies, primarily in the fields of science, research, development, inspection, control and supervision, certification, training, consulting and forestry.

Figure 7.1: Structure of the Ministry of Agriculture in Slovakia



Source: Krotova, 2007

The **National Forest Centre** (NFC) was established on January 1st, 2006 as a semi-budgetary organization of MA SR. NFC establishment represented a merger of three formerly independent forestry institutions – the Forest Research Institute Zvolen, the Lesoprojekt Zvolen, and the Institute for Training and Education of Forestry and Water Management Staff of the SR.

The Centre is an umbrella organization for four specialised institutes (NFC-Forest Research Institute; NFC-Institute for Training and Education of Forestry and Water Management Staff of the SR; NFC-Institute for Forest Resources and Information; NFC-Lesoprojekt) and has three main organizational units: Office of Director General; Office of Deputy Director for Economics; Office of Deputy Director for Services and Logistics. NFC – Appraiser Office is organizationally attached to the Office of Director General.

NFC aims:

- To support effective and economically sustainable links between research, education and further development of the forest sector
- To enhance education and advisory services for forest owners, forest managers and commercial enterprises conducting business in the forest sector
- To provide a wide range of users at a national and international level with modern information services based on effective methods of forestry data gathering, processing, evaluation and presentation
- To explore alternative sources of funding and improve the effectiveness of applying for foreign funding (projects and supporting grants) to finance NFC activities and facilitate improvement of its technological base

OTHER STATE AND REGIONAL ADMINISTRATIONS

The other state and regional administration bodies that regulate and control forest management are:

- The Ministry of Construction and Regional Development,
- Regional Forest Department

Main tasks:

- Adoption of statutes on territorial planning;
- Control over forestry operations;
- Approval of forestry plans;
- Division of forests by their designation;
- Planning and implementation of activities in case of natural disasters;
- Administration of a forest managers' register.

- Local Forest Departments

Main tasks:

- Allocation of forest lands, administration of the register of forest owners and users;
- Identification of activities aimed at rational use and protection of forest lands;
- Appointment of professional forest managers, their certification, disqualification and administration of a relevant register;
- Determination of fines for violating forest and hunting legislation;
- Provision of permits for construction done on forest lands;
- Provision of permits for deviations from legally established norms of forestry (prolonging terms of forest regeneration etc.);
- Activities in case of natural disasters;
- Evaluation of the results of forestry operations;
- Determination of key provisions for running game management areas.(Eurac, 2006)

ORGANIZATIONS AND ASSOCIATIONS

Slovak Forestry Chamber

The Slovak Forestry Chamber currently has 255 members, including group membership (legal entities). The activity of the Slovak Forestry Chamber is aimed mainly at working out standpoints to the documents and decisions of central organs of state administration and elaboration of initiative proposals to solve the forestry situation in Slovakia.

Associations of non-state forest owners

In 2005 there were 4 non-state forest owners associations active, which associated owners with a total of 536 132 hectares of forest lands. Non-state forest owners who own forests with an area of 264 727 hectares, which is 33% of the total area of forests of non-state forest owners, are not members of any association.

The activities of the associations in 2005 were aimed mainly at education and training of their own members on support programmes (SAPARD, Sectoral Operational Programme, Rural Development), courses on tax issues, accounting and identifying ownership.

They elaborated their own opinions and comments to the concepts and documents on forestry of SR, mainly on eliminating the calamity of November 2004.

Association of employers in the forest sector of Slovakia

In 2005 the Association comprised the following 19 organizations: 2 state forest enterprises, 3 Lesostav companies, 9 corporations of municipal forests, 2 school forest enterprises and 3 allowance organizations.

Council of Economic and Social Partnership in the Forestry of Slovak Republic

The Council was established in 2005 as a succession organization to the Council of Economic and Social Agreement in the Forestry of SR. It is composed of three representatives from each partner, namely the Ministry of Agriculture of SR, the Association of Employers in Forestry and the Trade Union of Employees of Wood Industry, Forestry and Water Management in Slovakia.

Association of Forest Certification of Slovakia

This association represents a national directive organ of the PEFC certification system (PEFC – Programme for the Endorsement of Forest Certification Systems) in Slovakia.

It was established as an interest association of legal entities, and at the 6th General Assembly of PEFC in Luxembourg in 2002 it was accepted as a proper member of the PEFC Board.

Currently the Association has 16 members who are divided into three chambers of forest users, subjects processing wood and other interest groups.

NGO'S

Slovak society remains one of the most vibrant in Central Europe and is monitored by the Statistical Office of the Slovak Republic, the Ministry of the Interior, the Ministry of Culture, and the Service Center for the Third Sector. Of the total NGOs, 10-11 percent focus on environmental research.

List of Slovak environmental NGOs:

- **Academia Istropolitana Nova** Svaty Jur
Web : <http://www.ainova.sk/>
- **APOP - Association of Industry and Environment** Bratislava
Web : <http://apop.host.sk/>
- **A-Projekt** – non-profit organisation supporting the environment and rural community development of Northern Slovakia Liptovský Hradok
Web : <http://www.aprojekt.sk/>
- **Center for Environmental Public Advocacy** CEPA Poniky
Web : <http://www.cepa.sk/>
- **EcoEnergy** - Civil Association Rajec, Slovakia
- **DAPHNE** - Centre for Applied Ecology Bratislava
Web: <http://www.daphne.sk/>
- **Environmental Partnership for Central Europe- Found. EKOPOLIS** Banská Bystrica
<http://www.ekopolis.sk/>
- **Foundation for Alternative Energy** Bratislava, Slovakia
Web : <http://www.fae.sk/>
- **Green Line - Zelena linka** Puchov
- **Greenpeace** - Campaign for Nuclear Free Slovakia Bratislava
Web : <http://www.greenpeace.sk>
- **Greenway** - Central and East European Network of Environmental NGOs Bratislava
- **For Mother of Earth Slovakia** Bratislava
Web : <http://www.zmz.sk/>
- **IUCN** - The World Conservation Union IUCN Slovensko, Hradok
- **NGO PEOPLE AND WATER** Kosice

- web : <http://www.changenet.sk/ludiaavoda> - <http://www.ludiaavoda.sk/>
- **National Trust for Historic Places and Landscape** Bratislava
 - **Pollution Prevention Center (PPC)** at the Mechanical Engineering Faculty Bratislava
 - **Regional Environmental Center REC** Bratislava
Web : <http://www.rec.sk/>
 - **Slovak Cleaner Production Centre** Bratislava
 - **Society for Sustainable Living** STUZBratislava
 - **Slovak River Network** SRS, Kosice
 - **Faculty of Natural Sciences** - Pririodovedecka fakulta UK Bratislava
web : <http://www.fns.uniba.sk/fns/index.htm>
 - **Monitoring and Advisory Group**
 - **National Part Slovak Paradise** - Narodny park Slovensky raj Spisska Nova Ves
 - **Low Tatras National Park** - Narodny park Nizke Tatry - NAPANT Banska Bystrica
 - **Slovak Environmental Agency** - Slovenska agentura zivotneho prostredia Banska Bystrica
Web : <http://www.sazp.sk/>

7.3 FORESTRY LEGISLATION

In the 2005 the following forestry related legal norms were adopted and came into effect:

- **Forest Act no. 326/2005 of the Digest**
- Decree of the government of Slovak Republic no. **86/2005 of the Digest** on raw timber classification
- Regulation of the Ministry of Agriculture of Slovak Republic no. **38/2005 of the Digest** on the valuation of lands and stands on them for the purposes of land arrangement
- Act no. **193/2005 of the Digest** on plant medicinal care
- Decree of the government of Slovak Republic no. 177/2005 of the Digest that amends Decree no. 64/2004 of the Digest on protection zones
- Act no. **562/2005 of the Digest** that amends Act no. 314/2001 of the Digest on fire prevention
- Regulation of the Ministry of Interior of the Slovak Republic no. **591/2005 of the Digest** that amends Regulation no. 121/2002 of the Digest on fire prevention.

Strategies and plans adopted in forestry management:

- **The Strategy and the Concept of Forestry Development in Slovakia and the Principles of the State Forestry Policy**
- **The Action Plan for the Implementation of the National Strategy for Biodiversity Protection in the Slovak Republic for 1998 – 2010.**

This document was adopted by the government in 1998, based on background documents provided by a number of ministries. It sets out a series of tasks to be implemented in order to support the implementation of the National Biodiversity Strategy in Slovakia. In 2002, the Updated Action Plan for 2003-2010 was adopted by the government.

- **The Concept of Forestry Policy up to 2005.**

This is one of the main strategic planning documents for forestry in Slovakia. It defines the strategic and policy targets of forestry policy for the beginning of the century, including management methods, protection of the environment and funding. The document lays down programming objectives and the methods and tools to achieve them. A special chapter is devoted to an analysis of the impacts of forestry policy on the environment.

- **The Report on the Forestry Management of the SR (Green Report).**

Green Reports are documents published annually, which deal with forestry in the previous year in detail.

They provide data on forest area, economic performance, forestry–environment interface, employment in forestry, timber processing, research and education and many more areas.

- **Strategy and Plan of Forestry Development in Slovakia and the Principles of State Forestry Policy in Slovakia**

Forest vegetation protection is an integral part of the protection of forest resources, which is rooted in the national planning documents. The primary objective of the Strategy and Plan of Forestry Development in Slovakia and the Principles of State Forestry Policy in Slovakia is the maintenance of forests, i.e., the maintenance and gradual increase of forested territory. This objective is also pursued by legislation that deals with forest management in accordance with the law. All forests, regardless of their size and form of management, have to be managed according to plans. The most important indicators of forest management are determined by forest management plans, which ensure and increase the production and public functions of forests, i.e., the interests of the state.

In this context, an important role is assigned to the management arrangement of forests and its results, the forest management plans, through which the main principles of forest protection are applied under concrete conditions.

- **National Forest Programme (NFP) of Slovakia 2007.** In coherence with the European Forest Action Plan, putting emphasis on increasing the competitiveness of the forest industry and recognising its environmental and social function.

The draft version of the NFP was drawn up in 2006. Upon its completion, it was submitted in 2007 to the National Assembly of the Slovak Republic for final approval. The document answers to all the main forestry related political documents at both national and international level including:

EU Forestry Strategy; EU Forest Action Plan; CADF; resolutions of the Ministerial Conferences on the Protection of Forests in Europe (MCPFE); global initiatives on forests including the United Nations Forum on Forests (UNFF); other international agreements, such as the Convention on Biological Diversity (CBD); United Nations Framework Convention on Climate Change (UN FCCC); Kyoto Protocol; other processes and initiatives.

Based on the aforementioned documents and processes, the NFP further formulates and updates priorities for the forest sector, provides a framework for the intervention of other sectors in the formulation of forestry policy, pays attention to the enhancement of public awareness about forests and their role in society, provides a platform for active involvement of governmental and non-governmental stakeholder groups in forestry related issues. In addition, it provides a common ground for solving controversial issues under the jurisdiction of different governmental agencies. The programme also lists five strategic objectives for the sector. They are:

1. to promote ecological forest management;
2. to improve and protect the environment;
3. to contribute to the quality of life;
4. to improve long-term sector competitiveness;
5. to foster co-operation, coordination and communication.

These objectives were further elaborated into 18 thematic priority areas and 55 framework goals. The objectives of the programme are to be achieved through a special action plan which will be available in 2008. The timescale for NFP completion is set for the end of 2020. The document was submitted to the Slovak Government for approval in April 2007 and at present it is pending consultation in the Slovak National Council. The NFP emphasises the principle of sustainable forest management actively supported by state forestry policy in the area of public interest and enhanced responsibility of forest owners for the management of their properties. It assumes development of a system of public compensation for protective, ecological, environmental and other social functions and services provided by forests.(Eurac, 2006)

PRINCIPLES REFLECTED BY THE POLICIES

Table 7.1: Integration of the twelve principles of art.7 of the Carpathian Convention into the formal forestry policies (Eurac,2006)

Principles	Y/N
Sustainable management of forest resources and forest lands	Y
Protection of forests against pollution	Y
Prevention and protection against fire, pests and diseases	Y
Public information on forest ecosystems	Y
Public participation in development implementation and planning of national forest policies	Y
Recognition of vital role of forests in maintaining the ecological processes and balance	Y
Aforestation and reforestation	Y
Assessments of economic and non-economic values of forest goods and services	Y
Protection of natural forest areas	Y
Protection of ecologically representative or unique types of forests	Y
Consideration of alternative uses of forests	Y
Ensure appropriate retention of precipitation in the mountains for flood prevention	Y

The Forest Protection Service is in accordance with § 29 of Act no. 326/2005 of the Digest on Forests, the organ of state professional control of forest protection. The tasks of the Service following from this act are checking the fulfilment of duties in forest protection, effectiveness of measures performed to improve the health condition of the forest. The most important changes introduced by the Act relate to a category of special-purpose forests. They include revocation of air pollution damaged forests as a separate subcategory and inclusion of approved gene reserve forests. In addition, the Act introduces the obligation to provide a draft version of a special management regime document when applying for special-purpose forest designation, as well as the obligation for prior owner or steward consent. Lastly, it imposes the obligation for a restricted ownership rights compensation agreement in cases where a claim for special management regime is not supported by the decision of the respective state forestry authority or generally binding legal provisions.

Forest Fires monitoring

The monitoring of forest fires started in 2004 according to Decree no. 2152/2003 Forest Focus. The Ministry of Agriculture authorized the National Forest Centre to be the responsible authority for this programme. In 2004, 2005 and 2006 obligatory documents and data were processed and sent to the Joint Research Centre of the EC. According to the data sent, Slovakia was classified in the 1st level in the forest risk zonation chart of European countries. In 2006, more detailed information was processed on forest fires from the period 2002-2005 in the framework of the Forest Focus programme.

Afforestation

The Slovak Government has approved the Programme for the Reforestation of Lands not Suitable for Agricultural Production. According to this programme, by 2000 some 50,000 ha of agricultural land would be reforested. The introduction of certification according to the PEFC and FSC systems will constitute a further instrument oriented to the sustainable management of forests. In 2002, the National Certification Centre was established, the Centre is the governing body for the PEFC system. Because of the lack of available financial resources for afforestation, this programme has been cancelled. Only 3,536 ha have been afforested.

7.4 LAND RESTITUTION AND FOREST OWNERSHIP STRUCTURE

ANALYSIS OF THE LAND RESTITUTION PROCESS

Over the past 40 years the majority of private forest land became state-owned forest administration entities, regardless of ownership rights. Although recognized, ownership rights were denied. In 1990, the Declaration of Parity helped solve this problem. The Act on Regulation of Ownership Rights to Land and other Agricultural Assets, Land Regulation Act (Act 229/1991 Coll.), govern issues relating to forest land.

The implementation of the Land Regulation Act is complicated by the complexity of forest ownership rights. Not only must rights of ownership and usage be returned to the original owners, new conditions must be created to assist new owners to manage their forest property.

The Municipal Assets Act (Act 306/1992 Coll.) governs the restitution of ownership title to the municipalities. These rights were nationalized in 1949. The Act on Redressment of Property Wrongs committed to Churches and Religious Societies governs the restitution of assets (Act 282/1993 Coll.).

As of July 1995, a total of 66 681 owners have applied for the restitution of their ownership and usage rights to forest land. The total forest area amounts to 1 989 000 ha, the area applied for by former owners is 919 400 ha, 46% of total forest land. As of July 1995, a total of 10 540 requests have been approved and the ownership title or usage right transferred for 701 900 ha representing 34% of the total forest area and 76% of the area requested.

The applications submitted by individual owners are more difficult to fulfil. As of July 1995, ownership and usage rights were returned to 16% of the individual applicants (39% of the area requested). The area to be returned, either for ownership or usage rights, amounts to 217 600 ha, representing 56 141 applicants, of which 124 663 ha are to be returned to 37 785 individual owners.

When preparing the legislation, the specific features of forestry, such as the long production period and its impact on costs and profits, were not taken fully into account. Many heirs of the original owners, live away from their property and have no experience of forest management or are unable to provide professional management. On the other hand Forest Management Associations are not interested in leasing properties which may not be profitable.

The Act made restitution of small size properties to several joint owners possible. In many cases these areas do not amount to more than 0.50 ha. These properties cannot be identified because the owners do not have ownership documentation. Under the Land Regulation Act, forest land is returned to the owners. In the case of small areas, it is returned in integral parts. It is presumed that the owners will associate and jointly manage the forest.

The intention of the government was to return the whole forest and not to become involved in solving disputes regarding property boundaries. The owners, however, consider this approach a new 'nationalization' of their property and those who consent are mainly the owners of less profitable forests. The State decided to help these 'integral forest parts' owners and consider them as priority receivers of grants from the State Forest Improvement Fund. Tax relief would, however, be of more help to them.

The Act on Measures to Regulate the Ownership Rights to Land (Act 180/1995 Coll.) and the Act on Land Associations (Act 181/1995 Coll.) have brought about an improvement and acceleration of the forest land restitution process. The Slovak Government passed a resolution on 10 October 1995 to accelerate and remove defects related to the above-mentioned process. Defects will be eliminated in the restitution Acts related to forest land when the new legislation is approved. Specific features of forest property and its rational management will be considered. (FAO 1-2,1997)

FOREST OWNERSHIP STRUCTURE

The current classification of forest ownership and exploitation, given in the following table, is based on the Register of Forest Owners and Tenurers on 31st December 2006. Non-state subjects currently manage 53,4 percent from the total area of Slovak forests.

Table 7.2: Forest ownership structure on the Carpathian region

SUBJECTS	OWNERSHIP	TENURE	OWNERSHIP	TENURE
	(HA)		%	
State forest	794 047	1 083 537	41.1	56.1
Non state forest of which:	1 032 680	848 512	53.4	43.9
• private	289 897	139 961	15.0	7.2
• community	489 677	492 065	25.3	25.5
• churches	59 427	38 817	3.1	2.0
• cooperative farms	3 834	5 080	0.2	0.3
• Municipal	189 845	172 589	9.8	8.9
• Unknown	105 322	-	5.5	-
TOTAL	1 932 049	1932 049	100	100

Source: Compendium of Slovak Statistics (SFMP, PFI)- Ministry of Agriculture, 2007

The table shows that the settlement of forests ownership and use pursuant to restitution Acts has not yet been completed. In fact the privatisation process is in the final phase. 5.5% of unresolved forests have still not given back to their original owners. There are several reasons:

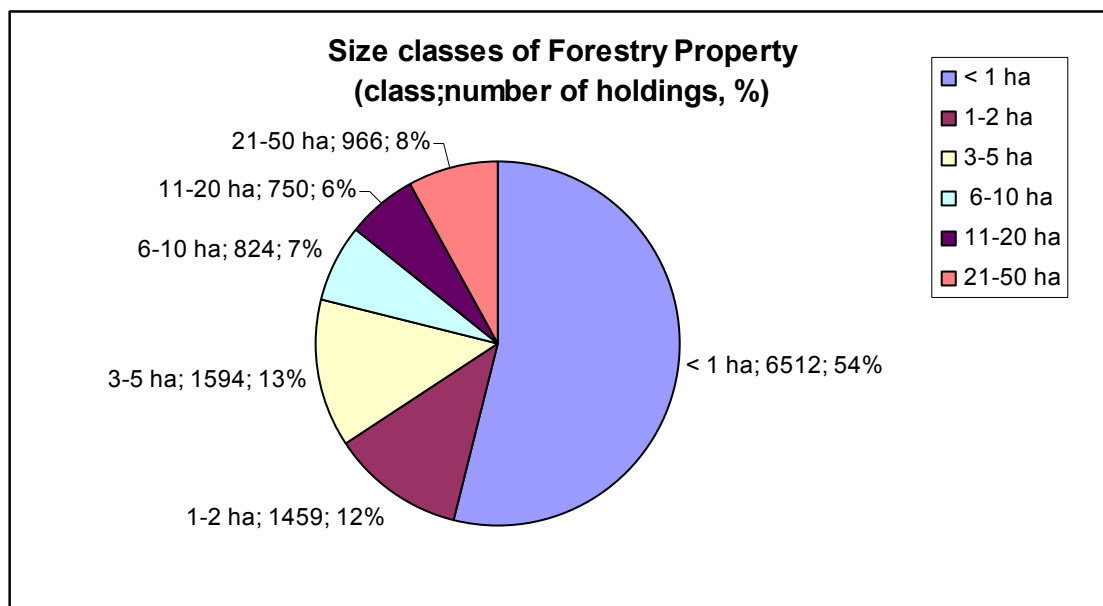
- no interest expressed on the properties /totally unknown owners /not possible to trace them in the records
- no mutual agreement between the owners of shared ownership etc....

The highest proportion of not returned forests is in private forests. The reason is that they are mostly forest lands of small size with a lot of small individual owners or shared ownership being impossible to identify in the forest. Moreover, there are owners of forest lands who, for various reasons, did not request their restitution. See table below.

Table 7.3: The size classes of forest property in 2007 in the Carpathian region

SIZE CLASS	TOTAL	< 1 ha	1-2 ha	3-5 ha	6-10 ha	11-20 ha	21-50 ha
No. of Holdings		6512	1459	1594	824	750	966

Figure 7.2: Size classes of Forestry Property in 2007



State forests

Forest lands in the ownership of the state are managed by following state forest enterprises:

National State Forest Enterprise – Lesy SR, š. p., Banská Bystrica, Forestry and Agricultural Estate, State Enterprise Uliè (Lesopo³/₄nohospodársky majetok Uliè, š. p.), State Forests of Tatra Mts. National Park – ŠL TANAP. All these organizations are subordinated to the Ministry of Agriculture of the SR. Military Forests and Estates of SR (VLM SR), š. p., Pliešovce are subordinated to the Ministry of Defence of SR. State forest organizations also manage the forest lands of the owners who have not returned their lands due to various reasons, as well as the forests leased from non-state subjects.

For the field education of students Lesy SR, š. p. Banská Bystrica put on lease through contract 913 ha of forests to the Secondary Forestry School in Banská Štiavnica, 392 ha to the Secondary Forestry School in Prešov and 10 688 ha of forest lands to the School Forests Enterprise at the Technical University in Zvolen (SLŠ, TU). The Secondary Forestry School Liptovský Hrádok carries out field education on the basis of the contract with Lesy SR, š. p., Banská Bystrica. (Ministry of Agriculture, 2007)

Non-state forests

The non-state forest sector comprises private forests, community forests, forests of churches, of agricultural cooperatives and municipal forests. The legal and organization form of the subjects in the non-state sector form land partnerships with and without legal subjectivity, limited liability companies, joint stock companies, private persons registered for enterprising or without registration as well as special organs (economic or allowance organizations) of a municipal office. (Ministry of Agriculture, 2007)

Private forest owners associations

In 2006, there were four associations of non-state forest owners in Slovakia. These associations gathered owners with forests of a land area of 536 132 ha. Forest owners owning 264 727 ha (33% of private forests) were not members of any association. On 1st January 2006 the Council of the non-state forest owners association was created. Its members are the Association of municipal forests of Slovak Republic, Union of the republic associations of non-state forest owners in Slovakia, Union of the church forests of Slovakia and Union of the owners of private, municipal and shared forests in Banská Bystrica district. The aim of the Council is the coordinated approach to policy matters of interest to non-state forest owners.

7.5 THE FORESTRY SECTOR IN THE NATIONAL ECONOMY

National economy of SR has continued in a positive trend for the third successive year since EU accession. Gross domestic product (GDP) reached 1,636 billion SKK.

In 2005 the sale of wood processed from the calamity of 2004 contributed to the growth of GDP of forest sector by almost 1.8 billion SKK. The volume of timber sales was higher by almost 2.1 million m³. This resulted from about 60% more felling than its model value for the last ten years. The value of forestry GDP was 18.3% higher in 2005 than in the previous year. This caused a 0.05% increase in the proportion of the forest sector of SR in the GDP of the SR economy to 0.59%. In 2007, the forestry sector share amounts to 0.52%.

In 2005 high investments in forest property and forest production were also recorded. Investments increased by 81.3% and their proportion in the investments of the economy of SR has increased by 0.10% to 0.25%.

Foreign demand grew by 11.7% on the previous year, reaching 22.6%; in the same period, domestic demand emulating the set growth rate of 4.1% rose to 11.4%. Deficit in foreign trade balance that started in 2004 further continued to reach 91.6 billion SKK, which, compared to the previous year, represented a staggering 20.5% increase. On the other hand, the state budget deficit slightly improved (6.5%) to reach 31.7 billion SKK or 1.9% of GDP (Ministry of Agriculture, 2007)(see following table).

Table 7.4: Indicators in the forestry sector from 2003 to 2006

Indicator	Unit	Year				Estimate for 2007
		2003	2004	2005	2006	
GDP in current prices	billion SKK	1 10	1 325	1 471	1 636	1 795
– of which forest sector		5.6	7.1	8.4	8.5	8.0
GDP rise in pegged prices of 1995	%	4.2	5.5	6.1	8.3	8.0
Investments in current prices	million	350 050	349 000	376 736	432 084	430 000
– of which forest sector	SKK	582	514	932	1 174	800
Employees	thousand of	2 164	2 170	2 216	2 301	2 250
– of which forest sector	persons	18	15*	13*	12*	13*
Average monthly salary	SKK	14 365	15 825	17 274	18 761	20 200
– of which forest sector	SKK	12 712	14 309	15 543	17 232	19 000
Inflation rate	%	8.5	7.5	2.7	4.5	4.3
Unemployment rate	%	17.4	18.1	16.2	13.3	15.5
Foreign trade balance	billion SKK	-23.6	-47.0	-76.0	-91.6	-70.0
State budget balance		-55.9	-70.3	-33.89	-31.7	-30.0
Discount rate	%	6.25	6.0	3.2	3.7	3.5
Interest rate		5.05/5.99	4.9/5.5	1.62/6.56	2.12/6.2	1.7/6.0
Exchange rate (central)	SKK/USD	36.8	34.0	31.0	29.7	25.5
Exchange rate (central)	SKK/EUR	41.5	39	38.6	37.2	34.5
Growth in average nominal salary	%	6.3	10.2	9.2	8.6	9.0
Growth in average actual salary		-2.0	2.5	6.5	4.1	4.7

Source: NFC-FRI Zvolen and Statistical Office SR (SO SR)

Legend: *Ø Deposit interest rate / Ø credit interest rate; ** employees in forest managing subjects; an estimated 12 thousand of additional employees in 2005 and further 13 thousand in 2006 were employed by business enterprises offering services to forest owners and tenurers

Source: Ministry of Agriculture, 2007

EMPLOYMENT IN THE FORESTRY SECTOR

The employment trend in the forestry sector during the last ten years is:

- 1990: 36 000 employees
- 2003: 18 000 employees
- 2005: 13 000 directly in forestry plus 12 000 in forest services – total of 25 000 employees.

The State Forest Enterprise has undergone reform, with many full-time workers transformed into independent contractors – forest services companies.

Sectoral statistics on 2006 employment show an inter-annual decrease of 0.07% compared to the national economy as a whole. At the same time, the total number of employees in different areas of forest sector fell by an estimated 1,000 workforce to the current 12 thousand. The decrease was chiefly attributed to transfer of the workforce from the state to the private service sector. Falling employment figures appeared more dramatic partly also because of improved figures in the whole sector of the national economy. The current employment rate (forest sector workforce) fell if referred to output volumes in harvesting and other forestry operations in 2006. It is assumed that last year the private sector employed an estimated 13 thousand employees in various occupations (Ministry of Agriculture, 2007).

The number of women employees has decreased as a result of the drop in the number of seasonal women workers and reduction in the volume of works in silviculture and forest protection in last years. The ratio of employment rate of men and women in the forest sector was 4 : 1. 80.4% of men and 19.6% of women were employed in state forest organizations in 2005. (Ministry of Agriculture, 2006)

WOOD INDUSTRY

Slovakia has large forestry resources which are managed to the highest standards. In the past, development of wood processing capacities was greatly limited by the volume of timber available. As Slovak forests are

dominated by broadleaved tree species, more investments went to the development of capacities for broadleaved timber processing. However, unregulated development of the wood processing industry after 1990 resulted in the dramatic reduction of broadleaved timber processing capacities and production switched to the processing of coniferous timber.

A brief overview of the current situation in the wood processing industry suggests that the pulp and papermaking industry is highly stable, this being supported by the continued long-term interest of foreign investors in this area. The current situation in the wood industry is rather difficult; its technical and technological standards are falling behind the standard of EU countries. Furniture has great potential for the production of value added products and the creation of new sources of employment. However, the majority of current furniture makers have suffered from years of underinvestment, resulting in the absence of modern technologies and machinery. Modern factories for the production of veneer furniture and solid timber furniture have been built in Trnava, Liptovský Hrádok (IKEA) and Malacky (SWEDWOOD). (Stulajter, 2005)

Following, the amount of roundwood removal, import, export in the Carpathian region.

Total production amounted to 7.869 thousand m³ in 2006 of which 4.785 thousand of m³ of coniferous. The total production consists in 4.060 thousand m³ of which 2.440 thousand m³ is sawnwood, 664 thousand m³ of wood based panels and 480 thousand m³ of wood residues.

Table 7.5: Wood removal, consumption, import, export in the Carpathian region

Carpathian Region	removal	production	import	export
Slovakia (thousand of m ³)	7.869	4.060	350	1.233

Source: UNECE TIMBER database, 1964-2006, as of July 2007

Table 7.6: Roundwood removal from 2002 to 2006

roundwood removal 1000 m ³	2002	2003	2004	2005	2006
Slovakia- Carpathian region	5.782	6.355	7.240	9.302	7.869

IMPORT/EXPORT

In 2006, exports amounted to 1.233 thousand m³ of timber. Private owners and tenurers contributed to these exports by 375 thousand m³, which split into types, represented 208 thousand m³ of conifer and 167 thousand m³ of broadleaf timber. The remaining volume – 858 thousand m³, was the volume exported by other organizations, commercial enterprises in particular. Forestry subjects last year exported less than a half (47%) of the volume sold in 2005. Commercial non-forest subjects, however, for the comparable period recorded only a 15% drop on the 2005 export figures. (Ministry of Agriculture, 2007)

Exports started to decline in 2000. The trend changed in 2005, when these climbed up to 1.815 thousand m³ as a result of timber salvage from the 2004 wind throw. In 2006, wood processors and commercial enterprises exported a total of 1.092 thousand m³ of conifer and 98 thousand m³ of broadleaf sawn timber. In the same period, forestry subjects sold only 2 thousand m³ of broadleaf sawn timber abroad. (Ministry of Agriculture, 2007)

7.6 RESEARCH IN FORESTS

There are several institutions that do research on forests in Slovakia. The Forest Research Institute Zvolen (FRI) with the research stations in Liptovský Hrádok, Gabčíkovo, Banská Štiavnica and Košice, as well as Research Station and Museum of State Forests of the Tatra National Park (RSM TANAP) operated in the sector of the Ministry of Agriculture of SR. In addition, the Faculty of Forestry of the Technical University in Zvolen (FF TU) and the Institute of Forest Ecology of the Slovak Academy of Sciences Zvolen (IFE SAS) work

in forestry research outside the agriculture sector. In 2005, 29 international and 83 national scientific and research project tasks were sold by the various subjects involved.

International co-operation is still developing on bilateral and direct collaboration at European level, for example within the COST projects. From the point of view of dissemination of scientific knowledge, there is important publication activity by researchers in domestic and foreign journals, as well as institutions' editing activity, with a total of over 770 published works in 2005.

Representatives of the above-mentioned institutions have presented their results at professional and scientific meetings organized in Slovakia and abroad. In 2005, the organizations held 48 scientific and professional events (conferences, seminars, and workshops). Some of these have a tradition of dealing with topical issues of forestry research (e.g. "Nursery practice" seminar in Liptovský Hrádok, "Forest protection" seminar in Banská Štiavnica, Financing Forests – Wood at the Technical University in Zvolen, Tree Species in Public Greenery – organizer Forest Ecology Institute of the Slovak Academy of Sciences, etc.).(Eurac, 2006)

THE FORESTRY RESEARCH INSTITUTE (FRI)

The FRI is located in Zvolen. It has programmes and archives on the following topics:

- seed research and nursery management;
- inventory;
- evaluation;
- policy;
- prognosis and conception of forestry planning and management;
- rationalization of technology procedures;
- the economics of reproduction and genetic engineering.

Forestry management plans and policy are derived from the principal forestry management goals:

- to analyse the state of the forest, its production and exploitation capabilities, natural, social, technical, environmental and economic problems of management;
- to monitor and evaluate the development of forests and to plan management so that the permanent continuous performance of all their functions is ensured, respecting the interests of both the public and forest owners.

The Forest Research Institute Zvolen has already worked out the second generation of methods for valuation of forest natural resources which is applied by the respective legal norm. Appointed judges and expert's institutes secure the forest valuation. The valuation method comprises procedures on determination of general value of forest soils, forest stands (standing volumes), public benefit forest functions and their derivatives.

Values of forest resources and public-benefit forest functions of both the state and non-state sector are determined annually. Education on valuation of natural forest resources and other assets is a part of academic educational and preparation of judges. For purposes of leasing of forest assets simulated market prices are used. Valuation of forest resources is used also for the purposes of determining the restitution compensations to forest owners and compensations due to legislative restrictions in forest management, for example nature conservation.

LESOPROJEKT ZVOLEN

The primary task of the Institute was working out of forest management plans (FMP). The staff of its 4 branch offices and their network of field offices met obligations related to planning activities. New FMPs were supplied for the total area of 189.5 thousand ha of forest or 171 forest user's units.

The Lesoprojekt Zvolen further provided services and the evidence base for Slovak forestry practice and research in the following areas:

- Forest planning (methodological support, guidelines for sustainable forest management, forest projections, innovation)
- Forest ecology survey
- Forest mapping (administration, review, publishing and storage of the national map set – forestry thematic layer including large-scale thematic mapping for FMP)

- Forestry statistics and applied forestry software (development and maintenance of the National Forestry Information System, the National Forestry Database, custom-made software packages)
- Forest certification
- Industry support and consultancy (analyses, case studies, forest appraisals, planning assessments, tailor-made projects, etc.)

The Institute employed 316 staff – 97 at the Lesoprojekt Headquarters in Zvolen and 219 at its branch offices.

THE INSTITUTE FOR TRAINING AND EDUCATION OF FORESTRY AND WATER MANAGEMENT STAFF

The Institute performed, on the basis of the contract with the Ministry of Agriculture of the Slovak Republic, activities aimed at education and training of the employees in the sector of forestry and water management, carried out training programmes in cooperation with foreign partners as well as fulfilled the assigned tasks in the field of secondary vocational education.

By the merging of these three organizations, a new National Forest Centre organization was established on 1 January 2006 with its seat in Zvolen.

7.7 EDUCATION IN FORESTRY AND PUBLIC RELATIONS

Education of a new generation in forestry is being ensured by the Faculty of Forestry of the Technical University in Zvolen, three Secondary Forestry Schools (SFS) Banská Štiavnica, Liptovský Hrádok, Prešov, and five Forestry Vocational Schools (FVS) Banská Štiavnica, Bijacovce, Modra Harmónia, Sigord and Tvrdošín.

Secondary forestry schools and vocational schools make the study more attractive by launching new branches of study, as well as within the framework of professional practice by cooperation with foreign countries (Germany, Poland, Ukraine).

The Institute for Education and Training of Forestry and Water Management Staff of the Slovak Republic (IETFWMS SR) has fulfilled an important task in further education by ensuring extension activity and expertise to owners of forest lands. In 2004, the Centre of Continual Education (CCE) was established as a general workplace of the Technical University in Zvolen, aimed at development and providing further education in compliance with professional orientation of the faculties at the Technical University in Zvolen. The Centre also prepares students for acquiring language certificates and IT skills, in addition to accredited courses by the Ministry of Education of the Slovak Republic.

Systematic work with the general public through the media, advertising and educational materials and various undertakings, encourages positive relations between the residents and the forest, forestry and foresters. It especially educates the young to relate positively to the environment.

In 2005, further years of undertakings were organized, such as “Deň stromu” (Tree’s Day), “Dni svätého Huberta” (Days of St. Hubert), “Levické poľovnícke dni” (Hunting Days in Levice), “Lesnícky deň” (Forestry Day), “Stromček pod stromček” (Tree for Christmas), “Zelený objektív” (Green Objective), “Deň zážitkov v lese” (Day of Experiences in Forest), “Lesy deťom” (Forests for Children), “Lesnícke detské hry” (Forestry Children Games), “Lignumexpo” and many others. The importance of these events is increasing.

The regularity and professional importance of these events between the important Slovak and regional cultural and social undertakings have achieved many admirers. Throughout the year foresters from the State Forests of the Tatra National Park, State Forests of the Slovak Republic, and some municipal forests have dedicated themselves to work with students of the elementary and secondary schools in the regions through activities of forest education.

Forest information offices and educational trails serve the general public, e.g.: Forest educational trail (Branch Enterprise Námestovo), Educational trail Danube’s floodplains (Branch Enterprise Palárikovo), Educational trail Abandoned Castle (Pustý hrad) (Forests of the Zvolen Town, Forestry Faculty of the Technical University in Zvolen).

Museums are the most attractive for the public. Just to mention the largest ones, the Museum of the Tatra National Park (TANAP), the Forestry Open Air Museum in Vydrovo and the Exhibition of Tatra’s Nature were

visited by more than 60000 visitors in 2005. The museums organize many cultural and educational events – lectures, discussions, lessons, competitions, guided tours of the town, film shows, evenings with literature and music, and exhibitions sometimes outside the museum premises.

Within the promotion of forestry, various discussions, excursions and competitions were organized for the general public (e.g. Forests and People, the Tatra Mts. after Windstorm, The Best Forester).

ACHIEVEMENTS AND OBSTACLES TO SUSTAINABLE FORESTRY IN THE CARPATHIAN REGION

ACHIEVEMENTS

Main achievements:

- The high percentage of nature monuments and nature reserves
- Three protected landscape areas
- The return of the wolf and brown bear
- Increase in timber reserves
- Modest increase recently in forest area in Slovakia
- As regards the monitoring of the state of health of the forests, carried out on the basis of defoliation rate, a considerable improvement has been registered since 1997. The overall improvement has been caused by a reduction in both domestic emission sources and in the long-range transboundary transfer of pollution from abroad.

OBSTACLES

Main obstacles:

1. **Restitution of private forest land unfinished** – 6% of forests are of unknown ownership, which cause management problems. The process of reinstatement of original ownership rights is still pending completion. The largest share of still unsettled ownership rights is in the category of small private forests (only 44% of these forests have been resolved). The completion of this process is impossible without prior elimination of regulatory, technical and economic barriers.
2. **Repayment of non-wood goods and services is not functioning.** The forestry sector provides many services to society and their values are not sufficiently recognized. This makes it difficult to maintain the competitiveness of the sector.
3. **Management of unnatural spruce stands is limited.** The forestry conversion programmes of the secondary unnatural forest stands containing mostly Norway Spruce are underway, but there are many limitations from the nature conservation field. The threat is based on climate change and the spread of bark beetle, so even the most protected areas of the spruce zones are threatened. The forestry sector needs to start active management measures to stop the expansion of spruce dying as was done successfully in the past, but contradictions in national legislation are limiting the practical application of these measures.
4. The unfavourable economic development of forestry – decrease of GDP and employment
5. The **lower quality** of products
6. The unfavourable development of the production capital factor accompanied by low investment rate, only partially balanced by some improving indicators (increase of area, improvement of age structure, positive development in wood stocks)
7. The planting of an unnatural composition of new forests after clear-cuts
8. The high percentage of clear-cuts
9. The high abundance of game
10. The low numbers of large predators
11. Lack of respect for the functions of forests in protected areas other than those relating to production
12. Forest property detriment removal after 1989 led to the gradual transition of forest state property to factual owners. This phenomenon, as well as the new market environment, has radically affected sustainable forestry practices. (EURAC, 2006)

7.8 PROJECTS

The Forest Project (Lesoprojekt) in Zvolen is in charge of forest surveying.

The Project's duties are as follows:

- implementation of ten-year, forest management plans, based on survey information. The analysis covers general information, the stand register, stand description and plan of management measures, overview tables and time schedules, forest maps, and is substantiated with documentation.
- creation of a summary on which to base forestry management plans;
- provision of expertise on surveying, evaluation of forests and reimbursement of losses;
- database monitoring of the state and development of forest resources;
- ensuring forest management plans are developed and established;
- coordinating the management of computer technology in forest management;
- provision of consultation on the application of forest management plans.

Activities undertaken within the Carpathian region

As regards the forestry aspects of the Carpathian Convention, there are a number of activities carried out by civil society organizations in the territory of the Carpathian region of Slovakia.

The forest protection association VLK (wolf) carries out a number of projects oriented towards the protection of forests and forest animals. It is also very active in regeneration activities after the disaster in the High Tatras. There are also several associations of forest landowners trying to protect their proprietary interests.

7.9 INTERNATIONAL COLLABORATION AND ITS ROLE IN THE DEVELOPMENT OF NATIONAL FOREST POLICY

Slovakia is involved in some international collaboration, in particular certain activities of the Institute of Forest Ecology of the Slovak Academy of Sciences in Zvolen, and possibly also by the Forestry Research Institute in Zvolen.

The SR and Slovak NGOs participated in the Trilateral Ramsar initiative, which also included forest management and forest practices. A Trilateral (Sk, A, CZ) Ramsar site will be adopted at the end of the year.

The cooperation of the Slovak forest sector with foreign partners has been gaining in momentum. International activities in the sector are managed by the following institutions:

MINISTRY OF AGRICULTURE OF SR

MA SR is responsible for the coordination, conceptual and management activities related to international cooperation in the sector. It oversees the formulation and implementation of foreign policy in the area of forestry consistent with the conception of official foreign policy of the Slovak Republic. In 2006, the Section of International Relations and the Forestry Section were jointly responsible for a broad range of international issues dealt with by the Ministry. MA SR cooperates on issues of international cooperation with a number of other sectors of national economy, most often with the Ministry of Foreign Affairs of SR.

NATIONAL FOREST CENTRE

In 2006, NFC coordinated a broad range of international activities directly related to scientific, research, educational, consulting, developmental and planning activities, some of which were tasks delegated by MA SR. The main projects included:

Collaboration with international organizations. In this area, NFC coordinated its activities with MA SR, the Section of International Relations. NFC experts regularly took part in sessions organized by UNECE, UN ESC, FAO, OECD, IUFRO, JRC, and MCPFE.

On 27–29 March 2006, NFC-FRI Zvolen hosted the international seminar “Policies on Assistance of Investment and Innovation in Rural Development.” The seminar was organised jointly with the MCPFE Liaison Unit in Warsaw and other national and international bodies and organizations.

Participation in COST actions that belong to one of the oldest instruments supporting cooperation among scientists and researchers across Europe. NFC staff took an active part in the following actions:

E42 Growing Valuable Broadleaved Tree Species;

E43 Harmonization of National Inventories in Europe: Techniques for Common Reporting;

E45 European Forest Externalities;

E51 Integrating Innovation and Development Policies for the Forest Sector;

E52 Evaluation of Genetic Resources of Beech for Sustainable Forestry.

Fostering official developmental assistance: NFC is currently an implementing agency for two developmental projects in Serbia: *Developing Capacities of the Private Sector for SM of Forests in Serbia and Strengthening of Skills and Infrastructure for Protection and Regeneration of Forests in Serbia.*

Other implemented projects: Equal – ways to enhance social inclusion and equal opportunities in the labour market in forestry; Leonardo da Vinci – forest education project.

7.10 FOREST CERTIFICATION

The Ministry of Agriculture of SR has decided to support the formation of a national certification system by the PEFC scheme (Pan-European Forest Certification). This system takes fully into consideration the more than 200-year long tradition and level of management of forests in Slovakia. In June 2002, the Forestry Section of the Ministry of Agriculture of SR appointed the preparatory working group co-ordinated by Lesoprojekt Zvolen to the task of building the national system of forest certification. A bearer of the system will be the Association of Certification of Forests in Slovakia originated in connection with it. It comprises the involved entities representing forest users, wood processors and other interested groups. In November 2002, the Plenary Assembly of the PEFC in Luxembourg accepted the Association of Certification of Forests in Slovakia as a regular member. At the same time, technical documents of the national certification system were prepared according to PEFC. In 2003, the documents were submitted for adoption to the Council of the PEFC in Luxembourg after approval by the Association of Certification of Forests in Slovakia and implementing of the pilot project. The pilot project of regional forest certification was launched in 2003 on the area of more than 70 thousand ha of forest land and refers to 29 individual forest users.

Representatives of the certification system of Forest Stewardship Council (FSC) have also pursued the activities within the certification of forests in Slovakia. They have performed certification of approximately 50 thousand ha of forests (Forests of SR – Branch Enterprise Prešov).

A further project within the framework of the FSC certification system started in 2003. It was the first project of group FSC certification on the area of forest land of approximately 27 thousand ha.

At present the biggest problem is non-participation of representatives of the Association of Wood Industry in the Association of Forests Certification in Slovakia and also no reimbursement of financial contributions to its activities. In the opinion of the representatives of the Association of Wood Industry the certification of raw timber and its products should be divided. They do not want forestry to share the certification of timber products.

The principal documents of the Slovak Forest Certification System as approved are: (Stulajter, 2005)

SFCS 1001:2004 Forest Management Certification: Certification System Description

SFCS 1002:2003: Criteria and Indicators of Sustainable Forest Management

SFCS 1003:2003: Guidelines for Forest Management Auditing

SFCS 1004:2003: Chain of Custody of Wood Verification Rules

SFCS 1005:2003: Requirements for Certification Bodies Conducting Forest Management Certification and Chain of Custody of Wood Verification

SFCS 1006:2003: Guidelines for the Participation of Individual Forest Owners/Users in Regional Certification

EN 45012:2000 General Requirements on the Bodies Conducting Quality System Assessment and Certification

The total forest area certified by PEFC until October 2007 is 537 120 ha (www.pefc.org) in the Carpathian region.

The following entities are certificated by FSC in the Carpathian region. The total area certified is 162.240 ha (FSC, 2008)

- Lesy SR, Odštepny závod P. Bystrica Považská Bystrica :30 529 ha
- Únia diecéznych Spišská Teplica: 19 989 ha
- Lesy SR, š.p. B. Bystrica, Odštepny závod Trenčín: 41 503 ha
- Lesy SR, š.p. B. Bystrica, Odštepny závod Prešov: 39 978 ha
- Mestské lesy v Bratislave: 3 022 ha
- Gemerské regionálne združenie vlastníkov nestatnych lesov Rožňava: 27 219 ha

7.11 SOURCES OF FUNDING

The main sources of funding for implementation of activities relate to sustainable management in the Carpathian Region in Slovakia are:

- The State Budget of the Slovak Republic - policy of subsidies for forestry and agriculture
- EU structural tools
- Phare – since 1990 Phare has been the primary financial assistance provided by the EU for the social and economic development of Slovakia
- SAPARD – financial assistance focused on promoting measures in the areas of agriculture and rural development. To fulfil the EU conditions for such funding, the National Plan for Rural Development in Slovakia was developed and approved in November 2000. The last payments for these projects had to be made by the end of 2006, i.e., in the case of incomplete projects the beneficiaries could apply for a payment by 30 September 2006 and controls can be carried out within five years (EURAC, 2006).

7.12 ILLEGAL LOGGING

According to Moravcik 2004 the amount of the illegally logged timber was less than 1% of the annual cut, which means approx. 60 000 m³.

Table 8.7: Amount of the illegally logged timber in the Carpathian region

	2000	2001	2002
Timber felling (tis. m³)	6 218	6 184	6 248
1% of timber felling (m³)	62 180	61 840	62 480
Timber theft (m³)	8 519	6 048	4 276
Other kinds of illegal logging	There no available data on total volume. Experts estimate that it does not exceed 50 000 m ³ annually.		

Source: Moravcik 2004

The estimate given is based on the data of forest management records. PFM submit total annual results of these statistics to the Forestry Information Centre of Lesoprojekt Zvolen for processing. The extent of timber theft by year (2000, 2001 and 2002), type of ownership (state, private, community, churches, cooperatives, municipal) and territorial-administrative units – counties in SR. The highest extent of timber theft was recorded in private and communal forests and in the regions with the highest proportion of these forests (Žilina and Prešov). We can observe an overall favourable trend in the reduction of timber theft from more than 8.5 thousand m³ in 2000 down to about 4.2 thousand m³ in 2002.

The SR is not involved in any bilateral or multilateral initiatives on FLEGT. Level of involvement of Slovakia in international initiatives on FLEGT and state policy from the point of view of reduction of illegal logging are assessed.

There is no specific official policy in this field. The valid documents of state forestry policy and in forestry legislation include measures aimed at the reduction or elimination of illegal logging in the SR. (Moravcik, 2004)

Preventing and reducing illegal logging in Slovakia are most influenced by application of these legal provisions and measures:

- Planned logging can only be done to the extent according to a valid forest management plan after its marking and on the basis of written consent issued by professional forest manager.
- Incidental logging has to be marked and notified to the respective organ of state forest administration in advance.
- Pursuant to law, the professional forest manager is responsible for correctness of marking and executing timber logging.
- Timber logged and assortments produced are marked by a hallmark that must contain following data:
 - Key number of forest user, timber buyer or of professional forest manager being assigned
 - by the organ of state forest administration,
 - Organizational unit of the forest user,
 - Kind of forest use (state, private, community, municipal, of churches),
 - The seat of the organ of state forest administration where the hallmark was registered.
 - Obligation of the timber carrier or timber buyer is to have the certificate of timber origin during timber transportation and processing. They are obliged on request by officers of the police, state forest administration or forest guard to attest to this certificate.
- Obligation of the forest user is to ensure proper performance of protection service in forests via the forest guard appointed by the organ of state forest administration.
- Obligation of state forest administration is to carry out permanent supervision over observance of the provisions of generally binding legal norms on forestry. In the case of offences or administrative wrongdoings these organs are entitled to impose fines.
- Obligation of the forest user is to keep records on volume of stolen timber and through the total annual results to submit these data to Forestry Information Centre for processing and archiving.

Illegal timber logging by private forest owners occurred mainly at the beginning of the restitution process – giving back ownership and usage rights to the original owners in the first half of the 1990s. The reduction in illegal logging at that time was mainly due to the legislative amendment of the Act on forest management and state forest administration in 1995, when obligatory marking of logged timber was adopted. However the situation has changed and from the beginning of restitution applications for 87% of required area have been positively settled.

Export of illegally cut timber from Slovakia is impossible in practice. The export timber customs declaration must include timber origin; timber has to be marked by the producer's hallmark or hallmark of the wood processing company. Origin of timber and locality where it was logged must be also given in the health certificate. However there is no mechanism for discovering an import of illegally logged wood or wood products. The volume exported and imported of illegally-sourced wood as a percentage of total wood exports is less than 5% (UNECE, 2004)

7.13 NON WOOD FOREST PRODUCTS

Anyone can enter the forest land and the forest stands (state and private forests) and collect for his private need berries, mushrooms, brushwood etc. without damaging the forest environment (Forest Act, 1993). The right of entry to forests and collection of berries is, however, prohibited by the Act on Nature and Landscape Protection (2002) in forest areas, which are considered as important for nature conservation (UNECE, 2004).

The national reporting table contains either 5-year averages or estimates for the same periods. Estimates and extrapolations were used when data were deficient or did not refer to the required period.

Table 8.8: Non wood forest products in the Carpathian region

FRA 2005 categories	Unit	NWFP removals		
		1990	2000	2005
Plant products/Raw materials				
Food	Tonnes	1,267	1,162	1,155
Fodder	Tonnes	120	130	140
Raw material for medicine and aromatic products	Tonnes	180	150	160
Raw material for colorants and dyes	Tonnes	-	-	-
Raw material for utensils, crafts & construction	Tonnes	15	10	10
Ornamental plants	Tonnes	277	255	255
Exudates	Tonnes	-	-	-
Other plant products	Tonnes	-	-	-
Animal products/Raw material				
Live animals	Units	10,2	11,2	10,2
Hides, skins and trophies	Units	23,07	22,04	22,47
Wild honey and beeswax	Tonnes	-	-	-
Bush meat	Tonnes	1,314	1,255	1,688
Raw material for medicine	Tonnes	-	-	-
Raw material for colorants	Tonnes	-	-	-
Other edible animal products	Tonnes	-	-	-
Other non-edible animal products	Tonnes	-	-	-

Data source: FAO, Global Forest Resources Assessment 2005.

The table shows that the quantity of non wood forest products in Slovakia decreased in the last decade in the majority of cases. There is an increase in removals of bush meat and fodder.

7.14 TOURISM IN THE CARPATHIAN REGION

The natural beauty and diversity of the Slovak landscape makes it an attractive tourist destination. Slovakia is rich in historic towns, castles, folk culture, mountains and forests protected in nine national parks, marvellous caves, ski resorts and spas that attract millions of tourists every year. To find out more refer to www.spa-slovakia.com, www.sunflowers.sk, www.slovakia.com or www.swim.sk. There are five UNESCO World Heritage sites in the country (see www.whc.unesco.org). **The High and Low Tatras** (see www.tatry.sk, www.tatry.org, www.tanap.sk), the Slovensky Raj (see www.slovenskyraj.sk) and the **Malá Fatra** are mountain paradises for skiers (see www.ski.sk), hikers and vacationers.

Associated tourist services are prime targets for expansion and investment. Additional information is available on the

Slovak Tourist Board website www.sacr.sk. The websites www.lexikon.sk or www.slovensko.com can also be used as travel guides to Slovakia.

THE CASE OF THE TRANSBOUNDARY PROTECTED AREA

The Tatra Mountains are the highest point in the Carpathian mountain chain, which stretches from Slovakia to Romania, and covers parts of Ukraine, Hungary and Poland. The transboundary protected area, which is also a United Nations Educational, Scientific and Cultural Organization (UNESCO) biosphere reserve, includes two existing national parks on each side of the boundary between Poland and Slovakia; both of these include a variety of strict nature reserves and the biosphere reserve also includes buffer zones and transition areas. The area has over 300 named peaks but there are no glaciers or permanent snowfields.

There are also over 500 discovered caves, with individual caves up to 20 km in length.

Roughly 5 million people a year visit the larger Slovak part of the biosphere reserve. Walking and skiing in winter are important activities and there are a cluster of tourist resorts and hotels in the lower areas on both sides of the border. There are for example over 600 km of hiking trails on the Slovak side of the protected area. (UICN)

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8. UKRAINE

FOREST POLICY AND SOCIO ECONOMIC STRUCTURE

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FOREST POLICY AND SOCIO ECONOMIC STRUCTURE

8.1 HISTORICAL ISSUES IN FOREST POLICY

Until 1917, Ukraine was divided between Russia and Austro-Hungarian Empires. After the revolution in 1917 and civil war, Ukraine was proclaimed by the Soviet socialist republic, and in December 30, 1922, became the part of the USSR. (Buksha b, 2004)

The main aspects that influenced forest management are presented in the following section.

- For over a century till 1917 forest management was based on private ownership and an exploitation approach to forests (70% of Ukrainian forests were in private ownership). That caused a 40% decrease in the total forest area in the plain territory of Ukraine. High quality oak and pine forests have almost disappeared.

As a result of deforestation:

- accelerated soil erosion destroyed a large part of all Ukrainian chernozem and fertile lands;
- large rivers became shallow and small ones dried up;
- shifting sands, dust storms, drought and other natural hazards caused starvation in Steppe and Forest Steppe Regions.

- Since 1918, when Ukrainian forests were nationalized, forest management has been based on the state ownership of forests on one hand, and on the market economy on the other.

- At the beginning of 1930, the forest sector was consolidated with forest industry, in other words, it was put under the authority of forest industry. The major harvesting enterprises received a remission of payment for wood, and started to harvest timber as consumers demanded. Foresters, who actively protected interests of the state, were repressed.

Over the next 30 years, forests were managed with the main objective to supply timber. Industrialization, collectivization, war and reconstruction demanded timber that was harvested as required.

At that time Ukraine had no state organization responsible for forest management. These functions were performed by some departments in state bodies of industry or agriculture management. With that, subordination of the forest sector and administrative structure changed every 2-3 years. As a result, apart from a negative impact the management had on forest health, it reduced territories of forests available for wood supply in Ukrainian plain territory. The Ukrainian demand for timber was satisfied by wood imported from Russia and Belarus.

- In 1966, when the government realized that forest potential was reduced and required regeneration, it founded the Ministry of Forest Management, which was responsible for reforestation, afforestation of degraded agricultural land and sustainable forest management. Four decades of planned, professional, and relatively sustainable forest management brought positive results. The total forest cover increased 2,3 million ha, the total growing stock more than doubled, mainly in valuable tree species. Almost all the shifting sands were fixed, field protective belts were planted to protect large areas of fields, and forests prevented erosion in ravines.

In 1994 the Ukrainian Parliament adopted the Forest Code of Ukraine, developed by the State Forestry Committee, according to the Code all Ukrainian forests are state owned. A number of important factors caused the adoption of the Code: long duration of forests growth, prevalence of ecological significance over industrial, necessity for forest conservation and sustainable management, which is of primary importance not only for the present but for future generations, and deficiency of legislative and ecological base of forest utilization, established on the principles of an exploitation approach to forests and nature on the whole. The State Program "Forests of Ukraine" provides the extension of forest areas over almost 600,000 ha of farmland with low fertility, which phases out the intensive agriculture use. The majority of these will be forest amelioration

according to the functional characteristics. It is necessary to take into consideration the world trends in estate afforestation development.

- Today the State Committee of Forestry and forest enterprises are acting to conserve forests and enhance forest productivity, to improve the state forest service and prevent the development of the exploitation approach to forests. Forest enterprises have a lot of social issues to consider. The enterprises are usually located in small settlements and villages where they provide employment for local people.

The professionals working in the forest sector continue to provide appropriate management in forests under the State Committee of Forestry.

- In three Carpathian Regions local authorities, supported by the President of Ukraine (Resolution N142 24.02.95), put forward an initiative to hand over the forests of former Transcarpathia, Ivano-Frankivsk and Chernovtsy forest complexes to the State Committee of Forestry (<http://dkg.kmu.gov.ua>).

8.2 ORGANISATIONAL AND INSTITUTIONAL STRUCTURE

STRUCTURE OF THE PUBLIC ADMINISTRATION

Ukrainian forests are given for permanent use to forest enterprises which are under the responsibility of different state organizations: **State Committee of Forestry, Cabinet of Ministers of Ukraine, Ministry of Agricultural Policy, Ministry of Defence, Ministry of Emergencies, Ministry of Environment Protection, and others.**

The adoption of forestry policy and legislation lies with the Supreme Council of Ukraine (Verhovna Rada). This authority defines forest policy, adopts laws connected to forestry, approves programs related to protection and restoration of forests. But Parliament is not in charge of the forest fund of Ukraine. Competence of the state and self-government authorities on forest use, protection and renewal is defined in the Forest Code.

The regional and local councils carry out these functions at their own level.

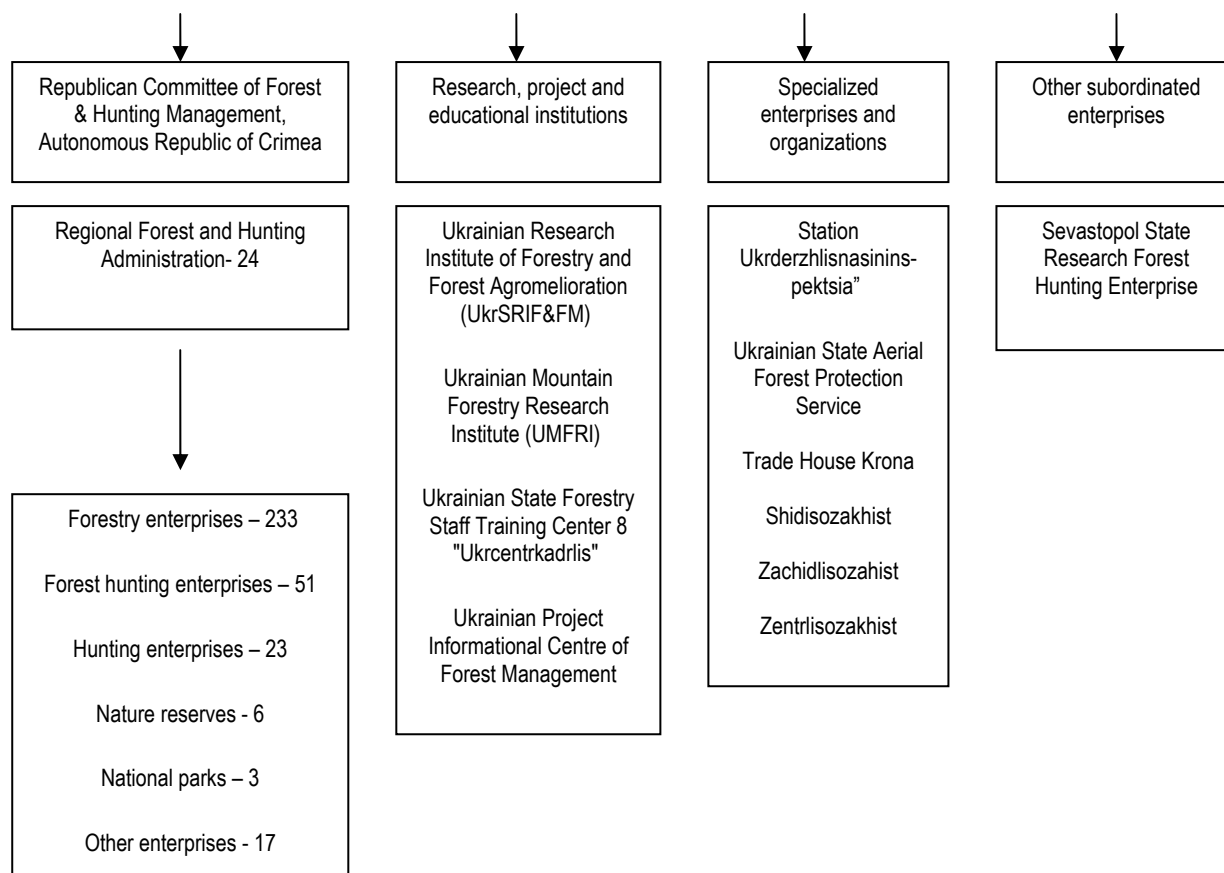
National level

State Forest Committee is the main state authority in forestry which performs normative, control, support functions for all Ukrainian forest and the function of permanent user of 68% of Ukrainian forest.

Its competence includes: the formulation and enforcement of national forest policy, the state management and control of forestry activities in all forests, the execution of uniform technical policy, and the introduction of modern scientific knowledge, technologies and best practices; the drawing up of the state forest cadastre and forest register; the development of norms and regulations for the use, protection and renewal of forests; the co-ordination of the activities of scientific research institutions; the development and organization of the implementation of state and regional programmes for the use and protection of forests, the improvement of forest productivity, and their rational use etc; and international co-operation in the field of forestry etc.

Figure 8.1: The structure of the State Forestry Committee

STATE FORESTRY COMMITTEE



The general regulating authority is the **Cabinet of Ministers of Ukraine** which transfers all forests apart from forest assigned for defence to SFC responsibility. In particular, it coordinates and controls the activity of ministries and other executive authorities on forest use, protection and renewal; only approved normative acts which are prepared by the State Forestry Committee.

The Ministry of Environmental Protection executes general co-ordination competence: it establishes the norms for forest use, approves forest-use limits, approves the procedure and rules for the use, protection and renewal of forest resources (developed by the State Forestry Committee of Ukraine), conducts state environmental expertise of the projects of forestry enterprises, executes state environmental monitoring, and in certain cases approves cutting in the forests of nature protection areas.

Regional level

At regional level it is adopting program of regional forestry development. The *oblast* councils are responsible for granting the land plots of forest funds outside the borders of settlements within their competence for temporary use, for executing control over forest use, protection and renewal, and for defining the protection categories of forests. Responsibility for the allocation of forest fund lands within the settlements lies with the corresponding local councils.

The State Forestry Committee at regional level it is represented by the *oblast* forestry administrations.

NGO's IN CARPATHIAN REGIONS

In some regions (for example in Zakarpattia) NGOs actively co-operate with the state forest administration on issues such as forest certification, the assessment of the state of protected territories and the development of

recommendations for the improvement of their state, the mapping of virgin forests, and the preparation of proposals for the establishment of the environmental network. The most active among them are the NGOs "Nash Dim" ("Our Home"), "Nasha Hata" ("Our House"), and Ecosphere.

Some organizations (the Bureau of Environmental Investigations, WETI, Ecopravo-Lviv) deal with the problem of illegal cutting in the Carpathian region, and with the negative impact of forest use on ecosystems, by providing legal support to the local population in dealing with these issues, initiating legal cases and campaigns, and increasing public awareness on issues of forest conservation through their own publications and the mass media (eurac, 2006).

Other NGOs working in the Carpathians (http://www.rec.hu/tisza/pr_Uk.html)

- "Alexanor" (biodiversity, environmental actions, etc.), Uzhgorod
- "Carpathian Agency for Regional Development" (sustainable development of mountainous settlements, etc.), Rakhiv
- Environmental Club "Carpathians" (environmental monitoring, education, etc.), Rakhiv
- "Eco-Ex" (environmental actions, education, etc.), Uzhgorod – Contact: Oleksandr Herevych
- EcoCentre "Tysa", Uzhgorod (Western Branch of the National Ecological Centre of Ukraine)
- Environmental Club "Edelweiss", Uzhgorod

8.3 FORESTRY LEGISLATION

Forestry in Ukraine is regulated by the following Act:

- **The Forest Code of Ukraine**, adopted by the Law of Ukraine of 21.01.1994 № 3852-XII and 2006.

This is the main law in the field of forestry. It regulates relations for ensuring the increase, protection and renewal of forest productivity, the increase in their valuable characteristics, and satisfaction of the needs of society in terms of forest resources on the basis of scientifically-grounded rational use. It defines procedures for forest use, protection and allocation, and the competences of the state authorities. The Code does not effectively incorporate forest protection and conservation concerns.

Several alternative versions of the Forest Code were developed, prepared by the State Forestry Committee and by a group of scientists in Ukrainian State University of Forestry (Synyakevych et al., 2002), but finally in **2006** a new document was adopted based on the old version and policies, and only a few changes were introduced. According to the new law not only agricultural land, but also forest now can be in state, private or communal hands. Only citizens of Ukraine can hold forest in private property. This should be forest plots no bigger than 5 ha on a private property. The area of plots inherited by legal succession is not limited to 5 ha. A forest permit (special permission) is required to make cuts or other uses of resources in forests of all forms of ownership. Holding of publicly owned forest land under lease is more strictly regulated now too. Forest plots bigger than one ha can be leased for temporary use only by special governmental decision (Soloviy, 2005).

Main changes reduced to the following:

- Three categories of forest property are recognized – state, communal and private.
- The definition of "forest" was changed
- The role of the State in regulation of forest management is emphasized
- Rights for disposal of forest land was changed from local to *oblast* administration
- Division of forests into target groups was simplified
- Some small changes are introduced into the articles regulating the responsibility of forest management and silviculture
- Many provisions regulating practical aspects of forest management are included in by-laws. (Poliakova, 2006)

- **Concept of Forestry Reform and Developing** of 18.04.2006 approved by Cabinet Ministers.

This provides for: enlarging the forest area, conserving the biodiversity and sustainable utilization of forest resources, forming a transparent wood market by selling wood through auctions and tenders on a competitive

basis, improving the economic and financial system and inviting contractors to provide forestry activities on a competitive basis, promoting the creation of new jobs.

- **Ukrainian Law on the Nature Reserve Fund of Ukraine** of 16.06.1992 № 2456-XII.

This is the main special legal act on the protection and conservation of nature protection areas. It sets out the classification, legal status and regime of nature protection areas and their zones, and defines the main competent authorities and their responsibilities, the rights and responsibilities of the public (citizens and NGOs) and business units, as well as scientific research and funding.

The law lacks clear procedures for the establishment of nature protection areas and for the withdrawal (change of limits or category) of land from the areas, which leaves room for manipulation of lands. With respect to the change of land category, it often contradicts the provisions of the Land Code. There are also contradictions between this Law and the Forestry Code on forest management on the territory of nature protection areas – the Law on the Nature Reserve Fund prohibits certain activities (sanitary cuts) on the territory of the natural reserves, the core protection zones of biosphere reserves and national natural parks, while the Forestry Code, on the contrary, imposes an obligation to carry out such measures. The current version of the Forestry Code is in general quite anti-conservation – in particular it requires the primary cutting of old trees that provide habitats for various species.

- **Ukrainian Law on the Moratorium on Clear Cuts on Mountain Slopes in the Beech- Fir Forests of the Carpathian Region** of 10.02.2000 N1436-III.

The Law lays down a moratorium on clear cuts on mountain slopes in the beech-fir forests, final felling in high mountain forests, in forests of basins at risk of avalanche and sills, and in coastal-protection forests in the Ukrainian Carpathian region. It also sets the goal of increasing forest territory:

- to 20% for nature protection areas, and
- to 15% for sanitary-hygienic and sanitation forests network (forests around them human settlements and around water supply facilities etc.) in the Carpathian region.

- **The new Land Code of Ukraine**, approved by the Ukrainian Parliament in October 2001; private land ownership was legally enabled in this code.

Parliamentary adoption of the new Land Code caused the necessity to change the Forest Code of Ukraine (1994). According to the Land Code, the forest plots with an area of less than 5 ha can become private and private forests can be planted on private non-fertile lands. This:

- has established a legal basis for private land property
- provides equality of state, municipal and private property on forests
- forest plots of less than 5 ha which are located on private lands can gain private status
- private forests can be planted on the former agricultural lands which are no longer used for farming

- **Ukrainian Law on the Ecological Network of Ukraine of 24.06.2004 N1864-IV**. The Law regulates the establishment, conservation and rational, non-exhaustive use of the ecological network. It defines the competent authorities and the measures in support of implementation (including funding).

- The **State Programme on the Establishment of the Ukrainian National Ecological Network for 2000-2015**, adopted by the Law of Ukraine of 21.09.2000 №1989-III.

This Programme has been developed according to the requirements for the further development and improvement of the environmental legislation of Ukraine and in accordance with the recommendations of the Pan-European Biological and Landscape Diversity Strategy regarding the establishment of the European ecological network.

The Programme states as its aim to increase the territory of natural landscapes to a level required for the conservation of their diversity close to their natural state, and to establish a uniform territorial system to protect natural migration routes and the spreading of species of plants and animals, which would ensure the

conservation of natural ecosystems, and of animal and plant species and their populations, and comply with the requirements of the Pan-European Biological and Landscape Diversity Strategy (1995). The Programme also promotes the balanced and non-exhaustive use of biological resources in economic activities.

The expansion of the ecological network is anticipated through the transfer of lands from one category to another, restricting the use of natural resources. However, such restrictions are not accompanied by compensation to land users (in practice). Therefore, the expansion of an ecological network causes concern among land users.

The **State Programme “Forests of Ukraine” for 2002-2015**, adopted by the Regulation of the Cabinet of Ministers of Ukraine of 29.04.2002 N581 The Programme defines the main directions and funding sources for balanced forestry development, aimed at strengthening the environmental, social and economic functions of forests within the new conditions created by the agricultural reform and the adoption of new land legislation. The Programme sets out the main objectives of the forestry activities of the main forest users – the State Forestry Committee, the Ministry of Agricultural Policy, the Ministry of Environmental Protection, the Ministry of Defence, and the Ministry of Emergency. Ensuring sustainable forestry development based on a scientific grounding is declared as one of the objectives of the Programme.

The main defined directions of forestry in the mountain areas are: the change from derivative fir in the beech and oak forests to native species; the establishment and renewal of protective tree-bush groups on the upper level of the forest belt; the establishment of protective forests along small rivers; the development of highly effective anti-erosion areas of forestation on steep slopes and stone sills; improvement of the cutting system by increasing gradual and selective cuts and nature-conservation logging techniques, rather than clear cuts; the development of a forest roads network (anticipated to increase the network of hard-paved tracks up to 10km on 1,000 ha by 2020).

LEGISLATIVE FRAMEWORK OF FOREST RESOURCES MANAGEMENT IN THE MOUNTAIN FORESTS OF UKRAINE

The main legislative acts regulating mountain forest resources management are the following:

- Regulations of main felling in the forests of Ukraine (1995)
- Removal of timber in the forests of Ukraine (1995)
- Regulations of forest resources management and cutting (1996)

The main requirements for mountain forest cutting have also been formulated in these documents. Forestry cutting should have a minimum negative impact on trees, soil, water reservoirs and nature:

- on steep slopes a skyline carriage with a fully-suspended (and semi-suspended) load of logs should be used in tandem with horse logging. The logging of trees with crowns is prohibited in mountain forests;
- in areas with viable undergrowth, trees should be cut when there is snow. After cutting, the territory with damaged soil should not exceed 15%.

The normative documents in force are not perfect. They have some defects. They allow to clear-cut and to extract by crawler tractors in the periods without snow, which destroys the environment and decreases forest productivity. There is no efficient control system, nor a system of sanctions against violations.

On these slopes, only selective, gradual and stripped-coupe felling are allowed in territories of 3–5 ha (forests of the first group). The width of stripped-coupe cutting must not exceed 50 m. Forests should be cut only across, reducing the risk of soil erosion. Horizontal distribution of cutting plots complicates the felling and doubles costs. (Sabadyr, 2001).

As of the beginning of this year (the same as with forest groups) Ukraine has adopted new rules for forest restoration, formation, forest health rehabilitation and designated forest uses. This resulted in a change of activities conducted in forests.

PRINCIPLES REFLECTED BY THE POLICIES

Table 8.1: Integration of the twelve principles of art.7 of the Carpathian Convention into the formal forestry policies (Eurac,2006)

Principles	Y/N
Sustainable management of forest resources and forest lands	Yes
Protection of forests against pollution	Yes
Prevention and protection against fire, pests and diseases	Yes
Public information on forest ecosystems	No
Public participation in development, implementation and planning of national forest policies	Yes
Recognition of vital role of forests in maintaining the ecological processes and balance	Yes
Afforestation and reforestation	Yes
Assessments of economic and non-economic values of forest goods and services	Yes
Protection of natural forest areas	Yes
Protection of ecologically representative or unique types of forests	Yes
Consideration of alternative uses of forests	yes
Ensure appropriate retention of precipitation in the mountains for flood prevention	Yes

The Cabinet of Ministries has approved following normative acts as required by the Forest Code: rules of forest regeneration; order of forest resources utilization, order of giving permission for forest resources utilization, order of dividing forest by target use and creation especially protection plots, rules for improvement of quality of forest stands, order of state forest cadastre and forest inventory system.

Alternative uses of forests in the Ukrainian Carpathians are very widespread: tourism, recreation, berries, plants, honey and mushroom gathering, hunting and so on. And all of these are reflected in the normative documents. The Forest Code considers questions of use forests with tourism, sanitation and providing scientific work.

8.4 FOREST OWNERSHIP STRUCTURE

The Ukraine is a country in transition from a communist, command-and-control economy to a market economy, but the transition is extremely slow and even seems to have stalled (The Economist, 1999a).

In compliance with the new Land Code adopted in 2001, three types of property was declared in Ukraine: state, communal and private. Land plots up to 5 ha on farming lands may be transferred to private property. Besides this, legal and physical persons have the right to purchase land plots of abandoned and degraded lands for the purpose of forestation. Communal property should include the forest stands within the boundaries of settlements, other than those of the state or private property, as well as beyond the boundaries of the settlements on the objects of communal property. However, a procedure for demarcation of the lands has not yet been determined. State forest area is given for permanent use to different Ministries and agencies. Almost 0.8 million ha are not given for permanent use and located on areas of reserve fund. These forests are not in a good condition because of the absence of thinning, protection against fires, pests and diseases, illegal logging. (FAO, 2007)

In most CEE countries restitution of forest properties was one of the main issues in forest policy reforming, not in the Ukraine.

There are two reasons for this: first, because of different historical developments of Western and Eastern Ukraine. In the Western Region, which was consolidated with the Soviet Union in 1939, restitution was quite possible, because of the ability to find information about former owners before the Second World War and the borders of their forests. Some people in rural areas of the Carpathian Mountains still remember their former forest properties. Historical developments, such as nationalization of private properties in the central, southern and eastern regions of Ukraine, which were part of the Soviet Union since the 1920s, prevents the process of restitution, as former owners cannot be determined. Another reason preventing restitution was a pervasive fear that forests would be destroyed immediately if privatized. The Ukraine has virtually lost the historical experience of private forest management. This capacity will not only require legislative changes, but also renewing human resource capabilities and adapting forest institutions to changing circumstances (Solovij, 2005).

The main issues of the transition process of the forest and forest products sector to a market economy during the last years (2001-2004) in Ukraine according to Buksha (2004) were following:

- Transition from command to market economy for forest enterprises.
- Decreasing of state budget financing for forestry sector.
- Non conformance of national forest legislation to socio-economic and market transformations.
- Reduced wood-processing sector, and sharp reduction in consumer demand on the domestic wood market.
- Timber harvest decreases and simultaneous increases in the growing stock (use of the increment is 30-40%).
- Discrepancy of forest management information systems to modern requirements.
- Large increase in volume of wood exported.
- Radioactive contamination of forests.

FOREST OWNERSHIP STRUCTURE

In the Ukraine state forest ownership still prevails. The same situation exists in Belarus, Bulgaria, Georgia, Moldova, and the Russian Federation, where all the forest area is in public hands.

In 2007, almost all the forest area of Ukraine is in state ownership and directed at use by different forest-using businesses. Almost 98% of the forest lands are under the use of state forest enterprises; around 2% are community property and only 0.1% of forests are private property (table 2). State forestry bodies are responsible for the control of forest conditions in Ukraine. (Solovij, 2005)

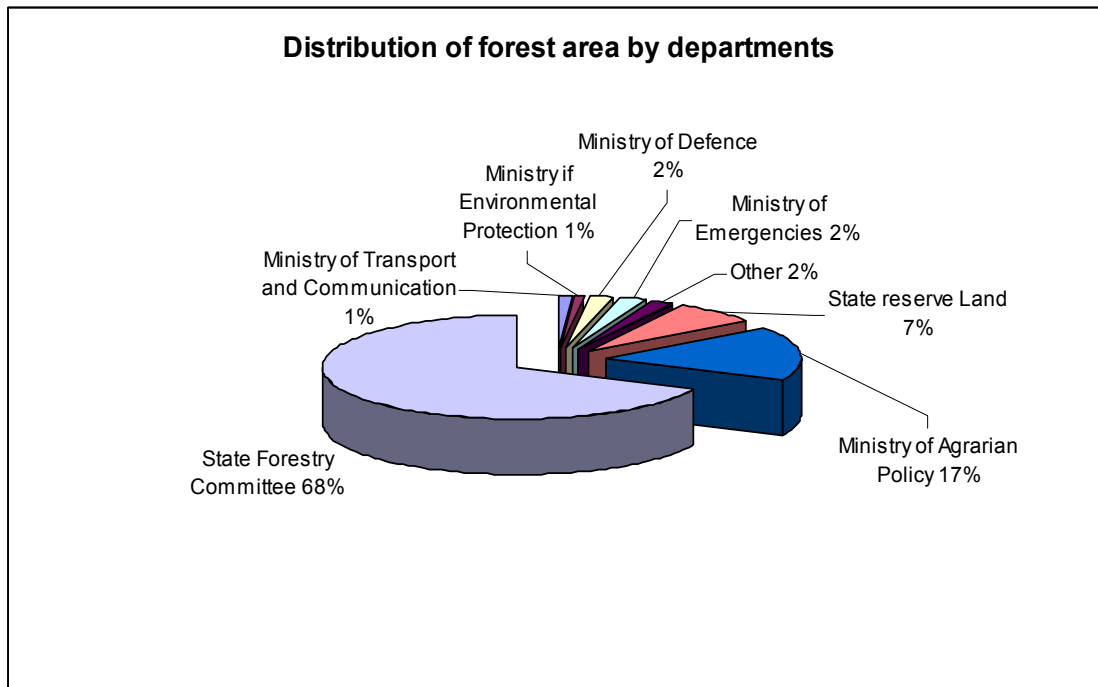
Table 8.2: Forest ownership patterns 2007

Owner	% of total forest
State forest	98
Community (*)	2
Private individual	< 0.1

(*)Community Forests in the above table is forest property owned by cities, towns, other settlements

No data are available on forest ownership related to the Carpathian Region, but surely the forests of the Carpathian region are owned by the state.

Figure 8.2: The national distribution of forest area by departments



Source: State Forestry Committee, 2007

Communal property should include the forest stands within the boundaries of settlements, other than those that are state or private property as well as beyond the boundaries of the settlements on the objects of communal property. However, a procedure for demarcation of the lands has not yet been determined. Competence for forestry is divided among many different authorities, which lack co-ordination. For example generally in Ukraine 68% of the lands of the forest fund belong to the State Forestry Committee, 17% to the Ministry of Agricultural Policy, 7% to the State reserve land, 2% to the Ministry of Defence and 2% to the Ministry of Emergency, 1% to the Ministry of Environmental Protection, and the other 2% to other forest users. (State Forestry Committee, 2007)

PERMANENT USE OF FORESTS

All forests of Ukraine, with the exception of the forests that are in municipal or private ownership shall be owned by the state. (<http://zakon1.rada.gov.ua>). The forests within the boundaries of populated areas, except for the forests owned by the state or privately owned, shall be owned municipally (Law, 2006).

Forests of Ukraine can be privately owned. Citizens and legal entities of Ukraine shall be the subjects of the private ownership right for forests.

The law stipulates that use of forests is performed in accordance with the procedure of permanent or temporary use of forests. According to the Law, the forests are granted into permanent use on the basis of decisions of executive power bodies or local self-government bodies.

All forests in state, municipal or private ownership can be the object of temporary use. Temporary use can be: long-term – for a term from one to fifty years and short-term – for a term of up to one year.

The reasons for terminating the right for permanent use of forests include:

- termination of the right to use a forest land plot in cases and in accordance with the procedure established by the law;
- use of land resources using methods that inflict damage on the natural environment;
- using forests not for their target purpose.

8.5 THE FORESTRY SECTOR IN THE NATIONAL ECONOMY

The contribution of forestry to Ukraine's Gross National Product is not significant (0.4% in 2007).

Allowable cut is calculated in the course of forest management planning which takes place every 10 years.

Under the planned economy of the former USSR, trade of wood and other forest products in Ukraine were centralized. The Ministry of Forestry and Ministry of Wood Industry planned volumes of future wood supply for jurisdictional enterprises and submitted them to the central state scheduled bodies. They developed plans of forest resources supply, and according to these plans, state enterprises entered contracts and supplied products to consumers in Ukraine. Firewood and other less important forest resources were distributed approximately in the same order at regional and local levels. Export operations from Ukraine were carried out through the all-Union export organization "Exportlis". Quotas on exports of wood materials were established by the governmental bodies of Ukraine.

The centralized export deliveries are carried out by the state enterprise "Crona", which was created on the basis of the state producing-marketing association "Dybrova". Also, state forestry enterprises independently entered contracts for exports of wood production. The Commission of Foreign Economic Relations of the State Forestry Committee of Ukraine coordinated this activity. (Buksha, 2003)

CADASTRE

Nowadays in Ukraine there are methodological techniques of economic estimation of forests, forest plantations, non-wood products, fauna, ecological and social functions of forests. Forest cadastre is being developed for ecological and economical evaluation of forest resources.

A cadastre evaluation of forest types for the plain territory of Ukraine and for the Carpathians has already been developed. The regional cadastre may be used as a basis for ecological resource evaluation of forests and forest covered territories. Now only wood products are estimated from an economic point of view.

EMPLOYMENT

The number of people working in SFC enterprises in 4 Carpathian regions in September this year is 15.164. There is a tendency for a decreasing number of people working in forestry.

TIMBER MARKET

All state forest enterprises are independent entities and, until 2007, had the right to sell round wood and forest products on the domestic market and for export. However, their activity was coordinated both at the regional (*oblast*) level and at the level of the SCF. Control implied estimation of a level of prices and conditions of the export contracts. In 2005, auction sales of high-quality wood were introduced in Ukraine. From March 2007, by order of SFC all volume of roundwood timber harvested by all permanent users (with exceptions only for firewood and wood for construction) should be sold through auctions. These auctions should be held quarterly in each regional centre. Participation in these auctions can be by enterprises which have their own wood processing facilities. In case where roundwood timber is not sold the permanent user has a right to sell it by direct contract at a price which is not below the price at the last auction. The main exported products are roundwood and board, in imports fibreboard and chipboard.

The national supply of wood amounted to 15 246 thousand m³ in 2006. Total production amounted to 4 645 thousand m³ in the same year, of which 2 192 thousand m³ was of sawn wood and 1662 thousand m³ of wood based panels as presented in the following table.

Table 8.3: Wood removal, production, import, export at national level

1000m3	removal	production	export	import
Ukraine	15246	4645	4412	886

Source: UNECE TIMBER database, 1964-2006, as of July 2007.

Following, from an elaboration of the UNECE Trade and Timber Division DB 2007(in annex), made by DITESAF University of Padova, the amount of rowndwood removal of the Carpathian region in the last years.

Table 8.4: Estimation of Carpathian region of roundwood removal from 2002 to 2006

roundwood removal 1000 m ³	2002	2003	2004	2005	2006
Ukraine- Carpathian region	2.047	2.292	2.477	2.434	2.541

From interviews the data collected concerning the total amount of wood harvested in 2006, in the 4 Carpathian regions, was 4.350 thousand m³.

TIMBER INDUSTRY

The Ukraine timber industry went through a deep crisis in the mid-1990s due to privatization of basic facilities and the bankruptcy of many enterprises that followed. Its further development is characterized by the appearance of a large number of petty private enterprises and entrepreneurs that specialize in sawmilling, and by the creation of a number of large and medium-sized foreign enterprises and joint ventures for timber processing.

In the 1990s the wood (wood-working and pulp-and-paper) industry suffered a deep crisis caused by the reforming of the state administration (Ministry of Wood Industry of Ukraine), ownership changes, lost supplies of cheap timber and traditional sales markets, skyrocketing prices for energy resources and inflation, as well as a lack of necessary investments.

Investment flow to the industry made it possible to improve these negative tendencies. Starting from 2000, production of commodities and providing of services started to grow steadily. Domestic and foreign investments and proceeds from export are among major financing sources.

Around 100 societies working in the field of wood (production, trade...) and forest management are present in the Carpathian regions(<http://www.fordaq.com>).

IMPORT /EXPORT

At national level, concerning all assortments, i.e. the total wood supply, in 2006, 4 412 thousand m³ were exported, of which 2 700 thousand m³ was round wood, and 886 thousand m³ were imported, of which 662 thousand m³ was wood based panels (Unece, 2007). Concerning the Carpathian forested area the quantity of wood exported and imported was estimated as 450 m³ and 29 m³ respectively.

Between 1985 and 1990, total wood consumption in Ukraine was 40 million m³ annually. The majority of wood was imported from Belarus and Russia. About 60% of finished wood products have been used internally, 30% has gone to other countries of the Former Soviet Union (FSU), and 10% to foreign export (Nilsson and Shvidenko, 1999). After Ukraine became independent commercial logging decreased during 1995-97, but then gradually increased. However wood production exports have increased recently. The demand for timber on the domestic market has dropped substantially due to a general economic crisis, forcing the forest enterprises to focus on new international markets. From 1998 to 2000, the total value of Ukrainian wood exports exceeded the value of imports (Buksha, 2003).

Private forest cutting enterprises in Carpathian regions

During the transition period, as a result of the deterioration in the economic situation, the forestry enterprises of Zakarpatya have not been able to harvest all forests available for wood supply. Thus other enterprises have been allowed to harvest there, and today in the Carpathian Region non-State forestry enterprises harvest most of the wood. In 1999 they harvested more than 90% of forests in the Zakarpatya Region, and 60–70% in the Chernivtsy and Ivano-Frankivsk Regions. (Sabadyr, 2001)

Private forest-cutting enterprises can be divided into two categories:

- Joint stock companies: qualified personnel are employed by these companies but the worn-out equipment (mainly produced in Russia) remains. As for transport, converted machinery and new vehicles produced in the Ukraine at the Kremenchug car factory are being used.
- Unspecialized organizations, which employ casual workers and rent equipment: In 2000 the first private enterprises appeared. They have funds available which allow them to harvest, saw and transport timber with modern equipment.

8.6 RESEARCH AND EDUCATION IN THE FORESTRY SECTOR

Forest scientific research is mostly carried out by state research institutions, and educational establishments. The following are research and educational institutes in the field of forestry located in the Carpathian regions:

- NSAU Institute of Ecology of the Carpathians
- "EkoPravo-Lviv" (Environmental and Planning Legislation),
- Ivan Franko National University of Lviv (Water Management)
- Ukrainian Research Institute of Mountain Forestry, Ivano-Frankivsk
- Institute for Regional Studies, National Academy of Sciences (Economy), Lviv
- Institute for Ecology of the Carpathians, National Academy of Sciences (Conservation Biology), Lviv
- Ukrainian National University of Forestry and Wood Technology (UNUFWT, Lviv),
- University of Uzhgorod (Forest and Agricultural Economy, Conservation Biology)
- Prycarpatsky and Chernivtsi National Universities, and others.
- Research Institute of Forestry and Forest Melioration which has 9 subordinated stations. Planning institute named "Ukrderglisproject". (Buksha, 2003)

Scientific support for Ukraine's forestry is ensured by the Forestry Research Institute, *Agroforestry*, 13 forest research stations, the Institute of Mountain Forestry and the Forestry Planning Institute '*Ukrjiprolis*'. (Zibtsev - 1998).

The Ukrainian Research Institute of Mountain Forestry (UMFRI) was created in 1964 as a branch of URIFFM, and is now the main research forest institution in the Ukrainian Carpathians. The main directions of research are: mountain forestry; forest breeding; forest monitoring; forest protection; hunting science. The main customer for scientific output is the State Committee of Forest Management of Ukraine. The Institute includes one Forest Research Station.

Past international projects with participation of the Ukrainian Research Institute for Mountain Forestry:

1. Effects of Air Pollution on Forest Health and Biodiversity in Forests of the Carpathian Mountains.
2. Strengthening of Ecosystem and Forest Research as Basis for Conservation and Sustainable Management of Mountainous Forest Ecosystems in the Ukrainian Carpathians and in Switzerland
3. Spatial Structure of Basin Ecosystems and Forest Stand Dynamic Modelling in the Ukrainian Beskydy
4. Tacis: Improvement of Boundary Nature Conservation System in Verkhovuna.
5. EUFORGEN: Main Deciduous Forest Species Protection within European Program for Forest Genetic Resources Protection.

Running international projects with participation of the Ukrainian Research Institute for Mountain Forestry:

1. Strengthening Research in Virgin and Managed Forests as Basis for Biodiversity Conservation and Sustainable Use of Forest Resources in the Ukrainian Carpathians.
2. The tools for regional forest management planning for Ukraine.
3. Mapping of virgin forests in Trascarpathian.

Research at UNUFWT covers the following fields:

- Problems of specialized training under a multi-level educational system.
- Increasing the productivity and biological stability of forests and urbanized ecosystems.
- Development of energy and resource-saving technologies and equipment for the forest-industrial complex of Ukraine.
- Development of advanced technologies, materials and equipment for the woodworking industry.
- Improvement of the organization and management of forestry, forest and woodworking industries.

- Economic and social development of the forest complex under the conditions of national-cultural revival in Ukraine.

- UNUFWT is a member of IUFRO, and hosts numerous international conferences, symposia, and seminars.

The role of international forest research organizations, such as IUFRO and EFI is important. The information support from these organizations, and also participation in the joint research projects enables the Ukrainian scientists to be integrated in the international scientific field, to exchange new ideas and approaches to forest research, to receive access to world databases and knowledge. Such cooperation should promote (Romanovsky et al. 2002):

- increasing level of information exchange on forestry problems, improving the system of accumulation, analysis and distribution of forest management information, creation of electronic databases, expansion of access to the Internet;

- development of modern instruments of forest police and forest legislation improvement, harmonization of forest management standards system with international ones;

- expansion of cooperation between scientific institutions on sustainable forest management and perfection of forest management systems, development of modern means of modelling and predicting forest condition dynamics in conditions of anthropogenic influence, growth and environment change, forest monitoring and certification, perfection of models for ecological, economic and social estimation of forest resources;

- carrying out the programmes of experience and technologies exchange, experts training;

- informational and consultative support and technical assistance for carrying out Pan-European programmes (such as international common programme of forest monitoring ICP Forests);

- development of modern technologies of forest inventory, integrated forest monitoring, forest GIS creation;

- carrying out joint international projects on forest management;

- development of programmes on forest use as renewal energy source.

Besides the higher educational institutions in Ukraine, there are 7 special forestry colleges. The Ukrainian Centre for the Training, Retraining and Improvement of Qualifications of Forestry Personnel "*Ukrcentrkadrlis*" is engaged in improvement of professional skills of specialists on forestry. (Buksha, 2003)

EDUCATION IN THE FORESTRY SECTOR

Historically, systematic forestry research and education in Ukraine dates back to the beginning of the nineteenth century, when the first institutes were founded in Kyiv and Lviv.

When Ukraine became part of the Soviet Union, forestry education and research were totally state-managed and financed.

The existing forestry education system primarily derives from the joint action of two main institutions: the Ministry of Science and Education (MSE), which provides the educational guidelines; and the SFC. There are in general 8 forest colleges under State Forest Committee responsibility, but colleges are also under subordination of other ministries.

Higher educational entities in forestry also exist under subordination of Ministries other than the MSE.

After Ukraine's independence, the reformed MSE initiated the reorganization of the entire educational system, based on the adoption of a multi-level structure. The MSE provides the general guidelines for higher education (HE), while the definition of specific forestry issues is delegated to the SFC, under the supervision of the Cabinet of the Prime Minister.

On the other side, woodworking industries cannot directly finance any research or training programmes yet, and so are dependent upon public investment to ensure available professionals for their employment requirements.

The entire public education system is still in its infancy and as yet does not actively involve stakeholders, other than the traditional academic and political ones. (Andrian, 2001)

ACHIEVEMENTS AND MAIN OBSTACLES TO SUSTAINABLE FORESTRY IN THE CARPATHIAN REGION

ACHIEVEMENTS

The main achievements include:

- reform in the forestry section. In the Carpathian region of Ukraine, reforms took place in 1995, owing to which state timber cutting companies – the basic objects of forestry – were divided into state forestry enterprises dedicated to forestry, and state timber harvesting companies dedicated mainly to wood processing. As a result, all property remained with the state timber harvesting companies, and the forestry enterprises started practically from zero. Now the state forestry enterprises are fully functioning as economic units and execute their functions effectively. Timber stock is now given only to constant users – to forest enterprises which take full responsibility for its use. The profit received goes to support forestry, and the restoration and protection of the forest.

- international co-operation. Wide-scale open exchange of experience between Ukrainian and foreign foresters (mainly Swiss, German and Dutch, but also Romanian, Slovak, Polish and other foresters). This changes the mentality of Ukrainian foresters and makes them more aware of ecology and nature protection.

- Enlarged forest area.

- Area of certified forests was significantly enlarged, system of forest monitoring was formed.

- Number of forest roads was significantly increased. This positively effects forest logging efficiency and at the same time helps solve social problems of local people including employment, tourism development, etc.

- To improve investment attractiveness of logging activities, the share of contractors in forests is increasing annually.

- Enlarged area of protected and reserved forests.

- measures for implementing close to nature forest management developed in the Carpathian forest.

- Work developed on implementing GIS in forestry.

- Efforts were increased in communication and public relations in forestry. (EURAC, 2006)

- Law of Ukraine on the Moratorium on Clear Cuts on Mountain Slopes in the Beech- Fir Forests of the Carpathian Region of 10.02.2000 N1436-III was adopted.

- Regulations on Sustainable Forest Management for Ukrainian Carpathians were developed and confirmed.

- Percentage of clear cuts has a stable decreasing trend.

OBSTACLES

The main obstacles include:

- lack of funding for the introduction of ecologically safe technologies for timber cutting, for example, cable logging facilities;

- no special forest budget as in the advanced European countries;

- undeveloped network of special forest roads for timber harvesting;

- forest enterprises function according to an ineffective economic mechanism (changes should be introduced in order to make the protection and renewal of forests favourable for forest users);

- low enforcement of forest and environmental legislation and high violation of restrictions on clear cuts: despite the adopted state forestry programmes, uncontrolled illegal forest felling continues.

Some experts consider that the main problems in forestry are caused mostly by the following factors (Budyakova, 2005):

- combination of incompatible functions by forestry enterprises: 1) wood selling (according to the rules for wood sale, forestry enterprises conduct the material and fiscal assessment of the forest fund subject to

cutting; define the quality of material; assess the value of wood; and define the cutting method, based on what is defined by the special forest use tax); 2) wood buying (forest enterprises pay the defined tax for carrying out forestry) and the controlling authority (according to p.7.1 of the Instruction for special forest use tax payment and use of the land plots of the forest fund¹, the control of the volumes of use of forest resources and the correct calculation of the forest-use tax is the responsibility of the nature protection and forestry authorities). Taking into account that a high amount of wood is stocked by enterprises subordinated to the State Forestry Committee, quite a paradoxical situation arises, with the formula: I assess, I cut, I pay, I control myself;

- low price for special forest use;
- non-personal transfer of the payment for special forest use and the centralized funding of the branch.
- European Forestry and Environmental Foundations are mainly closed to Ukraine.

Priorities in this field, identified during the stakeholders meeting at which the draft of this assessment was presented by the experts (Budyakova, 2005):

- the priority of sustainable development of forestry in order to ensure the sustainable development of other sectors – water husbandry, agriculture etc.;
- transfer of forestry from clear cuts to gradual planned-selected cuts;
- afforestation and the correction of natural reforestation according to natural conditions (soils, exposition, downfall etc.), afforestation of frets (zones of erosion). (Eurac, 2006)

8.7 PROJECTS

In Ukraine projects fulfilled in the context of the Resolution H3 are mainly multilateral. They aim at a harmonisation of the national forest information base with the European standards, the development of forest strategies on the principles of sustainable development, broadening forest monitoring, the implementation of scenario analysis of forest health dynamics and conservation of biodiversity.

Unfortunately scanty financing of co-operative projects caused low activity in the context of Resolution H3. As a rule projects are fulfilled in the sphere of forest research. International projects and organisations are the main financial sources. They enable Ukrainian experts to participate in international meetings and to receive modern forestry literature. As for Ukrainian specialists, they contribute information and infrastructure (provide offices, equipment etc.).

Development and testing of the national forest certification standards (2003-2004)

Project content: to establish the national initiative and to form a working group for developing and testing the national forest certification standards in Ukraine (coordinated with FSC guidance).

Expected results: Ukrainian national forest certification standards

Creating of web-page about Ukrainian Forestry for EFI Forest Information Service (2002-2004)

Project content: Creation of a web-page “Forests and Forest Management in Ukraine”, in the format proposed of EFI (under requirement of FINE project).

Expected results:

- creating web pages with regional information about Ukrainian forestry
- compiling links on timber and wood products companies, small and medium forest-related enterprises etc.
- Ukrainian contribution to the EFI’s ‘Forestry Law Database’

¹ Joined Order of the State Forestry Committee, Ministry of Finance, Ministry of Economy, Ministry of Environmental Protection and State Tax Administration N91/241/129/236/565 of 15.10.99

During recent years, international scientific co-operation on forestry has been developing successfully. Several international scientific projects have been successfully implemented.

They include:

- 1999–2000, International project “Interrelations between water management and forestry of the Upper Tisza River” (data are available from Zakarpatska oblast forest administration);
- 2001–2002, International project “Integrated ecological management of the forests and water basin of the Tisza River as a way to avoid floods in the mountain areas of Transcarpathia” (data are available from Zakarpatska oblast forest administration);
- Since October 2003, the Ukrainian–Swiss project “Forests of Zakarpattia” (FORZA) has been implemented in Zakarpatska oblast. The project is designed to support the government of Ukraine at national and regional levels in addressing a wide range of management, legal and socio-economic issues in the forest sector, in close collaboration with national partners.

In 2004, studies began on derivative (secondary) spruce woods of the Ukrainian Carpathians.

These spruce woods are considered to be the worst affected by diseases, windfalls and wind breaks. The session of the Board of the State Forestry Committee, held in the autumn, developed recommendations on decreasing the age of cutting in fir forests. Without proper assessment of the influence on biodiversity, these decisions can negatively affect ecosystems in the region.

Another project, the Ukrainian–Czech “Instruments and methods for the regional planning of management of forests and forming of forests’ GIS”, was started in February 2005. This project is planned for three years. The project is financed by the Czech Ministry of Forestry and the State Forestry Committee of Ukraine. Ukrainian partners are interested in gaining “know-how” from the Czech Institute of Forest Management for forestry planning and inventory keeping, according to the State Programme “Forests of Ukraine” for 2002–2015.

The direct aims of the project are:

- help in the creation of an information system for forest management, which will provide complex, precise and efficient information on forests;
- development of a programme for the sustainable management of forests in the studied area, taking into account the requirements of forest certification;
- training of Ukrainian foresters for the practical use of the proposed principles and methods of forest management and GIS;
- establishment of demonstration workplaces for the preparation and development of regional plans for forest management.

8.8 FOREST CERTIFICATION

In 2008 the following Forest Management and Chain of Custody (CoC) certificates have been awarded in Ukraine (www.fsc-info.org). There is no PEFC certification.

So far, almost 846,726 ha of Ukrainian forests have been FSC certified (Nov. 2007), with good examples e.g. in the Carpathians (total of 496,426 ha).

- State Forestry Enterprises of Zakarpattya Regional Forestry Directorate - Semi-Natural and Mixed Plantation & Natural Forest – 496,426 ha FM/COC Public.

State Forestry Enterprises of Lviv Regional Forestry Directorate - Natural 478,200 ha FM/COC Public. This certification (the forest is located in one of the Carpathian regions) was suspended on November 2007.

From these certifications it became apparent that Ukrainian forest management needs to make some adaptations in their management systems in order to meet the FSC certification requirements.

8.9 ILLEGAL LOGGING

The Ukrainian State Forest Protection Service has been created to prevent illegal harvesting and timber trade. The State Forest Protection Service acts within framework of forest enterprises of different Ministries and authorities – permanent users. Its members are employees of enterprises which are responsible for executing forest management activities. Up to 2002 17,360 illegal fellings of 65,700 m³ were detected. In Ukraine there are customs and administrative restrictions for taking roundwood out of some regions and Ukraine.

In 2006 in 4 Carpathian regions 11,1 thou m³ was harvested illegally in 4 Carpathian regions.

8.10 INTERNATIONAL COLLABORATION AND ITS ROLE IN THE DEVELOPMENT OF NATIONAL FOREST POLICY

Ukraine is a party to a total of 26 environmental conventions and their protocols, among which are:

a) Convention on Biodiversity.

The revisions to the draft Ukraine Law 'On affirmation of the state program on the maintenance of biodiversity in Ukraine for the period 2007-2025' have been made. The representatives of the Ministry took part in the various meetings and seminars dedicated to this issue. Measures designed to maintain biodiversity and preserve the national eco-system have been elaborated.

b) Convention on International Trade in Endangered Species of Wild Fauna and Flora.

The draft resolution of the Cabinet of Ministers of Ukraine 'On the enactment of the procedure for issuing permits and certificates for the inbound and outbound trading of species of wild fauna and flora, regulated by the Convention', has been prepared. A total of 267 permits for inbound and outbound trade of species of wild fauna and flora in Ukraine, the trade of which is regulated by CITES, have been issued.

c) Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention).

d) Convention on the Protection of the Black Sea against Pollution.

e) European Landscape Convention.

f) Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention).

Ukraine works in co-operation with:

- Association of committees on technologies, and the management and training of workers in the forest sector of FAO/ECE/ILO;
- FAO Committee of Forestry;
- International Union of the Forest Research Organizations (IUFRO);

Ukraine has joined the process of implementation of the MCPFE (Ministerial Conference on the Protection of Forests in Europe) resolutions (S1-S4, H1-H4, L1, L2, all the Warsaw resolutions) and signed the S1 resolution at the Vienna Summit in 2003. In 2003, Ukraine also become a participant in the UN Forum on Forests and became a member of the FAO (Food and Agriculture Organization). In 2004, Ukraine ratified the Kyoto Protocol to the UN Framework Convention on Climate Change.

Co-operation within the Team of Specialists (UNECE/FAO) has helped Ukraine to:

- compare the national forest management of Ukraine with that of other European countries and to determine its adequacy with respect to pan-European criteria for sustainable forest management;
- identify the compatibility of Ukrainian forestry strategies with European strategies;
- start activities for the harmonization of national forest statistics with international requirements;
- develop a modern forestry normative base with attention to international experience;
- start an exchange of knowledge and technologies (e.g. information on forest inventories and monitoring). (BUSKA, 2004)

Within the scope of resolution H3, several projects have been implemented:

- UNECE ICP Forests (ongoing from 1998);
- EU INCO-Copernicus “SCEFORMA”;
- IPGRI-EUFORGEN;

Recent projects include:

- development of the strategic plan for Ukrainian forest sector development (2001–2004), with the financial support of the Swedish International Development Agency (SIDA);
- the development and testing of national forest certification standards in Ukraine (2003–2004), with the support of the Alliance of the World Bank and WWF;

8.11 SOURCES OF FUNDING IN THE CARPATHIAN REGION

The sources of funding (domestic and external) for implementation of activities related to sustainable forest management in the Carpathian Region include the state budget (funding of measures at national level, such as the development and adoption of policy and legislation, the implementation of state programmes etc.), local-level budgets and local funds for environmental protection (for measures implemented at local level), forests users’ own resources, and other sources. Centralized funding in the Carpathian region is used to finance the construction of forest roads, forest fire stations and fire observation towers, objects in the social sphere, for afforestation and reforestation and the introduction of environmentally safe logging technologies. Economic encouragement measures for the protection, rational use and renewal of forests include (Land Code Art. 92) benefits to forests users who introduce technologies and equipment that lower the negative impacts on the environment; and benefits in the event of the improvement of the effectiveness of reforestation, and the improvement of forest quality and stock, etc.

The financial and technical resources of forest management are limited. The international support of the Ukrainian forest sector is not sufficient to compare with other European countries. Lately the attention of foreign institutions and organizations in the Ukrainian forest sector has been growing, the number of international projects in the forest sector is growing. Consultations with the World Bank were held on the issues of national forest policy, forest certification schemes, joint projects on carbon sequestration, and strategy of the national forest sector development.

Ukrainian forestry in the transition period is oriented towards the creation of legal, institutional and economic conditions of SFM, strengthening the role of legislation and fostering of market economy development. Major issues and challenges for capacity building in support of policy development towards sustainable forest management and development are the diversification of forest ownership and wood-processing methods that function in the forest sector of the economy, dividing of control function of forest exploitation, function of management and use of profits from forests and improvement of legislation for all forest relations at the national and regional levels to implement the objective of the national forest policy. (Eurac, 2006)

8.12 NON-WOOD FOREST PRODUCTS

The Carpathian forests have been and still are, widely used as a source of timber and various non-timber products such as: honey, medicinal raw materials, fruits and berries. These non-timber forest products greatly contribute to the economy of the Carpathian region.

During the last decade, their use has decreased, resulting in problems for the region. Financial constraints in the forest sector aided by the severe climatic conditions of the Carpathians, have led to unemployment and mountain-dwellers migrating elsewhere in search of earnings. Thus additional sources of income are needed. The value of the forest non-timber resources in the region has made them in great demand. Economic expediency and a crisis in forestry have led to renewed use of non-timber forest products and a revival of this economically important branch of the forestry sector in the region.

Non-timber forest resources in the Carpathians were investigated in the regional state forests of the Ivano-Frankivsk, Chernivtsi and Transcarpathian RFM (Regional Forest Management). The focus was on discovering the melliferous, medicinal, fruit and berries resources of the forest areas in the Carpathian region. The valuable forest lands, used for non-timber purposes were investigated and the plant species compositions of the sites, and marketable products determined. There appears to be a tendency for non-timber forest resources to be developed locally.

The regional state forestry agencies at present underestimate the potential commercial use of non-timber forest products. These resources are today mainly used erratically by individual consumers.

The potential economic value of these non-timber forest products, based on current prices, still needs to be evaluated. (Haidukevych, 2003)

8.13 TOURISM

TOURISM ATTRACTION OF THE CARPATHIAN BIOSPHERE RESERVE

The Carpathian Biosphere Reserve has great tourism-recreational potential. This is due to the existence on its territory of a considerable number of natural phenomena, and wide representation of the cultural and historic heritage. Today there are more than 80,000 visitors per year to the reserve.

With 350 staff members the CBR is a major employer in the region. (Enssle, 2007)

Each of the massifs, which form a part of the CBR, is distinguished by its typical, unique natural features. The visiting card of Chornohirskiy massif is the highest summit of Ukraine – Hoverla Mountain (2061 m a.s.l.) This summit is a place of worship for the population of Ukraine, which attracts thousands of tourists. Close by are the other Carpathian summits, which are more than 2000m height – Petros, Rebra, Brebeneskyl and others. The relief of the upland Chornohirskiy range bears marks of ancient glaciation, with typical glacial forms – colourful karren and trough valleys. The mountain slopes are covered by impenetrable secular virgin forests, where coniferous species prevail.

Opposite Chornohora, to the south, are the Rakhiv mountains – spurs of Maramoroskiy crystalline massif. Here, the reserved area of the same name is found, which is crowned by the Pip-Ivan-Maramoroskiy mountain (1940 m a.s.l.). The massif is formed of solid crystalline rocks: gneisses, micaceous and quartz schists etc.

The highest part of Svydovets with the Blyznytsa summits is included in the Svydovets protected massif. Close by the upland areas, where gigantic steep rocks tower over the glacial cirques and karren, are considerable massifs of virgin forests, which are characterized by a large diversity of flora and fauna. According to the popularity scale in tourist circles, this district relinquishes first place in the Ukrainian Carpathians only to Chornohora. The adornment of Svydovets – the legendary Blyznytsi where edelweiss grow, attract thousands of tourists annually. Their main outpost is no less famous shelter “Drahobrat”, the name of which is borrowed from the summit, located close by and known even to traveller-beginners. The mountain Drahobrat is a unique phenomenon for the Carpathian region. The whole year round, wonderful conditions exist here for various kinds of active recreation. In winter, this is mountain-skiing and skiing, in summer – mountaineering, walking and cycle tourism, and even, extreme tourism.

In the southern spurs of Svydovets range, is the Kuziy-Svydovets protected massif. One of its sites – “Kuziy” stow, is distinguished by its scenic views. It is surrounded on all sides by steep mountains with the summits Kympa (1091 m a.s.l.) and Polianskiy (1094 m a.s.l.). The mountain slopes, covered by secular virgin forests, with the dominant oak and beech forests, are cut by the steep rocky ridges of Jurassic limestone. Here, on separate rocky outlets, habitats of the common yew (*Taxus baccata*) – a relict plant, which came down to us from ancient times, are found.

Among the protected sites, Uholsko-Shyrokoluzhanskiy massif is especially distinguished. It is the largest habitat of beech virgin forests in Europe. Its southern part is located in the Pennine zone of cliffs, where big blocks of limestone are typical, with the well-developed karst.

One of the pearls of Zakarpattya – the famous “Valley of Narcissi” is found in the middle of Khust-Solotvynska valley, on the ancient terrace of the Tysa river. This small area on the flood-plain of the Khustets

river is a unique botanical site, where the last flat habitat in Europe of *Narcissus angustifoliate* (*Narcissus angustifolius*) is protected.

The volcanic Carpathians are represented in the Carpathian biosphere reserve by two small preserves “Chorna hora” /Black mountain/ and “Yulivska hora”/Yulivska mountain/, which got their names from summits on the Hutyn range of the same name. The vegetation of these massifs is formed by unique for the Ukrainian Carpathians stands of durmast oak (*Quercus petraea*), *Quercus polycarpa*, *Quercus dalachampi* and *Quercus cerris*.

The informative ecological-training and historical-cultural centre – Museum of Mountain Ecology and History of Nature Use in the Ukrainian Carpathians, was established in the Carpathian biosphere reserve. Its activity is directed to conserving the natural and cultural heritage of the region. The territory of the CBR is of special significance for the preservation of the culture of Ukrainian mountain-dwellers – Hutsuls, Boiky and Lemky.

CARPATHIAN SKI RESORTS

Ukraine's ski industry is fairly young and underdeveloped, but it is growing rapidly. Each year there new lifts open and improvements are made to ski areas. The vast majority of these resorts are in the Carpathians at the far west end of the country, but there are also a handful in Crimea and in several cities around Ukraine that have ski hills next to town (see below).

Primary Carpathian ski resorts

These are Ukraine's best-equipped ski resorts with a variety of ski runs and more or less decent infrastructure. Slopes are usually groomed. These resorts have nice hotels, inns, and cottages and good ski rental equipment, as well as restaurants and a night life. Here foreign tourists will probably feel most at home. At the moment the only European-level ski resort in Ukraine is Bukovel. The other resorts might better be called "ski areas" — clusters of ski lifts and lodgings that belong to different owners and have evolved chaotically over the years.

Planned ski resort development

Most Ukrainian ski areas do not have long-term development potential because of their small size and the relatively low elevation of surrounding mountains (especially in light of the Europe-wide trend towards warmer winters). Word has it that Drahobrat, the highest and snowiest resort, might some day improve their road up the mountain or install an aerial tram from the town of Yasinya below. Also, a new \$60 million ski resort is in the planning stages for an area near Bystrets village (6 km from Verkhovyna) that includes road construction and might reach to some of the higher peaks of the Chornohora ridge, which has hitherto been free of ski resorts.

Secondary Carpathian ski resorts

The secondary ski resorts listed in the left-hand column differ from the main resorts in ski run length and variety and in size and development of infrastructure. Slopes are often ungroomed. Runs are still long enough and varied enough to be interesting to a variety of skiers. At these ski areas there are hotels and private rooms available for rent in the vicinity. Equipment can always be rented from locals and at the ski slopes themselves.

Minor Carpathian ski areas

These ski areas have just a tow lift or two and slopes that are lacking in variety or difficulty. Services will be minimal and slopes are never groomed.

This list may only be partial, since the smaller ski areas do not advertise and have almost no web presence.

Other ski areas in Ukraine outside of the Carpathians

Crimea (a few tow lifts here and there on the mountain plateaus):

Angarskyy Pass (on the road from Simferopol to Yalta)

Ay-Petri (aerial tram from near Yalta)

Marble Cave Hostel (near road to Yalta)

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