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Challenges in implementing forest and environmental legislation in European countries with economies in transition

proceedings of the Second International Symposium jointly organized by the IUFRO Research Group 6.1300 and the Austrian Federal Ministry of Agriculture and Forestry, Ossiach, September 1999

Working Paper

Author(s):
Schmithüsen, Franz Josef

Publication date:
2000

Permanent link:
https://doi.org/10.3929/ethz-a-004003054

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Originally published in:
Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie 23

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ISSN 1420-1143

FORSTWISSENSCHAFTLICHE BEITRÄGE 23
der Professur Forstpolitik und Forstökonomie

Challenges in Implementing Forest and Environmental Legislation in European Countries with Economies in Transition

Editors:
Franz Schmithüsen / Georg Iselin / Peter Herbst

Proceedings of the Second International Symposium
Jointly Organized by the
IUFRO Research Group 6.1300 and the
Austrian Federal Ministry of Agriculture and Forestry
Ossiach, September 1999

Zurich 2000

ETH
Eidgenössische Technische Hochschule Zürich
Ecole polytechnique fédérale de Zurich
Politecnico federale di Zurigo

Recommended Catalogue Entry:

Schmithüsen, F.; Iselin, G.; Herbst, P., Eds., 2000: Challenges in Implementing Forest and Environmental Legislation in European Countries with Economies in Transition. Proceedings of the Second International Symposium Jointly Organized by the IUFRO Research Group 6.1300 and the Austrian Federal Ministry of Agriculture and Forestry; Ossiach, September 1999. Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie, Nr. 23; ETH, Zürich, 2000. 111 pp.

Keywords: Forest Law, Environmental Law; Administrative Law; Sustainable Forestry; Nature Conservation

ISSN 1420-1143

ISBN 3-9520829-6-1

Available from: Professur Forstpolitik und Forstökonomie
Departement Forstwissenschaften
ETH-Zentrum
Rämistrasse 101
CH - 8092 Zürich
Tel.: + 41 1 632 32 17 / Fax: + 41 1 632 11 10
e-mail schultheiss@fowi.ethz.ch
http://www.fowi.ethz.ch/ppo

Price: 30.- Swiss Francs

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PREFACE

The second international symposium on experiences with new forest and environmental laws in European countries with economies in transition took place from September 29 to October 3, 1999 in Ossiach, Austria. It focused on recent changes in the legal framework of sustainable forest resource development environmental conservation, and nature and landscape protection. An important part was the analysis of impending problems in implementation selected according to their present relevance by the participants. The results of this review will be presented at the XXI IUFRO World Congress in Kuala Lumpur, Malaysia.

The symposium was again made possible by a joint effort of IUFRO and the Austrian Federal Ministry of Agriculture and Forestry. We wish to acknowledge the support from the Ministry which made a substantial financial contribution and facilitated the organisation of the meeting. Our thanks are directed in particular to Dipl.-Ing. Gerhard Mannsberger and to Dipl.-Ing. Günter Siegel from the Forestry Department of the Ministry as well as to the Director and Staff of the Vocational Training Center in Ossiach. The Secretary General of IUFRO, Dipl.-Ing. Heinz Schmutzenhofer showed his continuing interest in the work of our research group by attending the meeting.

We thank the twenty-six participants from sixteen countries for their commitment, pertinent contributions in the discussions as well as for the very friendly atmosphere to which all of them have contributed. A special feature of the meeting has been the presence of two colleagues from the Development Law Service from FAO. In view of the important role that FAO plays in giving advice to member countries on improving the legal framework in the field of natural resources management and in particular in modernising forest related legislation we hope that this collaboration will expand in the future.

The proceedings contain the general and country papers that were presented during the symposium. We thank Georg Iselin, assistant at the chair of forest policy and forest economics of the ETH in Zurich, for his help in preparing this document.

Franz Schmithüsen, Chairman of 6.13.00
Peter Herbst, Co-chairman of 6.13.00, European Region

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NATION STATES AND FOREST TENURES – AN ASSESSMENT OF FOREST POLICY TOOLS IN EASTERN EUROPEAN COUNTRIES

DENNIS C. LE MASTER AND CHARLES E. OWUBAH

During the 1998 symposium, concern was expressed by Le Master (1999) about the general lack of attention given to forest policy tools, that adoption of a policy, for example, through enactment of legislation was not sufficient to address a public policy problem, that comparable consideration had to be given to the tool or mechanism implementing the policy.

Eleven public policy tools used in forestry were listed and categorized as to whether they facilitated functioning of competitive markets or whether they intervened in some way for the purpose of accomplishing some desirable social purpose. Market facilitation tools were: 1) information gathering and dissemination, 2) public education, 3) technical information, and 4) research. Market intervention tools were: 1) insurance or "cushioning" programs, 2) resource protection, 3) land management planning, 4) regulation and prohibition, 5) taxation or subsidization, 6) public ownership or production of goods and services, and 7) land trusts for amenity, conservation, or recreation values. No assessment was made about the completeness of the list. Nevertheless, an implied assumption was a closed economy, an absence of international trade.

An assumption of an open economy would bring with it treaties, conventions, agreements, import tariffs (duties), and import quotas and export restrictions. While these institutions would seem to complicate an analysis of forest policy tools, further reflection finds them quite comparable to the tools listed above. Legally binding treaties, conventions, and agreements have the effect of regulation and prohibition as do import quotas and export restrictions. Tariffs are a tax, plain and simple, and non-legally binding agreements are effectively a means of information gathering and public education. In sum, the forest policy tools associated with an open economy can be viewed as the tools of a closed economy with different names. Their advantages and disadvantages remain the same.

COUNTRY REPORTS

The eight country reports given during the 1998 symposium are informative, discussing forest and environmental legislation recently adopted in the respective countries. While discussion of the new legislation in terms of the policies it contains is detailed, discussion of the implementing tools is general at best, and it is difficult to discern which tools apply to which policies. Three reasons are probable. The authors could have assumed discussion of policy implementation mechanisms was beyond the scope of their papers since the goal of the symposium was on assessing changes in forest and environmental laws. Second, the authors might have taken the position that a discussion of policy tools is unwarranted because they are comparatively unimportant, giving further credence to the position of Merlo and Paveri (1997) who argue: "This substantial lack of attention to, or ignorance of, forest policy tools, not to mention the policy tools mix, ... is a consistent feature of many forest policy documents." A third reason is that implementation of the forest and environmental legislation did not receive much attention during the formulation process, that implementation mechanisms and institutions were to be developed after the policies were established in law.

The first reason is quite understandable, but the second and third reasons are problematic, for at its simplest level, policy formulation and analysis has three basic components: a problem, a policy, and an implementing mechanism. Treating them separately leads to confusion, especially when many policy problems, policies, and implementing mechanisms exist. Put another way, effective public policy requires direct answers to the following interrelated questions.

1. What is the policy?
2. Why has it been adopted?
3. To whom is it directed?
4. Who is responsible for its implementation?
5. How will it be implemented (e.g., regulation or incentive)?
6. Where, when, and for how long will it be implemented?

Question 1 deals with the policy; question 2 with the policy problem or issue, and questions 3 through 6 deal with the implementing mechanism.

Reading through the country reports reveals a great deal of commonality among the forestry and environmental policies adopted in the 1990s. They are summarized in Table 1 applying the categories used by Schmithüsen (1999) in Figure 5 of his symposium paper titled “The Expanding Framework of Law and Public Policies Governing Sustainable Uses and Management in European Forests.”

Several policy tools are available for implementation of each policy. Which one is appropriate for a particular country depends upon the relative commitment of the government to the policy, the resources available to it, the ideology of the government, and the culture of the society. For example, the policy of “existing forests shall be maintained and conserved” could be implemented by any one of five policy tools: public education, regulation and prohibition, taxation or subsidization, public ownership, and land trusts. Continuing the example, a public education program could be developed and implemented on the importance forests and the need for their maintenance and conservation. The cost for application of this tool would be modest. Unfortunately, so is its likely effectiveness. Regulation could be used, and it would be effective, but it is costly because of the cost of enforcement. Tax policy could be used, giving the landowner a “tax break” for keeping his land in forest or alternatively giving the landowner a direct subsidy - an annual cash payment for keeping his land in forest cover.

This policy tool is effective, but it also is expensive because it reduces government revenues by the amount of the tax concession or the subsidy. Even more costly is government ownership of the land because it involves not only the acquisition price of the land, but the carrying cost of capital and the cost of forest land management. A less costly alternative would be a land trust in which development rights of the forest are purchased by government from the landowner, leaving him no alternative but to keep the land in forest cover. Thus the land is kept in forest cover, but the acquisition price of property rights is less as is the carrying cost of capital, and there are no management costs.

Clearly, the mechanisms or tools for implementation of a public policy differ in relative effectiveness, cost, and ideological and social acceptance.

Table 1.Common Forestry and Environmental Policies Adopted by Eastern European Countries in the 1990s

---

Forest Policies

1. Protection of forest areas

   Existing forests shall be maintained and conserved.

   Forests shall be protected from fire, insect infestations, disease epidemics and destructive human uses.

2. Protection of biodiversity

   Forest biodiversity shall be preserved and indigenous tree and other plant species shall be used when planting is involved.

3. Maintaining sustainable forest uses

   Forests shall be used in sustainable ways and rationally managed in the context of long-term planning.

   Degraded forests shall be rehabilitated.

   Cutover forests shall be replanted soon after cutting.

4. Support to forest sector development

   Production of timber and other forest products is encouraged.

   A road network shall be established and maintained.

Environmental and Related Policies

1. Environmental protection

   The quality of the environment shall be protected and preserved in order to provide current and future generations with favorable living conditions.

2. Nature and landscape protection

   Management and use of protective forests are restricted to those regimes, activities, and uses consistent with the purposes of the respective protective forests.

3. Soil and water resources protection

   Forest soil and water resources shall be protected.

4. Land-use planning and regional development

   The landscape is part of environment and shall be protected.

5. Agriculture, wildlife, and fisheries management

   (No apparent common policies)

INTERNATIONAL AGREEMENTS AND INTERNATIONAL ORGANIZATIONS

"A substantial expansion of international law on the environment and (economic) development has taken place during the last twenty years" is noted by Schmithüsen, and today forest and environmental policy must "be seen within the context of multilevel policy networks." He continues: "The commitments of international forest-related instruments ... are initiated by national governments, which ... are the principal addressee and agents for implementation. ... Optimally, the national regulations put the international policy objectives into "workable, socially acceptable and economically feasible programs" that influence individual and family land management decisions and finally "the conservation and development of rural space ..."

As noted earlier, international treaties, conventions, and agreements are comparable to domestic laws regulating human behavior and activities. However, "comparable" does not mean "equal to" or "the same as." International treaties, conventions, and agreements are as effective as the states that are a party to them want them to be. And this is not likely to change in the foreseeable future even as far out as 2050.

While international treaties, conventions, and agreements receive a lot of attention in the printed press and television, the key to sustainable development and a quality environment is the nation state. A recent survey article in *The Economist* titled "The New Geopolitics" (1999) states:

> The huge growth in the absolute amount of global wealth and trade since the 1950s, the involvement in trade of a much bigger part of the world, and - above all - the revolution that late-20th century electronics has caused in the movement of information and money have genuinely altered the world: and in the process, have arguably trimmed the power of the state.
>
> Yet none of this means that the state has lost, or is likely to lose, the means of functioning as a separate entity in the world. Nor does it mean the manoeuvrings among these states will cease to be the chief component of geopolitics. The technological revolution, like the movement towards universal free-market democracy, is indeed diminishing authority of the state in some important ways. But these two things ... show no signs of creating any alternative to the state as the basic unit of international affairs.

In other words, while international treaties, conventions, and agreements serve as important catalysts for change, key to their implementation is the nation state, which is and will continue to be the basic organizational unit in international affairs. Hence, global environmental protection and sustainable forest management will ultimately come from effective implementation of the sum total of the respective laws of the many nation states taken as a collective not from some international organization such as the United Nations.

IMPORTANCE OF EASTERN EUROPEAN FORESTS

Forests are a principal feature of the landscape of eastern Europe and play an important role in economic development and the quality of life of the people of the region. Data are provided in Table 2 on the total land area and extent of forest cover of eastern European countries, excluding Russia. Forests cover 26 percent of the land area of eastern Europe. If the forests were somehow consolidated, they would comprise an area slightly larger than France, or 57.6 million hectares.

Table 2: Total Land Area and Forest Area for Eastern European Countries, 1995

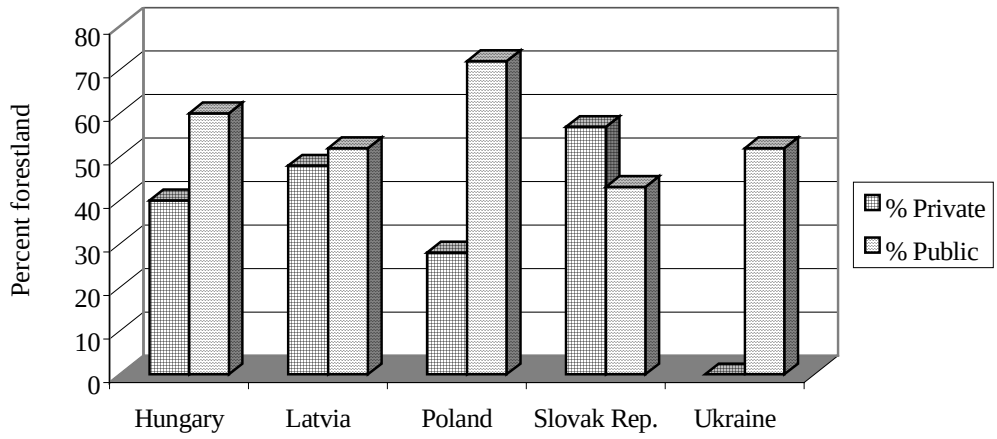
Country	Land Area (in 1,000 ha)	Forest Area (in 1,000 ha)	Percent Forested
Albania	2,740	1,046	38
Belarus Republic	20,748	7,372	36
Bosnia & Herzegovina	5,100	2,710	53
Bulgaria	11,055	3,240	29
Croatia	5,592	1,825	33
Czech Republic	7,728	2,630	34
Estonia	4,227	2,011	48
Greece	12,890	814	6
Hungary	9,234	1,719	19
Latvia	6,205	2,882	46
Lithuania	6,480	1,976	30
Moldova Republic	3,297	357	11
Poland	30,442	8,732	29
Romania	23,034	6,246	27
Slovak Republic	4,808	1,989	41
Slovenia	2,012	1,077	54
Ukraine	57,935	9,240	16
Yugoslavia Federal Rep.	10,200	1,769	17
Total	223,727	57,635	

Of course the forests are not consolidated. A considerable amount of the area they make up, however, is associated with the Carpathian Mountains which curve 1500 kilometers along the borders of the Czech Republic, Slovakia, and Poland, into the eastern part of the Ukraine, and then into central Romania, forming a giant horseshoe that generally faces to the west. South of the Danube, the mountains extend to form the Balkan Mountains in central Bulgaria, running east and west, and further south, the Rhodope Mountains, which forms much of the border between Bulgaria and eastern Greece. The Carpathian Mountains and their extensions, together with their forest cover, provide an immense resource, which, if carefully managed and sustainably developed, would provide many new opportunities for the people of the region, ranging from outdoor recreation activities such as hiking and skiing, tourism, including ecotourism, and wood products manufacturing.

FOREST TENURE, SUSTAINABLE FOREST MANAGEMENT AND THE NATION STATE

Privatization of commercial forest land is an objective of European countries in transition to a market economy. The bar charts in Figure 1 show the respective proportions of public and private commercial forest land in 1998 for Eastern European countries for which data are available. The percent of commercial forest land in private hands was much less a decade ago, and it is likely to increase significantly from what it was in 1998 in the subsequent ten years.

Figure 1: Percent Commercial Private and Public Forest Land in Selected Eastern European Countries, 1998



Private ownership of forest land, it is argued, results in greater efficiency in use increased investment, and protection of the resource. Several studies support this position, including those by Feder *et al.* (1986) and Hardin (1968). On the other hand, public ownership of land also has merit as indicated by studies by Ciriacy-Wantrup and Bishop (1975), Stevenson (1991), and Mighot-Adholla *et al.* (1994). This debate is a long-standing one and dates back to the ancient Greeks. Plato, who advanced the concept of absolute truths, truths that are timeless and transcend cultures, believed in public ownership in his model state, where the concept of “yours” and “mine” would disappear. On the other hand, Aristotle, a moral “relativist,” believed in private ownership. Possession was the tie of affection, the tie that protected, for “people took care of their own families and lands, whereas those people not part of families suffered, and those things not owned by anyone fell into disrepair” (Denby, 1996).

Analysis of land tenure - the terms or legal arrangement by which land is held - allows some insights to this debate. Private ownership of assets, including land, refers to the rights of individuals to consume, obtain income from, and alienate (convey or transfer) these assets (Barzel, 1989). In other words, property rights are the rights of people over assets. The assets can be forest land, and forest land tenure is the collection or “bundle” of rights associated with the use and management of a forest.

These rights are of many kinds or dimensions. Lukert and Haley (1994) list and define eight: 1) comprehensiveness, 2) duration, 3) transferability, 4) right to economic benefits, 5) exclusiveness, 6) use and size restrictions, 7) operational stipulations and controls, and 8) security.

Comprehensiveness is the number of rights a tenure holder has according to the tenure arrangement. For example, while some forest tenure arrangements allow tenure holders access to both surface and sub-surface resources, some allow use of only one or the other. Restrictions can be placed on either one. Generally, the more comprehensive forest tenure rights are, the more willing tenure holders are to invest in forest management.

Duration is defined as the period during which a tenure holder can exercise his or her rights. Longer tenure duration in forestry tends to positively affect investment behavior, innovation, and application of management strategies, technologies, and techniques. *Transferability* refers to the freedom of property owners to sell or otherwise exchange their rights. Transferability is a measure of robustness of tenure arrangement and has a positive effect on investment.

Right to economic benefits is virtually self explanatory: the right of the tenure holder to the economic benefits associated with his or her assets.

Exclusiveness addresses the extent to which a tenure holder can prevent others from infringing on his or her rights. When a tenure holder can prevent all others from access to the benefits of his or her property, then exclusive rights are complete. *Use restrictions* affect the right of a tenure holder to put a property to another use. Use restrictions, for example, may prevent the conversion of forest land to agricultural use. *Size restrictions*, on the other hand, are often used to respond to a different challenge. Asset size should promote economic efficiency and investment, and it can be either too small or too large for these objectives to be possible.

Operational stipulations and controls refer to the requirements that must be met as a condition of holding tenure as well as the control measures that are put in place by government to ensure that tenure conditions are met. An example of the first is forest tenures may require their holders to harvest according to sustained yield standards or to protect water quality and critical wildlife habitat. An example of the second in the context of a forest tenure is that tenure holders are required to prepare and operate according to management plans submitted to and approved by an appropriate governmental agency.

Security relates to the confidence tenure holders have in the exercise of their property rights. It is concerned with the perception of tenure holders that the tenure arrangement will be protected and enforced by government.

Building on the work by Luckert and Haley (1994) and applying Bain's (1968) "structure-conduct-performance" model in industrial organization to forest land ownership, Owubah (1999) posed a theoretical and deterministic relationship between forest tenure structure, forest landowner conduct, and tenure performance in terms of forest stewardship. He posits that forest tenure determines the conduct of the tenure holder, which, in turn, determines the performance of the tenure system in terms of stewardship. Conduct variables include: 1) investment behavior, 2) timely use and application of forest management strategies, 3) adoption of technical innovations, and 4) legal compliance. In turn, performance variables are: 1) high output levels of forest resources, 2) forest protection, 3) stable land ownership, 4) sustainable production of both commodity and noncommodity forest resources. These relationships are summarized in Tables 3 and 4.

Owubah (1999) applied the model to Ghana and found a direct relationship between tenure structure and performance in terms of sustainable forestry practices, defined as 1) preservation of indigenous, economically valuable tree species, 2) forest

conservation, and 3) establishment of forest plantations. Specifically, he found significant and positive relationships between four tenure structure variables - namely, comprehensiveness, duration, transferability, and right to economic benefits - and sustainable forestry practices. He argues that exclusiveness was not significant because access to land in Ghana is usually held through traditional allodial owners of land. As a result, rural Ghanaians view many forest benefits as public goods. Additionally, the relative narrow parameters attached to security in the study might explain why it was not significant.

Table 3: Matrix on the Hypothesized Relationship between Tenure Structure and Conduct Variables.

STRUCTURE	CONDUCT			
Variable	Investment behavior	Application of management strategies	Adoption of technical Innovations	Legal compliance
Comprehensiveness	1	1	0	0
Duration	1	1	1	unknown
Transferability	1	1	unknown	unknown
Right to economic benefits	1	1	1	1
Exclusiveness	1	1	1	1
Use and size restrictions	1	1	1	0
Operational stipulations and controls	1	1	1	1
Security	1	1	1	1

1 = relationship; 0 = no relationship

Table 4: Matrix on the Hypothesized Relationship between Conduct and Performance Variables.

CONDUCT	PERFORMANCE			
Variable	High output levels of forest resources	Forest protection	Stable land ownership	Sustainable production of forest resources
Investment behavior	1	1	0	1
Application of management strategies	1	1	0	1
Adoption of technical innovations	1	1	0	1
Legal compliance	unknown	1	1	unknown

1 = relationship; 0 = no relationship

Both theory and experience indicate forest tenure directly affects the conduct of forest landowners. In turn, the conduct of landowners affects the performance of forest tenures in terms of sustainable forest management. Many options are available to nation states with regard to forest tenures. The choice of private or public ownership is very simplistic, for, indeed, a range of forest tenure options exist between these two extremes. There are also various forms of tenurial arrangements and joint resource management systems on public forest lands (Schmithüsen 1996). Governments can modify the forest tenure structural variables in different ways with the intent of changing the conduct of forest landowners, for example, with respect to investment behavior.

Canada has been notable in the development of a variety of forest tenures that govern the majority of timber harvested in that country. There are 24 principal types of forest tenures, and they vary widely from province to province (Lukert and Haley, 1994). Roughly, the provinces have chosen to retain ownership of forest land, and tenures are used for exploitation of the timber resource. They can be grouped into two main categories: “1) area-based tenures which delegate significant management responsibilities to tenure holders, who generally manage large, integrated logging, sawmilling and pulp operations, and 2) volume-based agreements which delegate fewer management responsibilities, are shorter in duration, and are often held by smaller integrated logging and sawmill operators” (Ibid.). Tenure holders pay fees which vary among the provinces, but which frequently is some combination of stumpage, ground rents, and forest protection fees. While all of the forest tenures provide exclusive rights to harvest timber, none give property rights to exploit other resources such as wildlife and water.

Another development of land tenures in North America and some European countries is the purchase of development rights of forest and agricultural lands generally located in and around urban areas for the purpose of providing “green space.” Typically, the development right to the property is purchased by some governmental or quasi-public entity, while the remaining property rights are retained by the landowner. Current use is continued, and development is foreclosed.

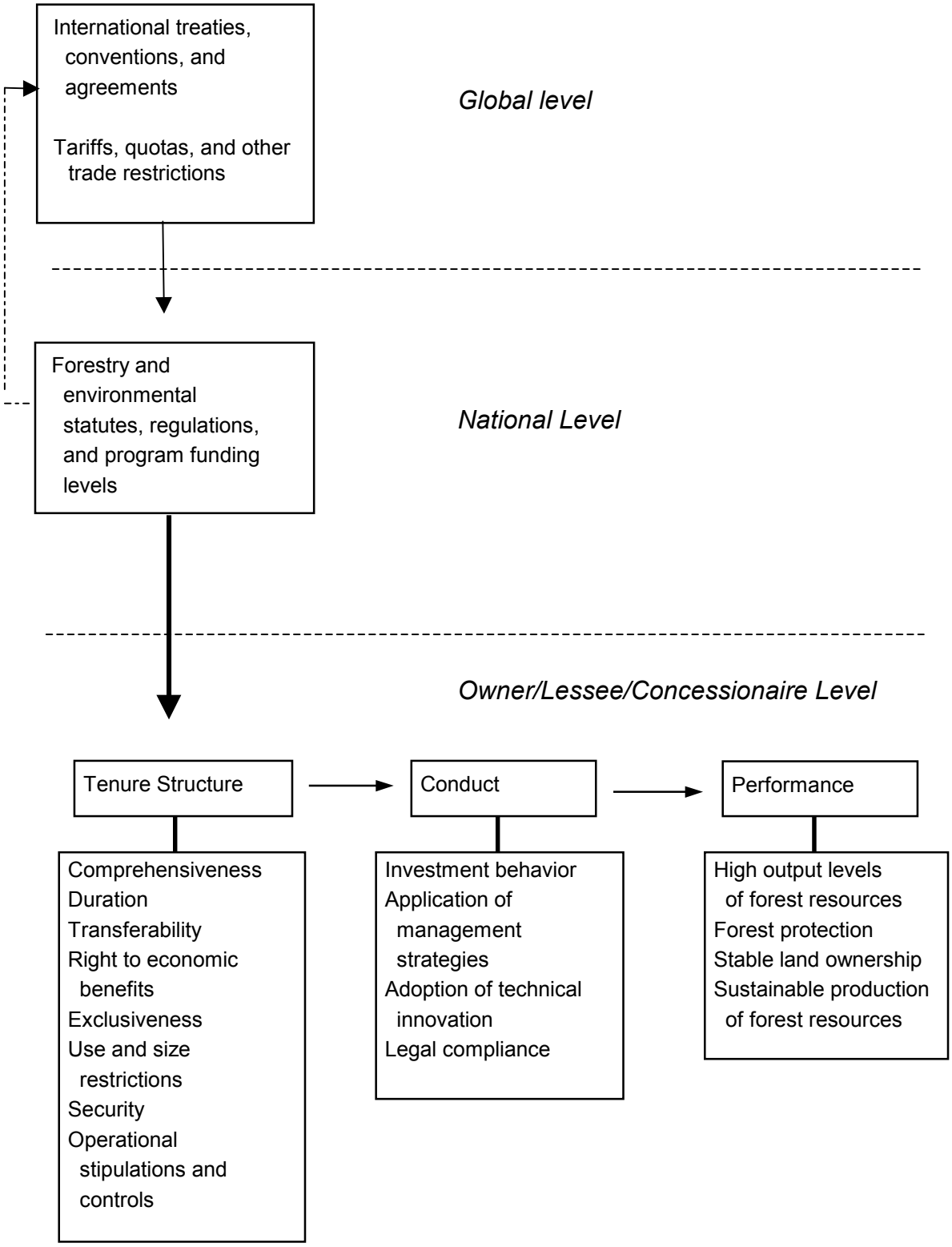
Land trusts for amenity, conservation, or recreation values are best seen as an application of a larger tool entailing delineation and modification of forest tenures.

THE ROLE OF THE NATION STATE

The key position of the nation state in implementation of international treaties, conventions, and agreements in terms of forest tenures is depicted in Figure 2. Forest policies in the form of statutes, administrative rules, and program funding are developed and implemented in nation states in carrying out their perceived responsibilities in carrying out international treaties, conventions and agreements that directly affect the structures of tenure systems. This, in turn, affects the conduct of tenure holders and performance of tenure systems.

The issue facing Eastern European countries is less the relative portions of forest land under public and private ownership and more, much more, whether the forest tenures in place promote desired social goals in terms of the protection, management, and use of forests.

Figure 2: Role of Nation State with Respect to International Treaties, Conventions, and Agreements and Forest Tenures



SUMMARY

To summarize, a brief assessment has been made of the application of forest policy tools in eastern European countries whose economies are in transition, using information contained in the papers presented during the Ossiach meeting in June 1998. Opportunities exist for the application of a variety of forest policy tools, including particularly forest tenures. The choice between public and private ownership is a false one in that many alternatives exist between these two extremes. Their careful consideration is encouraged. For it would make the transition to a market economy more orderly and less difficult.

LITERATURE CITED

Bain, J. S. 1968. *Industrial Organization,* second edition. New York: John Wiley & Sons.

Barzel, Y. 1989. *Economic Analysis of Property Rights.* Cambridge, England: Cambridge University Press.

Ciriacy-Wantrup, S. V., and Bishop, R. C. 1975. "Common Property as a Concept in Natural Resources Policy," *Natural Resources Journal*, 15:713-727.

Denby, D. 1996. *Great Books: My Adventures with Homer, Rousseau, Woolf, and other indestructible writers of the Western World*. New York: Simon & Schuster.

Feder, G., Onchan, T. and Hongladarom, C. 1986. "Land Ownership, Security, Farm Productivity, and Land Policies in Rural Thailand." Research Project RPO 673d-33. World Bank, Washington, D. C.

Hardin, Garrett. 1968. "The Tragedy of the Commons," *Science* 162:1234-48. Reprinted in *Managing the Commons*, Garrett Hardin and John Baden (eds.), San Francisco: W. H. Freeman and Co., pp. 16-30.

Le Master, D. 1999. "Forest Legislation in Constitutional States: An American Perspective on Forest Policy Tools," in *Experiences with New Forest and Environmental Laws in European Countries with Economies in Transition*, F. Schmithüsen, P. Herbst, and D. Le Master (eds.), in Forestwissenschaftliche Beiträge der Professur Forest Politik und Forestökonomie der ETH Zürich, vol. 21, pp. 31-40, Zürich.

Luckert, M. K. and Haley, D. 1997. "Problems Governments Face when designing Forest Tenure Systems: An Overview of Canadian Tenures," In: Developments in Forest and Environmental Law Influencing Natural Resource Management and Forestry Practices in the United States of America and Canada. F. Schmithüsen and W.C. Siegel (eds.) IUFRO World Series, Vol 7. p. 217-228, IUFRO Secretariat, Vienna.

Merlo, M. and M. Paveri. 1997. "Formation and Implementation of Forest Policies: A Focus on the Policy Tools Mix," in *Policies, Institutions and Means for Sustainable Forestry Development,* vol. 5, Proceedings of the XI World Forestry Congress, 13-22 October 1997, Antalya, Turkey. Pp. 233-254.

Migot-Adholla, S. E., Place, F., and Oluoch-Kosura, W. 1994. "Security of Tenure and Land Productivity in Kenya," in *Searching for Land Tenure Security in Africa,* Bruce, J., and Migot-Adholla, S. E. (eds.), Dubuque, Iowa: Kendall/Hunt Publishing Company,

Owubah, C. E. 1999. "Structure and Performance of Forest Tenure Systems in Ghana." Ph. D. Dissertation, Purdue University, West Lafayette, Indiana.

Schmithüsen, F. 1996: Tenure and Joint Resources Management Systems on Public Forest Lands: Issues and Trends. In: Forest Research Contributions of the Chair Forest Policy and Forest Economics, ETH Zurich, Vol 17: 35-55; Zurich 1996.

Schmithüsen, F. 1999. "The Expanding Framework of Law and Public Policies Governing Sustainable Uses and Management in European Forests," In: Forest Research Contributions of the Chair Forest Policy and Forest Economics, ETH Zurich, Vol. 21:1-30; Zurich 1999.

Stevenson, G. G. 1991. *Common Property Economics: A General Theory and Land Use Applications.* Cambridge, England: Cambridge University Press.

The New Geopolitics: The Road to 2050," The Economist, July 31st-August 6th 1999, (Sixteen-page insert between pages 46 and 47).

INTERNATIONAL TRENDS IN FORESTRY LEGISLATION: OBSERVATIONS FROM RECENT FAO EXPERIENCE (SUMMARY)

JON LINDSAY

1. INTRODUCING THE FAO'S DEVELOPMENT LAW SERVICE:

What it is and what it does:

- A group of legal specialists...
- Providing assistance to Member Nations on improving national legal frameworks…
- In the technical areas falling within FAO's mandate, including fisheries, water, plants, animals, forestry, land, etc.

The Development Law Service provides three types of services:

- Legal Advice:

  Technical assistance on legislative reform
- Legal Information:

  Computerised legislative data base (FAOLEX)
- Legal Research:

  Legislative studies & legal papers online

Visit our Web Site at: www.fao.org/legal

Extent of Legal Advice Activities

The Development Law Service is currently involved in over 60 ongoing projects in Member Nations.

Why do Member Nations request Legal Technical Assistance?

- Lack of specialised in-country legal expertise
- Increasing need to understand and incorporate international obligations and standards into national legislation
- Desire (or pressure) to adapt to global trends (privatisation, decentralisation, civil society participation, environment, etc.)

The diffusion of legal innovations is no longer a one way street from North to South or from West to East

2. EMERGING TRENDS AND PERSISTING PROBLEMS IN FORESTRY LAW REFORM:

Selected Issues from recent FAO Experience

- local management: devolution and decentralisation
- promoting private forestry
- environment and forestry
- management planning
- improving accountability and law compliance
- institutional and financial issues

Overarching Theme:

- Modern forestry legislation needs to provide a framework that accommodates "multiple interests"
  - ♦ Local, national, international
  - ♦ Economic, social, environmental
  - ♦ Living and unborn
- This is reflected in each of the six areas we will now discuss

2.1 LOCAL MANAGEMENT: DEVOLUTION AND DECENTRALISATION

- What is "Local Management?"
- Four related but different reasons that local management is increasingly promoted:
  - ♦ livelihood needs
  - ♦ land and self-governance rights
  - ♦ more effective management
  - ♦ decentralisation
- A variety of emerging legal strategies:
  - ♦ community-based management
  - ♦ recognition of local or indigenous land rights
  - ♦ decentralisation of forest management to local governments
- Continuing constraints:
  - ♦ Lack of flexibility
  - ♦ Insecurity of rights
  - ♦ Reluctance to devolve real decision-making powers
  - ♦ Failure to match benefits with responsibilities

2.2 PROMOTING PRIVATE FORESTRY

- Typical constraints:
  - unclear or unsuitable land tenure
  - law promotes excessive government oversight and micro-managing
  - licencing, transport and marketing regulations
- Some emerging trends

2.3 ENVIRONMENT AND FORESTRY

- New tools:
  - Planning and inventory provisions closely tied to environmental considerations
  - Environmental impact assessment
  - Greater variety of forest categories
- New sources of legal and institutional confusion

2.4 MANAGEMENT PLANNING

- Increasing prominence in forestry legislation
- Degrees to which it is “binding” on government action such as licencing
- Public review and input
- Problems of capacity

2.5 IMPROVING ACCOUNTABILITY AND LAW COMPLIANCE

- Creating more transparent methods
  - Example: granting forest tenure rights
- Access to information and explanations
- Access to redress (public locus stand)
- Appropriate penalties
- Workable and understandable laws

2.6 INSTITUTIONAL AND FINANCIAL ISSUES

- Forestry institutions
- Forestry funds

3. THE PROCESS AND LIMITS OF LEGAL CHANGE: SOME CLOSING OBSERVATIONS

Laws often fail to meet their objectives: why?

The world is full of ambitious, progressive laws that are "dead letters." Reasons include:

- Corruption and lack of respect for law
- Weak political will
- Weak and impoverished institutions responsible for implementing and enforcing the law, and for adjudicating disputes

But a very important set of reasons lies in the written law itself

- Too complex and difficult to understand for those who use or implement them, including judges, government officials, forest owners and users
- Inconsistent and vague
- Require abrupt and unrealistic changes in institutional or social behaviour

Some "Design Principles" to keep in mind

- Be realistic about the ability of law to enforce or change cultural or economic behaviour
- Be clear about the roles and responsibilities of all government institutions
- Be realistic about what approvals, permissions, procedures, etc., in the law are really critical for achieving the policy objective, and eliminate the rest
- Be realistic about government's financial and institutional capacity to implement the law
- Be realistic about the capacity of citizens to use and comply with the law
- Build "reality checks" into the process of drafting laws
- Focus on law as a tool for "enabling" action, not simply a set of rules that prohibits and constrains action

CHALLENGES IN IMPLEMENTING FOREST LEGISLATION IN BULGARIA

NICKOLA STOYANOV

"Sustainable forest - our common care" - this is the slogan under which Bulgarian foresters work this year. 1999 is important for the specialists and workers in Bulgarian Forestry because they note several anniversaries: 120 years from creating of Central Forest Service, 100 years from the beginning of forestry periodicals, 90 years from creating the Union of Bulgarian Foresters, 70 years from graduation of the first alumni of specialists with higher forestry education.

After the adoption of new forest laws in 1997, Bulgarian foresters work on the elaboration of regulations, instructions, orders, and methods for implementing the new legislation. Challenges for the implementation of forest legislation in Bulgaria relate to the following aspects: restoration of the property on forests and forest lands, realizing a new management and economic structure of forestry, adapting forest legislation to European standards, elaboration of new laws connected with forestry development and conservation.

1. RESTORATION OF THE PROPERTY ON FORESTS AND FOREST LANDS

In this respect, the main efforts were directed to improving the Law for the restoration of the property on the forests and forest lands of the Forest Fund (LRPFFLFF). In the last two years, different regulations and instructions were elaborated for the implementation of the LRPFFLFF. Such documents are: instructions for filling in applications for the restoration of property, instructions for the conditions and procedures for receiving the right of property from the forest fund by citizens and for buildings on this land granted to them for use.

Several corrections of the LRPFFLFF have occurred. Through these corrections the ways for the restoration of the property of former forest cooperatives were improved. This concerns, for instance, elaborated rules for the restoration of the property to citizens, which do not have documents proving their property rights due to circumstances beyond their control. The deadline for applications for the restoration of property rights of forests and forest lands was extended. Regulations for the implementation of the LRPFFLFF have been amended accordingly.

Several pilot projects for the restoration of property under different conditions of the country have been launched in the meantime. Methods for activities of firms which work on the preparation of plans and maps for the restoration of forests and forest lands and instructions in order to restore property of afforested agricultural lands have been elaborated.

In the future, still more work is needed in order to accomplish the restoration of property rights and for elaborating the necessary documentation connected with this matter. The deadline for finishing the main activities on the restoration of property on forests and forest lands is the end of the year 2000.

2. DIVIDING STATE FUNCTIONS AND MANAGER'S FUNCTIONS WITHIN THE FOREST BRANCH

A new management structure in accordance with the requirements of the LPFFLF has been elaborated. The previous and the new management structures in forestry are shown in fig. 1 and 2. The main feature of the structure is that Forest Enterprises are state organizations and fulfil simultaneously controlling (management), economic production, trading and managerial functions.

Fig.1. Management Structure of the Forest Branch before Accepting the Law for the Restoration of the Property of Forests and Forest Lands (1998).

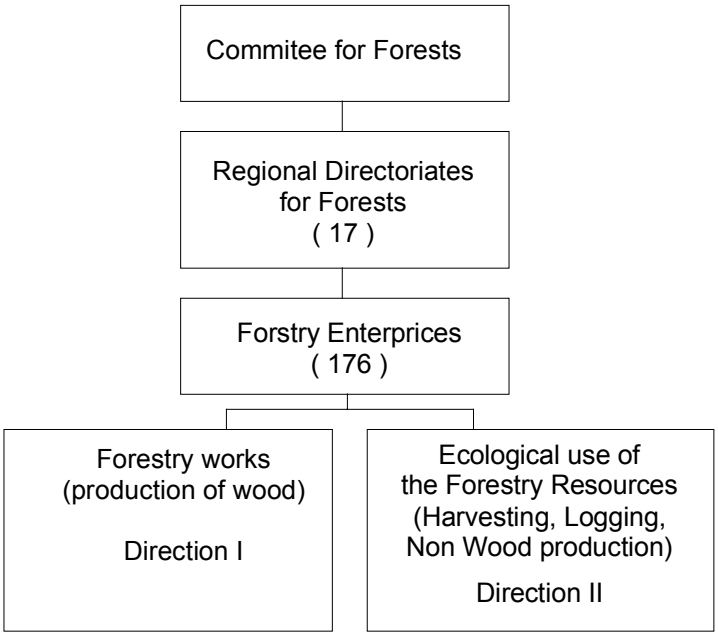
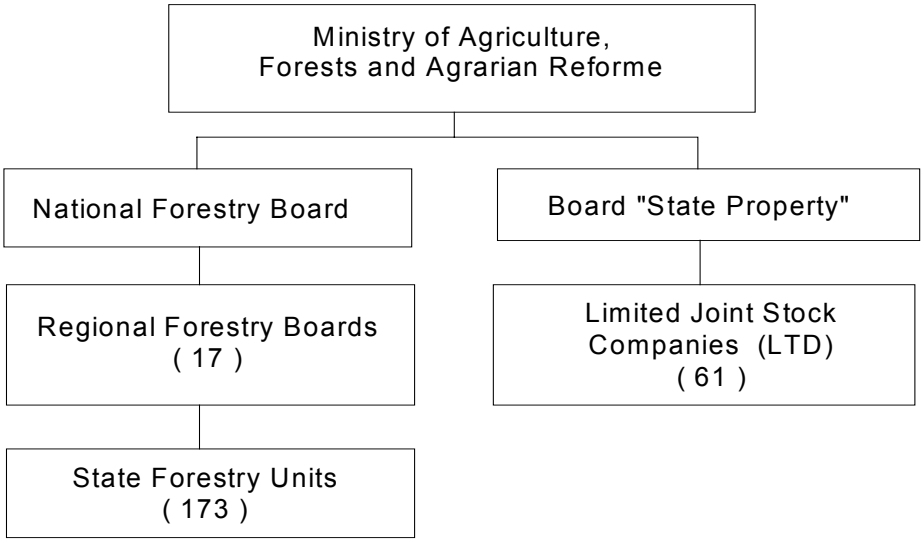


Fig. 2. Management Structure of the Forest Branch in Bulgaria after the Adoption of the LRPFFLFF (1999).



The task was accomplished within three months in the beginning of 1999. The result of the reorganization are 173 State Forestry Units and 61 new Limited Joint-Stock Companies created at the lowest management level.

The task of State Forestry Units is coordination and control of the reproduction of forests, the use of forests and lands and their protection, constructions and buildings, the collection of means, and the financing procedure within the Forest Fund.

The activities of the Limited Joint Stock Companies refer to harvesting, logging and other works connected with the use of wood, the processing of wood, non wood production, hunting etc. At present the Limited Joint Stock Companies are created with state capital (the joint stock capital is 100 % state). The following step is to announce and to accomplish the privatization of these companies. This process is starting now in our country. The State Limited Joint Stock Companies are thus transitory structures, which are necessary in the transition period from old to new forest legislation. The recommended deadline for accomplishing the privatization of these companies is the end of 2000.

3. ADAPTION OF BULGARIAN FOREST LEGISLATION TO EUROPEAN STANDARDS AND LEGISLATION

The main priorities in this respect are the following:

- Development, acceptance and implementation of different laws, regulations, instructions and ordinances in a consistent framework of forest legislation.
- Harmonization of the new forest laws and regulations with European standards.

After acceptance of the New Forest Laws numerous normative documents were developed and adopted (Tab. 1).

Table 1: Normative Documents Elaborated for Implementing the New Forest Laws

No	Name of document	Date/year of adoption
1.	Regulations for implementation of the Law for the forests	Decree No 80 of April 6, 1998
2.	Regulations for implementation of the Law for restoration of the ownership of the forests and the land of the forest fund	Decree No 55 of March 5, 1998
3.	Ordinance for revenue and expenses and for accounting of the National Fund "Bulgarian forest"	
4.	Ordinance No 17 for licensing individuals and corporate bodies for private forestry practice in the Republic of Bulgaria	July 1, 1998
5.	Ordinance No 30 for using wood from the forests	December, 1998
6.	Ordinance No 32 for valuation of forests and forest lands of the forest fund	January, 1999
7.	Tariff for the charges, which are collected according to the Law for the Hunting economy and the Law for the Fishing economy	December, 1998
8.	Ordinance for the amount of the compensations for causal damages to the hunting economy	December, 1998

9.	Ordinance for the amount of the compensations for causal damages to the fishing economy	December, 1998
10.	Tariff for charges for excluded or conceded areas from the state forest fund for use	December, 1998
11.	Tariff for stumpage prices for round wood, fuel wood and brushwood harvested from the state forest fund	December, 1998
12.	Tariff for non wood forest uses and for non wood forest products harvested from the state forest fund	December, 1998
13.	Tariff for charges for administrative and technical services	December, 1998
14.	Tariff for charges for conceded hunting areas from the state forest fund	December, 1998
15.	Regulations for uniformed and working clothes of the employees and workers in the National Forestry Board and its units	1999
16.	Instruction for filling in the applications for the restoration of property	1999
17.	Instruction for the conditions and for procedures to receive the right for property on forests and forest lands from the forest fund by citizens, and buildings on the land granted them for use	1999
18.	Methods for afforestation	1999
19.	Safety regulations for work in the forests	1999
20.	Ordinance for use of wood from State Forestry without paying stumpage prices	1999
21.	Ordinance for control service and forest-guards in the forests	1999
22.	Ordinance for building in the forests and on forest lands of the forest fund	1999
23.	Ordinance for normatives for building on land of the forest fund	1999

In process of elaboration are the following documents: Instruction for the conditions for use of wood from forests and forest lands of the forest fund; Instruction for protection of forests from pests, diseases and other damages; Ordinance for the conditions and ways for applying plant-protective measures in the forests; Instruction for erosion and torrents control; Instruction for afforestation and stock-taking of forest cultures in forests and forest lands in the Republic of Bulgaria; Instruction for production of planting material; Instruction for construction, management and use of forest seed production; Instruction for valuation the renewal in the forests in Bulgaria; Instructions for collecting, processing, conserving and presowing preparation of forest seed; Instruction for projecting steel concrete barrages etc. Part of these documents (as issued up to December 1998) were published in a special document.

Our legislation initiatives focused so far on the protection of Bulgarian forests, on the implementation of the state measures on inspection and control, and on regulation of private forest practices.

In order to coordinate forest related laws and the normative acts with European standards and with the Directives of the European Union a special commission at the National Forestry Board has been created. All documents are examined before adoption by the members of this commission. In this way forestry legislation documents are elaborated in accordance with the requirements of the European legislation.

4. NEW LAWS CONNECTED WITH THE FOREST LEGISLATION

In 1998 the Law for Protected Territories was adopted. The Law for Hunting passed in Parliament at first reading and we will wait that the members of parliament and specialists will put this law into final form.

In the future, several new laws are to be adopted: Law for Fishing, Law for Medicinal Herbs, Law for Water etc.

The latest developments and implementation of the whole set of laws related will lead to sustainable forestry and improved protection and management of the forest resource in Bulgaria.

THE PROTECTED TERRITORIES IN BULGARIA - CHARACTERISTIC AND STATUTE

IVAN STOYANOV

HISTORICAL MESSAGES

Environmental legislation in Bulgaria was initiated with the first Laws for the Forests, adopted at the end of the 19th century and at the beginning of the 20th one. There were special sections and articles devoted to the definition, management and procedures of the declaration of protective and of strictly protective forests. In 1928 the *Union for the Protection of the Native Nature* was created, the basic aim of which was the protection of the integrity of nature and the conservation of some rare or typical nature sites. Its initiatives for the protection of the natural variety of the country led in 1933 to the recognition of the first two reserves in Bulgaria - *"Silkosija"* in Strandja Mountain and *"Parangalitza"* in Rila Mountain. In 1934 the first National Park of the Balkans - *"Vitosha"* was created.

The first law for protected natural territories in Bulgaria was promulgated in 1936, the *Law for Protection of the Native Nature*. In the following year regulations concerning the application of the law were approved. They established objectives and tasks for national parks and reserves in the country. According to the law four categories of protected territories were defined: *reserves, national parks, natural monuments and natural-historical areas*.

In a historical perspective the development of legislation for the protection of nature in Bulgaria is closely connected with the development and the amendments of forest law. A definition of different categories of protected territories is also given in the Laws for the Forests and in Environmental Laws. The Forest Laws regulate the decision process for including particular areas within protected territories. The Environmental Laws regulate its statute and management objectives.

The chronology of Bulgarian legislation connected with protected natural objects and territories is the following:

- Law for the Forests 1883; 1889; 1897; 1904; 1922; 1925.
- Law for Protection the Native Nature 1936. Regulations for Implementing the Law 1937.
- Law for the Forests 1958.
- Decree for Protection of Native Nature 1960.
- Law for Protection of the Nature 1967; Regulations 1969.
- Regulations for the implementation of the Forest Law 1975.
- Red Book of the People's Republic of Bulgaria 1984.
- Regulations for setting up, organizing and managing forests and territories of special designation 1989.
- Law for Conservation of the Environment 1991.
- Law for the Forests 1997.
- Regulations for implementation of the Forest Law 1998.
- Law for Protected Territories 1998.
- Regulations for the Organization, Functions and Activities of Natural Parks within the National Forestry Board 1999.

As of 1994 the categories and the area of protected territories in Bulgaria, according to the classification of the Law for Protection of the Nature (1967) which is still in force are the following (Table 1):

Table 1: Distribution of Categories of Protected Territories According to Number and Area (as of 1994)

Category	Number	Area (ha)	% of the Total Protected Area
National parks 1)	11	249323 (293000)	65 (76)
Reserves 2)	89 (71)	76987 (33000)	20 (9)
Natural landmarks	430	22 849	6
Protected areas	99	21015	6
Historical places	972	12 139	3
Total	1601	382 313	100

1) The figures in parenthesis indicate the National parks area including the 18 reserves situated in their territory.
2) The figures in parenthesis indicate the number and area of Reserves situated outside of the territory of National parks.

Source: Mihailov M., L. Mileva. Management of the Protected Territories in Bulgaria. In National Strategy for the Conservation of Biodiversity, V.2, Sofia, 1994.

THE LAW FOR PROTECTED TERRITORIES (1998)

The new law for Protected Territories in Bulgaria has been adopted on 30.10.1998 by the National Assembly and promulgated by Decree No 392 of 11.11.1998.

The law determines the categories of protected territories, the purpose and regime for conservation and use, and the rules for promulgation and management. Protected territories are now classified as follows: Reserves; National Parks; National Landmarks; Maintained Reserves; Natural Parks; Protected Areas. According to the law only the parks with national importance ("Rila", "Pirin" and "Centralen Balkan") and natural reserves, indicated in a special annex are exceptionally state property.

The second chapter of the law deals with the purposes and regimes of conservation and use of protected territories. The ways for promulgation (creation) and for accomplishing changes of protected territories are developed in the third chapter. Chapter four is devoted to the functions of the management bodies, the objectives, requirements and elaboration of management plans and to the protection of the constituted territories. The sources for financing the activities in and regulations for spending the resources are contained in chapter five, the administrative and prosecution provisions in chapter six. The end section of the law refers to transitional and concluding provisions.

There are two appendices, the first on promulgation, territory, borders and kinds of areas in National Parks, and the second on number, affiliations, area, kind of documents and date of promulgation of Natural Reserves.

Within one year after the coming into force of the law (up to 13.11.1999) the parks, indicated in appendix 1 (Pirin, Rila and Centralen Balkan) can be reclassified as National Parks. Reserves enumerated in appendix 2 can to recategorize into maintained reserves with maintained, directed, regulated or restorated activities.

The remaining protected areas can to classified within tree years under one of the following protected categories: Natural Landmarks, Natural Parks and Protected Areas.

After the recategorization of the protected natural territories, according to the new Law, the Bulgarian classification of the protected territories will be consistent with the classification of the International Union for the Conservation of Nature (IUCN) (Table 2).

Table 2: Protected Natural Territories in Bulgaria

Law for the Protected Territories - Bulgaria	Classification of the International Union for the Protected Territories (IUCN)
Reserves	Strict Nature Reserve / Wilderness Area
National Parks	National Park
Natural Landmarks	Natural Monument
Maintained Reserves	Habitat / Species Management Area
Natural Parks	Natural Monument, Habitat / Species Management Area
Protected Areas	Protected Landscape / Seascape

NATURAL PARK "VITOSHA"

The park "Vitosha" was established in 1934 as a result of several years of efforts by the Union for Protection of Nature and by the Forests, Hunting and Fishery Section at the Ministry of National Economy. Its area was 6401 ha.

In 1935 there were created the first specialized state structures for management of the protected territories in Bulgaria - the unit "National Park Vitosha" under the Section for Forests, Hunting and Fishery at the Ministry of National Economy. After several changes the area of the park is now 26 606 ha of which the forest area is 24 088 ha. On the territory of the park there are established 1489 higher plant species of which 25 are Bulgarian and 31 Balkan endemics.

Simultaneously with the park creation the reserve "Bistrishko branishte" was established in 1934. It's area is 1061 ha from the territory of the park. In 1977 the Director General of UNESCO promulgated this area as Biosphere Reserve. Together with 16 other Bulgarian reserves the reserve "Bistrishko branishte" is a part of world wide network of Biosphere Reserves created under the program "Man and Biosphere" - MAB - UNESCO.

The second reserve in Vitosha is "Torfeno branishte". Its area was at first is 144 ha extended in 1980 up to 782 ha. The purpose of the reserve "Torfeno branishte" is to conserve the peat complexes in the higher mountain part of Vitosha.

Within the park there are the following Natural Landmarks: "Duhlata" - the longest cave in Bulgaria with approximately 16 km galleries situated on 6 floors and with 6 underground rivers, the Boyana waterfall, monasteries and churches.

The main problem of the reserves and of the park is the important pressure from visitors. The immediate vicinity of the "Vitosha" Park to Sofia and the close proximity of the turrets complex "Aleko" to the reserve "Bistrishko branishte" are a reason for difficulties to control the stream of people passing trough the reserve.

At the recategorization of the protected territories in Bulgaria the park "Vitosha" has passed from the category "National" to the category "Natural" park. A plan for management with objectives and measures commensurate with its statute will be elaborated in the near future. Management and control in the park are subject to the activity of the administration of Natural Park "Vitosha", which is a department of the National Forestry Board at the Ministry of Agriculture, Forests and Agrarian Reform.

In 1999 65 years have passed since the promulgation of "National Park "Vitosha".

CONCLUSION

From the review of forests and environmental legislation for protected natural objects and territories in Bulgaria the following points appear as important:

- There is considerable experience in Bulgaria regarding environmental legislation - during a century about 20 laws and regulations have been adopted, changed and supplemented, according to the changed conditions.
- The categories of protected natural territories which are determined in the Law for Protected Territories correspond largely to the classification of the International Union for the Conservation of Nature (IUCN).
- In Bulgaria there are a considerable number and large areas of protected territories, reserves and national parks which will remain exclusive state property in the future.

In the years to come the following activities need particular attention:

- The recategorization of the protected territories can be accomplished in shorter terms than defined in the Law for Protected Territories in order to keep their status and statute.
- The Ministry of Environment and Water should develop regulations, instructions and plans connected with implementation of the Law for the Protected Territories.
- In connection with the transfer of management responsibilities for protected territories under exclusive state property from the National Forestry Board to the Ministry of Environment and Water, it is necessary to create administrations which have the possibilities to fulfil the functions determined in the Law for Protected Territories.

VORBEREITUNG DER NOVELLE DES TSCHECHISCHEN FORSTGESETZES

MARTIN CHYTRÝ UND JIRÍ STANEK

In der Tschechischen Republik gibt es derzeit mehr als 2 630 000 Hektar Wald. Davon sind 64% in staatlichem Besitz, 13% in Gemeindebesitz und 23% im Besitz natürlicher Personen. Diese Eigentümerstruktur ist das Ergebnis des Mitte 1991 begonnenen Restitutionsprozesses, wobei vorher praktisch alle Wälder auf dem Gebiet der Tschechischen Republik im Besitz des Staates oder der damaligen landwirtschaftlichen Produktionsgenossenschaften waren oder von diesen genutzt wurden. Die Anzahl der tschechischen Staatsbürger, denen nach 1991 Wälder zurückgegeben wurden, wird auf mehr als 130 000 geschätzt. In den meisten Fällen handelt es sich um Wälder bzw. Waldbesitz kleiner bis sehr kleiner Flächen (0,2 bis 3 ha).

Die Änderung der Eigentümerstruktur der Wälder war einer der wichtigsten Gründe für die Verabschiedung des neuen Forstgesetzes. Das Gesetz Nr. 289/1995 Gbl. zum Wald und zu Änderungen und Ergänzungen bestimmter Gesetze (Forstgesetz), welches am 1. Januar 1996 in Kraft trat, wurde in einer Zeit verabschiedet, in der das Privateigentum als Garantie der wirtschaftlichen Prosperität und der besten Fürsorge für jedwedes Vermögen allgemein betont wurde. Deshalb wurde das Forstgesetz auch so konzipiert, dass der Adressat der Rechte und Pflichten der Bewirtschaftung des Waldes in erster Linie der Waldeigentümer ist. Dagegen wurden die Forstverwaltungsbehörden nur mit den notwendigsten Vollmachten ausgestattet.

Zum Zeitpunkt der Verabschiedung des Forstgesetzes gab es noch keine ausreichenden Erfahrungen mit der Einstellung der neuen Waldeigentümer, insbesondere natürlicher Personen, zum erworbenen Waldbesitz. Man ging im wesentlichen von der Voraussetzung aus, dass jeder Waldbesitzer selbstverständlich bemüht ist, sich so gut wie möglich - und bestimmt besser als die bisherigen staatlichen Forstwirtschafts-Organisationen - um seinen Waldbesitz zu kümmern. Hierbei sollte er nicht durch zu umfangreiche Vollmachten der Forstverwaltungs-behörden eingeschränkt werden.

Die Erfahrungen der Forstverwaltungsbehörden, der Fach-Forstwirte und weiterer Organisationen z.B. der Tschechischen Umweltinspektion oder des Umweltministeriums als oberstem Aufsichtsorgan zeigen inzwischen, dass die Fähigkeit bzw. die Bereitschaft vieler Waldeigentümer, ihre Wälder in Einklang mit dem Forstgesetz zu pflegen, überschätzt worden ist. Ein grosser Teil der Personen, denen Wälder zurückgegeben wurden, hat nicht die Möglichkeit bzw. kein Interesse, ihren Wald im gesetzlich vorgeschriebenen Umfang zu pflegen. Die Gründe dafür sind teils objektiver Natur z.B. bei alten Leuten, die in der Stadt weit entfernt von den Wäldern, die ihnen zurückgegeben wurden, wohnen. Teilweise sind sie auch rein subjektiver Art, da die Eigentümer ganz einfach kein Interesse am Wald als Vermögen haben. Die Erfüllung ihrer gesetzlichen Pflichten stellt vielmehr eine zusätzliche Belastung dar.

Die Tatsache, dass Waldeigentümer ihre Wälder nicht bewirtschaften können oder wollen bzw. versuchen, ihren Waldbesitz zu veräussern, wird von bestimmten Unternehmern, die sich mit der Nutzung und dem Verkauf von Holz beschäftigen, ausgenutzt. Diese Unternehmer suchen private Waldbesitzer auf und kaufen von

diesen zu niedrigen Preisen den Waldbestand, den sie dann ohne Rücksicht auf die Einschränkungen des Forstgesetzes fällen, das Holz abtransportieren und mit grossem Gewinn weiterverkaufen. Sie nutzen dabei die Mängel des Forstgesetzes aus, die in diesem Zusammenhang darin bestehen, dass sich die im Forstgesetz vorgesehenen Pflichten bzw. die Einschränkungen der Holznutzung auf den Waldeigentümer beziehen, und nicht auf denjenigen, der den Wald de facto gesetzwidrig nutzt. Die Aktivität dieser Unternehmer erreicht in manchen Gegenden ein Ausmass, das als Plünderung bezeichnet werden kann.

Um die unerlaubte Holznutzung einzuschränken, hat das Landwirtschaftsministerium den Entwurf einer sog. kleinen Novelle des Forstgesetzes vorbereitet. Diese Novelle spezifiziert die Bedingungen zur Bewilligung der Holznutzung in den Wäldern kleinerer Eigentümer und erhöht die Strafmassnahmen, die von den Forstverwaltungsbehörden für unerlaubte Holznutzung getroffen werden können (gemäß Entwurf auf bis zu zwei Millionen Kronen). Der Entwurf der Novelle des Forstgesetzes wurde von der tschechischen Regierung im Juli 1999 verabschiedet und anschliessend vom Parlament behandelt.

Anfang 1999 begann das Landwirtschaftsministerium mit der Vorbereitung einer weiteren umfangreichen Novellierung des Forstgesetzes. Die während der dreijährigen Gültigkeit des bisherigen Gesetzes gewonnen Erfahrungen zeigen, dass die Bestimmungen des Forstgesetzes zum Schutz der für die Erfüllung der Funktionen des Waldes bestimmten Grundstücke sowie zur allgemeinen Nutzung des Waldes geändert und ergänzt werden müssen. Die Novelle des Forstgesetzes wurde vom Landwirtschaftsministerium in enger Zusammenarbeit mit dem Umweltschutzministerium, den Interessenverbänden der Waldbesitzer und mit der Fachöffentlichkeit vorbereitet.

Die staatliche Förderung der Forstwirtschaft durch finanzielle Unterstützung (Subventionen) oder Dienstleistungen bzw. durch Übernahme der Kosten für bestimmte fachliche Tätigkeiten brachte positive Ergebnisse. Bei einigen Massnahmen zeigt sich jedoch, dass der Staat nicht unerhebliche Mittel ohne den entsprechenden positiven Effekt aufwendet. Dies gilt insbesondere

- für die Forstwirtschaftsplanung (Forstrichtlinien, Instruktionen),
- für die Unterstützung der Pflanzung eines Mindestanteils von Meliorations- und Schutzbaumarten bei der Aufforstung (Erneuerung des Bestandes),
- für die Übernahme der Kosten für die Tätigkeit der Fach-Forstwirte.

Der Umfang dieser staatlichen Unterstützungen muss daher neu eingeschätzt und in bestimmten Fällen eingeschränkt werden. Die Vereinfachung der Forstwirtschaftsplanung kleiner Wälder in Privatbesitz bringt deutliche Einsparungen.

Ein weiterer Zweck der Novellierung des Forstgesetzes besteht in der Spezifizierung der Vollmachten der Forstverwaltungsbehörden und in der Ergänzung der Strafbestimmungen, die bei Nichterfüllung von seiten des Waldeigentümers oder einer anderen Organisation angewendet werden können. Das Gesetz muss auch die Kompetenzen der Forstverwaltungsbehörde regeln, Waldbesitz in denjenigen Fällen unter Zwangsverwaltung zu stellen, in denen der Waldbesitzer seine durch das Forstgesetz auferlegten Pflichten bei der Bewirtschaftung des Waldes langfristig nicht erfüllt und in denen auch Strafen keine Abhilfe schaffen. Um solchen Notlösungen vorzubeugen, enthält der Entwurf die Möglichkeit, den Waldbesitzer vor Beginn der Holznutzung zur Hinterlegung einer finanziellen Sicherheit (Garantie) zu verpflichten, sofern begründeter Zweifel besteht, dass das genutzte Waldstück neu

bepflanzt wird. Es handelt sich um eine vergleichbare Bestimmung zu § 89 des deutschen Forstgesetzes.

Die Novellierung des Forstgesetzes bietet auch die Gelegenheit, die Harmonisierung mit den EU-Vorschriften anzugehen. Im Bereich der Forstwirtschaft betrifft dies derzeit vor allem die Regelung der Gewinnung von Samen und Forstpflanzen und die einheitliche Klassifizierung von Rohholz.

Auf Vorschlag des Landwirtschaftsministeriums hat die Regierung der Tschechischen Republik im Mai 1999 die Einrichtung eines Staatlichen Waldfonds genehmigt. Der Entwurf des Gesetzes über die Einrichtung des Staatlichen Waldfonds liegt bereits vor. Gegenstand des Fonds sind insbesondere Beiträge, Dienstleistungen und Unterstützung für juristische und natürliche Personen, die in Wäldern auf dem Gebiet der Tschechischen Republik im Bereich Jagd und Forstwirtschaft tätig sind. Hiervon ausgenommen sind Wälder in Naturparks und Wälder, die zur Verteidigung des Staatsgebietes genutzt werden.

Die finanziellen Mittel erhält der Fonds:

- aus dem Staatshaushalt,
- aus den Erträgen für die dauernde oder vorübergehende Ausgliederung von Waldgrundstücken aus dem Waldgrundstücksfonds (Boden zur Erfüllung der Funktionen des Waldes),
- aus den Erträgen der gemäss Forstgesetz erhobenen Geldbussen,
- aus Schenkungen, Beiträgen und weiteren Finanzquellen.

Der Staatliche Waldfonds soll zum 1. Januar 2001 eingerichtet werden.

Bei den Rechtsvorschriften zum Umweltschutz erfolgten ebenfalls wesentliche Änderungen. Insbesondere wurde zum 1. Januar 2000 per Gesetz Nr. 161/1999 Gbl. der Nationalpark „Tschechische Schweiz„ gegründet. Es handelt sich um den vierten Nationalpark auf dem Gebiet Tschechiens mit einer Fläche von ca. 7.500 Hektar. Die Gesamtfläche der tschechischen Nationalparks einschliesslich der Schutzzonen erreicht damit 140 000 Hektar.

Gleichzeit erfolgte eine Novellierung des Landschafts- und Naturschutzgesetzes. Insbesondere wurde der Einfluss der Gemeinden und Gemeindebehörden auf die Bestimmung und die Änderung von Naturschutzzonen erweitert. Das Umweltschutzministerium hat ausserdem einen Entwurf zur Änderung des Gesetzes zur Beurteilung von Umwelteinflüssen erarbeitet. Zweck dieser Änderung ist vor allem die Übereinstimmung mit den EU-Vorschriften, insbesondere der Richtlinien über die Beurteilung der Einflüsse verschiedener öffentlicher und privater Projekte auf die Umwelt (85/337/EEC).

Die in Tschechien anstehende Reform der öffentlichen Verwaltung wird erhebliche Konsequenzen für das System der Forstverwaltungsbehörden haben. Im Rahmen dieser Reform werden vierzehn Bezirksämter errichtet, die auf ihrem Gebiet die Aufgaben der Selbstverwaltung erfüllen und daneben auch die Staatsverwaltung einschliesslich der staatlichen Forstverwaltung übernehmen. Der Aufgabenbereich der Bezirksämter innerhalb der Staatsverwaltung wird durch ein eigenes Gesetz geregelt.

THE FOREST ACT 1999 OF ESTONIA

PAAVO KAIMRE

GENERAL FOREST POLICY OBJECTIVES

The Estonian forest policy recognizes that the Estonian forests have high environmental and ecological values including species biodiversity and landscape, natural stand structure etc. The existence of forests contributes to alleviating environmental problems both at local and global levels. On the other hand, the forest policy is underpinned by the notion that the Estonian forest sector has a high capacity to provide material and social benefits, and that the utilization of this potential will be encouraged to the extent that other values and benefits are not lost or reduced. Third, it is considered imperative that the action taken today does not reduce the amount and range of benefits available to future generations (Estonian Forest Policy, 1997).

Based on these considerations two principal, closely interrelated objectives for the Estonian forestry sector are set:

- *sustainability of forestry***,** which is considered to require management and utilization of forests and forest land in a manner and at a rate which maintains their biological diversity, productivity, capacity for regeneration, and vitality as well as their potential to fulfill at present and in the future ecological, economic and social functions at local, national and global levels without damaging other ecosystems
- *efficiency in forest management***,** which entails securing an efficient production and effective utilization of valuable forest-based products and services for present and future generations

One group of tools to reach these objectives are legislative documents. The most important of these is the Forest Act.

Already the second Forest Act approved by Parliament in transition period is valid in Estonia . The actual Forest Act came into force on the 9th of January 1999.

THE BACKGROUND OF THE FOREST ACTS

The preparation of new forest legislation started before the regained restoration of Estonia. In October 1987 the first draft of a new concept of forestry was finished containing several principles which were subsequently adopted by new legislation. The concept itself was approved in December 1988 (Etverk, 1998), attracting extensive public discussion.

The quick and often unexpected changes in politics and the economic situation were characteristic to Estonia between the years 1989 – 1992. In 1992 – 1993 several administrations were actively engaged in drafting a new forest act. Reading the bill in the Parliament (*Riigikogu*) was carried out under the pressure and attention of different interest groups (the Ministry of Agriculture, private forest owners). The most important controversial articles were:

- the guidance of forestry (administration);
- state control over private forests.

One alternative to the draft turned down by Parliament was a less improved version of forest law enforced in 1934. The new Forest Act was declared on the 20th of October 1993.

The revision of the act leading to the adoption of the Forest Act 1999 became topical due to the fact that the importance and share of private owned forests had increased since 1993. The amount of juridical problems connected with the management of private owned forests had increased too. New concepts of separating the management of state-owned forests and forestry supervision were elaborated in the middle of the 90s. It became important to follow the principles dominating in Europe such as protection of biodiversity, and sustainable development. One of the main purposes of the new act is to direct balanced development of forests as living environment and management objects.

OWNERSHIP PATTERN AND INTEREST GROUPS

The distribution of forest areas between different owners in December 1998 was the following: State forests 47%, private forests 19%, forests not returned to its legal owners 34%. The big share of forests not returned to its legal owners shows that restitution will last for years and will continue to influences state's forest policy. As it is declared in ownership reform, land will be returned to owners or their descendants based on the cadaster data on 23rd of July, 1940. Thus the following division in forest ownership can be predicted: 59% of private owned forests (1,3 million hectares) and 41% state owned forests (0,9 million hectares). In the beginning of 1999 approximately 40 000 private forest owners were in Estonia. The area of private forest was ca 400 000 hectares. Most of the private forest holders had an area from 5 ha to 20 ha.

The role of the forest industry in Estonian economy is remarkable, especially in contribution to the balance of payment. The export of timber and timber products gained 17% of export volume in 1997 (Väliskaubandus 1997). The timber processing industry provides 2,9% of the employment, in addition to the people engaged in harvesting and silviculture. The development of the industry is influenced by available forest resources and long term traditions in industry. In the 1990, essential developments have taken place in volumes of mechanical forest industry and used technology. The industrial capacity has grown to the extent of facing the problem of procuring suitable raw material from the domestic market.

Most of the forest industry enterprises were privatized between 1993 – 1995 and the new enterprises with private capital are powerful competitors to the state enterprise dealing with harvesting. It is not in the interests of private enterprise to enable the state as a large forest owner to influence the market of services and raw material by unfair competition.

SCOPE OF THE FOREST ACT 1999

The Forest Act 1999 defines forests as a site of woody vegetation with an area of at least 0.5 ha that meets one of the following criteria:

- the height of the trees is at least 1.3 m and the canopy density at least 30 per cent;
- it is managed for obtaining timber or other forest products, or the woody vegetation is maintained for the use in the ways specified in the Act.

The Act applies to land and the associated flora and fauna provided it has been entered in the cadastral register as forest land. The Act does not apply to the following areas:

- parks; green areas; berry gardens; orchards; nursery gardens; arboreta; railway, highway and field shelterbelts and protection belts with a width of up to 20 m; plantations of trees and shrubs; protection belts of water courses;
- plots of land for which the designed conditions or a detailed plan provides an other type of land use than forest management;
- private owned land that has not been entered in the cadastral register as forest land, where the average age of woody vegetation does not exceed twenty years.

The Forest Act includes different management provisions and in particular: forest management planning; forest management rules; the use of forests; forestry development planning; the management of state forests.

Forest Management Planning: Forest survey and management planning is carried out to obtain data on the condition of forest and the volume of forest stock, to prepare forest management plans or to counsel forest owners, and to assess the suitability of the ways and methods of forest management and the functioning of forestry-related legislation. Forest management regulations refer to the following elements: forest inventory; preparation of forest management plans or forest management recommendations; assessment of forest management. The rights and obligations of the forest owner are fixed in the act. Private owners have the right to get forest management recommendations drawn up after every 10 years and financed by the state budget. Forest owners have the right to make their own proposals for such recommendations. The allowable cutting volume is not anymore determined by the management plan but forest conditions.

Forest Management Rules: Detailed guidelines concerning reforestation are indicated in the act, as well as the purposes of thinning and regeneration, and felling criteria. Rotation ages of different tree species are part of the management rules.

The use of forests: Regulations are based on the purpose of forest use, the respective forest category and the ways of forest use corresponding to these. The principal uses are as follows: to maintain natural objects; to protect the environment; to gain economic benefits. The purpose of forest use shall be determined by the owner, if it is not determined by a spatial plan established pursuant to the Act on Planning and Construction or by a legal act. If the scope of forest use is not restricted legally it has to ensure simultaneous satisfaction of ecological, economic, cultural and social needs. The purpose of forest use shall be fixed in a forest management plan or in forest management recommendations.

Forestry Development Planning: Direction of forestry shall be performed through a forestry development plan prepared at the state level. The forestry development plan shall integrate the issues of forest management, timber industry, timber trade, environmental protection and socio-economic issues. It sets out forestry programmes requiring state financing, and determines the borders of state forests**.** Development plans shall be prepared at least once every ten years. The preparation of the development plans shall be organized by the Ministry of the Environment, the costs shall be covered from the state budget. The Government of Estonia shall submit the development plan as an essential national issue to the Parliament (*Riigikogu*) for approval.

Management of State Forests: One of the most important articles of the act is the establishment of the State Forest Management Centre. This organisation is legaly competent for the management of state forests. The Centre is a profit-making state agency whose permitted scope of economic activity, forest management obligations and organization of activities are provided for in the Forest Act. Economic activities must bring the Center a return that is sufficient to ensure:

- preparation of a state forest management plan;
- reforestation, cultivation, protection, use and transfer for use of state forests in accordance with the requirements of law;
- transfers to the state budget revenue in the amounts provided by law;
- transfers to the Environmental Fund in the amounts provided by law;
- sales of standing crop or timber to forest industries to an extent that provides for a balanced flow of state budget revenue from this branch of the economy;
- if necessary, the application of mechanisms that stabilize the timber market;
- performance of public functions assigned to state forests.

The statutes of the Centre are to be approved by the Government of Estonia on the proposal of the Minister of Environment.

IMPLEMENTATION OF THE FOREST ACT

In order to ensure a stable state of the environment and diverse uses of forests, the area of state owned forest shall form at least 20 per cent of the mainland area of the Republic of Estonia. The area of state forest in every county shall be determined by the Government of Estonia on the basis of a forestry development plan.

Private forestry shall be supported by the following activities:

- preparation of forest management recommendations;
- consultation;
- encouragement of joint activities.

The state may support private forestry on the basis of a forestry development plan also by amelioration works, construction of roads and afforestation of wasteland. The activities listed above shall be financed from the state budget. The costs for the establishment of a foundation for supporting the development of private forestry and the costs of participation in the activities of the foundation shall be covered from the state budget.

The following duties shall be performed by the state:

- development of forest policy and legislation;
- administration of state forest;
- management of state forest;
- ensuring of a good state of forest;
- support of private forestry;
- forest survey, forest management planning and forest accounting;
- state supervision;
- organization of forestry education and forest science;
- direction of hunting management.

The involvement of appropriate non-governmental organizations in the development of forest policy and legislation must be ensured.

ENVIRONMENTAL ASPECTS

According to the Forest Act Estonian forests are divided into three categories: protected forests, protection forests and commercial forests.

Forests that are designated to maintain natural objects belong to the category of protected forests. Protected forests are located in a strict nature reserve zone or in special management zones of protected areas where economic activities are prohibited. The permitted interventions in protected forests refer to: nature conservation; environmental protection; and research and education.

In managing a protected forest the width of a clearcut shall not exceed 30 m and an area of 2 ha. The area of shelterwood cutting shall not exceed 10 ha. Restrictions on the management of protected forest shall be based on the Act on Protected Natural Objects and the protection rules of protected areas. Forests which have been designated to protect the state of the environment belong to the category of protection forests. The statutory decisions of environmental supervision agencies and the inspectors of these agencies are binding for the owner of forest. If forest management is in conflict with the environmental requirements, the environmental supervision agency has the right to suspend or terminate by its decision the forest management activity.

FINAL REMARKS

Two forest acts and four supplements passed in the transition period show the dynamic development of legislation. Immediately after passing the new forest act several rules were noticed in paragraphs working against the interests of different groups. Therefore even more active mental work and discussion could be noticed than during the drafting of legislation in order to put pressure and inform about the interests of different groups. It can be excused by the lack of experiences of interest groups in drafting the legislation. At the beginning of the transition period the articles concerning ownership were topical (gaining respect to private property and enactment of ownership rights). Competition between interest groups was directed to impose the forest ownership or get the forest management in certain administrative areas (on the level of government organisations).

Due to the development of society and the objective of becoming a member of the European Union, environmental problems have more emerged also in forestry. Legal acts try to harmonize management rules with requirements accepted in Europe. Such terms as environment friendly and sustainable forestry have become the substantial ideas of the new Forest Act.

LITERATURE CITED

Estonian Forest Policy. 1997. Estonian Forestry Development Programme.Tallinn.

Etverk, I. 1998 (ed.). Eesti Riigimetsad ja nende majandamine1918-1998. [Estonian State Forests and Their Management 1918-1998.] .Tallinn. (In Estonian).

Metsaseadus. 1998. [The Forest Act]. Riigi Teataja I 1998, 113, 1872. (In Estonian).

Väliskaubandus 1997. 1998. [Foreign Trade 1997]. Statistical Office of Estonia. Tallinn.

REVISION OF THE LATVIAN FOREST PROTECTION SYSTEM: APPROACH AND PROPOSALS

JANIS DONIS

INTRODUCTION

In Latvia as well in other countries in transition to market economy we are living in a time of big challenges. We have inherited enormous nature values in comparison to highly developed industrial western countries. Latvia despite of its small area (0.7% of Europe) in the beginning of 1990s was sanctuary for more than 10 % of the total world populations of Leser Spotted eagle (Aquila pomarina) i.e. 2000-2800 pairs (M. Strazds, et.al, 1996). As well many other species nearly disappeared in Europe still reside in the forests of Latvia. Forests serve environment protection, protection of cultural heritage etc. At the same time timber production is one of main cornerstones for the Latvian economy especially of rural development. In 1997 the forest sector contributes 16 % to the gross domestic product. Timber and timber products are one of the main export goods – 35.7% of total Latvian export (Anon, 1998). Legislation as well as society is under rapid development. At the moment 30% of forest areas are classified as either protected or restricted management forests. Land classification does not consistently reflect conditions in the field as well in “legal environment”. Existing regulations need to be adapted to the changes in both forest policy, and forest ownership structure.

In January 1998 the Latvian - Danish project on Revision of the Latvian Forest Conservation System was started. Latvian State Forest Service in co-operation with the Danish consultancy company Holsteinborg Consult implements the project. It was jointly sponsored by DEPA (Danish Environmental Protection Agency) and the Latvian State Forest Service. The purpose of this article is to present the approach used in Latvia to solve problems dealing with the protection of forests.

1. SYSTEM APPROACH

The present proposal for new forest conservation (protection) system is elaborated as part of the Latvian-Danish project ”Revision of Latvian Forest Conservation System and Management Plan for Gauja National Park”. The terms of reference are specified in the project document as follows:

- Investigate Latvian forest conservation system, including classification system for protected forest areas, management guidelines and associated legal acts.
- Investigate forest conservation approaches in selected European countries and of international, national and EU regulations relating to forest conservation systems.
- Conduct a comparative analysis of Western European, EU and Latvian forest conservation approaches for the formulation of a revised Latvian forest conservation system.
- Elaborate a list of national forest conservation objectives and the legal basis (EU, international and national) and the procedure for implementation of each conservation objective.
- Define classification criteria for protected forest areas according to formulated forest conservation objectives and management guidelines.

- Propose management regimes for protected forest areas taking into consideration international agreements, EU guidelines, national legislation and experiences of selected European countries and Latvian conditions.
- Propose improvements of legislation on forest conservation and elaborate a draft strategy for forest conservation in Latvia.

The results of these activities, which are mainly available as internal reports, form the basis for the elaboration of a proposal for a revised Latvian Forest Conservation System. In addition to the above mentioned activities, which were carried out by project staff, a number of workshops were held in order to involve members of the project's supervisory group in the formulation of forest conservation aims, objectives, principles, protection classification system and management regimes. The proposal had been presented at public seminars, where a large number of invited stakeholders, including NGOs, State Officials and scientists, discussed and commented on it. Based on the discussions and comments a number of suggestions and adjustments had been worked into the proposal in order to reflect and balance the interests of the various stakeholders.

1.1. INVESTIGATION OF THE EXISTING LATVIAN FOREST CONSERVATION SYSTEM

In the context of this project the forest conservation (protection) system is defined as a set of legal acts and measures the aim of which is to ensure sustainable management of forests and forest lands, i.e., preservation of the most important ecological, cultural and social values and functions. During the project the relevant normative acts as well policies (Forest policy, Environment Protection policy) were analysed. Economical calculations on the impact of existing restrictions on timber production were carried out.

The most important Latvian forest laws and regulations which directly relate to forests are "Law on Forests Management and Utilisation" (1994), "Law on the Use of State Forests" (1995), "Regulation on Division of Forests in Categories and Selection of Specially Protected Areas" (1994), "Regulations on Final Cutting" (1996) and "Regulations of Intermediate Cutting" (1996). A number of environmental laws also cover forest conservation, in particular "Law on Environmental Protection" (1991), " Law on Specially Protected Territories" (1993), "Regulations of General Protection and Utilisation of Protected Territories" (1997) and "Law on Protective Belts" (1997), and the "Law on Planning of Territorial Development" (1998)

Main findings from this analysis were:

- The present forest protection system is very complex, and there are some discrepancies and inconsistency within the system. (Different laws used different terms, different restrictions etc.).
- The present forest conservation system needs to be tuned to Latvia's new forest policy.
- The present forest conservation system imposes in some cases restrictions on wood production in situations, where the ecological or social (recreational) gains are limited.

1.2. INVESTIGATION OF FOREST CONSERVATION APPROACHES IN SELECTED EUROPEAN COUNTRIES AND OF INTERNATIONAL, NATIONAL AND EU REGULATIONS RELATING TO FOREST CONSERVATION SYSTEMS

Latvia has signed or ratified all of the most significant, forest-related international and regional agreements, which have been elaborated during the last years. This includes the *Convention on Biological Diversity* (1992), the *Forest Principles* (1992), and the *Resolutions on Protection of Forests in Europe* Strasbourg (1991) Helsinki(1994) Lisbon (1998). Latvia has also signed the *Ramsar Convention* on protection of wetlands and the *Bern Convention* on conservation of European wildlife and natural Habitats, which have relevance for forest conservation.

Latvia takes part in a number of international and regional processes or programmes, which fully or partly aims to conserve forests. The most important are the *Protection of Forests in Europe Process*, the Pan-European Biological and Landscape Diversity Strategy, Baltic 21 (1996), and the Work-Programme on the Conservation and Enhancement of Biological and Landscape Diversity in Forest Ecosystems. Furthermore, a number of EU-initiatives might be of special interest to Latvia in the process of harmonisation of forest conservation measures between European countries. Especially, the *EU Habitats Directive* and the *EU Birds Directive* may be important. In some aspect other EU initiatives like The *Atmospheric Pollution Regulation* are important.

Main findings are:

- Some international treaties are very general with a lack of explanations, while others are more concrete and contain lists of protected values and a set of recommendations.
- International treaties (conventions, resolutions etc.) state goals to be achieved while the ways and means to reach is under the responsibility of the participating countries.
- Western and CEEC countries use different approaches to environment protection and nature conservation in forests areas.

1.3. A COMPARATIVE ANALYSIS OF WESTERN EUROPEAN, EU AND LATVIAN FOREST CONSERVATION APPROACHES FOR FORMULATION OF REVISED LATVIAN FOREST CONSERVATION SYSTEM

The project analysed available legal acts dealing with forests and nature conservation from different countries (EU members – Denmark, Sweden, Finland, CEEC – Lithuania, Poland, Czech Republic, Slovak Republic, Slovenia, Hungary).

In this stage a list of national forest conservation objectives and the legal basis (EU, international and national) was elaborated. The procedure for implementation of each conservation objective was described and an Overview of Values and Functions to be Protected was compiled. The result was used as a checklist for the elaboration of the proposal for a revised forest conservation system for Latvia. In this way it has been ensured that all relevant issues, which are covered by international agreements, have been considered during the elaboration of the proposal.

Main conclusions are:

- The largest part of the recommendations are obligatory under the existing legal system.
- Latvian Forest conservation system does not cover all internationally recommended values to be protected.

1.4. DEFINITION OF CLASSIFICATION CRITERIA OF FOREST AREAS, MANAGEMENT GUIDELINES

At first were defined goals, aims and principles of the forest conservation system. In a second step the values and functions to be protected which are relevant to Latvian conditions as well their criteria and indicators were identified.

The definition of classification criteria for forest areas according to formulated forest conservation objectives and management guidelines and recommended management regimes for protected forest areas took into consideration international agreements, EU guidelines, national legislation and experiences of selected European countries and Latvian conditions.

2. PROPOSAL FOR A FOREST PROTECTION SYSTEM

Proposal consists from statement of goals, aims and principles of the forest protection system. As a separate concept areas are:

- List of values and functions and management guidelines for their maintenance.
- Classification of territories,
- Recommendations for planning guidelines,
- Recommendations for administration and control
- Draft strategy for sustainable forest management concerning biodiversity, further investigations needed.
- Proposals for changes in legal acts

As an example a brief summary of classification of territories according to primary management regimes is presented in the following section.

2.1. PROTECTED UNITS (AREAS, OBJECTS)

From the legal point of view the objects of nature forming environment (species, geological, geomorphological formations, cultural monuments etc.) can be divided into:

- An ordinary object of nature - general legal conservation regime is applied to them.
- Special (unique) objects of nature - special legal conservation regime is determined for their protection.

So forests and forest land are to be protected as natural resources (those objects of natural environment used in different branches of economics as means of production and raw materials are called - natural resources), but a special legal conservation regime objects is to be determined in relation to special nature objects.

All objects of nature (including forests) which are situated in specially protected nature territories enjoy a special conservation regime. The others could be considered to be as ordinary objects of nature although in reality also forests outside the specially protected nature territories - in multiple - use forestry areas there are territories and objects which need to be paid special attention to due to their natural values, environment protection functions or special social significance.

Consequently taking into account existing legislation (Law on specially protected nature territories, Law on protective belts) as well draft plans of a law on protection of species and biotopes, classification of territories is proposed as follow:

Multiple use forestry territories	Specially protected nature territories
General management regime	General management regime of the functional zone
Specially protected areas	
Protective belts, and their functional zones	
Other special management areas	

In general management territories are primary managed for timber production. Beside restrictions to provide maintenance of forest resources, health and vitality there is a set of restrictions to take into account basic requirements maintenance biological diversity (retaining dead wood, live trees etc.), landscape protection, recreation, cultural environment, and protective (soil, water) functions.

Specially protected nature territories are areas, which are established with goal of nature conservation or recreation. Depending on primary goal Specially protected nature territory could be divided in the functional zones.

Specially protected areas are managed primary for:

- conservation of rare and vulnerable species,
- conservation of rare and vulnerable habitats,
- conservation of woodland key habitats

Such areas could be established as well in specially protected nature territories, if the general management regime of functional zones do not provide necessary conditions for species or habitats. In these areas timber production normally have to be prohibited.

Protective belts and their functional zones:

- Forests of Protective belt along Baltic Sea
- Forests of Protective belt along streams and watercourses.
- Forests of Protective belt around cities.
- Forests of Protective belt around cultural monuments.
- Forests of Protective belt places of taking drinking water etc.

Timber production in some cases is allowed, but it is not a primary goal.

Special management areas: These are areas which are primary managed for different purposes as timber production. (as landscape elements, recreation areas, tree genetic preserves etc.). In some cases timber production is compatible with main goal. But there are some restrictions.

2.2. OTHER ASPECTS

The classification of territories is only one aspect of protection system. To provide sustainable forest management requires some changes in the principles of planning forest activities. They have to be linked to territorial development at all scales from national to local, as well from long term to short term. Afterwards planning of forestry activities at landscape level and site level. One more new aspect is proposal to involve general public in to decision making especially in the vicinities of urban areas as well in specially protected nature areas.

In a real life everything is in development – our knowledge, laws, … society. This project showed once more that nature conservation is an anthropocentric phenomenon. Peoples have different opinions about values and functions of forest and the extent to which it should be protected. Many things depend on political decisions and very rarely something should be based only on scientific data alone.

REFERENCES

1. Strazds M., Bergmanis U., Pertins A. 1996. Number and distribution of the Lesser Spotted Eagle in Latvia/Putni daba 6.3. 19-23
2. Anonimous. 1998. Latvijas makroekonomikas raditaji. Latvijas Republikas Valsts Statisktikas komiteja. Riga.

SCOPE AND COVERAGE OF LATVIAN FOREST LAWS

LIGITA PUNDINA

ANALYSIS OF NORMATIVE ACTS OF THE FOREST SECTOR IN RELATION TO LATVIAN FOREST POLICY

On April 28, 1998 the Cabinet of Ministers approved the Latvian Forest Policy (FP) which provides strategy, tactics and basic principles for long term development of the Forest Sector. On the basis of these considerations, the Latvian Forest Policy has its general objective – sustainable management of forests and forest lands.

For the purposes of FP, “sustainable management” means the administration and utilisation of forests and forest lands in a manner and to an extent that would preserve their biological diversity, productivity, ability to regenerate itself, vitality and the potential ability to perform important ecological, economic and social functions at the local, national and global levels now and in the future, and also so as not to endanger other eco-systems (Helsinki Resolution No.1).

Legislation and the related system of normative acts are one of the most important means for implementing FP. It is to be noted, that the basic laws of the Latvian Forest Sector: the law “On Forest Management and Utilisation”, and the law “On Utilisation of State Forests” are aimed at sustainable forest management; however, specific norms should be incorporated into both laws.

For example, the objectives of the law “On Utilisation of State Forests” are:

- “preserve and increase the state forest as a guarantee for maintaining the forest cover of Latvia”;
- “to give the legal basis to protection and utilisation of ecological values of the state forest in relation to acquisition of forest resources” (Article 2 of the law).

The following terms can also be found among the definitions of the terms used in the law:

- biological diversity - possible variations of animate creatures of all sources of origin, including ecological systems on the land, in the sea and others, as well as animate components of biological complexes”;
- sustainable utilisation of the forest resources - acquiring of forest resources in an extent and form which provides for the biological diversity, productivity and regeneration of the forest and a possibility of the forest to fulfil significant ecological, economic and social functions on the local, national and global levels at present and in the future, without threatening other ecological systems”, which incorporate the general objective of the forest policy for the sustainable management of forests and forest lands.

However, it must also be said that the aforesaid terms, “biological diversity” and “sustainable utilisation of forest resources” are not used in Articles of the law, except for Article 1, where they are listed as terms used in the law. The sustainable management of forests is partially included in Chapter 3 of the law, “Protection and Utilisation of Ecological Values of the State Forest” and Chapter 4, providing the annual allowable cut for state forests. Not withstanding the aforesaid, the general objective of the forest policy of a sustainable forest management must be incorporated in the law.

The law “On Forest Management and Utilisation” provides that utilisation of the forest must be continuous and rational, without depleting the forest resource”. However, the law does not provide a norm for sustainable management.

In addition to the general objective, FP objectives and principles of the forest policy are also provided for other areas. Thus, Section 1 Forest and Forest Lands provides that the objectives of FP are:

- exclude a decrease of the existing forest cover by providing restrictions for the transformation of forest land;
- ensure preservation and increase the productivity and value of forest lands;
- promote afforestation of land not suitable for farming or other uses by applying promotion mechanisms at the disposal of the state.

It is to be noted that no clear mechanisms for achieving the aforesaid objectives can be seen in the currently effective normative acts.

FP addresses also forest property and forest ownership issues. The main principles of the concept of forest property are as follows:

- forests may be owned by the state, municipalities and physical or legal persons ;
- all owners have equal rights and obligations, ensuring inviolability of property and independence in business operations.

The currently effective legislation by the term “forest manager” provides equal conditions for the state, municipalities and physical and legal persons, failing to define whether they are owners, legal possessors or just users.

Further, FP provides that state forest property is state capital and a guarantee for the implementation of ecological and social interests of the population of Latvia. This function is emphasised in relation to state forests rather than private forests, indicating that state forest property must be preserved in its present size (legislation has no such norm).

The principle “forests are the basis for realisation of the economic interests of their owners” can be realised by the owners even now, but at the same time, the state sells its resources at fixed prices, and forest owners must manage their forest in accordance with a forest management project prepared by the State Forest Inventory Institute or chartered forest inventory specialist.

Legislation has no mechanism for ensuring implementation of the principle that “the state compensates essential economic losses in the event that the performance of state ecological and social functions causes new additional restrictions for business activities”.

FP makes further fragmentation of forest properties not permissible, including in cases of inheritance of private forests. When talking of no further forest estate fragmentation, the legislator must provide for the state support for joint forest management by several forest owners. This also conforms to the FP – to exclude parcelling out forest properties. Article 847 of the Civil Law provides that things that are essentially divisible may be determined to be indivisible by law or private will. Accordingly, the determination of a minimum size of a forest is a matter of the law. The establishment of joint property may be another possibility for resolving the matter. According to the Latvian Civil Law, joint property is considered a property restriction, although in fact the joint property is an independent property. There exists only a material relation among the joint owners: several persons have ownership

rights to one and the same undivided thing not in divided but only undivided parts. In practice it is rather complicated to deal with the subject of joint property, because it is possible only with the consent of all the joint owners. Generally speaking, our laws do not favour joint property and there could be a problem in managing joint property forests. In Latvian practise, when restitution of ownership rights occurs, a joint forest property has often been created which cannot be ignored. There is also an opposite tendency. Those restitutions of ownership rights to land that was jointly owned in 1940, now, when surveying the land, divide it depending on the number of persons restitution their ownership rights. Currently effective legislation does not forbid dividing landed properties.

These principles have been approved by the Government, but in order to implement them, some cases require changes in the legislation.

FP states that forest is accessible to all, but utilisation of forest products is to be restricted in the interests of forest owners, while other Laws state that the public may have free access to state forests, but the public access to other forests is regulated by their manager.

The FP economic objective is to ensure the sustainable development and profitability of the Forest Sector, observing ecological and social regulations, and give the maximum possible increase of the added value. State forests, bearing in mind its specific public functions, are deemed to be state capital. The state, as the owner of this capital, has two basic interests:

- the value of the capital (forest) shall not decrease, it is desirable that it increases;
- the owner (state) wishes to gain profit from the capital (forest). Business activities must take place in state forests, and these must be profitable.

In order to realise these objectives, changes are needed in legislation, forming a system of business supporting legal acts in order to promote the development of market economy and free competition and reduce state interference in business operations.

The FP objective in environmental protection is the preservation and maintenance of biological diversity at its present level. The FP provides that the extent of forest utilisation is regulated by the state, taking into consideration the productivity of eco-systems, ability of the forest to regenerate and other essential elements of the forest structure. But parallel to this, a system of scientifically justified protected territories is established, which ensures the preservation of eco-systems, species and genetic resources in the forest. The state may determine restrictions to forest management or activities in the forest, which endanger the conservation of especially important natural values and violate ecological principles. For this reason, mechanisms must be incorporated in the legislation for the compensation of losses related to the restriction of utilisation rights and the compensation for reduced damage caused to the environment.

The forest, regardless of the status of ownership, is freely accessible to all, except in cases when the access is restricted as provided by normative acts. Utilisation of forest resources must be restricted in the interests of its owners.

EVALUATION OF NORMATIVE ACTS OF THE FOREST SECTOR IN RELATION TO THE LATVIAN FOREST POLICY

- Legislation must incorporate the FP basic objective - sustainable forest management.
- The object of the law must be the forest as a biological category and forest land as an administrative category. According to the Civil Law, the main thing is forest land (real estate), but the forest as trees (movable property) is a supplementary thing. All legal provisions relating to the main thing as such also relate to the supplementary thing. While the supplementary thing is not divided from the main thing, the same provisions apply to both.
- It is necessary to provide that all owners have the same rights and obligations, structuring the law according to property, tenure or usage and from it deducting the subjects of the law. It is recommended that for the purposes of forest legislation, a forest owner be considered a person whose ownership rights are registered in the Land Book (until corroboration the purchaser cannot completely realise his/her ownership rights to the forest).
- Provisions for no further parcelling out forest property.
- Incorporation of the norms for reforestation.
- A mechanism for compensation for economic losses caused by restrictions of utilisation rights must be worked out.
- It must be provided that the forest is accessible to all, but forest utilisation is to be restricted in the interests of its owner.
- It must be provided that state forests must be preserved in their present size (preserving the same as a guarantee for the maintaining the forest coves of Latvia).
- Mechanisms must be created to ensure the economic interests of forest owners, including realisation of the objective “the owner (state) gains profit from its capital (forest)”.
- The system of protected forest territories must be scientifically justified.
- Terminology “losses caused to environment by damage” must be specified. Specification of this terminology is one of the most urgent tasks; otherwise under the present economic situation a serious threat exists to the preservation of a user-friendly environment.
- It must be stated that all forests are accessible to the public as a national resource.

REGULATORY FRAMEWORK FOR PROTECTION AND UTILIZATION OF FOREST AND ENVIRONMENT IN LITHUANIA

ROMULDAS DELTUVAS AND JUOZAPAS MAZEIKA

FOREST COVER AND OWNERSHIP

Forest is one of the prerequisites for the existence of the Lithuanian state. It is one of the most important Lithuanian natural resources devoted to serve the welfare of the state and that of its citizens when preserving the landscape stability and environment quality and when providing multiple forest products and services. The forest cover amounts to closely one third of the Lithuanian territory. Its importance for Lithuanian society might be illustrated by the figures given in Table 1.

Table 1: Components of Lithuanian Territory

Component	Area	
	1000 ha	%
Agricultural land	3502,1	53,6
Forest land	1974,9	30,3
Other wooded land	82,3	1,3
Roads	132,7	2,0
Urban territory	176,5	2,7
Water	262,5	4,0
Swamps	148,1	2,3
Other land	250,9	3,8
Total	6530,0	100

According to the Lithuanian Forest Law (1994), based on the Lithuanian Civil Code [1] and the Land Law [3], there are two types of property in Lithuania - public one and private one. It is assumed that when land reform will be completed, there will be up to 48 % of private forests in Lithuania.

On the state level the Lithuanian forests are administered by the Department of Forests and Protected Territories of the Ministry of Environment. The direct administration of the forests, i.e. forest growing and use, is carried out by enterprises, organizations and private persons. Most public forests (98 %) are managed and tended by state forest enterprises under the Department of Forests and Protected Territories, by state reserves (as institutions) and by national parks (as organizations). The rest of public forests is under the Ministries of Culture, Transport and Land Defence and under municipalities. Private forests are managed by the owners themselves, assisted by state forest enterprises.

REGULATORY FRAMEWORK OF FORESTRY

General Legal Framework: The legal documents in Lithuania may be issued by Parliament (Seimas), Government, Ministries, enterprises, bodies and organisations. The main legal documents are laws adopted by Parliament. The enterprises and organisations are issuing regulations which are needed to implement the laws. All the legal documents create a hierarchical system of competencies (Table 2). The principle of subordination implies, that any institution when working on and issuing a legal document must act in accordance with a legal document of superior instance. However there are cases in the real life when various misunderstandings take place. Some institutions do not follow standard definitions of legal documents, that's why the system given in the Table 2 nowadays plays sometimes a theoretical role.

Table 2: Regulatory Framework

Institution	Legal documents by types and fields of implementation		
	Individual	Normative	
		Structural entity	Field of action
Parliament (Seimas)	Laws Resolutions	Laws Statutes	Laws Regulations
Government	Resolutions	Regulations	Rules
Ministries	Orders	Regulations Instructions	Rules Prescriptions
Enterprises Bodies Organisations	Orders	Instructions Regulations	Instructions

Structure of the legal framework in forestry: Forest matters related to ownership, administration, treatment, use and protection in Lithuania are mainly regulated by the following laws:

- Civil Code [1];
- Administration, use and possession of state and municipal property law [2];
- Land law [3];
- Forest law [4];

Civil Code determines property types, objects and the property rights realization procedure, followed by Administration, use and prossession of state and municipal property law [2], which provides more detailed regulation concerning matters of state property. According to the Civil Code there are two types of property in Lithuania - public and private- and public property may be state one and municipal one.

Land law [3] determines the allocation of the land by dominant land-use types. The fifth paragraph of this law legalises land-use type for forestry needs, regulated in detail by the Forest law and land-use type for preservation needs, regulated in detail by the Protected territories law. Land law regulates in detail the land ownership matters but it does not determin the allowed area of private holding. Forest law is the main legal document regulating forest matters.

Besides these Laws additional regulations on forest matters may be found in the Nature law, Environment protection law, State and municipal enterprises law etc [41].

STRUCTURE AND CONTENT OF THE FOREST LAW 1994

The first efforts to codify the norms regulating forest matters in Lithuania are known from Lithuanian Statutes (1529, 1566, 1588). Those norms from Lithuanian Statutes were valid until 1840. After that Russian legislation has been introduced on Lithuanian territory. The Russian Forest Statute was valid even in independent Lithuania 1918-1940. After Lithuania has been incorporated in Soviet Union Lithuanian forests were managed according to the requirements of the Forest Code of the Russian Federation. Some changes in the Soviet legal framework have been introduced in 1975 and each so-called union republic was supposed to work out its own Forest Code. Such a code has been adopted in Soviet Lithuania in 1979 and was valid until 1995 - it means 5 years after Lithuanian independence has been re-established.

A new Lithuanian Forest Law, adopted 1994, is based on the best ideas of the Soviet Lithuania Forest code and those of forest laws of Western countries. The main consultant in this matter was the Swedish forester Gustav Fredriksson. The Forest law consists of 27 paragraphs and 7 chapters [4]:

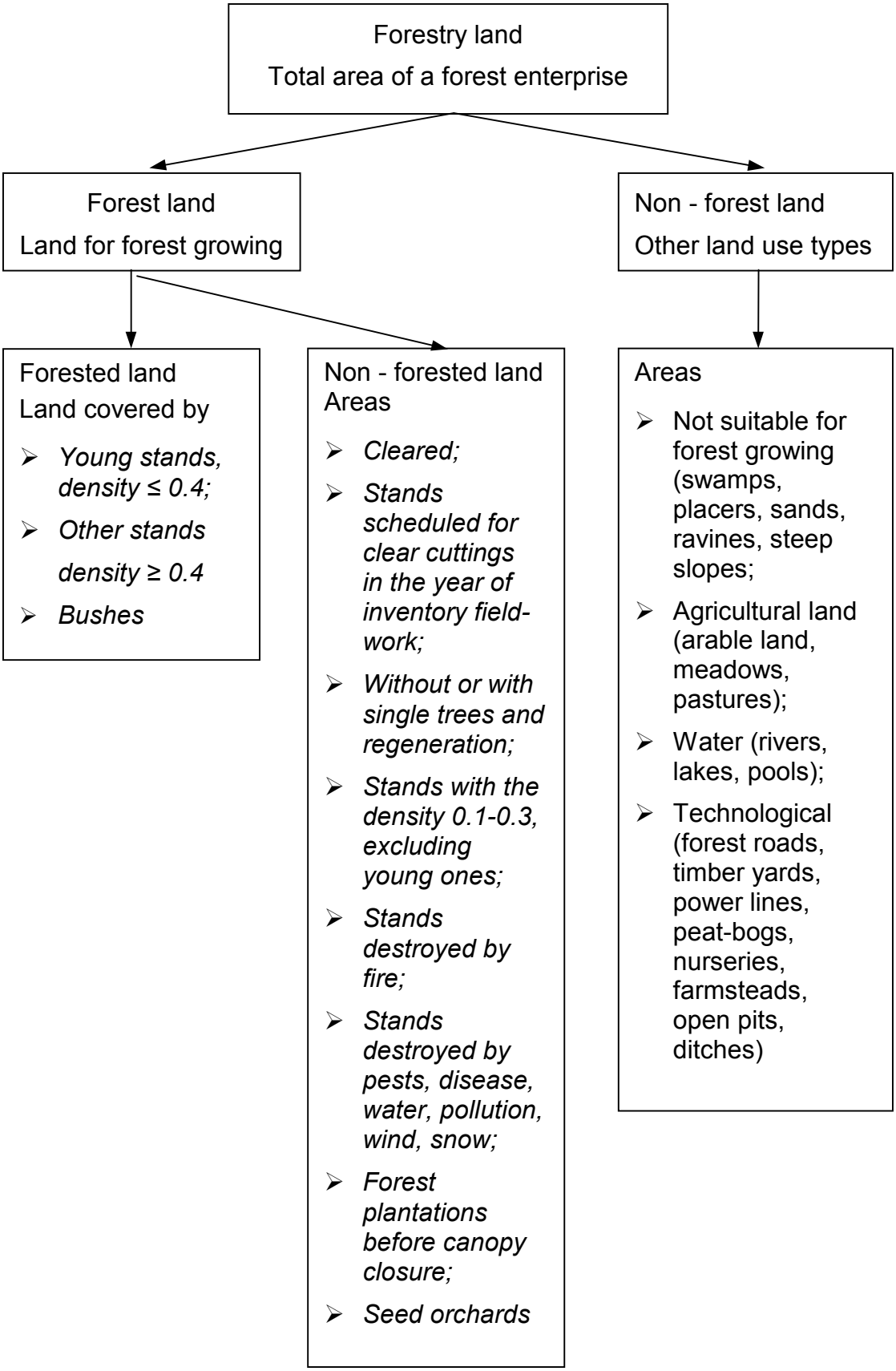
1. General items, covering main definitions, forest policy goals, forest protection classes, forest ownership, forests administration and economic regulation of forestry.
2. Forest use, covering the rights and obligations of forest users, cancelation of the use right, conversion of forest land to other type of land use, improvement of forest soil, etc.
3. State forest register and forest management plan, covering forest inventory, statistics and evaluation, forestry development plan.
4. Forest regeneration, treatment and harvesting, covering aforestation and reforestation, stands treatment and logging.
5. Forest protection, covering matters of protection from fire, disasters, diseases and pests, animals, pollution.
6. Responsibility for forest law violations, covering ascertainment of violation, responsibility and damage compensation.
7. Law implementation.

This Forest law regulates forest matters in all the Lithuanian forests irrespective of ownership type and forest protection class. It is consistent with all the related laws. Currently a discussion is going on to make some amendments to the law or to start a new version of it.

According to Lithuanian Forest law the following definitions apply:

- forest - land tract not less than 0,1 ha, grown up with trees and other forest flora or temporary lost of it (clear cut areas, burned areas). The groups of trees in the fields, at the roads and water, trees belts up to 10 m wide, parks in settlements is not a forest;
- forest land-area covered with forest (stands) or not covered with forest (clear cut areas, nurseries, seed orchards etc.). Forest roads and ditches, compartment boundaries, technological and fire protection rides, timber yards, recreation places, swamps, sands and the land for aforestation situated on that area belong to the forest land as well. (Figure 1).

Figure 1: Forestry Land Classification



These definitions should be brought closer to those given by FAO. The main criteria should be economic and theoretical indices but not the natural ones.

The main principles of Lithuanian forest policy are presented in the Forest law and they sound as follows:

- diversity of forest ownership types shall be guaranteed (state ownership on forests is still dominating in Lithuania);
- forests shall be managed on the basis of sustainable and multiple use;
- forests shall be efficiently managed not violating the economic and ecological interests of the country;
- diversity of flora and fauna, protection and harmonic interaction of landscape natural and cultural values shall be guaranteed.

Forest cover of Lithuanian territory shall be increased making profit from the opportunities given by land-use planning.

The Forest law defines two forest ownership types: state one and private one. Private forest holding makes up 3,2 ha in average and holdings up to 5 ha comprise 47,5 % of the total private forest area (80 % of the owners).

The Forest law intends to rule out the possibility of further splitting the forest holdings, that's why a private forest parcel shall not be disunited in the case when the area of new holding becomes less than 5 ha. There is no limitation in Forest law concerning maximal area of a forest holding. There are two other laws in Lithuania - Land reform law and Farmers holding law [41]- which put 150 ha as a private forest holding limit. Forest law has defined the forests of state importance, to be left as a state property in accordance with exceptional ownership right: state reserves, Curonian Spit national park, protective belts at the Baltic sea and Curonian Lagoon, sanitary protection belts surrounding resorts, cities parks, forest parks and some other forested areas held in state ownership until 1940.

The Forest law has introduced four forest protection classes (FPC) by leading forest function and forest management goal: Conserved forest (1,6 %), Ecosystem protection and recreation forest (13,0 %), Protective forest (14 %), Commercial forest (71,4 %) (Fig. 2).

Forest law shall regulate forest matters in all the Lithuanian forests, but the most attention was given to the state forests administered and managed by state forest enterprises.

The basic problem is that of financing the state forestry sector. The eighth paragraph of Forest law proclaims, that state forest enterprises are functioning on the basis of selffinancing. There is a special Forest Fund consisting mainly of revenue from timber sales in the state forest enterprises. The centralised part of the Forest Fund is governed by the Department of Forests and Protected areas and the rest of it by state forest enterprises themselves. Each forest enterprise is obliged to transfer a certain percentage of its revenue to the centralised part of the Forest Fund which may be used to support weak forest enterprises, to finance forest inventory, forest research, forestry press etc. The state forest enterprises may use the lion part of their revenue themselves to support silvicultural measures, to introduce new technologies in forest operations etc. The Forest Fund is not taxable. Lithuanian Government has the right to pay subsidies and favourable credits for afforestation, reforestation, forest treatment, fire and sanitary protection, development of infrastructure. In the case of some limitations on forest use forest managers and users may get incentives and compensations from the state.

Figure 2 FOREST PROTECTION CLASSES (FPC) IN LITHUANIA

Forestry land - 100 % - 2 149 622 ha

	FPC 1 - 1,6 %	FPC 2 - 13,0 %		FPC 3 - 14,0 %	FPC 4 - 71,4 %
	Preserved forest	A - 8,9 %	B - 4,1 %	Protective forest	Commercial forest -
	State reserves State parks	Ecosystem protection	Recreational forest	Sanctuaries - • geological • geomorphologic • hydrographic • cartographic • culture Protection belts Seed stands Research and training	Not included in FPC 1, 2, 3
		Sanctuaries - • landscape • telmological • pedological • botanical - zoological Antierosion Baltic sea belt	Forest parks Forest resorts Recreational zones City forests		
Forest management objective	To leave forest for natural growing	To preserve (to reestablish) forest ecosystem	To create and to preserve forest recreational value	To grow up productive stands protecting soil, air, water, man's environment	To grow up productive stands enhancing sustainable timber flow
Forest operations	No forest operations	• Regeneration felling in the stands of natural maturity • Improvement felling • Sanitary felling • Landscape felling		• Shelter felling • Selective felling • Clear felling ≤ 6 ha • Improvement and sanitary felling	All types of felling are allowed (clear felling ≤ 10 ha)

There are no regulations in the Forest Law concerning financing and incentives in the sector of private forestry. However the private owners are encouraged to establish special funds and cooperatives and may expect some support from Government. As one of the incentives to private forest owners might be mentioned the fact that all forest land in Lithuania is not taxable. In the case of the Forest act violation a legal action may be taken against guilty person or institution and mostly they are fined besides covering the losses.

General requirements to forest treatment, use and protection may be summarised in the following way:

- The Forest management plan is obligatory for all state forest enterprises and private forest holdings larger than 3 ha.
- Allowable cut shall guarantee annual and/or periodical equilibrium between timber growth and drainage. Allowable cut for state forest enterprises must be approved by the Government and that for private holdings by the Forests and protected areas department.
- Clear feeling areas shall be regenerated in two years on the costs of forest managers and owners.
- Forest protection measures shall be carried out by all forest managers and owners in accordance with requirements of the Environment protection law.

Forest Regulations and Rules

Among the important documents related to forest matters and issued by the Lithuanian Government the following regulations are to be mentioned:

- Ministry of Environment [5];
- state forest service officers [6];
- management and use in private forests [7];
- state forest enterprises [8];
- forest fund [9]
- state forest inspection [10];
- land assignment determination and conversion [11];
- forest protection classes [12];
- licensing forest inventory and forest management plans [13];
- forest management plans approval [14];
- standing state timber sales [15];
- roundwood trade [16];
- raw timber accounting and marking [17];
- game management [18, 19];
- forest fire protection [20];
- land and forest special use [21];
- terms of compensation for forest damage [22].

The ministries have issued the following set of rules related to forest matters:

- Department of forests and protected areas [23];
- forest work safety [24];
- forest sanitary protection [25];
- forest final felling [26];
- forest intermediate felling [27];
- forest regeneration [28];
- forest visit [29];
- use of secondary and subsidiary forest products [30];
- estimation of stumpage prices [31];
- afforestation of abandoned land [32].

State forest enterprises, reserves, national parks have the right to issue regulations for their local use taking into account appropriate regulations issued by superior bodies.

Structure of the Legal Framework of Environment Protection

There is no system of legal documents concerning environment matters in Lithuania fixed by some specific law.

The matters of environment protection in Lithuania are regulated by the following set of laws:

- environment protection [33];
- protected areas [34];
- wild flora [35];
- wild fauna [36];
- protected animals, plants, mushrooms species and communities [37];
- environment monitoring [38];
- sea environment protection [39];
- environment pollution taxe [40].

The main law among those mentioned is the Environment protection law, adopted in 1992. All the other regulations supplement the main one and determine some matters in more detail.

Besides the laws there are a numerous regulations issued by Government and the Ministry of Environment [41].

Environment Protection Laws

The main law on protection of environment consists of 8 chapters [33]:

- General items, covering main definitions, object, principles and administration of environment protection.
- Rights and obligations of citizens and social organisations.
- Use and register of natural resources, covering object of use, users and conditions of use.

- Regulation of commercial activities, covering objects not related to the use of natural resources, however impacting the environment, requirements related to production and use of dangerous chemical and radioactive materials, requirements to vaste treatment.
- System of environment state monitoring, covering requirements related to the environment state monitoring and estimation of the negative impact on environment.
- Economic protection of environment, covering
    - taxes on use of natural resources;
    - taxes on environment pollution;
    - regulation of credits;
    - state subsidies;
    - prices policy;
    - economic sanctions and damage compensation;
    - others ecological taxes and measures.
- Responsibility for violation of Environment protection law, covering legal responsibility, forms and order of damage compensation.
- International cooperation in the field of environment protection, covering the areas and aims of international cooperation and the relation of Lithuanian law to international agreements.

The Protected Areas Law supplements the Environment Protection Law by determining requirements related to management of protected areas such as reserves, sanctuaries, landscape, state parks, biosphere monitoring territories, protective zones, tracts of protected natural resources and natural framework.

The Wild Flora Law determines the prerequisites to the protection and use of wild flora, to preserve diversity of wild plant species and communities, biotops, rational use, regeneration and preservation of wild flora genetic resources.

The Wild Fauna Law covers the matters of protection and use of wild animals, to preserve diversity of them and their habitats.

The Law on Protected Animals, Plants, Mushrooms Species and Communities regulates matters related to species and habitat protection, and determines the main requirements to their preservation and enhancement.

The Environment Monitoring Law determines the organisational structure of monitoring, the order of carrying it out and the responsibility. The law inspires a special monitoring (Forests, bowels of the Earth), devoted to one element of environment to get more detailed information on the state of it.

The Sea Environment Law determines rights and obligations of the persons involved in some business activities causing direct and/or indirect impact on the sea environment and its resources.

The Law on Environment Pollution Taxe regulates the order, inspection and responsibilities by compensating environment damage, to enhance the industry to reduce environment pollution and to save means for implementation of environment protection measures.

Government and the Ministry of Environment may issue additional legal documents, regulating use of natural resources, evaluation of environment damage, and estimation of losses.

CONCLUSIONS

1. The legal documents in Lithuania are issued by Parliament, Government, Ministries, enterprises, bodies and organisations.
2. During 10 years of independence a large set of national laws and regulations related to forestry and environment protection have been adopted and form the regulatory framework in Lithuania.
3. The Forest law and the Environment protection law are the basis for further regulations on the lower levels of administration.
4. The improvements of the Forest law and Environment protection law reflect international trends in the fields of forestry and environment.

REFERENCES

1. Lietuvos Respublikos civilinis kodeksas (projektas)// Valstybės žinios. - 1996.- Nr. 108.- 136 p.
2. Lietuvos Respublikos valstybės ir savivaldybių turto valdymo, naudojimo ir disponavimo juo įstatymas// Valstybės žinios.- 1998. - Nr. 54. - P. 3-8.
3 Lietuvos Respublikos žemės įstatymas// Valstybės žinios.- 1994. - Nr. 34. - P. 11-26.
4. Lietuvos Respublikos miškų įstatymas// Valstybės žinios.- 1994. - Nr. 96. - P. 3-10; 1998.- Nr. 56. -P. 4-5.
5. Lietuvos Respublikos aplinkos ministerijos nuostatai// Valstybės žinios.- 1998. - Nr. 84. - P. 5-11.
6. Valstybinės miškų tarnybos pareigūnų nuostatai// Valstybės žinios.- 1995. - Nr. 33. - P. 40-41.
7. Privačių miškų tvarkymo ir naudojimo nuostatai// Valstybės žinios.- 1997. - Nr. 71. - P. 9-12.
8. Miškų urėdijų tipiniai nuostatai// Valstybės žinios.- 1995. - Nr. 25. - P. 10-13; 1996.- Nr. 114.- P 21-23.
9. Miško fondo sudarymo ir naudojimo nuostatai// Valstybės žinios.- 1995. - Nr. 31. - P. 14-17; 1999.- Nr. 37.- P. 13-14.
10. Valstybinės miškų kontrolės nuostatai// Valstybės žinios.- 1995. - Nr. 33. - P. 38-40.
11. Pagrindinės tikslinės žemės naudojimo paskirties nustatymo ir keitimo tvarka// Valstybės žinios.- 1994. - Nr. 66. - P. 44-47.
12. Miškų skirstymo į grupes tvarka// Valstybės žinios.- 1995. - Nr. 28. - P. 16-17.
13. Miškų inventorizavimo ir miškotvarkos projekų licenzijavimo nuostatai// Valstybės žinios.- 1995. - Nr. 85. - P. 18-20.
14. Miškotvarkos projektų tvirtinimo tvarka// Valstybės žinios.- 1995. - Nr. 16. - P. 5-7.
15. Nenukirsto valstybinio miško pardavimo taisyklės// Valstybės žinios.- 1995. - Nr. 59. - P. 29-33.
16. Prekybos apvaliąja mediena taisyklės// Valstybės žinios.- 1996. - Nr. 27. - P. 36-38.
17. Žaliavinės medienos apskaitos tvarka// Valstybės žinios.- 1996. - Nr. 10. - P. 43-44.
18. Medžioklės Lietuvos Respublikoje nuostatai// Valstybės žinios.- 1994. - Nr. 99. - P. 47-50.
19. Medžioklės taisyklės// Valstybės žinios.- 1995. - Nr. 25. - P. 13-21.
20. Miškų priešgaisrinės apsaugos taisyklės// Valstybės žinios.- 1995. - Nr. 32. - P. 13-16.

21. Specialiosios žemės ir miško naudojimo sąlygos// Valstybės žinios.- 1996. - Nr. 2. - P. 4-35.

22. Žalos padarytos miškui atlyginimo įkainiai// Valstybės žinios.- 1998. - Nr. 83. - P. 36-37.

23. Miškų ir saugomų teritorijų departamento nuostatai// Valstybės žinios.- 1999. - Nr. 67. - P. 26-29.

24. Miško darbų saugos taisyklės// Valstybės žinios.- 1996. - Nr. 116. - P. 41-57.

25. Miškų sanitarinės apsaugos taisyklės// Valstybės žinios.- 1996. - Nr. 65. - P. 32-37.

26. Pagrindinių miško kirtimų taisyklės// Valstybės žinios.- 1999. - Nr. 29. - P. 51-52.

27. Miško ugdymo nuostatai.- V., LR miškų ūkio m-ja, 1996.- 44 p.

28. Miško atkūrimo nuostatai. - V.: M.ū. m-ja, 1993.- 40 p.

29. Lankymosi miške taisyklės// Valstybės žinios.- 1996. - Nr. 120. - P. 17-19.

30. Mažųjų gamtos turtų naudojimo taisyklės// Valstybės žinios.- 1996. - Nr. 90. - P. 41-46.

31. Stačiojo miško kainų nustatymo tvarka ir kainos// Valstybės žinios.- 1998. - Nr. 88. - P. 42-43.

32. Projektų, numatančių miško sodinimą žemės ūkio paskirties žemėje, renginio metodika// Valstybės žinios.- 1996. - Nr. 19. - P. 28-32.

33. Lietuvos Respublikos aplinkos apsaugos įstatymas // Žinios.- 1992. - Nr. 5. - P. 235-246.

34. Lietuvos Respublikos saugomų teritorijų įstatymas// Valstybės žinios.- 1993. - Nr. 63. - P. 3-13.

35. Lietuvos Respublikos laukinės augalijos įstatymas// Valstybės žinios.- 1999. - Nr. 60. - P. 3-6.

36. Lietuvos Respublikos laukinės gyvunijos įstatymas// Valstybės žinios.- 1997. - Nr. 108. - P. 3-6.

37. Lietuvos Respublikos saugomų gyvūnų, augalų, grybų rūšių ir bendrijų įstatymas// Valstybės žinios.- 1997. - Nr. 108. - P. 6-8.

38. Lietuvos Respublikos aplinkos monitoringo įstatymas// Valstybės žinios.- 1997. - Nr. 112. - P. 4-6.

39. Lietuvos Respublikos jūros aplinkos apsaugos įstatymas// Valstybės žinios.- 1997. - Nr. 108. - P. 12-18.

40. Lietuvos Respublikos mokesčio už aplinkos teršimą įstatymas// Valstybės žinios.- 1999. - Nr. 47. - P. 11-14.

41. Valstybės žinios.- 1992-1999.

THE LEGAL FRAMEWORK OF FOREST MANAGEMENT PRACTICES IN LITHUANIA AND ITS POTENTIAL IMPACTS ON BIOLOGICAL DIVERSITY - A CRITICAL REVIEW *

MARIUS LAZDINIS

CHANGES IN THE FOREST SECTOR

The decade of independence in memories of Lithuanians will be a period of life full of ups and downs, a period of creativity and experimenting, of success and failure. The Lithuanian forest sector over last decade has experienced dramatic changes. From a traditional planning system in the former Soviet Union, based primarily on sustainable productivity which required proper regeneration and reforestation of logged
forest sites, now Lithuanian foresters have to operate in active market conditions with immediate decision making and a heavy load of responsibility. Welfare and income of individuals could not gain much from private initiative, stable financial situation did not require much efforts to assure job positions, and private forestry did not exist. The situation, where there was almost no economic interest to increase the exploitation of forests has changed into high national interest in timber exploitation, strong competition in international timber markets, every day reduction of staff, and over hundred thousand private forest owners with slightly more than three hectares average forest holding (Misku ir saugomu teritoriju departamentas 1999).

Political commitments to sustainable forest management and scientific knowledge on biological diversity received major attention in the international forest forum during the last few decades of 20th century. The Lithuanian forest sector, which has emerged into the global forum with limited knowledge and experience besides advantages of the market economy, has also been charged by the international community with responsibilities for biodiversity conservation and sustainable forest management. Considering this context, a closer look should be taken at the Lithuanian legal framework of forest management in order to assess, how well political and economic changes were adopted by the forest sector, and how well the legal and regulatory framework corresponds to current needs of sustainable forest management and biological diversity conservation.

Bearing in mind the recent knowledge on biological diversity and main forest elements and processes essential for maintaining or restoring natural levels of biological diversity, this paper reviews the legal framework of forest management practices in Lithuania and its potential impacts on biological diversity. The overview of relevant international and national regulations is followed by an assessment of the main articles of the Forest Law. Relevant provisions of the sector Programme and of forest regulations, and provisions of environmental and nature protection laws and regulations will be discussed. Major gaps in the forest sector legal framework, as related to reducing negative impacts on biological diversity, will be identified.

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* This paper has been submitted by the author in February 2000. Since it is of interest to the theme of the symposium it is included in the Proceedings.

OVERVIEW ON RELEVANT INTERNATIONAL AND NATIONAL REGULATIONS

Since the independence of Lithuania was restored, the country became an active participant for international legal collaboration. Lithuania has signed and ratified a number of legally and non-legally binding instruments and joined a whole range of global and regional processes. The environmental sector is probably one of few containing the highest number of international legal documents setting a framework for protection and sustainable development on global and regional scales. A significant number of instruments and processes refer directly or closely to forest management and protection. A list of international legal instruments related to forests and signed by Lithuania is provided in Annex I.

Based on the leading principles of international forest policy and combined with local experience, the legal framework for forest management was shaped during a ten-year period. The main principles of Lithuanian forest policy are contained in the Forest Law of 1994, updated in 1996, 1997, 1998 and further amendments are expected in 2000. Key guidelines of the Forest Law are elaborated in the Forestry and Wood Processing Industry Development Programme, approved by the Government in 1994 and amended in 1996. One of the sections of the programme is dedicated to Conservation of Biological Diversity in Forests (Lithuanian Ministry of Forestry 1996). In the light of implementation of the Forest Law and the Programme, a whole set of regulations and rules has been issued (Annex II).

The importance of an individual legal instrument for forest management practices varies with each document, as well as varies the magnitude of impact of individual forest management practices on biological diversity. Several documents, namely the Rules of Fire Prevention Service (1995), the Regulations on Sanitary Forest Protection (1996), the Regulations for Final Forest Felling (1999), the Regulations on Private Forest Management and Use (1995, updated 1997), the National Regulations on Forest Regeneration (1993), and the Regulations on Forest Protection and Use in Protected Areas (1996) establish an immediate relationship between forestry activities and maintenance of biological diversity in forest ecosystems and forested landscapes.

A significant number of instruments and processes, mostly those of the environmental sector, are directly or closely related to forest management and protection (Annex III). Several environmental legal instruments form a framework for conservation of biological diversity and set limitations on forestry activities in favour of nature protection. Among those having a significant impact on forest management activities, several documents can be listed: the Law on Environmental Protection (1995, amended 1996), the Law on Protected Areas (1993), the Law on Wildlife (1997), the Law on Protected Plant, Animal and Fungi Species and Communities (1997), and the Law on Wild Vegetation (1999). The Biodiversity Conservation Strategy (1997) has a great impact on conservation of biological diversity in managed forests of Lithuania.

As declared by the State forest sector, the overall objective of Lithuanian forest policy is to implement the resolutions of the Strasbourg, Helsinki and Lisbon Ministerial Conferences on Protection of Forests in Europe, to ensure sustainable and multiple-use forest management, conservation of biological diversity, enlargement of forest area through afforestation of abandoned agricultural land, and to support forestry development, research, education and extension (Lithuanian Ministry of Forestry 1996).

As stated in forest legislation, Lithuanian policy of forest use is based on the principles of sustainable and multiple-use management and general silvicultural and ecological requirements should be followed. In a rather large part of forests (29%)

due to environmental requirements (protection of biological diversity, protective functions of forests etc.), restrictions on forest management are applied. Less severe restrictions on management are imposed in commercial forests (Misku ir saugomu teritoriju departamentas 1999). While carrying out harvesting and silvicultural operations, environmentally sound and economically viable technologies are being introduced on a broader scale.

Enhancement of biological diversity in Lithuania is considered an essential element of sustainable forest management. All activities aimed at the implementation of the Helsinki Resolution 2 have close relations to other Helsinki and Strasbourg resolutions - particularly H1, S2, S6. However, some measures undertaken have a particular emphasis on conservation and enhancement of biological diversity in forests and should be mentioned separately.

Legal instruments mentioned in this section and the Annexes provide a basis for all levels of forest management in Lithuania. Some of these documents may have a direct effect on forestry activities, which are impacting biological diversity. On the other hand, the remaining legislation is setting up a framework for the whole forest sector, the welfare and economic interests of which are creating both favourable and undesirable conditions for biological diversity. In the latter case impacts of forest management practices on biological diversity may be long-term and cumulative. The legal instruments having a direct impact on the abundance of biological diversity in forest ecosystems and forested landscapes will be analysed in the following.

RELEVANT PROVISIONS OF THE FOREST LAW

Despite the sound commitments, expressed by the State forest sector to implement sustainable forest management, several gaps in legislation regulating forest management activities can be found in a closer analysis of legal documents.

The main principles of Lithuanian forest policy are contained in the *Forest Law*, which was adopted in 1994 and amended in 1996, 1997, and 1998.

Article 1 of the Forest Law - Main Trends of Forestry Policy – indicates that forest '*protects the stability of landscape and quality of the environment*' and '*shall be managed on the basis of a continuous and multipurpose use*'. As stated in the same paragraph, '*the environment, diversity of plants and animals, landscape, nature and culture values must be preserved and harmonised in the forests*'. Despite the fact that biological diversity values are emphasised, the sustainable forest '*use*' principles are considered as leading guidelines in Lithuanian forest management. The anthropocentric approach in forest management, stated in the Article 1, does not allow further flexibility in choosing forest management patterns and puts less importance on management for intrinsic or existence values.

Forest distribution and assignment of individual forest areas to one of several protection classes, as outlined in the Article 4, has a positive effect on limiting impacts of management on biological diversity. However several uncertainties related to this method can be indicated. Human-caused environmental impacts, such as air pollution, water pollution, intensive management of adjacent habitats, together with elimination of fires are continually impacting biological resources inside strict nature reserves. This may result, and in some cases already does, in modified natural ecosystems, containing otherwise uncommon vegetation and large amounts of deadwood, exceeding volumes found in natural conditions. Therefore, the question can be raised, what if certain human actions will be needed in order to maintain individual valuable organisms in the reserve, which may be disappearing

due to human impacts on air, water, and surrounding environment? And why in the Class 4 dealing with commercial forests emphasis is given only to continuous timber supply? What if the management patterns in commercial forests would be adjusted to maintain and restore biological diversity? All these questions remain open and no direct answer without comprehensive scientific evaluation can be found.

The economic framework for the forest sector, as provided in Article 8, indicates that activities having negative impacts on biological diversity, such as laying new forest roads and maintenance of land draining systems, as well as activities supporting biological diversity are financed from the same source. The whole set of silvicultural and forest protection practices depends on incomes to the Forest Fund, which are gained from commercial operations. Therefore the risk exists, that efforts to maintain and restore biological diversity may be under-financed in such an economic forest management model as presented in Forest Law. If the incentives to support biological diversity in forests management will not be emphasized strongly enough, in the market economy conditions forest managers will choose to invest into forestry activities allowing a gain of higher profits from commercial operations, rather than in activities maintaining abundance of biological diversity.

As outlined in the Forest Law - '*the Government of the Republic of Lithuania may provide subsidies and preferential credits for afforestation, regeneration, growing of forests, for the development of fire prevention and sanitary protection of forests as well as the infrastructure of forests. If the economic activity of forest managers, owners or users is restricted, they shall be granted tax and other privileges and compensations*' (Article 8). The above statements sound encouraging. However, it is questionable, whether in the country with the economy in transition, where financial resources are greatly dependent on the use of natural resources and existing capital is essential for further economical development in major industry branches, sufficient subsidies and preferential credits will be given in order to support the activities listed. We should bear in mind that forest sector employs at maximum 15.000 people.

Article 10 also indicates an anthropocentric approach in forest management, encouraging and supporting sustainable forest use, but leaving in the background management for biological diversity. The priority issues in Lithuanian forest management, as outlined in the Article, are '*constant supply of timber and other forest products*' and balance between '*timber growth and the logging*'. Fires, pests, and diseases are treated as '*negative factors*', which is not always the truth in natural forest ecosystems, rich in biological diversity. Forest users are taken away the flexibility to introduce modern forest management practices supporting biological diversity and must rely on traditional silvicultural techniques.

The requirement for reforestation to be carried out within a two-year period can have both positive and negative effects on biological diversity (Article 18). On one side, bearing in mind the current economic situation in Lithuania, when the economic interest of society in exploiting forest resources is high and knowledge on sustainable forest management and biological diversity values contained by forest ecosystems is low, the obligatory period for reforestation may be essential for maintaining viable forest ecosystems. On the other hand, natural regeneration, as a process supporting biological diversity, may not always be completed within a two-year period and therefore, higher flexibility in forestry systems, where cutting sites are left for natural regeneration, should be allowed.

Protection of forests from illegal activities listed in Article 20, eliminates a possibility to use prescribed burning as one of the management options. Considering the recent

research in forest disturbance regimes and effects of fires in unmanaged forest ecosystems, it is possible that in order to eliminate certain negative impacts of forestry activities and create close to natural forest succession patterns, prescribed burning will be one of the possible options. Due to the mentioned obligations of Forest Law, it will not be applied in practice.

It should be noticed, that otherwise, the Forest Law covers a comprehensive spectrum of issues related to maintenance and restoration of biological diversity, which correspond to the challenging requirements of sustainable forest management. However, the above shortcomings have rooted into the overall legal forest management framework. They will be pointed out while reviewing relevant provisions of the Lithuanian Forestry and Timber Industry Development Programme and of forest regulations, such as Regulations for Final Forest Felling, Regulations for Private Forest Management and Use, Rules of Fire Prevention Service, National Regulations on Forest Regeneration, Regulations on Sanitary Forest Protection, and Regulations on Forest Protection and Use in Protected Areas.

RELEVANT PROVISIONS OF THE SECTOR PROGRAMME AND FOREST REGULATIONS

The Government of the Republic of Lithuania by decision Number 791 'Concerning *Lithuanian Forestry and Timber Industry Development Programme*' of 1 July 1996 has adopted this Programme and relevant implementation measures. The main tasks of forestry, as stated in the document, are – '*to protect and rationally manage forests based on sustainable and multiple-use principles, provide Lithuanian industry and private persons with timber, and at the same time maintain landscape and biological diversity*'. In contrast to the principles of forest management, as outlined in Forest Law, the current definition includes maintenance of landscape and biological diversity, as being one of the main objectives in management.

The Programme consists of two parts – Forestry and Timber Industry, and includes chapters on - Main Principles of Forest Policy, Forest Management and Control, Forest Regeneration and Afforestation, Fire Fighting and Forest Protection, and Protection of Biological Diversity in the Forests.

It can be observed, that more consideration to maintain biological diversity is given in the policy principles of this document, compared to the Forest Law. Despite scouring a '*permanent supply of timber and other forest production*' (Paragraph 1.3.4), emphasis is also put on protection of '*landscape and biological diversity*' (Paragraph 1.3.5) by setting limitations for commercial forestry activities. However, the above applies only in '*individual categories of protected areas*' (Paragraph 1.3.5). The potential conflict in policy implementation, as mentioned in a previous section, while describing the economic framework of the State forest sector, may arise from the need to '*seek for sufficient income in order to carry out and develop forest management activities*' (Paragraph 1.3.4).

Attempts to enhance biological diversity are expressed in the *Regulations for Final Forest Felling*. However, the emphasis, once again, is made on '*steady forest resource consumption*' (Regulation 2) and regeneration of '*productive and resistant desirable tree species*' (Regulation 2). The last two statements, indicating a priority given in the Regulations, may not always be the most desirable in trying to minimize a negative impact of forest management activities on the biological diversity.

Optimization of the shape and size of forest sites, suggested in the Regulations, can be favourable only from the commercial forestry positions (Regulation 3). Increases

in the size of single age forest stands may make it easier to carry out silvicultural activities. However, they are not welcomed from the landscape diversity perspective, where a landscape matrix with forest patches of different species composition and age structures is essential for maintaining biological diversity.

The recommendations '*in order to protect biological and landscape diversity'* follow in Regulation 7:

'While selecting forest harvesting and regeneration methods, the natural regeneration capacities should be utilized;
Edges of cutting site in all possible cases should coincide with the forest site perimeter;
Snags and cavity trees should be left aside in the cutting sites, as well as single, especially those containing holes, thick pine, oak (over 60 cm diameter), other hard hardwoods and linden (over 50 cm) trees (3-7 trees per 1 ha);
To set aside the groups of trees resistant to the wind and situated within the habitats of rare plant species, in the vicinity of springs, brooks and other ecologically and aesthetically valuable sites'.

The recommendations create a firm basis for maintenance and restoration of biological diversity, and if successfully implemented would make a big step towards sustainable forest management. It is also welcomed that final clear and non-clear cuttings in the vicinities of nesting sites of rare bird species are prohibited within the distance ranging from 50 m to 200 m (Department of Forests and Protected Areas 1999).

The minimum harvesting and natural maturity ages for Lithuanian tree species, as presented in the Regulations (Regulation 6), are indicated in Table 1.

Table 1: Minimum Harvesting and Natural Maturity Ages for Lithuanian Tree Species

Prevailing tree species	Class IV forests	Class III forests	Age of natural maturity *
Pine, larch, ash, maple, elm	101	111	170
Spruce	71	81	120
Oak	121	141	200
Birch, linden, black alder, hornbeam	61	61	90
Aspen, poplar	41	41	60
Gray alder, goat-willow, willow	31	31	50

* In the forests of the Class II of final-regenerative cuttings

Notice. Final cutting age, applied in private forests is indicated in Regulations on Private Forest Management and Use adopted in decision of the Government of the Republic of Lithuania No. 799 on 24 July 1997.

Source: Department of Forests and Protected Areas, 1999.

A positive example of regulating impacts of forest management practices on biological diversity is the reference to site conditions in planning a cutting type

(Regulation 8). However, flexibility is left to define a cutting type based on the planned forest stand composition, and on technical and economical conditions (Regulation 8). Forest stands supporting biological diversity may not necessarily be economically feasible and therefore the possibility exists that from a biological diversity point of view, valuable tree species will be replaced by commercially more desirable tree species. The section on clear cutting states, that '*clear cutting is applied in all stands of boggy and permanently overmoisted spruce site types*' (Regulation 10.1). However, these forests are usually considered as having a high value for biological diversity and containing large numbers of threatened species. The maximum allowable widths of clear cutting sites, as defined in the Regulations (Regulation 10.2), are indicated in Table 2.

Table 2. Maximum Allowable Widths of Clear Cutting Sites

Habitat conditions		Regenerative forest stands	Maximum allowable width of cutting site, m	
Forest types	Site types		Class IV forests	Class III forests
Vacciniosa, Vaccinio-myrtillosa, Oxalidosa, Hepatico-oxalidosa (except the slopes)	Na, Nb, Nc, Nd, Nf	Pine stands, soft hardwoods	150	100
		Spruce stands, hard hardwoods	100	75
Forests of other habitat types	Other	Spruce stands	75	75
		Black alder stands	150	100
		Stands of other tree species	100	75

Source: Department of Forests and Protected Areas, 1999.

As stated in Regulation 10.2, '*in order to coincide the edges of cutting sites with compartment boundaries, it is allowed to extend cutting sites up to 1.5 times of maximal cutting site area. The forest sites of size up to 3 ha can be clear-cut without consideration of maximum allowable limitations for cutting site width*'. The option for setting aside seed trees is provided in Regulation 10.6. However, '*after successful regeneration, it is recommended to cut those trees before the forest will pass the sapling stage*'. The above recommendation may have a negative direct impact on biological diversity in forests, suggesting the elimination of old trees, which in few years may become hosts of cavity nesting birds, fungi and other elements of the natural forest ecosystem.

The recommended cutting type in forest stands of soft hardwoods in the majority of cases is clear-cut (Regulation 18). In the section on requirements for clean-up of cutting sites (Regulation 21), the statement '*it is prohibited to burn scattered cutting residue*' eliminates the future possibility of prescribed burning. Guidelines for cleaning-up strictly require that large cutting residue, including branches, should not be left at a cutting site. This eliminates the flexibility of leaving standing and laying logs for further decomposition, creating favorable habitat conditions for number of small mammal, bird, insect and fungi species. Biomass, in the form of branches and

logs, which would contribute to the forest soil fertilization, is also removed from the cutting site.

Regulations on Private Forest Management and Use were adopted by Governmental Decision No. 799, in 1997. Regulation 12 provides for private forests to be attributed by the Government to forest protection Classes, and places restrictions on the activities that can be carried out in different Classes of forest. Clear felling is not allowed in individual forest field protection coppices, of up to 5 hectares, and situated more than 400 meters from the closest forest. The minimum cutting ages for various tree species are the same as in the State forests. The major difference between those required in State forests, is that the cutting ages for pure aspen and gray alder, goat willow, and willow forest stands are not defined. Broadleaf forest stands are considered as valuable elements of the landscape which provide suitable habitats for a variety of species. The absence of defined cutting ages for these species creates a danger of elimination of broadleaf forest stands in long-term forest management. Besides Regulation 13 leaves the flexibility for private forest owners, along with the defined order to apply a clear-cut system in order to harvest mature and overmature trees located within premature forest stands.

A number of obligations is placed on forest owners, including requirements to: protect forests against fires and any causes of damage; carry out fire prevention measures in accordance with the management plan; carry out sanitary forest cuttings; manage forest using methods and means which '*could eliminate adverse effects on the environment, preserve soil productivity and biological diversity*'. At the end of every year statistical data on cuttings and reforestation according to the requirements of the Government have to be presented. Another obligation on forest owners is to replant cut and burned areas within 2 years in accordance with Regulation 24.

Regulation 26 sets the rights for forest owners. The right to *'receive compensation according to the order defined by the Government…if he has losses due to restrictions on management activities*' may be useful, if it would be decided by the forest owner to reduce commercial forestry activities in order to maintain or restore biological diversity in his/her forest. However, it is questionable whether in the near future the Government will find sufficient financial resources to compensate for such losses. The same Regulation states, that a private forest owner has the right '*according to the defined order*' to lease forest areas for hunting, recreation, research and '*use of other natural resources*'. The later option could be utilized by groups of concerned citizens or by international organizations interested in reducing forest management impacts on biological diversity in a specific forest area. However, the compensation mechanism is not delineated explicitly, which may imply some problems when, for example, seeking to set-aside sensitive habitats situated in privately owned forests.

Rules of Fire Prevention Service were adopted in 1995. Regulation 5 states, that fire protection control is to be carried out within the whole territory of Lithuania by State foresters in co-operation with the State fire fighting service. In Regulation 19, the section on requirements for forest users, states that, while carrying out forest harvesting forest users are required to '*clean cutting sites*', as requested in the cutting license.

National Regulations on Forest Regeneration, were adopted in 1993. They contain obligations and recommendations regarding forest regeneration on State or privately owned land. As stated in Regulation 2, '*establishment of forest stands shall be aimed at maintenance of valuable wood yield and other non-timber production at*

sustainable level in order to satisfy the needs of the country's industry and public sector by establishing and maintaining productive and stable forest stands on the basis of consistent breeding programs'. This statement puts the emphasis on the commercial orientation of management activities, underestimating concern about maintenance of biological diversity. In a similar manner Regulation 3, indicates that '*species composition and plantation density of the stands being established shall match the site conditions and the future forest function as well as the needs of the national industries*'. The option to replace one habitat type '*of low commercial value*' tree species with another of more '*valuable species*', is outlined in the Regulation 4.

The section on '*understory plantations*', states that, '*in commercial and protective forests, the main objective of understory plantations is to better utilize the land and to increase the stand stability*' (Regulation 31) and '*before establishing an understory in commercial and protective forests, the stands shall be correspondingly prepared: the trees possessing wide and dense crowns as well as the suppressed, not healthy trees of an undesirable species shall be removed and bush layer shall be cleared*' (Regulation 34). This again indicates an utilitarian perspective of forest management activities and no concern about the maintenance and restoration of biological diversity.

Regulations on Sanitary Forest Protection were adopted in 1996. They state, that forest enterprises, national park managers, private forest owners and other forest users, using the sanitation cutting system must eliminate: '*dead wood, wind-throws, wind-breaks, snow-breaks, invaded by pests and fungi, and strongly injured trees*' (Regulation 4). It implies that both lying and standing dead wood should be taken out of the forest ecosystems. The Regulations create controversy when trying to minimize the negative impacts of forest management activities on biological diversity. Sufficient amounts of deadwood is one of the key factors needed for its maintenance and restoration.

The cutting site clean-up time frame and type are indicated in the cutting license (Regulation 5), which is obligatory for all timber producers. In the cutting sites it is illegal to leave coniferous tree species residue longer than 1 m and thicker than 7 cm during the period from May 1 to September 15. While carrying out selective cuttings, 1-2 trees per hectare should be set aside containing cavities or nesting sites. Regulation 9.2 provides that the stumps left in cutting sites should not be higher than 10 cm for the trees which have a diameter of 30 cm at a cut area. For those trees with a larger diameter stump height should not exceed one third of the diameter at a cut area. The two regulations require elimination of woody debris from cutting sites, and in doing so negatively effect the maintenance of biological diversity. Regulation 10 allows for flexibility to carry out sanitation cuttings in a forest compartment or in a part of the compartment with deadwood, at any time of a year, if the '*volume of deadwood equals or exceeds 5 m^3*'. The same Regulation indicates, that, if the possibility exist, deadwood should be removed earlier.

Regulations on Forest Protection and Use in Protected Areas were adopted in 1996. They set guidelines for forestry activities to be applied in protected areas, with the objective to protect, restore and create forest communities of optimal structure and rationally utilize them according to their designation (Regulation 1). The regulations are obligatory for all owners, users and managers of forest in protected areas (Regulation 2). Forest protection and use do not depend on ownership type, and differs only according to individual protection classes.

As stated in Regulation 5, forest management activities are chosen based on forest distribution in protection Classes, and along with the management principles outlined

in these Regulations. Regulation 6 indicates, that forest protection and use for individual forest compartments are in forest management plans, drafted along with the requirements of these Regulations, the regulations of protected areas, and other legal and territorial planning documents.

RELEVANT PROVISIONS OF ENVIRONMENTAL AND NATURE PROTECTION LAWS AND REGULATIONS

Besides legal and regulatory documents directly dealing with the forest sector, a whole number of instruments related to the forest management can be found in field of environmental protection. The Law on Environmental Protection, the Law on Protected Areas, the Law on Wildlife, the Law on Wild Vegetation, the Law on Protected Plant, Animal and Fungi Species and Communities, and the Biodiversity Conservation Strategy and Action Plan to a certain extent effect forestry practices and will be reviewed.

The *Law on Environmental Protection* '*shall establish the main rights and duties of legal and natural persons guaranteeing:…*[besides other things] …*the preservation of the species of animate organisms and their habitats*' (Article 2.1). The Law does not express direct concerns on regulating the impact of forest management activities on biological diversity. However it sets a framework to the overall environmental protection in Lithuania, indicating major obligations and responsibilities of natural resource users (Article 14). The set of protected areas, mentioned in the law, supports protection of biological diversity on the national scale.

The main objective of the *Law on Protected Areas*, adopted in November 1993, is '*to regulate social relations in connection with protected areas*' (Article 1). The law '*shall apply to land and water areas as well as landscape features to which, owing to their value, a specific protection and use regime set by the State applies*' (Article 1). As stated in Article 2, '*protected areas shall safeguard the preservation of natural and cultural heritage complexes and features, the ecological balance of the landscape, biodiversity and genetic fund, the restoration of natural resources*'. The structure of protected areas, stated in the law (Articles 11 – 41) covers: conservation areas, preservation areas, recuperative areas, integrated protected areas, and other.

The *Law on Wildlife*, adopted in 1997, regulates protection and use ratios for wildlife, in order to conserve natural communities and species diversity of wildlife populations; protect habitat environment, regeneration conditions and migration paths needed for survival of wildlife species; and assure rational use of wildlife. Measures for protecting wildlife, listed in Article 5, indicate protection and restoration of the living environment, regeneration conditions and migration paths of wildlife species.

The *Law on Wild Vegetation*, adopted in 1999, states as the main objective to regulate wild vegetation protection and use ratios, in order to protect natural community diversity of wild vegetation and favorable habitat conditions for such vegetation; assure rational use of wild vegetation resources, and to provide for the conservation of wild vegetation genetic resources (Article 1). However, as stated in the Article 1, this law is not applied to timber resources.

The *Law on Protected Plant, Animal and Fungi Species and Communities*, adopted in 1997, defines and regulates activities of legal and private persons, related to conservation of protected wildlife, vegetation and fungi species and their habitats, and activities required to maintain and increase the number of these species and their habitats. Article 4 defines the Lithuanian Red Data Book, which is the list of rare

and threatened fauna, flora and fungi species. The list is updated at least every 10 years. As indicated in Article 8, legal and private persons in the owned territory containing protected species and their habitats bear a responsibility for the implementation of the following requirements – (1) maintain conditions favorable for protected species and their communities; (2) assure conservation of protected species and communities, and maintenance of their habitats. According to Article 12, if the individual territory contains protected species and their habitats, in the planning documents for this area (e.g. forest management plans) measures for conservation of protected species habitats must be indicated. As stated in Article 15, species protection, habitat conservation and maintenance activities are to be financed from the financial resources of the landowner.

The need for the *Biodiversity Conservation Strategy and Action Plan* arose from Lithuania's ratification of the International Convention on Biological Diversity in 1995. The main goal of the strategy and action plan is '*to conserve the country's biological diversity…'*. The document recognizes that forests play a key role in the conservation of biological diversity, and emphasizes the need to integrate the conservation of biological diversity into forest policy. One of the priority tasks listed in the forestry action plan is to develop a programme of biological diversity conservation in forests. The main goals of the Biodiversity Conservation Strategy and Action Plan have been designed to cover a twenty-year period although most of the actions are meant to be implemented within 5 years. The actions, as listed in the Action Plan for the Protection of Forest Ecosystems are indicated in Annex IV.

CONCLUSIONS

The information contained above confirms that there are major gaps in the legal framework on management practices with regard to maintenance and restoration of biological diversity in forest ecosystems. The main concerns in Lithuanian forest policy are the following ones:

- A lack of consideration of the biological diversity exists in the major legal instrument, setting a framework for regulatory documents in the sector – the Forest Law.
- Strict requirements for elimination of deadwood from forest stands and clear-cutting areas are established in several documents setting regulations for forestry activities. This is in disagreement to what is now considered as being favorable conditions for biological diversity.
- Forest fires are considered as having a negative impact on forests. According to the current legislation prescribed burning cannot be introduced as one of the forest management tools.
- The present economic organization predetermines the lack of concern on biological diversity in Lithuanian forest sector. It is not economically feasible to implement forest management activities favouring biological diversity both in State and private forests. An economic mechanism, providing incentives for forest management favouring biological diversity in the form of compensation or grants is missing.

However, one should consider that the Lithuanian forest sector is experiencing a transitional phase, where the search of the best management model is still ongoing. The country's new and fragile economy requires considerable financial resources in order to assure stability and balance, and the forest sector is only one of the sources, complementing overall development. Despite the above limitations, the forest sector

has indicated significant results in enhancing sustainable forest management and reducing the negative impacts of forest management practices on biological diversity.

REFERENCES

Department of Forests and Protected Areas. *Regulations for Final Forest Felling*. Kaunas: Department of Forests and Protected Areas under the Ministry of Environment, 1999. Unofficial translation.

Lithuanian Ministry of Forestry. *Lithuanian Forestry and Timber Industry Development Programme*. Vilnius: Lithuanian Ministry of Forestry, 1996. Unofficial translation.

Ministry of Environmental Protection. Selected Laws Relating to Environmental Protection. Vilnius: Environmental Protection Ministry of the Republic of Lithuania, 1997, ISBN 9986-566-71-1.

Misku ir saugomu teritoriju departamentas (Department of Forests and Protected Areas). *1998 metu veiklos ataskaita (Review of 1998 Activities)*. Vilnius, Lietuva: Misku ir saugomu teritoriju departamentas prie Aplinkos Ministerijos, 1999.

ANNEX I: LIST OF INTERNATIONAL INSTRUMENTS RELATED TO FOREST SECTOR AND RATIFIED OR TO BE RATIFIED BY THE LITHUANIA, AND MAJOR INTERNATIONAL PROCESSES ATTENDED BY LITHUANIA

LEGALLY BINDING INSTRUMENTS		
1.	International Plant Protection Convention	1951
2.	International Convention for the Protection of New Varieties of Plants (UPOV)	1961
3.	Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention)	1971
4.	Convention Concerning the Protection of World Culture and Natural Heritage	1972
5.	Convention on the International Trade in Endangered Species of Fauna and Flora (CITES)	1973
6.	Convention on the Protection of the Marine Environment of the Baltic Sea Area	1974, 1992
7.	Convention on Long-Range Transboundary Air Pollution	1979
8.	Convention on the Conservation of European Wildlife and Natural Habitat (Bern convention)	1979
9.	Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)	1980
10.	Protocol to the 1979 'Convention on the Long-Range Transboundary Air Pollution', on Long-Term Financing of the Cooperative Program for Monitoring and Evaluation of the Long-Range Transmission of Air Pollution in Europe (EMEP)	1984
11.	Convention for the Protection of the Ozone Layer (Vienna Convention)	1985
12.	Protocol to the 1985 'Convention for the Protection of the Ozone Layer (Vienna Convention)', on Substances that Deplete the Ozone Layer (Montreal Protocol)	1987
13.	Convention on Environmental Impact Assessment in a Transboundary Context (ESPOO Convention)	1991
14.	Convention on Biological Diversity	1992
15.	Convention on the Protection and Use of Transboundary Watercourses and International Lakes	1992
16.	Framework convention on Climate Change	1992
17.	Kyoto Protocol to the 1992 'United Nations Framework Convention on	1997

	Climate Change'	
18.	Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters	1998
NON-LEGALLY BINDING INSTRUMENTS DIRECTLY RELATED TO FOREST SECTOR		
1.	Agenda 21, Chapter 11	1992
2.	Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests (Forest Principles)	1992
3.	Conclusions and Proposals for Action of the Intergovernmental Panel on Forests	1997
4.	Pan-European Process Strasbourg 1990, Helsinki 1993, and Lisbon 1998 Resolutions	1990, 1993, 1998
FOREST RELATED PROCESSES		
1.	Baltic 21	
2.	VASAB	
3.	Forest Management Certification – FSC, ISO 14001, PEFC	

Source: Aplinkos ministerija (Lithuanian Ministry of Environment). *Lietuvos Respublikos pasirasytu, ratifikuotu arba numatomu ratifikuoti (prisijungti) daugiasaliu konvenciju (protokolu) aplinkos apsaugos srityje sarasas (List of conventions in the field of environment, signed, ratified or to be ratified by the Republic of Lithuania)*: Aplinkos ministerija (Lithuanian Ministry of Environment), 1999; Zickute, Audrone. Personal Communication. : Lithuanian Ministry of Environment, 1999.

ANNEX II: FOREST LEGISLATION IN LITHUANIA

1.	Regulations on Forest Enterprises	1995
2.	Regulations of General Forest Enterprise	1996
3.	Regulations of State Forest Service	1995
4.	Regulations of State Forest Inspection	1995
5.	Rules on Forming and Using the Forest Fund	1995
6.	Sale Regulations of Growing (uncut) Forest	1995
7.	Regulations on Private Forest Management and Use	1995, updated 1997
8.	Rules of Fire Prevention Service	1995
9.	Regulation on Sanitary Forest Protection	1996
10.	Regulations on Forest Protection and Use in Protected Areas	1996
11.	Hunting Regulation Rules	1994
12.	Hunting Regulations	1995
13.	Regulations for Final Forest Felling	1991

Source: FAO. *Development of the private forestry sector in Lithuania*. Vilnius: Food and Agriculture Organization of the United Nations, 1999. Second Mission Report (Draft), TCP/LIT/7821(A).

ANNEX III: FOREST RELATED LEGISLATION IN LITHUANIA

1.	Constitution of the Republic of Lithuania – Article 47	1992
2.	Constitutional Law on the Subjects, Procedure, Terms and Conditions and Restrictions of the Acquisition into Ownership of Land Plots provided for in Article 47, Paragraph 2 of the Constitution of the Republic of Lithuania	1996
3.	Law on Environmental Protection	1995, amended 1996
4.	Law on Plant Protection	1995
5.	Law on Environmental Impact Assessment	1996
6.	Law on Protected Areas	1993
7.	Law on Taxes on State Natural Resources	1991
8.	Law on Pollution Tax	1991
9.	Law on Land – Chapter 6 in particular (land designated for forestry)	1994
10.	Underground Law	1995
11.	Law on Energy	1995
12.	Law on Territorial Planning	1995
13.	Convention on Environmental Impact Assessment in a Transboundary Context (ESPOO Convention)	1991
14.	Regulations on Nature Monuments	
15.	Individual Regulations on Strict Nature Reserves	
16.	Individual Regulations on National Parks	1992
17.	Individual Regulations on Regional Parks	1996
18.	General Regulations on Protection Zones of Strict Nature Reserves and National and Regional Parks	1996
19.	Special Conditions for Land and Forest Use	1993
20.	Rules on Forest Protection and Use in Protected Areas	1996
21.	Rules on the Use of Forest Minor Resources	1996
22.	New Lithuanian Red Data Book	1994
23.	Mushroom Picking Rules	1996
24.	List of Rare and Extinct Fish Species	1995
25.	Code of Administrative Law Infringements	1996
26.	Law on the Restoration of the Rights of Ownership of the Citizens to the Existing Real Property	1997
27.	Law on the Amendment of the Law on Land Reform (Parliamentary Record No. 9/1997) and Law on Land Reform (1991)	
28.	Law on Wildlife	1997
29.	Law on Protected Plant, Animal and Fungi Species and Communities	1997
30.	Law on Privatisation of Property of Agricultural Enterprises	1993
31.	Co-operative Law	1993
32.	Law on Wild Vegetation	1999

Source: FAO. *Development of the private forestry sector in Lithuania*. Vilnius: Food and Agriculture Organization of the United Nations, 1999. Second Mission Report (Draft), TCP/LIT/7821(A).

ANNEX IV: ACTION PLAN FOR THE PROTECTION OF FOREST ECOSYSTEMS

Actions (* priority actions)	Time
1.1.* Amend Law on Forests with provisions on the protection of biodiversity	1997-1998
1.2.* Update state and private forest use and management rules by including measures for biodiversity conservation	1998-1999
1.3. Approve rules for main and restoration felling	1997-1998
1.4. Prepare normative for setting and protection of rare and valuable habitats in forests	1998-1999
2.1.* Develop a program of biodiversity conservation in forests	1998-1999
2.2.* Develop a program for establishment of small strict nature reserves for the protection of the diversity of forest types	1998-1999
2.3. Develop a program of specialized measures for the protection of forest communities which are at the boundaries of their range	1999
2.4. Develop and implement forest use models according to Resolutions of the European Forest Protection Helsinki Conference of 1993	1998
2.5. Develop programs for restoration of Lithuanian broad-leaved forests	1999
2.6. Develop program for restoration of spruce forests	1998-1999
3.1. Map forest ecotopes	1998-2000
3.2. Update forest community classification	1998-1999
3.3. Determine forest communities' tolerance to anthropogenic loads	1999-2003
3.4.* Monitor forest communities and forecast their change per decade	1997-2010
3.5.* Determine forest biodiversity indicators and assessment criteria	1998-2000
3.6. Determine principles of fungi communities classification, develop classification of fungi communities in Lithuania	1999-2002
3.7. Determine influence of mikorize to forest communities	2001-2005
3.8. Determine forest evolution changes	2000
4.1. Offer specialized training courses for forest owners	1999-2001
4.2. Publication of "Lithuanian forest ecosystems"	2000
4.3. Publish "Lithuanian fungi"	1999
4.4. Prepare "Lithuanian forests" study guide	1999
4.5.* Prepare information about biota protection in Lithuanian forests and include it into educational programs for different schools	1998-2000
4.6. Publish posters on Lithuanian protected forest natural values	1999-2001
4.7. Make a training film on Lithuanian forests	1998-2000
4.8. Publish map of Lithuanian forests (scale 1:300000)	1997

Source: Ministry of Environment. *Biodiversity Conservation Strategy and Action Plan*, 1998.

FOREST AND ENVIRONMENTAL LEGISLATION IN ROMANIA

GHEORGHE PARNUTA AND ION MACHEDON

1. DEVELOPMENT OF THE REGULATORY FRAMEWORK RELATED TO FORESTS

Romania has 6.3 million ha of forest, 26.5% of the entire surface of the country.

The interest in forestry legislation in the Carpathian-Pontic-Danube territory started in the 18th century, the documents being issued at regional level. The first Forest Code was issued in 1881 and revised in 1910 (GIURESCU, 1975).

The establishment of communism and the taking over of the forested lands by the state in 1948 changed the status of the forestry lands through regulations that were included in a new Forest Code issued in 1962. Decree 257/1982 regulated the administration rules for the forestry vegetation on lands outside the forest fund and the equipment for processing logs. The Law 2/1987 on forest conservation, protection and development, their rational, economic exploitation and preserving of the ecological balance has synthesized the main legal acts in the forestry field issued during communist period.

The *Law on land fund* (18/1991) is the first legal act in the transition period with major implications on the forest fund.

The *Law on Forest Code* (26/24.04.1996) is the legal act issued in the transition period towards a market economy that regulates the titles on lands, ownership and other aspects related to the forestry lands. It has the following structure:

Title I – Common provisions with reference to the forest fund and the forest vegetation outside it.

Title II – The public property forest fund.

Chapter I – Administration of the State's public property forest fund.

Chapter II – Administration of the public property forest fund.

Section 1 – Planning of the forest fund.

Section 2 – Ecological reconstruction, regeneration and care of forests.

Section 3 – Forest protection.

Section 4 – Security of the forest fund.

Section 5 – Products specific to the forest fund.

Section 6 – Exploitation of the wood volume.

Chapter III – Ensurance of the forest fund integrity and development

Title III – The private property forest fund.

Title IV – Provisions common to the public property forest fund and to the private property forest fund.

Chapter I – Control over the circulation of wood materials and of installations for converting round wood into timber.

Chapter II – The game fund and the fish in mountain waters.

Title V – Forest vegetation outside the forest fund.

Title VI – Responsibilities and sanctions.

Title VII – Final provisions.

The regulations of the Forest Code are included in 120 articles (#).

The Parliament also adopted the *Law* (169/1997*) for the modification and completion of the Law on land fund* 18/1991 and the *Law for approving the Government Ordinance 96/1998 on regulating the forest administration rules and the national forest fund management* (141/23.07.1999).

2. TITLES ON LANDS, STATUS, AND OWNERSHIP FORMS

The Law on land fund 18/20.02.1991 permitted the return of 339,200 ha of forests (5.3% from the forest fund) to the former owners, at least 1 ha per owner. The Law 169/27.10.1997, modifying and completing Law 18/1991, will permit the return of maximum 10-30 ha per family to the former owners or their inheritors. The Parliament adopted the Law 1/11.01.2000 which permit to be retenued maximum 10 ha per owner. According to the estimates, made by using the criteria established by the Parliament*, the forest surface to be returned will be of more than 2,5 million ha, or 40% of the total forest fund surface.*

#1. Forests, tracts of land designated for afforestation, those serving the needs of timber culture and production, or forest administration, ponds, brook beds as well as unproductive plots of land included in the forest planning *constitutes the national forest fund,* regardless of the nature of the property right.

#2. Forests, in the sense of the present Forest Code, shall be considered tracts of land covered by timber vegetation over an area larger than 0.25 ha.

#4. The national forest fund shall be public or private property, as the case may be, and shall constitute a good of national interest.

#5. Identification of the tracts of land constituting the national forest fund shall be made on the basis of existing forest management plans at the date of adoption of the Forest Code.

#6. Forest vegetation situated on land outside the national forest fund, subject to the provisions of the Forest Code, shall be constituted by:

a) forest vegetation from afforested meadows;

b) protective forest belts of agricultural land;

c) forest plantations on degraded plots of land;

d) forest plantations and trees from the protective zones of hydrotechnical works and land improvement works as well as those along water courses and irrigation channels;

e) protective forest belts and trees along ways of communication beyond the boundary of localities;

f) green areas around towns and communes, other than those included in the forest fund, parks within the confines of localities with exotic forest species as well as alpine juniper areas;

g) dendrological parks, other than those included in the national forest fund.

#7. Legal, organizational, economic and technical relations with regard to the national forest fund, the hunting fund, the fish fund in mountain waters, as well as those with regard to the forest vegetation of lands outside the national forest fund shall be subject to the provisions of the Forest Code, and completed with any other provisions in the matter, as the case may be.

#8. *The State*, through the central public authority responsible for forestry***,*** *shall elaborate policies* in the field of the national forest fund and of the forest vegetation outside it, *regardless of the nature of property, and shall exercise control on the way they are administered*.

#9. The national forest fund shall be subject to the forest administration rules.

The forest administration shall constitute a system of technical, economic and legal rules with regard to the arrangement, culture, exploitation, protection and safety of the fund, aiming to ensure the long term, careful management of the forest ecosystems. The rules constituting the forest administration shall be elaborated by the central public authority responsible for forestry, which shall also exercise control over the application of these rules of administration.

OWNERSHIP FORMS (according to the Forest administration rules – Law 141/1999): The Romanian Government has issued an *Ordinance* (96/27.08.1998*) on the regulation of the forest administration rules and management of the national forest fund***,** approved by the Parliament through Law 141/23.07.1999

The national forest fund, according to the ownership form, is formed of:

a. state property forest fund;
b. public property forest fund owned by territorial administration units (communes, towns, cites);
c. public property forest fund owned by religious units (parishes, convents, monasteries), teaching institutions and other juristic persons;
d. undivided private property forest fund owned by natural persons (former common owners and their inheritors);
e. private property forest fund owned by natural persons.

Forest roads and railroads existing in the moment when the law came into force belong to the state, no matter whose property they cross. The holders of the property right on forest fund, public or private, exercise their ownership right, in the limits and conditions of the law, with respect to forest conservation and sustainable management.

3. STATUTE INTERDICTIONS AND RESTRICTIONS ON FOREST PROPERTY

Reduction of the area of public or private forests is prohibited, exceptions making the cases presented below.

Exceptionally, for constructions with special destination, *the definitive occupation of lands from the public or private forest fund,* with or without the clearing of the forest, shall be approved, with the previous agreement of the owners.

In the cases in which *the owners do not agree*, the occupation of the lands can be made in accordance with the conditions established by the legal regulations on *the expropriation for public use.*

At the final occupation of lands from the public and private forest fund, the requesting natural or juristic persons have to pay the following taxes and compensations:

a. tax for final occupation which is deposited in the fund of the central public authority responsible for forestry;
b. the value corresponding to the land, paid to the owner of the forest land;
c. the value corresponding to the loss in growth caused by the exploitation of woodmass prior to the exploitability age, if the land is covered by forest, compensation to be paid to the owner.

The draft of *"The Law on juridical circulation of lands in the national forest fund"* is now being finalized according to the proposals from the Ministry of Finance and the Ministry of Agriculture and Food.

#57 *The temporary transmission of land* from public or private property forest fund for use to other ends than forest production, with or without clearing of the existing vegetation shall be approved according to the law.

The lands in the private property forest fund, no matter the owner, are and remain in the civil circuit, according to the law. They can be obtained and alienated in any way provided by the civil legislation, and with regard to the provisions of the Forest Administration Rules (law 141/1999), thus:

The private forest can be alienated, through legal acts, only if the *property is not divided*. This condition is valid for inheritors, too.

The State, through the National Forest Administration (NFA), has the pre-emption on all willing or unwilling sellings, at equal price and conditions, both for private forests, and for lands with other use, neighboring the state public forest fund.

In the case in which NFA does not express its option to buy private forested lands, the pre-emption right for buying the forested land belongs to the neighboring owners.

The pre-emption right can be exercised for 30 days and then it ends.

In the case of selling indivisible forested surfaces, the pre-emption rights belong to the co-owners of those lands.

The alienation made without regard to the above-mentioned provisions is null.

The maximum surface that a natural person can buy is of *1,000 ha*.

4. FORESTRY LAWS' AIM AND APPLICATION DOMAIN

#10. The administration of the state public property is carried out through NFA, which functions on the basis of economic management and financial autonomy.

NFA exercises the provisions of the *forest administration rules* (law 141/1999) in the forest fund it administers.

#12 (1). *The public property forests* owned by communes, towns and cities, as well as the *indivisible private property ones* belonging to the former co-owners (farmers) and their inheritors*, are managed by the owners with their own forestry structures*, similar to the state ones. For forest management the above mentioned owners hire specialized personnel, authorized in accordance with the law.

(2). In order to apply the provisions mentioned in paragraph (1), the natural persons, former co-owners (ancient farmers) or their inheritors, *will set up associations with juristic personality*, according to the law.

#13 (1). If the owners mentioned in #12 (1) cannot fulfill the mentioned conditions, they will manage their forests on the basis of contracts with NFA or through specialized units, authorized by the central public authority for forestry.

(2) The contract signed by the two parties establishes the rights and obligations of forest owners and NFA.

It will compulsorily stipulate the following:

a. the material rights of the forest owners, in kind or money resulting from the use of the wood and non-wood resources taken for management;
b. the obligations of NFA or of the authorized specialized units, to ensure forest safeguarding, to carry out forestry technical works in accordance with the forest administration rules.

#14 (1). *Private property forests* owned by *natural persons* are subject of the forest administration rules. The owners of these forests, individually or in associations, have the obligation to carry out by using their own means or through specialized units under contract, according to #13 (2), the necessary works stipulated by the forest administration rules.

(2) The administration of the *private property forests* owned by parishes, convents and monasteries, teaching institutions or other *juristic persons* is carried out by them or by hiring forestry personnel.

(3) The owners of these forests, individually or in associations, have the obligation to carry out by their own means or under contract, according to #13 (2), the necessary works stipulated by the forest administration rules.

#15. *The control of the way in which the forest administration rules are implemented for the entire national forest fund* is carried out by the central public authority for forestry through *The General Direction for Forest Administration Rules*, as well as through the *territorial forestry inspectorates* that are subordinated to it.

NFA also exercises public service with a specific forestry character. According to this specific charge NFA activity is carried out on the basis of the Organisation and functioning rules approved by the Governmental Decision 982/29.12.1998.

NFA has as its activity object, the application of the strategy for the forests it administers and acts for the protection, conservation and sustainable development of the state public property forest fund, for the harvesting and use through commerce of the products specific to the forestry fund, according to the legal regulations, in conditions of economic efficiency.

#16. The management of the public property forest fund is regulated by the forest management plan. It represents the basis for the forest cadaster and of the State's property title and establishes, in relation to the ecological and socio-economic objectives, the aims of the administration and the necessary measures for their realization.

#17. The forest management plans are elaborated by forest districts and production units, observing a unitary methodology and the provisions of the technical forest management rules, and aiming at ensuring the continuity of their ecological and socio-economic functions.

#18. Forest management plans are drawn over 10-year periods, except those for forests with poplar, willow and other fast growing species, for which this period is 5 years.

#19. The forest management plans and the modifications of their provisions are approved by the head of the central public authority responsible for forestry.

#20 In relation to their functions, the forests are classified in two functional groups:

a) Group I includes forests with special protective functions of waters, soil and climate and of the objectives of national interest, recreation forests, genofund and ecofund protective forests as well as forests declared monuments of nature and reserves;

b) Group II includes forests with protective and production functions in which it is aimed mainly to produce high quality timber and other products of the forest simultaneously with the protection of the quality of the environment factors.

5. ACHIEVEMENT AND REALIZATION OF THE POLITICAL IDEAS - APPLICATION MEASURES, INCENTIVES AND SUBVENTIONS, OTHER LEGAL PROVISIONS

NFA carries out the ecological reconstruction, regeneration and tending of the forests, afforestation of all the un-regenerated forests and meadows in the forest fund with this destination , guarding of the forest fund against illegal cuttings, thefts, destruction, degradation, poaching and other damaging actions, and ensures the implementation of the measures for the prevention and extinction of forest fires.

#22. Forest management rules shall be applied to the regeneration of forests, aiming at the conservation of the genofund and realization of high quality stands as well as the continuous exercise of the environment protective functions.

Grove management rules shall be allowed only in native poplar and locust trees stands and in riverside coppice stands.

#23. For the purpose of ensuring the permanence, stability and biodiversity of the forests, priority shall be given to the regeneration of the species from the basic natural type by application of treatments with repeated interventions

Clear cuttings are admitted in spruce, pine, locust tree, poplar and willow forests and in riverside coppices as well as in the case of regeneration of some stands in which the application of other treatments is not possible. Under this condition, the size of *the cutting area* shall be of *three ha at most*; in the case that the mechanized preparation of the soil is necessary for refforestation, the size of the cutting area may be of five hectares at most.

#24. Completion of natural regenerations and reafforestation works are carried out within not more than two years after the final cutting..

#25. Reproduction materials used in afforestation works shall come from seed reserves, seed orchards and mother-plantations for slips and from seed source stands in national catalogues of reproduction material admitted in culture.

#26. Conservation of genetic forest resources with their basic genofund and intraspecific genetic variability shall be a permanent obligation of the central public authority responsible for forestry. Forests constituting genetic forest resources determined as such shall be excluded from cuttings of principal products.

The health condition of forests shall be ensured by the National Forest Administration by pest and disease control measures, regardless of the form of property of the forests. *Grazing is forbidden* in the State public property forest fund, on forested degraded lands and in protection forest shelterbelts.

The financing of the management activities for the State's public property forest fund is ensured by NFA out of the incomes from the selling of forest products and from the forest conservation and regeneration fund, stipulated in the Forest Code, which is a fund deductible when the taxable profit is established.

#40. The maximum volume of woodmass that may be harvested annually from forests shall be approved by Government decision within the limits established by forest management plans for each production unit and nature of the products. The volume of accidental products resulted from wind felling, snow breaking, illegal clearings, dried trees shall be deducted beforehand from the possibility.

#42. Exploitation of forest wood products shall be made according to the provisions of the forest management plans and of instructions with regard to terms, modalities and harvesting periods, extraction and transport of wood materials issued by the central public central authority for forestry.

#43. Trees designated to be felled shall previously be marked with forest hammers by the forest personnel according to the technical rules.

The wood mass exploited and transported from the forest shall be accompanied by documents certifying its provenance and shall be marked with the mark specific to the economic agent that administers the forest or that exploits the wood mass.

The financing of the management actions for the private property forest fund of juristic or natural persons is ensured from the incomes obtained by selling the harvested woodmass and of other forest products.

In order to support the owners of private forests, especially natural persons, in carrying out management works, to ensure the integrity of the national forest fund and the sustainable forest management**,** *the state shall allocate annually*, from the budget, *necessary funds* (subventions) for:

a. *restoration of forests affected by natural disasters or fires*;

b. restoration of some *forest railroads destoyed* after some natural calamities;

c. *control of diseases and pests* in private forests;

d. financing of complex studies for finding of solutions for the management of private forests;

e. making available for the forest owners the *technical and forestry rules* and the legal provisions regulating the forest administration rules and the materials for extension and forest education on forest protection and conservation;

f. compensations corresponding to the value of the woodmass non-exploited due to the restrictions included in the forest management plans in forests with special protective functions.

The methodology rules for granting, use and control of the alloted sums according to these provisions are approved by Governmental Decision, at the proposal of the central public authority responsible for forestry, with the approval of the Ministry of Finance

6. LAWS ON NATURE CONSERVATION AND ENVIRONMENTAL PROTECTION

The *Law on environment protection* (137/29.12.1995) has as its major objective *the sustainable development of the society* on the basis of the following *principles* and strategic elements:

a. the principle of *precaution* in decision making;

b. principle of *prevention of ecological risks and damages*;

c. principle of biodiversity and ecosystem conservation specific to the biogeographical natural framework.

d. “polluter pays” principle;
e. elimination mainly of the pollutants that endanger directly and seriously the people’s health;
f. creating a national system for *integrating of environment monitoring*;
g. sustainable use;
h. maintaining, improvement of environmental quality and reconstruction of degraded lands;
i. creating a framework for the participation of non-governmental organizations and of the population in the elaboration and implementation of decisions;
j. development of the international cooperation for ensuring the environment quality.

The most important *implementation procedures* for the strategic principles and elements are:

a. adoption of environment policies harmonized with development programmes;
b. *compulsoriness of the assessment procedure for the impact on the environment in a first phase* of projects, programmes or activities;
c. elaboration of *norms and standards, their harmonization with international regulations* and implementation of the programmes.

The provisions of the law on environmental protection on *natural resource protection*, with special regard to water and water ecosystem protection, air protection, soil and subsoil protection and terrestrial ecosystem protection, completes and strengthens the regulations of the Forest Code with a positive impact on sustainable forest management.

Also, the provisions on the *status of the protected areas and nature monuments* help maintain and develop the national network for the conservation of natural habitats, of biodiversity defining the biogeographical framework of the country, as well as of the natural structures formations with ecological, scientific and landscape value.

The protected areas and nature monuments declared by forest management plans until the coming into force of the law, preserve this quality.

Romania still has virgin and quasi-virgin forests with a surface of more than 500.000 ha that preserve biodiversity in natural structures, constituting an ecological patrimony of national and European value.

There are no major conflicts between the regulations of the forestry laws and environmental protection legislation, being elaborated and adopted in the same time.

Also, there are no major conflicts between the *forestry regulations* and the main international regulations, in which Romania is part:

- UN Conventions (UNCED Earth Summit, Rio de Janeiro – 1992; UNCSD IPF Session, New York – 1995; UNFAO COFO Session, Rome – 1995; UNECE ICP Forests Monitoring Programme, Geneva – 1987).
- OECD regulations and recommendation, Paris – 1990; OSCE, Montreal – 1993.
- Resolutions of the Ministerial Conferences on the Protection of Forests (Strassbourg, 1990; Helsinki, 1993; Lisabona, 1998).
- Regulations and Recommendations of EU, Brussels, 1966-1998.

7. OTHER RELEVANT LEGISLATION RELATED TO FORESTRY AND ENVIRONMENT

- Law on hunting fund and protection of game (103/23.09.1996).
- Governmental Decision 735/21.10.1998 approving the Instructions on circulation and control of wood materials and installations for processing the round wood.
- Order of the Minister 264/26.03.1999 for approving the Forestry Technical Rules for the management of forest vegetation outside de national forest fund.
- Law 107/16.06.1999 for the adoption of the Government Ordinance 81/1998 concerning some measures for the improvement by afforestation of degraded lands.
- Law approving the Government Ordinance 96/1996 on the forest administration rules and the administration of the national forest fund (141/23.07.1999).
- Order of the Minister 125/19.03.1996 approving the Procedures for the regulation of economic and social activities with impact on the environment.
- Order of the Minister 278/22.05.1996 approving the Certification rules for the elaboration of environment impact studies and environmental assessments.
- Order of the Minister 756/1997 approving the Regulation on environment pollution assessment.

BIBLIOGRAPHY

GIURESCU, C.C., 1975: Istoria padurii romanesti din cele mai vechi timpuri pana astazi [History of the Romanian forests from ancient times to today], Ed. Ceres, Bucuresti, pp. 127-138.

Legea Protectiei Mediului nr. 137/19.12.1995, [Law on Environment Protection], Monitorul Oficial al Romaniei, Part. I – nr. 304/30.12.1995

Legea Codului Silvic nr. 26/24.04.1996 [The Forest Code], Monitorul Oficial al Romaniei, Part. I – nr. 93/08.05.1996.

Legea Fondului Cinegetic si a Protectiei Vanatului nr. 103/23.09.1996 [Law on Hunting Fund and Protection of Game] Monitorul Oficial al Romaniei, Part. I – nr. 235/09.1995

ECONOMIC ASPECTS OF THE RUSSIAN FOREST CODE 1997

MAXIM LOBOVIKOV

ABSTRACT

The Forest Code of the Russian Federation (1997) succeeded the Basics of Forest Legislation (1993). Although the 1997 law corrected evident problems with the earlier law, it did not and could not resolve basic problems in forestry associated with the transition to a market economy. The economic part of the Code is the most problematic since it makes extensive application of a leasing system, which may not be compatible with the ecosystem management paradigm.

Key words: forest code, legislation, market, transition

GENERAL ASPECTS

Prior to approbation of the former Basics of Forest Legislation (1993), all rights to state-owned forests belonged to two monopolists: forestry enterprises and logging enterprises. Logging enterprises monopolized timber harvesting mainly by applying the clearcutting harvesting system. They were big, rich, and well-equipped enterprises. After harvesting timber, they received revenues that covered the cost of logging and usually yielded a surplus or profit. In other words, they were self-financed. Their economic organization, if state-administered prices and administrative pressures are excluded, was comparable to firms in a market economy.

Forestry enterprises (leskhozes) were monopolists of the state forest fund. They performed both management and production functions. They also had a possession function which was mainly to issue harvesting certificates to logging enterprises. This arrangement created an abnormal situation because planning, production, and control functions were concentrated in a single organization. In essence, the forestry enterprise was, all at once, consumer, producer, and controller of operations.

Funding of forestry enterprises was not linked directly to the quantity and quality of production. At the beginning of each quarter, a forestry enterprise received a budget that it was obliged to spend during the quarter according to budget estimates. Remaining money eventually was put back into the budget. Quality control was marginal since the controller was the forest enterprise itself. Its main economic interest was not to increase production quantity or quality, but to spend budgeted money according to the estimated needs contained in the budget. Although forestry enterprises could not conduct final timber harvests, they harvested and processed timber from thinnings, making various wood products. They also engaged in utilization of non-wood forest products. The lodging of these self-financing production operations into budget-driven forestry enterprises had a dichotomous character. On the one hand, they moderated the seasonal nature of forestry work, increased the efficiency of technology and manpower utilization, made thinning operations economically feasible, and partly resolved an employment problem for second adult members in a family. On the other hand, even a modest presence of wood products production tended to cause an imbalance in forest cultivation. Wood products production, as distinct from forest cultivation, would bring a profit. Therefore forestry enterprises tended to develop wood products processing operations even when it worked against their responsibilities in forest management and cultivation.

Despite being monopolists of the state forest fund, forestry enterprises were poorly funded, weak, and inadequately equipped organizations requiring large amounts of labor. This is a consequence of an inefficient system and the use of the residual principle of budget financing. Forestry did not receive the money it needed. It received, instead, what remained in the state budget after making expenditures in "leading" industries, such as the military, heavy industry, energy, and chemistry. Despite an apparent need to merge forestry and logging into one enterprise, efforts to bring them together tended to fail, for self-financing logging enterprises had an economic incentive to remain independent from "budget-supported" forestry enterprises.

The change from a command-economy administrative organization to a market-driven economic organization required urgent reforms such as:

- Eliminating the state-sanctioned monopoly in the forest sector and constructing conditions for development of new forms of collective and private properties.
- Establishing conditions for competition among different contractors in forest utilization and regeneration.
- Separating consumer and producer functions as market economy principles require.
- Incorporating forestry and forest utilization into one organization to provide an uninterrupted process of "cut-and-recultivation" and raise production efficiency.
- Redesigning the forestry financing model so forest cultivation is encouraged as much as logging. Both production systems must receive comparable consideration, and their development should occur on a parity basis. Otherwise, one production system will exceed the other, as happened earlier when the systems were merged into complex enterprises. The 1997 Code only partly addressed this issue.

ECONOMIC CHALLENGES OF THE FOREST CODE

The new Forest Code of Russian Federation was adopted after a year of debate on 22 January 1997, replacing the 1993 law. The focus of the Code was economic restructuring and redistribution of property rights and functions in the forest sector. Basic rights and functions of forest owners are:

- Possession, which includes the right of an owner to sell, lease, or otherwise dispose of property.
- Planning, which includes compiling, evaluating, and ordering forest production, conservation, and preservation programs.
- Production, which refers to executing forest production, conservation, and preservation programs.
- Control, which refers to verification and evaluation of the forestry program results as well as registration and monitoring of forests.
- Financing, which includes the disbursement of forestry program revenues and associated tax policy.
- Utilization, including harvesting, processing and selling of forest products.

The 1997 Code declares only one kind of forest property: state-owned. Article 19 states: "The Forest Fund and forests located on defense lands are under federal state ownership." This decision was reached despite the Constitution of Russian Federation establishing four kinds of property with respect to nature resources: state,

municipal, private or juridical persons, and collective property. The 1997 law is in contradiction with real life. Already collective forest property exists in the form of collective farm forests, municipal forests, and private farm forests. The extent of these forest ownerships will increase along with the development of farm movement in Russia. These forests should be managed on a sustainable, ecosystem basis along with the state-owned forests. Collective forests should not be ignored by existing forest law.

Before adoption of the Code and the "Statute on federal organizations of forest management" of the local Forestry Service division, "leskhoz" was defined by the Basics of Forest Legislation and the "General statute on leskhozes of Federal Forestry Service" as a "local division of a system of specially authorized organizations for forest management." Article 11 of the Basics of Forest Legislation identified the leskhozes as the main owners of forest land. The 1997 Code changed the status of leskhozes. According to Article 53, "the territorial agencies of the federal body of forest administration include the forest administration bodies in the subjects of the Russian Federation and the forest management units (leskhozes) of the federal body of forest administration, including forest management units, technical schools, experiment and other specialized forest management units." The Civil Code of the Russian Federation provides that non-commercial organizations "may implement entrepreneurial activity only to an extent to which the activity serves the purposes they were created for and correspond to" (Article 50 of the Civil Code).

The 1997 Code has no special article defining the functions of leskhozes. They are scattered throughout the Code instead. The major functions of leskhozes in terms of increasing forest productivity are described in Article 91:

- Conduct forest stand care, selection work, forest tree breeding and identification of valuable tree species; control water- and wind-generated soil erosion, bogging, salinization, and other processes that deteriorate the condition of forest lands; implement other operations to improve the species composition of forests; increase forest productivity and protective capacity; ensure conservation and timely reproduction of Siberian stone pine, oak, beech, and other valuable species.
- Perform intermediate cuttings when they cannot be conducted by other appropriate organizations.
- Take measures ensuring effective reproduction of forests, development of new forests, and hydrotechnical forest reclamation of excessively moistened land.
- Build roads for purposes related to forest management;
- Render assistance to forest users with respect to selection of methods of reproduction, provision of seeds and planting stock, and effect payments, in accordance with the established procedure, for reforestation work carried out by forest users.

As evident from the preceding list of functions, leskhozes conduct all the major functions of a forest landowner. But they do more. They are also the customer for their products and the controller of their production operations. A forestry enterprise plans its production program, performs it, monitors its results, and pays the cost of the program with state money. This contradicts common practice in public administration around the world, where customer and controller functions are kept separate from the production function.

Thinning is an important function of forestry enterprises. In practice, it is easy to convert a thinning program into a logging operation, especially if an enterprise has monopoly control over production. Mass conversions occurred in 1965 and 1985 of

forest enterprises becoming de facto logging enterprises and at the expense of sound forest management. With free markets and competitive timber prices, comparable conversions would have catastrophic results today.

The 1993 law made an unprecedented policy change in natural resource management when forest owner rights passed from an executive to a representative power, specifically, the former Soviets. After the putsch and dismissal of the Soviets at the end of 1993, these rights passed back to the executive. According to Article 8 of the Basics of Forestry Legislation, State management in forest utilization, regeneration, protection and conservation in Russia was proceeded by the President of the Government of the Russian Federation; by executive organizations of republics, autonomous provinces, counties, districts, regions, and the cities of Moscow and Saint Petersburg; and also by specially authorized state forestry management organizations. The system of specially authorized state forestry management organizations included the state organization of forestry management of the Russian Federation (the Federal Forestry Service) and its divisions in republics, autonomous provinces, counties, districts, regions, the cities of Moscow and Saint Petersburg, and local divisions or forestry units. Thus, the main function of ownership, namely, possession, was in a double subordination to local authorities and forestry management organizations. There was no legal or economic necessity in this. The 1997 Code fixed the problem. It stopped and corrected the negative consequences of decentralization introduced by the Basics of Forest Legislation. The Code has radically changed the distribution of management functions by subjects of forestry relations. Article 13 names subjects (partners) of forest relations: Russian Federation, subjects of Russian Federation, municipal organizations, citizens and juridical persons.

The 1993 law introduced leasing as basic land tenure system in forest management in Russia. Forest sites could be leased on a short-term basis (up to one year) or on a long-term basis (up to 50 years) with possible extensions. Article 27 brought new policies to bear. It eliminated monopoly status for logging enterprises and permitted forest users of in the Russian Federation to be juridical persons, including foreign juridical persons, and physical persons. Forest sites could be placed into their use after direct talks, local auctions, and concourses (meetings), arranged jointly by executive and forest management organizations. The 1997 Code legitimizes leasing as basic tool for forest management in Russia. Leasing is not wide spread in the world except for Canada. Most countries prefer to use the more flexible contract system, using either short- and medium-term contracts. Short-term contracts, unlike leasing contracts, better meet criteria associated with ecosystem management.

Unfortunately, the 1997 Code did not resolve the central issue of forestry economic organization, which is financing. It revised only the character, title and sources of funding and preserved the estimated budget approach for financing. In accordance with the Code, forest utilization is payable by users. Payments for use of the Forest Fund are collected in the form of forest taxes and rental charges (Article 103). Rental charges are established on the basis of forest tax rates. Minimum stumpage rates are established by the Government of the Russian Federation.

Considering payments for the use of the forest fund and financing of forest management costs, Part V of the 1997 Code copied a failed attempt of taxation through payments from loggers for forest reproduction, custody, and protection introduced by Article 67 of the 1993 law. Minimum rates of stumpage (Article 103) duplicate the former practice of taxation. A part of forest taxes and rental charges in the amount of minimum stumpage rates is to be transferred to the Federal budget

and budgets of the Subjects of the Russian Federation in the following ratio: Federal budget, 40%, and Budgets of the Subjects of the Russian Federation, 60%.

The new mechanism of financing has following weaknesses:

- As before, financing of the forestry enterprises has the character of state-administered budgets, not the character of revenues received from sales of final products. Financing precedes production and is received at the beginning of each quarter and is not based on the actual results of production activities.
- Control of results is conditional, conducted by the forestry enterprise itself. World practice and experience indicate effective forest management requires a division between the functions of forest management and the functions of wood products production. Further, the rights of a forest ownership should reside in an executive organization, represented by professionals, free from the obligations of wood products production.

CONCLUSION

First of all, it is necessary to separate forest management from wood products production functions. Forest management organizations should be engaged only in the functions of forest possession, planning, control and financing. Some management functions might be redistributed among different levels of management. Possession and financing, which are the main rights of ownership, should be passed on to higher levels of government of regions, districts, republics because:

- Moving the possession function to a higher level government will make corruption more difficult.
- Concentrating financial sources at a high level of government will increase the efficiency of their collection and utilization. This is especially important in situations where the nature, productive capacity, and extent of forests vary widely. This will also serve to reduce the impacts of natural calamities, which is often beyond the power of local forestry administrative organizations and districts to address.
- Forming regional organizations for the protection and conservation of forests, control of forest fires, and the operation of nurseries for cultivation of tree seedlings could provide important organizational efficiencies.

Once the possession and financing functions have been transferred to a high levels of government and wood products production is separated and placed with forest users, forest management organizations should be reformed and become local forest administrations, subordinated to regional departments and responsible for current work with forest users. Their main responsibilities are planning and control of forest production. Staffs of existing forest management organizations perform quite well in meeting these responsibilities. Production activities dealing with reproduction, protection and conservation should be given to local forestry contractors. Final payment for forestry services rendered should be from both budgeted or non-budgeted funds and based on the results of local verification.

REFERENCE

Forest Code of the Russian Federation. ARICFR, 1997.

FORMATION OF A NEW FOREST LAW IN THE SLOVAK REPUBLIC

VIERA PETRASOVA

Origins of Forest Legislation: The history of legal norms of Slovak forestry is one of the oldest in European context. First known legal regulations on the management of forests on the territory of Slovakia date from the Middle Ages. The regulations of King Sigismund (1426), King Ferdinand (1558, 1561, 1564), the forest order of King Maximilian of 1565 as well as later royal regulations were only partially relevant with regard to the territorial jurisdiction or complexity of forestry issues. An important milestone was the forest order of Empress Teresa (1769, in former Hungary 1770) that was the first comprehensive forest regulation. There were problems with applying this order due to the resistance of the gentry. The first former Hungarian forest law was issued by King Joseph II as the legal article LVII of 1791 under the title "de sylvarum devastatione praecavenda". In the following amendments of legal norms for forestry in former Hungary were issued in 1807, 1848 and 1858. In 1867 due to Austrian-Hungarian equalization legal article XXI of 1807 came into force again in former Hungary.

Another significant milestone in the history of forestry legislation was the issuing of legal article XXXI/1879. It is the forest law that has been in effect, including some amendments, on the territory of Slovakia up to 1960. This law was for its own historic period a very modern and complex legal norm. Altogether with the legal article XIX of 1898 on state administration of communal and some other forests and clearings, on the modification of the administration of commonly used forests and clearings that form indivisible ownership of compossesories, and the owners of land and duties register ("urbar") the law is inspiring also nowadays.

In 1960 the Act no. 166/1960 Zb. on forests and forest management was adopted. Nationalization tendencies introduced in former Czechoslovakia in the period after 1948 are reflected in this act. The nationalization of forest use in Slovakia was completed by the Act no. 61/1977 Zb. of the Federal Assembly of the former ÈSSR on forests and the Act no. 100/1977 Zb. on the management of forests and state administration of forestry. Forest acts of this period ensured a high level of protection and management of Slovak forests. On the other side they represented a serious infringement on ownership's rights of non-state forest owners. They deprived the land owners of their rights to administer and use their forests and assigned these rights to state organizations of forestry.

Currently valid legislation: The transformation of ownership's and use's rights after the year 1989 meant the restoration of the rights of former owners. The transformation of the ownership's and use's relations to the forests of SR is governed by the Act no. 229/1991 Zb. on the modification of ownership relations to land and other agricultural property in the wording of later regulations; by the amended Act no. 138/1991 Zb. on the property of municipalities in the wording of later regulations; by the Act no. 282/1993 Z.z. on the alleviation of injustice caused to churches and religious communities; and by the Act no. 300/1991 Zb. on land arrangement, arrangement of land ownership in the wording of later regulations.

Reprivatization of ownership's relations is ensured by the organs of local state administration. These organs ensure the restoration of ownership records in the respective cadaster. The Slovak Land Office was established with the aim to administer agricultural lands owned by the state and to perform restitution by providing replacement lands. The Office is governed in its activities particularly by the Act no. 229/1991 Zb. on land, the Act no. 330/1991 Zb. on land arrangements, the Act no 92/1991 Zb. on large privatization, and by other acts. The role of the Slovak Land Office in forestry is to represent unknown owners in administrative dealings and judicial procedures and in the restoration of the records in land register. The administration of forest lands of unknown owners is performed by state organizations of forestry. In compliance with the law the Slovak Land Office can lease the land or sell it to individuals or legal entities to perform agricultural or forestry activities.

The present forest Act no. 61/1977 Zb. on forests regulates the administration of state-owned forest property by state organizations of the Ministry of Defence and Ministry of Education. In compliance with the Act no. 92/1991 Zb. on large privatization which was amended recently forest engineering constructions and equipment serving forest production must not be privatized. This law was valid on the whole territory of former ÈSSR and defines forest land resources and forest lands. It introduces forest management records, records on forest lands and their protection and regulates the reimbursement of damages to forests and the issues of fines in forestry. It specifies forest classification and forest categories according to the main role of forests.

Separate specific laws on the management of forests were valid in the Slovak Republic and Czech Republic. Their aims were to regulate more complex foresty issues of respective republics. It is particularly the Act no. 100/1977 Zb. on the management of forests and state administration of forestry in the Slovak Republic. It regulates the following issues:

- forest management and long-term planning,
- declaration of forest categories with restrictions on management,
- issues of silviculture, protection and logging as well as of the use of forests by the public and owners,
- securing of professional management,
- state supervision on forest lands,
- competencies of forest guard,
- forest offences and fines, etc.

Several issues are thus regulated by both acts. After the year 1990 these acts were amended several times. The amendments resulted in some disturbance of the complexity of the regulation of some issues. One example to be mentioned is the administration of state-owned forest property in relation to the Slovak Land Office that administers all constructions that are not situated on forest land but serve forest production. Or the administration of agricultural lands, as for instance small fields for game or horse breeding by state forest organizations which is inconsist with currently valid laws. In 1994 there was adopted in the Slovak Republic the Act no. 287/1994 Z.z. on nature and landscape protection. In compliance with this act the owners of non-state forests can raise claims for reimbursement due to restrictions on management.

Prospects for a New Forest Law: Undervaluation of ownership's relations has its consequences for the development and forms of management and forest protection. A specific feature of forest ownership in our country is a historical restraint towards the owner. Public benefits dominate over the interests of individuals and the owners are restricted by the prescription of a 10 year long forest management plan. On the other side this plan has to guarantee such management for the owner which should bring in the mature age of forest with the lowest costs the highest yield and stability of forest stand. Therefore legal norms should be aimed at the harmonization of the interests of owners and the society. The state must be an active participant of the care about forest and nature. These facts as well as others are reasons why we put emphasis on drafting a new forest law in the Slovak Republic.

The Programme resolution of the government of SR specifies the goals of forestry. They are particularly as follows:

- to secure forest management financed by the state,
- to make state superintendence in forestry more effective,
- to prepare a "Programme of Forestry Development" up to the year 2010,
- to work out supportive system in forestry aimed at forest improvement and fulfilment of public-beneficial forest functions,
- to elaborate for forestry and the wood industry the programme of the government of SR "Timber as the raw material of the 21 century".

Both programmes of the government were prepared in 1999 and will be implemented gradually. The requirements presented in the programme of the government will be incorporated into a new forest law. This new forest law will be consistent with the legal norms of the EU. Its adoption will enable to solve factual problems that have not been regulated by current laws or were regulated inadequately. They are particularly as follows:

- position of state-owned forest property, its administration and use,
- role and competence of the organization for the administration of state forest property and its employees,
- handling with forest property improperly or insufficiently managed,
- forest roads, their role, administration, use and financing of their construction and maintenance,
- sale of forests, lease of forests – rights and obligations of the participants,
- role of forest management as a basic instrument of state forestry policy ensuring sustainable forest development and rational use of their functions,
- state information system on forests,
- regular monitoring of forest condition, state forestry protection service,
- reimbursement of detriment due to restriction on management in forests in favour of public-beneficial forest functions,

- ensuring of protection, improvement of forests and promotion of the fulfilment of public-beneficial forest functions in relation to changed ownership's relations,
- efficient control of the implementation of forest management plans,
- obligation of forest users to create financial reserves for reforestation and silviculture, the role of the reserve in relation to tax obligations,
- creation and specific solving of the role of land partnerships, participating as well as non-participating forest owners as legal entities,
- state support for some activities in forests, for forest science, research and education,
- intentional damaging of forests as an illegal act with obligatory reimbursement of damage including reconstruction,
- forest extension, education,
- transformation of state administration of forestry being performed by the Ministry of Defence of SR into the local state administration.

The new forest law should be drafted in compliance with the objectives of the government of SR by the end of 2000. The drafting process will include discussion with and collaboration between the state and the private sector as well as between all concerned economic sectors.

ECONOMIC PRINCIPLES OF THE SLOVAK REPUBLIC FORESTRY POLICY AND LEGISLATION

RASTISLAV ŠULEK

ABSTRACT:

The paper deals with the principles and objectives of the present Slovak forestry policy in general as well as special economic principles included in current legal provisions. Three main problem areas in the economic sphere - financial sources for forestry and their use, organisation structures of forestry and relations between forestry and wood-processing industry - are identified and analysed. The final section describes new proposals of economic principles embodied in drafts of the new Slovak forestry policy and Forest Act.

Key words: forest management, forestry policy, forestry legislation, economic principles, subsidies

1. OVERVIEW ON THE PRESENT SITUATION

The successful development of the forestry sector in the Slovak Republic (SR), as in many other countries in transition, depends to a great extent on the existence of an appropriate and effective legal and institutional framework which enables it to function efficiently. As the transition process continues, the legal and institutional framework needs to be revised and improved to resolve problems and meet new challenges as they arise.

At the present time, the SR forestry policy is officially based on the principles of the sustainable use and management of forests, as they were formulated by the UN Conference on Environment and Development held in Rio de Janeiro in 1992 and by the Ministerial Conference on the Protection of European Forests held in Helsinki in 1993. The aims and objectives of the SR forestry policy are expressed in two basic documents issued by the Ministry of Agriculture and approved by the Government and Parliament of the SR in 1993:

- the *Principles of the State Forestry Policy in the SR* and
- the *Strategy and Concept of the Forestry Development in the SR*.

These documents contain priorities and principles of forestry policy, further embodied and described in the SR forestry legislation. Some of the principles are as follows:

- the SR forestry applies principles of sustainable development and management of forest resources;
- the fundamental objective of the state forestry policy in the SR is to maintain, protect and improve forests and secure their system of ecological stability;
- the SR forestry management is orientated towards the natural forms of forest cultivation, exploitation and reproduction;
- the process of ecologization in forestry is highly emphasised;
- forest ecosystems should provide integrated functions without their deterioration;
- negative factors in forestry management should be gradually eliminated.

Apart from the special forestry legislation, the importance of forests in the environment is anchored also in the Constitution of the SR and in the general Environment Act *(Lukáè et al., 1997)*.

Obviously, the present Slovak forestry legislation is based on biological and ecological principles and aims at promotion and fulfilment of the production, protection and environmental forest functions. In this respect, it is a progressive legislation which takes into account all measures in order to fulfil the principles of sustainable forest management.

However, the present forestry policy does not deal with economic principles in a sufficient way and economic incentives are not included in present forestry legislation. Recently, two opinion surveys on the main problems faced in applying the present forestry policy principles and legislation in practical forest management were conducted among the professionals in the forestry sector. According to the survey results, one of the main forestry issues, which a new forestry policy should address, was formulating the intentions of an economic part of forestry policy as fulfillment of other intentions which depend on economic conditions. Thus the necessary legislation dealing with economic incentives is a basic means of implementation of new forestry policy which is now being discussed in the SR.

2. PROBLEM AREAS IN THE ECONOMIC SPHERE

As transition to a market economy is a complex process affected by a number of external as well as internal factors, many of which result from the present economic condition, it is necessary to analyse these factors in order to deal with their impact in forestry legislation. Considering development of a new forestry policy in the economic sphere, the most important problem areas are:

- financial sources for forestry and their use;
- organization structures of forestry;
- relations between forestry and wood-processing industry.

Financial Sources for Forestry: Financing of forestry is a problematic area influenced by both the prolongation of the financial policy from the centrally planned economy as well as the present condition of national economy. The basic question is whether Slovak forestry, with respect to the current priority policy objectives, is able to finance its needs by itself. As the activities aimed at fulfilling of public-beneficial forest functions are not being taken into account from an economic aspect, forestry is dependent on state support realized through the system of subsidies. The current problems of subsidy policy are as follows:

- the aims of subsidy policy are not clear;
- only short-period objectives are formulated;
- sources of subsidies, as they are mentioned in the legislation, are not sufficient;
- the present system of subsidy policy does not encourage enough forest enterprises to achieve better economic results;
- the mechanism of quantification and distribution of subsidies is not objective;
- there is a lack of criteria for the assessment and control of the effectiveness of subsidies used.

Moreover, there is lack of any special tax or investment policy in the forestry sector.

Organisation structures of forestry: The problems arise from the questionable relationships between state and private forest enterprises, and the state administration of forestry. The impact of the state administration on forest enterprises is great - it controls all forest management activities. There is an effort to regulate forest management by the state administration independently from the forest enterprise management activities. However, the state administration tends to influence economic activities - another feature of the former centrally planned economy –which results in decreasing independence of forest enterprises. Thus it is necessary to create economic conditions and legislation for the separation of the state administration from commercial activities of forest enterprises *(Klacko, 1993)*.

Another problem appears in the private forestry sector. Private forest owners are concerned about the implementation of legislation in order to balance the position of state-owned and private forests. Forestry legislation, originating form the 1970s, was created in connection with the state ownership of forests. Even nowadays, the forestry policy is mostly influenced by the strong professional level of state forests as the associations of small forest owners are just being created. It is necessary to deal with the questions of economic and legislative rules of mutual co-operation between both groups of professionals.

Relations between forestry and wood-processing industry: Forestry and the wood-processing industry have to be seen as sectors which are linked together by direct material and financial flows. The prosperity, or crises, of one sector is immediately reflected in the other one. In a centrally planned economy, relations between these two sectors were co-ordinated by the state regulations. Their abandonment led to the failure of the financial flows, excessive export of raw wood material and decreasing productivity of wood-processing industry caused by old technologies and lack of working capital *(Šupín, Paluš, 1999; Drábek, Marček, 1999)*. As forest enterprises dispose of sufficient amount of capital which can be used to revitalise wood-processing industry, it is necessary to seek possibilities of the cooperation between forest enterprises and wood-processing enterprises in order to overcome the economic crisis. The problem is that neither forestry policy nor legislation deal with problems of forestry and wood-processing industry cooperation in order to achieve common objectives.

3. NEW PROPOSALS OF ECONOMIC PRINCIPLES IN SR FORESTRY POLICY AND LEGISLATION

A new forestry policy in tune with the changing ownership structure in Slovakia and with the recent international and European initiatives on the protection, conservation and sustainable management of forests has been drafted. Also, the current Forest Act itself is now being redrafted to respond to the changing pattern of forestry in the country and, at the same time, to harmonize with legislation in the EU countries and the EU's own regulations concerning forestry *(Ilavský, 1999)*. There are clear developments in the sphere of economic principles in both documents - a draft of the Slovak Forestry Policy and „zero-version“ draft of the Forest Act - comparing them with the present forestry policy documents and legal provisions.

The draft of the Slovak Forestry Policy states that the long term strategic objectives of Slovak forestry are the preservation of forests, their improvement and attaining full functional and production potentials. These strategic objectives will be attained gradually through the implementation of a number of principles - one of them is the principle of economic effectiveness. According to this principle, financial means are essential for ensuring the implementation of forestry objectives. The main sources of

finances come from the economic activities through revenues from commercial activities, first of all from timber sales. The forest owners must be indemnified for the detriment due to lower sales and yields resulting from restrictions on the management or increased costs of the management of forests in favour of other functions. Detriments due to securing public-beneficial forest functions will be covered by the state or the third party for which the functions are secured. For this purpose a new concept of financial policy will be drafted.

In proposing the principle of subsidy, foreign experiences will be used to make this system apparent, to reduce administrative costs and eliminate subjective decisions. Conditions for providing subsidies for particular activities, projects and services will be stipulated by law. The sources from the state budget will be increased by other items, particularly by charges and penalties for air pollution. In the field of tax policy, eligible requirements of the forest sector will be considered and competent institutions will decide about providing tax relief in accordance with the provisions of valid legislation.

Moreover, the objective of forestry policy will be to influence and motivate domestic wood-processing industry and to find markets at intersectorial level as well as abroad. The forestry sector will support a gradual and complex restructuring of domestic wood-processing industry with the aim to use all available timber, as wood is an important domestic permanent renewable raw material. Forestry policy will also support an appropriate system of forestry certification.

The „zero-version“ draft of the Forest Act contains a part titled *Financial Securing of the Management in Forests*. Such a provision is totally new - nothing like this is included in the present Forest Act. In this part, the economic effectiveness and its implementation through the objectives of economic and financial policy is embodied. Furthermore, the draft of Forest Act describes special forms of support as follows:

- support for non-state and state subjects in form of subsidies for specified activities and
- support for non-state and state subjects in form of contributions for special projects and services.

Support is provided on request of the owners managing forests under the conditions specified in this act. Financial support can be provided also from other sources.

These legal provisions, which are discussed among forestry professionals as well as politicians, should provide a harmonisation of the intentions, programmes and projects in the forestry sector with the economic and financial possibilities. Costs and revenues of the forestry sector as a whole should be reviewed and made more objective *(Holécy, 1999)*. The proposals should aim at a promotion of such activities that would bring positive benefits not only for forest owners but for the public as well.

CONCLUSION

Present drafts of the Slovak Forestry policy and Forest Act are both of an enormous importance that is furthermore emphasised by the fact that the Ministry of Agriculture of the Slovak Republic is committed to submit these documents to Government and Parliament before the end of the year 1999. The forestry public is waiting for final approval of both documents with immense expectations as they should bring a new view in the sphere of economic principles of forest management in state-owned as well as private forest enterprises. Such measures will certainly help to create a proper market environment not only in the forestry sector, but also at the

intersectorial level. After their approval by the Government and Parliament, it is inevitable to adopt the new ideas of the revised and improved forestry policy and legislation as soon as possible.

REFERENCES

Drábek, J., Marček, J. 1999: Evaluation of the investment level in wood-processing industry in the SR and its development strategy. *In: Proceedings of the ISEOD, Poreč, (in print).*

Holécy, J. 1999: Financial optimisation of the forest property management under conditions of salvage cuttings risk. *Journal of Forest Science, Vol. 45, No. 1, p. 38 - 47.*

Ilavský, J. 1999: Lesnícka politika a legislatíva. *Les, Vol. 55, No. 4, p. 1 - 2.*

Klacko, Š. 1993: Problémy riadenia štátnych lesov v podmienkach reštitúcie a privatizácie. *In: Organizácia a managering v lesníctve, TU LF KERLH, Zvolen, p. 131 - 135.*

Lukáč, T., Paluš, H., Stašková, J., Šulek, R., Winterbourne, J., Žihlavník, Š. 1997: International and European context of environmental legislation with a bearing in forestry. *Teaching material elaborated in the frame of the TEMPUS project M-JEP 08229-94 CESMOP. Zvolen - Prešov - Bangor - Göttingen, 100 pp.*

Šupín, M., Paluš, H. 1999: Approaches to the forest products demand analysis. *In: Proceedings of the 13th Scientific Conference „Wood – material of comprehensive appropriation and application". Warsaw Agricultural University, Warsaw (in print).*

FOREST AND ENVIRONMENT LEGISLATION IN SLOVENIA

ALEKSANDER GOLOB AND FRANC FERLIN

ABSTRACT:

The 1993 Forest Act ensures close-to-nature and multi-purpose forest management. The rights of the forest owners are determined by law and by the guidelines specified in forest management plans, which are made for all forests regardless of ownership. The forest management plans are prepared for all forests by the state Forest Service. The forest owners as well as other interested parties participate in the management planning. The State provides incentives and subsidies to the forest owners for regeneration and tending, protective measures, re-establishment of forests damaged by natural disturbances, improvement of degraded or neglected woodland, construction and maintaining of forest roads, etc. There exists a certain conflict and redundancy between the forest and environmental legislation – as a consequence of different concepts. In the concept of sustainable forest management all forest functions are respected, while the concept of nature conservation focuses only on its environmental functions (mainly biodiversity).

1. OVERVIEW ON FOREST CONDITIONS

Slovenia is characterised by a very high degree of natural diversity. In addition to its varied topography and geology, continental, alpine and Mediterranean climates converge on its territory. The forest has always been present and important in this environment. Slovenia is one of the most densely forested countries in Europe. Forest covers 55% of the surface area, or 1.1 million hectares, and dominates as much as three-quarters of the landscape. Much of the present area under forests originates from overgrown farmland: in 1875, only 36%, and in 1947, 44% of the surface area of Slovenia was covered by forest.

Slovenia's forest sites are comprised predominantly of beech (44%), beech-fir (15%), beech-oak (11%) and thermophilic deciduous and pine sites (12%). However, spruce was introduced widely in the past and represents 35% of the growing stock. The forest is well preserved: its standing volume is 300 million m^3 with an increment of 7 million m^3. Slovenia's forests are threatened not only by frequent natural disturbances (storms, sleet, etc.) but also by air pollution, fires (especially in the Karst region) and in many places by an excessive density of herbivorous fauna.

In addition to the diversity of vegetation, Slovenia's forests are rich in wildlife. A large proportion of amphibians and mammals rely on forests, and among them stable brown bear and lynx populations. Recently the population of wolf has also been growing. The forests lie predominantly on slopes; as much as 64% of the forest land is inclined at more than 15 degrees. Owing to strong precipitation - the average annual precipitation is 700 mm on the coast and in Pannonia and 4000 mm in the mountainous regions - Slovenia's forests have important protective and water-retaining functions.

Before the political changes in Slovenia, 65% of the forest had been in private hands and 35% had been state-owned. In the recent years, 7.5% of the forested land has been returned to the former owners and it is estimated that only 20% will remain in public ownership once the restitution is complete. Privately-owned forests are mainly the property of local inhabitants for whom forestry is only a rather small

supplementary source of income (Table 1). The situation is different in mountainous farming regions, where the forest is in many areas indispensable to the local economy.

Table 1: Property Structure of Private Forests in Slovenia (year 1990)

Size of forest property (hectares)	Property structure (%)	
	by number of owners	by forest area
< 1 ha	54.7	10.0
1 to 3 ha	25.6	20.1
3 to 5 ha	8.3	13.9
5 to 10 ha	7.2	22.2
10 to 20 ha	3.1	18.6
> 20 ha	1.1	15.2

2. THE LEGISLATIVE FRAMEWORK

There is a very long tradition of forest-related legislation on the territory of nowadays' Slovenia. The first known set of regulations, the Ortenburg Forest Code, was issued as early as in 1406. Worth mentioning is also the Theresa Forest Code for Carniola of 1771, which governed the sustainability of forest management particularly for the requirements of an undisrupted supply of timber. It is noteworthy that the legislation from the socialist period of the recent past retained a number of provisions from the Austrian forestry law of 1852.

Following Slovenia's independence, a new Forest Act was adopted in 1993. This Act and the Act on the Transformation of Company Ownership, the Restitution Act and the Fund for Agricultural Land and Forests Act have recently had an impact on the transformation of forestry and have brought about profound social changes. Forestry policy is further determined by the strategic document Forest Development Programme of Slovenia, adopted in 1996. Important for forestry is also the Environment Protection Act from 1993 and particularly the Nature Conservation Act from 1999.

Titles to Land: The right to private property and inheritance is protected by the Constitution of 1991. Land property and property rights are registered in the Land Register (Land Registry Act, 1995). Foreigners are not entitled to forest ownership unless otherwise regulated by an international agreement. According to this provision, physical and legal persons from the EU Member States are entitled to the property of forests since the Europe Association Agreement with Slovenia has already been ratified.

Interventions in and Statutory Restrictions on Property: The Constitution stipulates that the purchase of property and the usufructuary right shall be regulated by law in such a way that economic, social and ecological functions are ensured. Property rights may be deprived or limited in public favour against compensation in nature or money under the conditions laid down by law. According to the Nature Conservation Act, wildlife as a whole is under special protection of the State.

Under the Forest Act, the rights of ownership of forests shall be exercised in such a manner as to ensure their ecological, social and productive functions. The owner of the forest must therefore:

- manage the forest in accordance with regulations, management plans and administrative regulations issued on the basis of this Act;
- allow free access to and movement in the forest to others;
- allow beekeeping, hunting and the recreational gathering of fruits, herbal plants, mushrooms and wild animals in accordance with regulations.

Owners of forests shall have the right to participate in procedures for adopting forest management and hunting plans and in the preparation of silviculture plans. Their needs, proposals and requests are respected as much as possible under the restrictions imposed by the requirements of the ecosystem and the law. Forest roads are deemed to be of public relevance, which means that they may be used equally by non-owners.

Scope and reach of the Forest Act: The Forest Act regulates the protection and exploitation of forests with the objective of permanently and optimally ensuring both the integrity of the forest ecosystems and their functions. The Act also regulates the conditions for managing forest trees and groups of forest trees outside forested areas.

The forest is defined as a land overgrown with forest trees in the form of stands or other forest growths which provide any of the forest functions. The forest according to this Act also includes overgrown land defined as forest in the forest management plan. The forest infrastructure apportioned to individual plots is an integral part of the forest.

The following are not forest within the meaning of this law: individual forest trees, groups of forest trees up to an area of five hectares, non-indigenous riverine and windbelt trees, avenues, parks, plantations of forest trees, pens for rearing game, and pastures overgrown with forest trees if used for pasturing, irrespective of how they are described in the land register.

3. TRANSLATION OF POLITICAL IDEAS INTO ACTION

Forest Management Plans: Under the Act, forest management and silviculture plans shall be drawn up for all forests, irrespective of their ownership. The plans are prepared by the Forest Service, a public body that is established in order to direct the management of all forests towards ensuring their sustainable development. The guidelines and measures laid down in the forest management plans follow the general guidelines of the Forest Development Programme of Slovenia, which is a strategic document adopted by the National Assembly.

Forest management plans are designed for a period of ten years at the regional and the management unit level; there are 250 forest management units which comprise on an average 4000 ha of forest. Silviculture plans are made at the site level for the direct implementation of work. The allowable cut, the necessary silvicultural measures and guidelines for management are essential elements and based on the ascertained state of the forest, forest functions assessment and the goals set. Forest owners and other stakeholders are invited to participate in the preparation of management and silviculture plans. The rules for preparation of the plans are laid down in special regulations.

Enforcement Measures: The most important enforcement measure laid down in the Act is the requirement that forest owners comply with administrative orders that are issued to them by the Forest Service on the basis of the silviculture plan following a prior consultation and a joint selection of trees for possible felling. The order defines:

- required silviculture work for regenerating forests and tending seedlings up to the small pole stage;
- required protection work;
- quantity and structure of trees for the maximum possible felling;
- guidelines and conditions for cutting and hauling timber.

A forest owner may, without an order, fell forest trees in areas defined in a silviculture plan where an individual selection of trees for possible felling is not compulsory. The Act stipulates that special consent be sought for any depletion of forest land and prohibits all actions which decrease the productivity of forest sites or threaten the existence or function of the forest. Clear cutting as a method of forest management is prohibited.

Incentives and Subsidies: Forest owners are responsible for the execution of all work required in their forests. In state forests it is the duty of the state, via the Slovenian Fund of Agricultural Land and Forests, to ensure that all forest work is carried out. The state finances the Forest Service from the budget, provides - because of the generally beneficial role of forests - compensations for reduced yields from protective forests and forests with a special purpose, and supports the management of private forests.

The state finances primarily measures for preventing or mitigating the disturbances in the functioning of the forest and forest work in protective forests and torrent watersheds. It subsidizes silvicultural and protection measures and measures for the maintenance of wildlife habitats, production of seeds and investments in forest tree nurseries, restoration of forests if the party responsible for the damage is unknown, reforestation of forests after fires and restoration of forests damaged by natural disturbances, thinning of pole stands and conversion in private forests, and construction and maintenance of forest roads. The state finances and subsidies forestry activities on the basis of silvicultural plans and operational projects within the framework of the investment programme, drawn up by the Slovenian Forest Service for the current year. For co-financing of these activities, the criteria or the percent of costs borne by the state, respectively, have been determined. According to the regulations issued by the minister responsible for forestry the following measures qualify for co-financing:

- forest regeneration: artificial regeneration - total cost of plants paid, natural regeneration - 30% of the cost paid;
- forest tending: 20-40% or according to the terms of public tender for the tending of pole stands;
- forest protection: from fires - up to 70%; from game - material costs plus 30% of other costs; from diseases and phytophagous insects - 30% or material costs plus 20%;
- maintenance of wildlife habitats: 30-70%;
- conversion of degraded forests: according to the terms of a public tender;

- afforestation after fires, and restoration of damaged forests: plants plus 20% of the cost;
- maintenance of forest roads: 35% of the maintenance cost;
- investments for forest roads and tree nurseries according to the terms of a public tender.

If ecological and/or social functions affect considerably forest management, the subsidy is increased by 10%. If they determine the forest management method, it is increased by 20%. Only owners of wood production forests of under a hundred hectares are entitled to the co-financing of silvicultural and protection measures. This provision is going to be changed. Forest owners for whom farming and forestry are the main sources of income (farmers), and owners who unite to form larger groups are given priority for obtaining funds in a public tender. Under difficult natural conditions the subsidy can be increased by not more than 30%.

Other Legal Provisions: In the area of forestry preservation the Act stipulates that chemical substances may be used in the forest only in exceptional cases and devotes considerable attention to protection against forest fires. Strict measures are laid down for the construction of forest roads.

In addition to regulating the status of protection forests and forests-with-a-special-purpose and the method by which this status is conferred, the Act includes the list of activities that the Forest Service has to carry out. According to the Act, most of these activities may be performed by concessionaires, which are legal or natural persons meeting the personnel, technological and capacity conditions. No concessions have been conferred, hence the Forest Service has undertaken so far all public service tasks.

4. SCOPE AND REACH OF ENVIRONMENTAL LEGISLATION

The Environment Protection Act from 1993: This Act regulates the protection of living environment and the natural environment inseparably linked with it, and the general conditions of the use of natural resources, which are the basic conditions for sustainable development (environment-preserving development).

The Act provides for basic principles that have to be observed in order to achieve the purpose of the Act. As regards forestry, the principle of prevention, stipulating that activity shall be such as to cause the least possible change in the environment and limit environmental strain already at its origin, is especially worth mentioning. Another important forest-related provision is the requirement that the acquisition and enjoyment of property rights to land and forests may not threaten their ecological function.

The Act also provides for the general procedure for a Concession to Natural Resources that is to be implemented in state forests. According to the Act, the State or the Local Authorities may grant, against payment, a concession to natural resources which are their property to a legal or private person if the latter is capable of their management, use or exploitation. The concession to a natural resource shall concern the right to its economic exploitation and is conferred on the basis of the deed of concession.

Under the Act, in co-operation with other competent Ministers, the Minister of Environment may prescribe rules of action for the use of natural resources. One of the regulations that has been issued on the basis of this provision is the Decree on

the Protection of Mushrooms that restricts mushroom picking in the forest to two kilos per person per day.

The Nature Conservation Act from 1999: The Act lays down the measures for conservation of biodiversity and establishes a system of protection of nature values with the aim to contribute to the conservation of nature. In terms of economic and social functions, the Act provides for a sustainable management of plant and animal species through plans in which due regard is paid to ecosystem and biogeographic characteristics of species or populations, which are essential in ensuring the favourable status of species.

The minister responsible for nature conservation may, in agreement with the minister responsible for forestry, lay down measures required to maintain or restore the natural habitats and the population of species of wild fauna and flora at a favourable status. Both ministers may also provide for the exemption from the general provision prohibiting the introduction of non-indigenous natural species.

In view of the conservation of biodiversity, the Act regulates breeding of and trading with wild animal species, usage of genetically modified species in natural environment as well as identification and establishment of ecologically important and special protection areas in line with the EU Directive on the conservation of natural habitats of wild fauna and flora. In the second part, the Act lays down the procedure for establishment of protected areas and for declaration of protected wildlife. It provides for restrictions for different categories of protected areas and defines the procedure for compensations to land owners.

5. CONFLICTS BETWEEN REGULATIONS IN FOREST LAWS AND ENVIRONMENTAL LEGISLATION

As regards the relation between the environmental and forest legislation, there exist a certain conflict and redundancy, which is mainly the result of different concepts. The concept of sustainable forest management integrates all forest functions and strives to achieve a balance between them, while the concept of nature conservation focuses only on ecological functions, or on the even narrower issue of biodiversity.

Insofar as the Nature Conservation Act lays down mechanisms to protect threatened species, populations and habitats as well as improves conditions for their preservation, it is not in conflict with the Forest Act. There is some overlapping concerning protection forests and forest reserves, because these two categories are already regulated by the Forest Act. For example, forest reserves declared by the Forest Act, may also be declared nature reserves under the Nature Conservation Act.

Particularly redundant in relation to the Forest Act seem to be the measures, provided in the Nature Conservation Act, which aim to maintain and enhance biodiversity outside the protected areas. Following the Resolution H2 of the Ministerial Conference of the Protection of Forests in Europe, adequate objectives and guidelines have been defined in the Forest Development Programme of Slovenia. They are further elaborated in forest management plans and implemented at the management unit level. This has already become one of the most important tasks of the Forest Service.

CONCLUSION

The forest in Slovenia covers 56 % of the territory and is important from ecological, social and economic points of view. In 1993, the Forest Act was adopted with the aim of ensuring close-to-nature and multi-purpose forest management. According to the Act, the rights of the owners are determined by the guidelines specified in the forest management plans, which are made for all forests regardless of ownership. The plans are prepared by the Forest Service with the participation of forest owners as well as other interested parties. The guidelines and measures laid down in the forest management plans follow the general guidelines of the Forest Development Programme of Slovenia which is a strategic document, adopted by the National Assembly.

In view of the fact that the rights of forest owners are restricted due to ecological and certain social functions that are important for the society as a whole, the State provides incentives for the owners with regard to regeneration and tending activities, protective measures, re-establishment of forests damaged by natural disturbances, improvement of degraded or neglected woodland, construction and maintaining of forest roads, etc. With regard to the relation between the environmental and forest legislation, there exists a certain conflict and redundancy, which is mainly the result of different concepts. The concept of sustainable forest management integrates all forest functions and strives to achieve a balance between them, while the concept of nature conservation focuses only on its ecological functions, or on the even narrower issue of biodiversity.

REFERENCES

Anko, B., (ed.) 1985a: Ortenburg Forest Ordinance. Forestry Faculty, University of Ljubljana, Ljubljana, 34 p.

Anko, B., (ed.) 1985b: Forest Ordinance for Carniola. Forestry Faculty, University of Ljubljana, Ljubljana, 88 p.

Environment Protection Act. Official Journal of the Republic of Slovenia, 23, 1993.

Forest Act. Official Journal of the Republic of Slovenia, 30, 1993.

Forest Development Programme of Slovenia. Official Journal of the Republic of Slovenia, 14, 1996.

Nature Conservation Act. Official Journal of the Republic of Slovenia, 56, 1999.

PROBLEMS OF FOREST LEGISLATION AND MANAGEMENT IN UKRAINE

ARTEM TOROSOV

Ukraine is a country with low forest coverage and a deficit of timber resources (0.18 ha of forest land and 33 cubic meters of wood stock per inhabitant only). It has a great diversity of natural, social and economic conditions, a high rate of land utilization (81%) and a notable part of eroded territory (more than 5 million ha). Increasing urbanization is typical for Ukraine.

The area of the Ukranian forest fund is 10.8 million hectares. Wood stocks amount to 1.7 billion m^3 with an average increment on land of the State Forest Fund of 4 m^3 per ha. The annual volume of wood production is around 11 million m^3, including 45% from main fellings. Every second hectare of forest is artificially created by man. During the last 30 years the forest cover increased by 1.5 million hectares. The distribution of woodlands varies and is not optimal. The amount of woodlands for the country as a whole should be 20% (now 15,6%), for the Forest Zone 32% (now 26,8%), for the Forest Steppe 18% (now 13 %), for the Steppe 9% (now 5,3%), for the Carpathian Region 45% (now 42%), for Crimea 19% (now 10,4). Forestry objectives to meet economic, social and ecological demands are distinct in the various regions.

Forests are the object of legal environmental control. The key objectives of forest legislation are to regulate forest relations in order to ensure rational use, protection & conservation; to foster reconstruction & increased productivity; to meet the wood requirements of the economy and the needs of the population for other forest products. Forests are of great importance to enhance water protection, protective values, climate regulation, and other forest benefits in order to protect health and to improve the environment. All this implies the need to determine the rights and obligations of enterprises, organizations and institutions with different ownership forms, as well as those of individual land-owners. A fundamental change of the political and social conditions, and a pronounced decline of the economy make it necessary to update the forestry regulations. A new institutional framework has to promote market economic development, the conservation and increase of forest resources, and the rational use of forests.

In 1991 the Supreme Soviet of Ukraine adopted the principal legislative acts which regulate land, forest and water relations including those pertaining to the conservation and use of wild plants & wildlife species in the "Red Book of the Ukraine"; and the preservation of territories and objects of a nature-reserve stock. The laws to be mentioned are in particular: the Law On the Environment Protection (1991), the Land Code (1991), the Law On the Nature-Reserve Stock of the Ukraine (1992), the Decree of the Supreme Soviet of the Ukraine On the Red Book of the Ukraine (1992); the Law On Fauna (1993); the Forest Code of the Ukraine (1994); the Water Code (1995); and the Code on the Bowels of the Earth (1995).

The Forest Code, adopted by the Supreme Soviet of the Ukraine on January 21, 1994, is the central piece of forest legislation. Forest relations are also regulated by supplementary acts, promulgated by the Cabinet of Ministers. At present new normative documents are in preparation combined with a revision of the already existing ones pertaining to forests protection, establishment and use in

correspondence with the Forest Code. The competent state management body in the field of natural resources conservation and use is the Ministry of Environment Protection and Nuclear Security. The State Committee of Forestry performs the functions of a specialized state management body in the forestry field.

The Forest Code stipulates state ownership for all forests at the present stage. This fact is explained by the predominance of ecological impacts over the significance as resources, and by the necessity of forest resources conservation and systematic increase in area in the interests of both present-day and future generations. Another reason is probably the lack of an ecological culture of forest use, that has lead to a wasteful consumption approach, similar to the situation with nature as a whole, as well as the imperfection of legal mechanism for a sustainable control of natural resource use. However, legislation also confers a right to the citizens to have in permanent use separate small forest plots and to carry out forest management following certain rules. The law authorizes the right of priority use for the regular owners of forest resources of all kinds which includes the right to commercialize the products and to obtain its sale profit.

The Forest Code regulates the practice of forest uses of different forms, promotes a skilled forest management, and provides for adequate payment for the use of forest resources of all kinds. The Code provides also for measures against the violation of forest legislation. The forest safeguard rights have been extended and the citizen's participation has been specified as well as the participation of their unions. The role of the civil committees and self-administration entities in bringing actions on forests protection, conservation, use & establishment has been defined. The Forest Code is in general concerned with forest relations regulation under the current social and economic conditions. It is directed towards the increase of the resource and nature conservation potential with a scientifically substantiated silvicultural and forest use background.

The main area of forests (66%) is under the authority of state forestry agencies. The remainder is used by collective and state agricultural enterprises (26,4%) and by the other enterprises (7,6%). At present the formal system of management is characterized by a two-part structure: a Committee of governmental forestry unions in 21 regions and in the Autonomous Republic of Crimea, and regional forestry directions in 3 regions. The principle of the State property is implemented via Parliament and Government, via the local government entities and the bodies of the forest governmental control. The State Committee of Forestry and its local bodies are authorized according to the Forest Code of Ukraine to control all forests in the sphere of forest management and to supervise all forest users.

The forest regime functions in a traditional control system that is adequate to a managerial mechanism of distribution according to plan. It is explained to a large extent by the peculiarities of forestry as well as by reasons connected with the transition to a market economy. Forestry as a branch of material production is part of the social and economic system which we have in the new State. Therefore if one speaks about forestry legislation development and analyses a forest management system, one has to consider the impossibility of changing only part of the system without changes within the whole system. The forestry branch cannot be examined as an isolated departmental system, able to internal self-regulation. One has to take into account many external factors that relate to the social and economic conditions of the country as a whole. Therefore one must state the explainable inertia in the administration system and productive relations development in the forestry of Ukraine, which reflects the real economic processes in the transition period.

The main role of the state forest management bodies under the current crisis conditions is to ensure forest preservation and reproduction, and scientifically grounded regulation of forest utilisation. Both tasks are especially important now when Ukraine has to solve several important problems:

- to increase the quantity of forests to optimal parameters in all natural zones;
- to save the biodiversity of forest ecosystems;
- to increase the stability of forest ecosystems exposed to negative factors of the environment such as climate change, increasing anthropogenic impacts, forest fires, forest diseases and insects;
- to organise rational full-use of forests with the purpose to meet the needs of timber of national market, taking into account the principles of comprehensive forest restoration;
- and to continue works in agricultural melioration and steppe forest cultivation.

The improvement of management in forestry is impossible without a further development of the respective laws and regulatory documents. It is necessary in order to introduce multilevel management of the ecological resources in the country. In an immediate perspective, corrections of legislation already applicable have to be undertaken in adding or modifying the regulations so that they become appropriate for a contemporary market economy and the transition period. At the same time most of legislative standards require the appropriate mechanisms of implementation. This implies the creation of rules, instructions and recommendations, and standards for production certification. The Ukrainian Research Institute of Forestry and Forest Melioration takes an active part in this process and has developed projects for the revision of legislative acts for consideration at Government level. Among them are documents which concern rules for the classification of forests by groups and protective categories, for the determination of especially protected lands of the forest fund, for forest assessment and registration of state forests, for restoration and cultivation, main fellings and thinning practices, fire security, sanitary rules etc.

In conclusion one may state that the main problems which must be solved to improve forest legislation are:

- The strengthening of the State property on forests in the present stage of development. This assumes a clear power division between executive and legislative bodies and their co-ordination. The realisation of this principle will avoid the overlap of functions between regional administrative bodies and bodies of the State forest management, as exists now.
- Deregulation of state property management must be reflected in legislation suitable for the transition period. The functions of the Ministry and its subordinated enterprises must be clearly determined. This means to distinguish between State regulation and economic and managerial activities. In market conditions it is necessary to create a two-level structure of management implemented by the Ministry and the Regional Forestry Bodies. But it must not lead to stamping of the regulative and productive structures of the forest branch. Legislation which determines clearly the duties, rights and responsibilities of production enterprises and management bodies is required.
- With regard to state property it is necessary to provide for new forms of management which allow forest users to operate according to the laws of market economy. In our opinion, considering the given stage in the transition period,

forest resource leases could be such base. We know merits and demerits of it and the experience of countries with market economy. But we consider that we must create such mechanism which respects the economic traditions and mentality of our nation. The lease is mentioned in the Forest Code but this mechanism must be described more clearly in a separate article and with more precision.

- Problems of Forestry financing are among the most pressing in our country. Therefore provisions on forming of special budget and on non-budget funds must be included in amended forest legislation. As this problem depends mainly on the budget policy of the State, we consider, that it is more appropriate for the forest branch to have its own budget. The payments for forest resource uses must be the base of the budget revenues. The solution of the existing problems in connection with the actual forest legislation will accelerate the development of economical relations in forestry that are in accordance with a market economy. Taking into account the bio-social role of forests we can say that the mentioned problems are not limited to the forest branch only. They are spread to other branches connected with the use of renewable resources and nature conservation, and cover all ecological zones and regions of the country. The problems of global climate change and biodiversity put to the international level the tasks of sustainable forest management under market conditions.

ANNEXES

AUTHORS OF CONTRIBUTIONS

Dipl. Ing. Martin Chytrý
Director of Forestry Policy Section
Ministry of Agriculture
of the Czeck Republic
Tesnov 17
117 05 Prag 1
Czeck Republic
Tel.: +42 2 2181 2220
Fax: +42 2 2181 2991
e-mail: Chytry@MZe.cz

Prof. Dr. Romualdas Deltuvas
Lithuanian University of Agriculture,
Forest Faculty
LIT-4324 Kaunas-Akademija, LZUU
Lithuania
Tel.: +370 7 296503,
Fax.: +370 7 296531
e-mail: RomasD@nora.lzua.lt

Dr. Janis Donis
Latvian Forestry Research Institute
"Silava"
111 Rigas Street
Salaspils, LV 2169
Latvia
Tel.: +371 2 949 646,
Fax.: +371 7 901 359
e-mail: donis@silva.lv

Franc Ferlin, M.Sc.,
Slovenian Forestry Institut,
Vecna pot 2,
SLO-1000 Ljubljana, SLO
Slovenia
Tel.: +386 61 123 13 43,
Fax: +386 61 27 35 89
email: franc.ferlin@gozdis.si

Aleksander Golob, M.Sc.,
Ministry of Agriculture,
Forestry and Food,
Dunajska 58,
SLO-1000 Ljubljana,
Slovenia

Dipl. Ing. et Mag. iur. Peter Herbst
Wulfenstrasse 15,
A - 9500 Villach
Austria
Tel.: +43 42 42 52471
Fax: +43 42 42 264048
e-mail: HP@net4you.co.at

Dr. Paavo Kaimre
Estonian Agricultural University
Kreutzwaldi 5
EE-51014 Tartu
Estonia
Tel.: +372 7 421993
Fax: +372 7 421993
e-mail: pkaimre@ph.eau.ee

Marius Lazdinis
M.Sc. For.
Department of Forestry
Southern Illinois University at Carbondale,
Illinois 62901-4411
USA
Tel.: +1 618 997 2649
e-mail: mariusl@siu.edu

Dennis C. Le Master,
Professor and Head of the
Department of Forestry and Natural Resources
Purdue University
West Lafayette, Indiana.47907-1159
United States of America
Tel.: +1 765 494-3590
Fax.: +1 765 496-2422
e-mail: dclmstr@fnr.purdue.edu

Dr. Charles E. Owubah
World Vision
220 I Street, NE
Washington, D. C. 20002
Tel.: (202) 608-1886
e-mail: cowubah@worldvision.org

Jon Lindsay
FAO Development Law Service
Viale delle Terme di Caracalla
I-00100 Roma
Italy
Tel.: +39 06 5705 4470
Fax.: +39 06 5705 4408
e-mail: Jon.lindsay@fao.org

Maxim Lobovikov
Program Manager
(Economic Development)
Anyuan Building No. 10, Anhui Beili
Asian Game Village, Chaoyang District
Branch Box 155, P.O. Box 9799
Bejing 100101, P.R.China
Tel.: +86-10-6495-6961, ext: 414
Fax.: +86-10-6495-6962
e-mail:
mlobovikov@inbar.org.cn

Ion Machedon
Water, Forest and Environmental Ministry
Bd. Libertatii, 12
RO-7000 Bucharest
Tel.: +40-1-4104465
Fax.: +40-1-4110403
e-mail: icas@com.pcnet.ro

Prof. Dr. Juozapas Mazeika
Lithuanian University of Agriculture,
Forest Faculty
LIT-4324 Kaunas-Akademija, LZUU
Lithuania
Tel.: +370 7 296526,
Fax.: +370 7 296531

Dr. Gheorghe Parnuta
Forest Research and Management Institute
Sos. Stefanesti, 128
RO-72904 Bucharest
Romania
Tel.: +40-1-2406845,
Fax.: +40-1-2406845
e-mail: icas@com.pcnet.ro

Dr. Viera Petrasova
Forest Research Institute
T.G.Masaryka 22
960 92 Zvolen
Slovakia
tel. +421-855- 5341 119
fax. +421-855-5321 883
e-mail: carny@mpsr.sanet.sk

Dr. Ligita Pundina
State Forest Service
13. Janvara iela 15
LV-1932 Riga
Latvia
Tel.: +371-7-222290,
Fax.: +371-7-820377
e-mail: ligita@vmd.gov.lv

Prof. Dr. Franz Schmithüsen
Chair of Forest Policy and
Forest Economics
ETH-Zentrum,
CH - 8092 Zurich
Switzerland
Tel.: +41 1 632 32 17
Fax: +41 1 632 11 10
e-mail: schmithuesen@fowi.ethz.ch

JUDr. Dipl. Ing. Jirí Stanek
Ministerium für Landwirtschaft der
Tschechischen Republik
Tesnov 17
117 05 Prag 1
Tschechische Republik
Tel.: + 420 2 2181 3803
Fax: +420 2 2181 2991
e-mail: stanek@MZe.cz

Prof. Dr. Nickola Stoyanov
University of Forestry
10, St. Kliment Ohridski Blvd.
1756 Sofia,
Bulgaria
Tel. +359 2 91907 ext. 282,
Fax: +359 2 62 28 30
e-mail: nikst@ltu.acad.bg

Dipl. Ing. Ivan Stoyanov
Office "Natural Park – Vithosa"
17, Antim I, str.
BG-1303 Sofia
Bulgaria
Tel. + 359 2 86171-218
e-mail: nickst49@hotmail.com

Dr. Rastislav Šulek
Technical University,
Faculty of Forestry
T. G. Masaryka 24
SK-960 53 Zvolen
Slovakia
Tel.: +421-855-5206325,
Fax: +421-855-5332654
e-mail: sulek@vsld.tuzvo.sk

Artem Torosov, Ph.D.
Chief of Laboratory of Economics
Ukrainian Research Institute of
Forestry and Forest Amelioration
86 Pushkinska Street
Kharkov, 310024
Ukraine
Tel.: +380 (572) 43-15-49,
Fax: +380 (572) 43-25-20
e-mail: effect@u-fri.kharkov.ua

I U F R O

International Union of Forestry Research Organizations

6.13.00 Forest Law and Environmental Legislation

Participants

2nd International Symposium, Ossiach (Austria), 29 September - 3 October 1999

"Experiences with New Forest and Environmental Laws in European Countries with Economies in Transition"

	Country	Name	First name	Organization	Address	Postal/Zip code	City	Phone	Fax	E-Mail
1	Austria	Herbst	Peter		Wulfenstraße 15	A-9500	Villach	+43 4242 52471	+43 4242 264048	HP@net4you.co.at
2	Austria	Rametsteiner	Ewald	Ministerial Conference on the Protection of Forests, Liasion Unit Vienna	Marxergasse 2	A-1030	Wien	+43 1 710770216	+43 1 710770213	e.rametsteiner@lu-vienna.at
3	Austria	Schmutzenhofer	Heinrich	IUFRO Secretary General	Seckendorff-Gudent-Weg 8	A-1131	Wien	+43 1 8770151	+43 1 8779355	iufro@forvie ac at
4	Austria	Siegel	Günter	Ministry of Agriculture and Forestry	Stubenring 1	A-1012	Wien	+43 1 21323 7504	+43 1 21323 7216	Guenter.SIEGEL@bmlf.gv.at
5	Bulgaria	Stoyanov	Nickola	University of Forestry	10, Kliment Ohridski blvd.	BG-1756	Sofia	+359 2 91907 282	+359 2 622830	nickst49@hotmail.com

6	Bulgaria	Stoyanov	Ivan	Office "Natural Park – Vitosha"	17, Antim I, str.	BG-1303	Sofia	+359 2 86171-218		nickst49@hotmail.com
7	Croatia	Ivanovic	Zeljka	Ministry of Agriculture and Forestry	Ul. grada Vukovara 78	HR-10000	Zagreb	+385 1 6106204	+385 1 6109203	jela.bilandzija@zg.tel.hr
8	Czech Republik	Chytry	Martin	Ministry of Agriculture	Tesnov 17	CZ-117 05	Prague	+42-02-2181 2220	+42-02-2181 2988	chytry@mze.cz
9	Czech Republik	Stanek	Jiri	Ministry of Agriculture	Tesnov 17	CZ-117 05	Prague	+42-02-2181 2308	+42-02-2181 2988	stanek@mze.cz
10	Estonia	Kaimre	Paavo	Estonian Agricultural University	Kreutzwaldi 5	EE-51014	Tartu	+372 7 421993	+372 7 421993	pkaimre@ph.eau.ee
11	Hungary	Szedlak	Tamas	Ministry of Agriculture, Office of Forestry	Kossuth Lajos ter 11.	H-1055	Budapest	+36 1 3014 000	+36 1 3014 678	gabor.baratossy@fvm.hu
12	Italy	Cirelli	Maria Teresa		Via Locchi, 42	I-61100	Pesaro	+39 0721 391224	+39 0721 391224	mocbfb.044@tellnet.pesaro.ps.it
13	Italy/FAO	Lindsay	Jonathan M.	FAO Development Law Service	Viale delle Terme di Caracalla	I-00100	Roma	+39 06 5705 4470	+39 06 5705 4408	jon.lindsay@fao.org
14	Latvia	Donis	Janis	Latvian Forestry Research Institute "Silava"	111 Rigas Str.	LV-2169	Salaspils	+371 2 949646		donis@silava.lv
15	Latvia	Pundina	Ligita	State Forest Service	13. Janvara iela 15	LV-1932	Riga	+371-7-222290	+371-7-820377	ligita@vmd.gov.lv
16	Latvia	Tuherm	Henn	Latvia University of Agriculture, Forest Faculty	Akademijas iela 11	LV-3001	Jelgava	+371 9470561	+371 3029184	Henn@cs.llu.lv
17	Lithuania	Deltuvas	Romualdas	Lithuanian University of Agriculture, Forest Faculty		LIT-4324	Kaunas-Akademija, LZUU	+370 7 296503	+370 7 296531	RomasD@nora.lzua.lt

18	Lithuania	Mazeika	Juozapas	Lithuanian University of Agriculture, Forest Faculty		LIT-4324	Kaunas-Akademija, LZUU	+370 7 296526	+370 7 296531	
19	Romania	Parnuta	Gheorghe	Forest Research and Management Institute	Sos. Stefanesti, 128	RO-72904	Bucharest	+40-1-2406845	+40-1-2406845	icas@com.pcnet.ro
20	Slovakia	Sulek	Rastislav	Technical University, Faculty of Forestry	T. G. Masaryka 24	SK-960 53	Zvolen	+421-855-5206325	+421-855-5332654	sulek@vsld.tuzvo.sk
21	Slovenia	Ferlin	Franc	Slovenian Forestry Institute	Vecna Pot 2	SLO-1000	Ljubljana	+386 61 123 13 43	+386 61 27 35 89	franc.ferlin@gozdis.si
22	Switzerland	Schmithüsen	Franz	ETH Zurich	ETH Zentrum	CH-8092	Zürich	+41 1 632 32 17	+41 1 632 11 10	schmithuesen@fowi.ethz.ch
23	Ukraine	Torosov	Artem	Ukrainian Research Institute of Forestry	86 Puskinska Str.	UA-310024	Kharkov	+380 572 431549	+380 572 432520	root@u-fri.kharkov.ua
24	USA	LeMaster	Dennis	Purdue University	Dept. of Forestry and Natural Resources	47907 - 1159	West Lafayette, Indiana	+1 765 494 3590	+1 765 496 2422	dclmstr@fnr.purdue.edu

THE IUFRO RESEARCH GROUP 6.1300
FOREST LAW AND ENVIRONMENTAL LEGISLATION

HOMEPAGE: http://iufro.boku.ac.at/iufro/iufronet/d6/hp61300.htm

The Research Group on Forest Law and Environmental Legislation of the International Union of Forestry Research Organizations (IUFRO) was established in 1981 during the XVIIth World Congress in Kyoto, Japan. At present the group has more than 60 members who contribute according to their research interests and within the limits of their available time. More than 120 contributions presenting country case studies on law developments in different parts of the world have been submitted. They have been published in a series of research proceedings.

Research Papers may be submitted and are printed in English, French, German and Spanish.

Contacts: If you wish to participate in the work of the IUFRO Research Group 6.1300 please contact the Chairman or the regional Co-Leader.

Prof. Dr. Franz SCHMITHÜSEN, Chair of Forest Policy and Forest Economics, ETH-Zentrum, CH - 8092 Zurich / Switzerland

Fax: +41 1 632 11 10 *E-Mail: schmithuesen@fowi.ethz.ch*

Dipl. Ing. et Mag .iur. Peter HERBST (European Region), Wulfenstrasse 15, A - 9500 Villach / Austria

Fax: +43 4242 264 048 *E-Mail: HP@net4you.co.at*

Dr. William C. SIEGEL, (North America), 9110 Hermitage Place, River Ridge, LA 70123 / USA

Fax: +1 504 737 1074 *E-Mail: wcsieg@aol.com*

Dr. Enrique GALLARDO (Latin America), Corporación Nacional Forestal, Av. Bulnes No. 285, Oficina No. 701, Santiago / Chile

Fax: +56 2 695 4788 *E-Mail:* egallard@conaf.cl

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http://www.fowi.ethz.ch/ppo/biblio.html (Chair of Forest Policy and Economics - ETH Zurich)

The following Research Reports and Proceedings have been published:

Schmithüsen Franz, Iselin Georg, Herbst Peter [eds.] (2000): Challenges in Implementing Forest and Environmental Legislation in European Countries with Economies in Transition. Proceedings of the International Symposium Jointly Organized by the IUFRO Research Group 6.1300 and the Austrian Ministry of Agriculture and Forestry, Ossiach, September 1999. Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 23, 111 pp.

Schmithüsen Franz, Herbst Peter and Le Master Dennis [eds.] (1999): Experiences with new Forest and Environmental Laws in European Countries with Economies in Transition. Proceedings of the International Symposium Jointly Organized by the IUFRO Research Group 6.1300 and the Austrian Ministry of Agriculture and Forestry, Ossiach, June 1998. Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 21, 142 pp.

Schmithüsen, Franz; Iselin, Georg (1999): Bibliography 1984-1999 of the IUFRO Research Group Forest Law and Environmental Legislation. Chair of Forest Policy and Forest Economics, ETH Zurich, Working Papers International Series 99/2, 27 pp. *(also loaded on the two homepages mentioned above)*

Schmithüsen, F.; Siegel, W. [eds.] (1997): Developments in Forest and Environmental Law Influencing Natural Resource Management and Forestry Practices in the United States of America and Canada. Selected Contributions submitted to the IUFRO Research Group 6.1300 Forest Law and Environmental Legislation. IUFRO World Series. Vol 7. Vienna. 373 pp.

Schmithüsen, Franz; Ponce Nava, D. [eds.] (1996): A Selection of Texts of International Conventions and other Legal Instruments Relating to Forests. Working Document prepared for the Independent Expert Group of the Swiss-Peruvian Inititative on Forests. Chair of Forest Policy and Forest Economics, ETH Zurich, Grundlagen und Materialien Nr. 96/2, 172 pp.

Schmithüsen, Franz [ed.] (1996): Experiences with Public Forest Ownership and Joint Management Systems. Proceedings of the IUFRO Forestry Conference Pushkino, Moscow Region, Russia. Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 17, 217 pp.

Schmithüsen, Franz [ed.] (1996): Forest Law and Environmental Legislation. Contributions of the IUFRO Research Group: Report VI. Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 16, 372 pp.

Schmithüsen, Franz [ed.] (1992): Forstgesetzgebung/Forestry Legislation/Législation Forestière. Bericht der IUFRO Fachgruppe S6.13-00, Report V. Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 11, 390 pp.

Schmithüsen, Franz [ed.] (1990): Forstgesetzgebung/Forestry Legislation/Législation Forestière. Bericht der IUFRO Fachgruppe S4.08-03, Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 10, 384 pp.

Schmithüsen, Franz [ed.] (1988): Forstgesetzgebung/Forestry Legislation/Législation Forestière. Bericht der IUFRO Fachgruppe S4.06-04, Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 6, 262 pp.

Schmithüsen, Franz [ed.] (1986): Forstgesetzgebung/Forestry Legislation/Législation Forestière. Bericht der IUFRO Fachgruppe S4.06-04, Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 4, 175 pp.

Schmithüsen, Franz [ed.] (1984): Forstgesetzgebung/Forestry Legislation/Législation Forestière. Bericht der IUFRO Fachgruppe S4.06-04, Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 2, 176 pp.

Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie

Nr. 23 *Schmithüsen Franz, Iselin Georg and Herbst Peter (Eds.)*
Challenges in Implementing Forest and Environmental Legislation in European Countries with Economies in Transition. Proceedings of the Second International Symposium Jointly Organized by the IUFRO Research Group 6.13.00 and the Austrian Federal Ministry of Agriculture and Forestry Ossiach, September 1999
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ISBN 3-9520829-6-1