

Forstwissenschaftliche Beiträge 35

Professur Forstpolitik und Forstökonomie

Forest Science Contributions

Chair Forest Policy and Forest Economics

Legal Aspects of European Forest Sustainable Development

***Editors: Franz Schmithüsen, Peter Herbst,
Dragan Nonic, Dusan Jovic and
Mirjana Stanisic***

*Proceedings of the 7th International Symposium
in Zlatibor Mountain, Serbia, May 2005*

*Organized jointly by the
IUFRO Research Group 6.13.00 and the
Faculty of Forestry, University of Belgrade*

Zurich 2006



Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

**Forstwissenschaftliche Beiträge Forstpolitik und Forstökonomie / Forest Science
Contributions Forest Policy and Forest Economics**

General Editor of the Publication Series

Prof. Dr. Franz Schmithüsen, Emeritus; Department Environmental Sciences, Swiss
Federal Institute of Technology, ETH, Zurich / Switzerland

E-mail: franz.schmithuesen@env.ethz.ch

Recommended Catalogue Entry:

Schmithüsen, F.; Herbst, P.; Nonic, D.; Jovic, D.; Stanisic, M., Eds., 2006: Legal
Aspects of European Forest Sustainable Development.

Proceedings of the 7th International Symposium organized jointly by the IUFRO
Research Group 6.13.00 and the Faculty of Forestry, University of Belgrade /Serbia;
Zlatibor Mountain, Serbia; May 2005.

Forstwissenschaftliche Beiträge Forstpolitik und Forstökonomie, Nr. 35; Swiss Federal
Institute of Technology, ETH, Zürich, 2006.

Abstract

The general papers and country reports published in these proceedings deal with the dynamic
development of recently adopted forest legislation as a basis for sustainable natural resources
development under rapidly changing economic, social and political conditions in particular in
Central and Eastern Europe.

Keywords: Forest law; environmental law; nature conservation, landscape
management, countries in transition.

ISSN 1420-1143

ISBN 978-3-907648-09-4

Available from: Institute for Environmental Decisions
Departement Environmental Sciences
ETH Zurich
Universitätsstrasse 22
CH - 8092 Zürich
Tel.: + 41 44 632 3217 / Fax: + 41 44 632 1110
E-mail: susanne.schultheiss@env.ethz.ch

Price: CHF 30.00 / €20.00

© Franz Schmithüsen, Swiss Federal Institute of Technology, ETH, Zurich

PREFACE

The Zlatibor Mountain International Symposium on "Legal Aspects of European Forest Sustainable Development" (11 – 15 May 2005) was the seventh international meeting organized by the IUFRO Research Group 6.13.00 "Forest Law and Environmental Legislation". As for the previous meetings its objective was to foster the exchange of information amongst predominantly Eastern and Central European researchers and practitioners active in the field of forest law and environmental legislation.

The symposium was hosted by the Faculty of Forestry, University of Belgrade and took place under the auspices of the Directorate of Forests in the Ministry of Agriculture, Forestry and Water Management of Serbia, the Ministry of Science and Environmental Protection of Serbia, and with the support of the National Park "Tara", the Chamber of Commerce, and the Public Enterprises "Srbijašume" and "Vojvodinašume". The responsibility for organizing the meeting was with Dragan Nonic (Faculty of Forestry), Mirjana Stanisic (Ministry of Foreign Affairs) and Dusan Jovic (Ministry of Agriculture, Forestry and Water Management), together with their respective teams, and with Peter Herbst from the IUFRO 6.13.00 research group. Altogether, eighty-four participants representing seventeen countries were present at the 2005 Symposium.

The Serbian forestry sector is characterized by its multi-functionality and its environmental as well as socio-economic importance. There is a well established state forest sector, which since long has been open to adopt market influences and economic rules. There is also a considerable share of privately owned forests, and the development of private sector forestry appears as an important challenge at present. From the foresters' as well as environmentalists' points of view, these facts, not surprisingly, have made the actual process of Serbia's association with international organisations and the European Union an exciting and dynamic process. Due to the diversity of backgrounds and origins of the symposium's participants, this situation has provided an open and stimulating climate for discussion on alternative approaches toward the institutional strengthening of sustainable forestry development and comprehensive environmental protection.

This diversity is the underlying theme of the now presented proceedings of the symposium. The organization of International Symposia dealing with forest and environmental law by the IUFRO Research Group 6.13.00 is an on-going and longer-term process. Considering local needs and priorities the Research Group's focus will shift in the near future somewhat to the East with follow-up meetings in Istanbul (Turkey) in 2006, and in Zikatar (Armenia) in 2007.

Peter Herbst and Franz Schmithüsen

IUFRO Research Group 6.13.00

Forest Law and Environmental Legislation

Welcome Address

It is my pleasure to welcome you here in Zlatibor Mountain-and to have the honour to open the International Symposium on Forest Law and Environmental Legislation that has been organized jointly by the IUFRO Research Group and the Forestry Faculty of Belgrade University under the auspices of the national Ministries and Public Enterprises. More than 80 experts from various Ministries and Universities take part in the symposium. The participants come from Macedonia, Romania, Turkey and Serbia and Montenegro, and I am happy to see such a large representation from the South Eastern European region. We have also a considerable number of guests from the European Union countries Austria, the Czech Republic, Finland, Germany, Hungary, Latvia, Slovakia, Slovenia and Sweden, as well as from Switzerland. And we have guests who had to travel longer distances coming from countries like Ukraine, Iran and Japan. I hope all of you feel good in our country and will enjoy the lovely surroundings of our meeting place here in Zlatibor Mountain. I thank everyone that helped in the organization of this international symposium and I think that I can already say that it will be a success.

After the democratic changes that took place in October 2000, a new democratic government was established, and Serbia started the process of deep transformation in our society. The government obtained support from the international community for the reforms. The current analysis of the present status in the forestry sector shows that there is a strong need for change. The sector's reforms have to be planned carefully and should be based on clearly defined goals and responsible guidance. We need to create the institutional and legal basis for a National Forestry Programme which will help, by using appropriate models, solving the pressing problems affecting at present forestry and the wood processing industry. The definition of strategic goals and priorities, supported by a new forest legislation, as well as the elaboration of an institutional framework capable to implement the newly formulated forest policy objectives, is of long term importance for the sector's development in Serbia.

In this context we are proud to have this IUFRO International Symposium in our country and we expect to learn from the experiences in other regions how to modernize the forest and wood processing sector and to adapt it to the dynamically changing requirements of the future. Serbia has a long tradition in sustainable forest management and the Forestry Faculty in Belgrade has made an important contribution in forming qualified forest engineers. It is our firm intention to continue this work and to adapt our research and teaching programmes to the new economic and social demands that one can see not only here but all over Europe. We are presently fully engaged in the process of preparing the necessary changes in order to ensure that our graduates will have a comprehensive scientific basis combined with a solid professional experience in order to foster sustainable forestry management in our country.

Prof. Dr. Ratko Kadovic

*Dean of the Faculty of Forestry
University of Belgrade*

TABLE OF CONTENTS

General Papers

Some principles for successful forest conservation management and forestry experiences in establishing the Natura 2000 network <i>Franz Ferlin, Aleksander Golob and Spela Habic</i>	1
Regulations and standards in environmental protection in relation to ISO 14000 <i>Djordje Jovic, Dragica Stankovic and Aleksandar Radosavljevic</i>	12
Forestry as part of nature conservation in the European Union <i>Darij Krajcic</i>	22
Forest policy in the European Union: Current state and past developments <i>Marius Lazdinis</i>	28
IUCN – The World Conservation Union: Partner for harmonisation of forestry and nature conservation in South Eastern Europe <i>Jörg Lohmann</i>	35
Conflicts and partnerships between forestry and nature conservation in Eastern Europe <i>Joan V. Abrudan and Gheorghe Parnuta</i>	44
Legal similarities and differences of environmental protection and forestry in West Balkan countries <i>Mirjana Stanisic, Dusan Jovic and Dragan Nonic</i>	49
The forests in European Union strategies for sustainable use of natural resources and sustainable development <i>Andjelka Mihajlov and Aleksandar Vasiljevic</i>	57
Role of the state forest institutions in the implementation of forest law – Benchmarking model for international comparison <i>Mirjana Stevanov and Max Krott</i>	65
Administrative procedure in forestry <i>Liga Mengele</i>	80
Natural resource and environment as a role of forests policy and economics <i>Radovan Nevenic</i>	89
Organization of private forest owners in Serbia compared to Austria, Slovenia and other Central European countries <i>Dragan Nonic, Natasa Tomic, Jelena Markovic, Peter Herbst and Darij Krajcic</i>	95
Economic tools for regulating sustainable forest management <i>Lyubov Polyakova and Mikhail Popkov</i>	107

Coordination of policies related to forest management <i>Volker Sasse, Constance Schaaff and Franz Schmithüsen</i>	116
Sustainability in forest and environmental law <i>Willi Zimmermann and Claudia Zingerli</i>	126
IUFRO's regional Latin American research group on forest law and environmental legislation – Development, achievements and work plan <i>Heinrich Schmutzenhofer</i>	140

Country Papers

Recent developments in Albanian forest policy <i>Vasillaq Mine and Leonidha Peri</i>	145
Framework law on sustainable forests in Bosnia and Herzegovina <i>Mersudin Avdibegovic</i>	152
The institutional and legal framework in the forest sector of the Republic of Srpska <i>Doni Blagojevic, Milan Mataruga and Pero Balotic</i>	160
Forest and nature protection legislation and related issues in the Czech Republic <i>Karel Vancura</i>	167
Some measures taken for the conservation of nature and their consequence for forest management in the Czech Republic <i>Jiri Stanek</i>	173
Forest legislation in relation to biodiversity conservation in Georgia <i>Mariam Kimeridze and Maia Akhalkatsi</i>	176
Legal framework of management in Greek forests <i>Christos Goupos</i>	181
The meaning of areas regulated by Greek forest legislation <i>Christos Goupos</i>	188
Making a balance between European and Iranian forest legislation despite of differences <i>Mohammad M. Ghelichkhani and Afshin Ahmadipour</i>	193
Progress in environmental legislation in Japan <i>Ikuo Ota</i>	198
From Union to Union: Evolutionary path of the Lithuanian forest sector <i>Imantas Lazdinis, Andrew D. Carver, Marius Lazdinis and Vygandas K. Paulikas</i>	206
Forestry and nature conservation in the Republic of Macedonia – Legislative and policy framework <i>Ivan Blinkov, Makedonka Stojanovska and Alexandar Trendafilov</i>	217

New aspects concerning the adoption of the “Acquis Communautaire” regarding forest reproductive materials in Romania <i>Gheorghe Parnuta and Ioan V. Abrudan</i>	232
Legal regulations and the possibilities for sustainable forest management in Serbia <i>Milan Medarevic and Nenad Petrovic</i>	237
Problems of sustainable forest management implementation - The example of the spatial plan for the special purpose reserve Golija / Serbia <i>Milan Medarevic and Nevena Vasiljevic</i>	253
Conflicts between forestry and erosion in Serbia <i>Ratko Ristic, Ratko Kadovic, Ivan Malusevic and Snezana Belanovic</i>	259
New trends in forest and environmental legislation in Serbia <i>Natasa M. Tomic</i>	267
Participation in Serbian forestry – Practical experiences <i>Zoran Tomovic, Vlade Zaric, Predrag Jovic and Leopold Poljakovic-Pajnik</i>	275
Local attitudes toward management of natural resources in the Tara National Park, Serbia <i>Jelena Tomicevic, Miodrag Zlatic and Marina Milovanovic</i>	281
Conflicts and partnership between forestry and nature protection: Case study of the Slovak Republic <i>Rastislav Sulek and Jaroslav Salka</i>	292
Searching for a balance between forestry and nature conservation in Slovenia <i>Jurij Gulic and Andreja Skvarc</i>	302
Swedish forest and nature conservation – Legislation and policy <i>Johanna Fintling</i>	310
Actual trends of Turkish environment and forest legislation <i>Sedat Ayanoglu and Nimet Velioglu</i>	317
Economic aspects of forest legislation in Ukraine <i>Artem Torosov and Volodymyr Romanovsky</i>	324
 Annexes	
1. Programme of the International Symposium 2005	329
2. Addresses	331
3. IUFRO Research Group 6.13.00	336
4. Research Publications and State of Knowledge Reports	337

Some principles for successful forest conservation management and forestry experiences in establishing the Natura 2000 network

*Franč Ferlin, * Aleksander Golob** and Špela Habič****

Abstract

The paper presents recent developments and experiences, particularly those of the forestry sector, at the EU level and in Slovenia. It discusses main conservation requirements and general policy principles, and Slovenian experiences in the transposition of the Habitats and the Birds Directive and in the establishing the national Natura 2000 network. Special attention is devoted to problems and conflicts between forestry and nature protection, to public communication activities, and to the participation of stakeholders establishing the Natura 2000 network. Recommendations for further development of forest conservation management within the Natura 2000 as well as for establishment of protected areas are formulated.

Key words: Natura 2000, nature conservation policy, sustainable forest management policy, European Union, Slovenia

Introduction

The terms conservation of biodiversity and sustainable use or sustainable management have globally been put forward at the Earth Summit on Environment and Development in Rio de Janeiro, in 1992, particularly within the Convention of Biological Diversity (1992) and the Global Programme of Action on Sustainable Development (UNCED, 1992). Since Rio these standard terms and principles have been widely used in national legislations, policies, programmes and action plans of the sectors responsible for conservation and management and use of natural resources. In comparison with the traditional term “sustainability” originating from forestry, the term “conservation” replacing the classical term “protection” (of nature) is relatively new and more compatible with the philosophy of sustainable management and use.

At the European level the modern term *conservation* (of habitats and species) was introduced earlier, particularly within the Convention on the conservation of European wildlife and natural habitats (Bern Convention, 1979). As a response to the commitments of this Convention, and with a view to support the Rio Summit, the European Union (E. U.) adopted in 1992 its famous Directive on the conservation of natural habitats and of wild fauna and flora (Habitats Directive, 1992) which anticipates the creation of the E. U.-wide network for *special areas of conservation* (SACs), named as Natura 2000. This network includes also the *special protection areas* (SPAs) pursuant to the older Directive on the conservation of wild birds (Birds Directive, 1979). Under the Habitats Directive, *conservation* means a series of measures required to maintain or restore natural habitats and species at a favourable status.

As a Pan-European forestry response to the Rio commitments, the Helsinki declaration and resolutions on sustainable forest management and on forest biodiversity conservation

* Slovenian Forestry Institute, Ljubljana, franc.ferlin@guest.arnes.si

** Agency of the Republic of Slovenia for Environment, Ljubljana, saso.golob@gozdis.si

*** Slovenia Forest Service, Regional Unit, Postojna, spela.habic@zgs.gov.si

(MCPFE 2000) were adopted at the second Ministerial conference on the protection of forests in Europe in 1993. The Helsinki declaration provides a complex definition of *sustainable forest management* which includes *biodiversity conservation*. Thus, biodiversity conservation has become one of the basic components of forest policy at the Pan-European level. The same applies to the E. U. level, since in the Resolution on the E. U. Forestry strategy (1998) the same definition was used.

The terrestrial Natura 2000 sites in the enlarged E. U. now amount to 11,6% of the Member countries area for the sites of Community importance (SCIs) – these are later to be designated as SACs - , and to 8,3% in case of SPAs (*Table 1*). The country with the highest proportion of terrestrial SCIs is Slovenia (31, 4%), whereas the one with the lowest proportion is Lithuania (2,1%). In the case of SPAs the Slovak Republic has the highest (25, 2) and Cyprus the lowest proportion (1, 2%). Slovenia holds the second highest place (23, 0%). The Natura 2000 network is especially important for forests, as forest habitats in the EU member states will represent over half of all sites (European Commission, Environment DG, 2003).

Table 1: Percentages of terrestrial Natura SCI and SPA areas in the EU member states

Areas	AT	BE	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	SE	SI	SK	UK	EU
% SCI	10,6	10,0	5,0	9,2	7,0	7,4	15,9	22,6	12,7	6,8	16,4	14,0	10,2	13,9	2,1	14,8	11,0	12,5	9,5	3,7	17,4	13,6	31,4	11,8	6,5	11,6
% SPA	11,1	9,7	1,2	8,8	6,4	5,9	12,5	16,5	6,8	2,2	10,1	12,2	2,9	8,1	5,5	5,4	9,6	2,4	12,5	7,8	10,1	6,2	23,0	25,2	5,8	8,3

Source: European Commission, DG Environment, Biodiversity Barometer (March, 2005)

Note: Common surface percentages (SCI + SPA together) are not available yet.

In Slovenia, the percentage of the proposed (SCIs) and the already designated (SPAs) Natura sites together amounts to 0,72 million hectares or 35,5% of the country's area. Spatial distribution of sites throughout the country is characterised by some relatively large complexes (matching with the existent and potential natural parks) and many other small sites. Within this Natura 2000 sites as much as 0,52 million hectares or 70% belong to forests (MESP, 2004). In other words, as much as 45% of all Slovenian forests will be situated in Natura 2000 sites. A predominant part of these Natura 2000 forests (60%) are private property (Ferlin et al., 2005). The reason for such high figures is the high biological diversity of the country as a consequence of varied geographical, climatic and topographic conditions as well as a diverse and crumbled land ownership structure. Long-lasting sustainable forest management in all forests and well preserved traditional agricultural uses in mountainous and rural areas contribute as well to highly level of biodiversity. The result of all these is a great number and extent of natural habitats of Community importance that exist at present in the country.

The aim of this paper is to present and discuss the EU's and Slovenian nature and forest legislation requirements and policy principles related to conservation (and) management of Natura 2000 sites, as well as forestry experiences in their establishing.

Legislation requirements and policy principles of the EU directive(s)

Requirements of the Directive(s): The main aim of the Habitats Directive (1992) is to contribute to the conservation of natural habitats and of wild fauna and flora in the European territory of the member states. The Directive requires from member states to maintain or restore, at a favourable conservation status, natural habitats and species of Community

interest. For this reason, a coherent European ecological network, composed by sites hosting the natural habitat types and habitats of the species, is to be established by the member states. The Natura 2000 network includes also the SPAs classified pursuant to the Birds Directive (1979). Measures taken pursuant to the Habitats Directive shall take account of economic, social and cultural requirements, and of regional and local characteristics. It does not lay down rules regarding the consultation process to be followed in selecting the sites by the member states.

The choice of sites which is the responsibility of the member states was defined as an exclusively scientific exercise using standard selection criteria specified in the Directive(s). For SCI sites, this requires the authorities to carry out an assessment of the representativity and ecological quality of each habitat type as well as of the available sites covered by a given habitat type. Likewise, it requires an assessment of the size and density as well the degree of isolation of each species site relative to its natural range, together with the determination of the quality of the site for the species concerned. On the basis of these criteria member states make an overall global assessment of the importance of their sites for each species and habitat type. On the basis of the proposed national classification the Commission, in agreement with the member states, adopts the lists of SCI.

The analysis of the member state proposals is carried out in a transparent way through scientific seminars convened by the Commission and supported by the European Environment Agency. The expert seminars aim to establish whether sufficient high-quality sites have been proposed by each member states in order to ensure the desired favourable conservation status of each habitat type and species. The criteria for assessment include consideration of the rarity, geographic distribution and overall vulnerability of the species and habitat types concerned. Member states and experts representing relevant stakeholder interests including owners and users, and environmental NGO's participate in the seminars. Once the lists of SCI have been adopted it is then for the member states to designate all sites as SACs as soon as possible and within six years at most (European Commission, Environment DG, 2002).

In distinction to SCI/SACs, it is a full member states responsibility to select and designate SPAs under the Birds Directive. The identification and delimitation of SPAs must be entirely based on scientific criteria such as “1% of the population of listed vulnerable species” or “wetlands of international importance for migratory waterfowl”. Member states must apply the criteria in a way ensuring that all of the most suitable territories, both in number and surface area, are designated. On the basis of information provided by the member states the Commission determines if the designated sites are sufficient to form a coherent network for the protection of the vulnerable and migratory species (European Commission, Environment DG, 2002).

Pursuant to the Habitats Directive (1992), member states shall establish for designated SACs the necessary conservation measures involving, if needed, appropriate management plans specifically designed for the sites or integrated into other development plans. Member states also need to establish appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types and the species for which the areas have been designated. They shall also take appropriate steps to avoid the deterioration of these habitats as well as disturbance of the species. Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.

The E. U. Forestry Strategy: The Resolution on the Forestry Strategy for the EU (1998) focuses on the principles of sustainable forest management and of the multifunctional role of forests, as defined in the Ministerial Conferences on the Protection of Forests in Europe of Helsinki and Lisbon (MCPFE, 2000). The Strategy integrates conservation of biodiversity in line with the framework Biodiversity Strategy of the EU (1998). Actions for forest biodiversity conservation anticipated by the Forestry Strategy include the following two main areas:

- Conservation and enhancement of biodiversity in sustainable management systems for *all* forests,
- The establishment of specially managed protected areas, particularly the Natura 2000, as a complementary instrument to sustainable management of forests.

Regarding the establishment and management of such areas the Strategy stresses that:

- full participation of all concerned people, including forest owners, during both the decision process to establish these areas and their management is specially relevant;
- an active information policy in the scope of any management restrictions is required,
- responsible authorities should ensure the involvement of forest owners in developments on protected areas.

It is obvious from the above guidelines that the Forestry Strategy anticipates a much more open and participative approach, in partnership with forest owners, than the corresponding provision of the Habitats Directive being later interpreted by the European Court of Justice. Namely, the Court decided in its successive rulings (in 2000 and 2001) against certain member states that a member state may not take account of 'economic, social and cultural requirements or regional and local characteristics' when selecting and defining the boundaries of the sites and, moreover, that the choice of sites had to be based on scientific criteria only (European Commission, Environment DG, 2004). Such a favourable interpretation (for nature protectionists) has formally allowed, particularly the Candidate Countries such as Slovenia, a pretty closed and scientifically exclusive process of preparing and adopting the Natura 2000 proposals.

Financing the Natura 2000: The Habitat Directive provides co-financing for Community measures that are required for implementing priority features of Natura 2000. A variety of EU funding sources have been used to date by member states to provide co-financing for certain costs associated with the management of sites proposed or designated as Natura 2000 sites. These funding sources include the structural funds, in particular the European Rural Development Fund (ERDF), the European Agricultural Guidance and Guarantee Fund (EAGGF)-Guidance in certain regions and the INTERREG and LEADER Initiatives, the Cohesion Fund, the EAGGF-Guarantee Section (for the financing of rural development measures including the accompanying measures), and LIFE (in particular LIFE-Nature) (European Commission, Environment DG, 2004).

It is expected for the future EU financial perspective (2007 – 2013) that Community funds, primarily the structural and rural development funds, and possibly also additional funds dedicated for biodiversity conservation (within LIFE+ proposal) will make substantial co-financing available for the implementation of the Natura 2000 network (European Parliament, 2005). It has been estimated by the Commission that the annual costs of managing the terrestrial Natura 2000 network turn at EUR 6.1 billion per year which is nearly half of the amount expected for rural development measures.

Experiences of the EU member states: During the first ten years after adoption of the Habitats Directive, the emphasis of the member states' work has been on the transposition of the

Directive into the national legislation and in establishing the Natura 2000 network. Despite serious delays – the target year for old member countries was 2000 - 17,5 per cent of the EU15's territory has been proposed for or included in Natura 2000 till the mid of 2004 (European Commission, Environment DG, 2004). The majority of new member states submitted their proposals just before the day of accession.

According to the Commissions report on the implementation of the Habitats Directive (2003), the following experiences are of the interest for this paper:

- In a number of EU15 member states the preparation of draft national lists of proposed SCIs was followed by public consultation (e.g. Denmark, Finland, France, Germany, Portugal, the UK and certain regions of Spain).
- Where there was no full-scale public consultation process, more targeted stakeholder events were in some cases organised to facilitate local debate (e.g. the Walloon region of Belgium, Greece and Sweden).
- Proposed lists of sites frequently met with public and administrative opposition (e.g. in Austria, Denmark, Germany, Ireland, the Netherlands and Spain).
- The extent to which local concerns were reflected within the eventual lists of pSCIs has been somewhat controversial, particularly in light of rulings by the European Court of Justice mentioned. Thus, for example in Sweden, local authorities had been firstly required to receive approval from landowners before submitting site proposals. This requirement was later changed so that authorities must now simply gather the opinion of landowners.
- Some countries cited the lack of clarity on the legal implications and/or future financing of Natura 2000 sites as an impediment. Member states responded to these difficulties in different ways, for example, through awareness-raising actions.
- There was also the lack of a clear process of site selection, and practical implementation of selection criteria was often developed at the same time as the sites were being selected.

Slovenian Experiences in establishing the NATURA 2000 network

Forest policy principles: The principles of the Slovenian forest policy adopted by the Parliament within the national forest development program (1996) are based on a long forestry tradition and practice, on the commitments of the Convention on biological diversity (1992) and the Rio Agenda 21, and on the Pan-European forestry guidelines, adopted by the Helsinki declaration and resolutions. The main policy principles are sustainability, near-naturalness and multifunctionality of forests and forest management. Similarly to the Pan-European policy guidelines and the E. U. forestry, rural development and other strategies, these principles integrate also the conservation of biodiversity. Moreover, conservation of forest and landscape biodiversity is an explicit aim of the forest policy. For implementation of the national forest programme including forest protection, conservation and development measures, a complex system of state budget financing and co-financing was established. This system is now in the process of further adaptation and harmonisation with the (existent and expected) E. U. financial mechanisms, particularly those from rural development sources from which forest development and conservation measures should mostly be financed.

Professional support to the implementation of the national forest programme is assured through the Slovenian Forest Service (SFS) as a public status service, performing all professional activities such as forest management and silvicultural planning, selection (marking) of trees for felling, and extension and advise to forest owners including support in

applications to and transmission of subsidies. At the same time the SFS has administrative responsibilities for all forests except for forestry inspection which is separately organised as an Office within the Ministry for Agriculture, Forestry and Food. SFS activities cover as well nature conservation under the Forest Law (1993), direct nature protection supervision in forests under the Nature Conservation Law (1999, amended in 2002), and management and conservation of wildlife and hunting within all state hunting grounds. The SFS may also take over the management of anticipated protected forest areas.

In the context of Natura 2000 further adaptations of forest policy and legislation would be needed with regard to planning, management, financing and monitoring of the forest Natura 2000 sites as well, and to the future role of the SFS in this context.

Transposition of the Directives: Interpretation and transposition of the Birds and Habitats Directives into the national legislation in Slovenia was (and still is) the exclusive responsibility of the NPA (Ministry for Environment and Spatial Planning) which was quite problematic for forestry sector. As a consequence, there was lack of dialogue and trust between the two parties having also (already traditionally) different philosophies and concepts about nature conservation: forestry – integrated within sustainable management; nature protection – segregational, separated from sustainable management. This has led to serious conflict. There were also differences in visions about how much special conservation areas should be proposed for designation at all. It is understandable that the forestry vision was much more restrictive, particularly because of the fear connected to potential loss of administrative responsibilities over large forest areas intended to be included in the Natura 2000 network. At the other side, most Slovenian forests are already in a favorable conservation status, just because of our traditional sustainable forest management and consequently, additional special conservation is not needed in principle.

Other conflicts arise because of non-appropriate recognition (from the nature protection side) of the existing forestry legal and management planning system, particularly the (regional) forest management plans, which already (at least conceptually) include all conservation measures and are in fact the plans for maintaining a favorable conservation status of forest habitat types. The primary goal of the forestry sector was to achieve that the forest management plans, established as overall plans to ensure multifunctional and close-to-nature forest management according to the already existing forest legislation, would be given the status of plans into which all necessary measures for managing Natura 2000 sites would be integrated. Such a position was especially justifiable due to the fact that the forest management plans can only be approved after nature conservation guidelines, prepared by the Nature Conservation Authority, have been properly integrated in the plans. It was believed that this would be a perfect example of integration of environmental considerations into economic sectors. The initiative was only partly accepted in the NCL, because decisions whether a forest management or any other plan intended for the use of natural resources could act as a plan for managing Natura 2000 sites is now according to the NCL left to the Government.

Just after the last amendments of the NCL were adopted, the former minister responsible for nature conservation issued regulations on assessment of plans and projects significantly affecting Natura 2000 sites. The obligation for assessment includes also most of the forestry activities, including protection and silvicultural measures, and really demonstrates non-willingness of the nature protection sector to accept the integration principle, as proposed by the forest sector. Nevertheless, the issue is not closed yet and there are still chances to reach a more favorable solution. Of course, the regulations will have to be changed. Last but not least,

conflicts between both sectors, involved in Natura 2000, have derived from the fact that each of the sectors was governed by a different political party.

For all these reasons, political intervention targeted to proper interpretation and transposition of the Directives, particularly with respect to the forest and other natural resource sectors, was needed through the Parliament from forestry side before adoption of the amendments to the NCL (in 2004) and consecutive regulations. Because the intervention was leaded through the same political party as that of the former minister, the success for forestry was only partial.

Process of establishing of the Natura 2000 sites: There was not enough willingness before 2002 when the Government launched the project Natura 2000, to elaborate a communication strategy and to present the Natura 2000 contents to relevant stakeholders. A special interdisciplinary working group was formed in this respect as well as a scientific committee. It is clear that the project started too late in order to be successful, particularly in terms of quality of the proposed sites and involvement of all relevant stakeholders. Before the Natura 2000 project was launched, the responsible NPA had spent too much time and energy trying to establish protected areas, especially regional parks, for which they needed consent of local communities. Only one landscape park was established, which had been supported by EU Phare Programme. If the project was launched earlier the relevant sectors, including forestry, could have contributed a great deal to propose more suitable sites, and above all, sites that would be less criticised because of the involvement of the stakeholders. The process could have started at least in 1999.

Another weakness which is apparent due to shortage of time and resources was the lack of scientific data for many habitats and species, except for those under the responsibility of forestry. Unfortunately, it can be proved that many sites are proposed in those areas where studies were done beforehand, and that nobody is really being able to prove that they are the best representatives of the habitats of species or habitat types. On the other side, forest sector provided very useful and complete sets of data for forest habitat types. In addition, even if quite good data existed, it was generally not very clear what criteria were used to propose the sites. The rules used by the European Environmental Agency (EEA) at bio-geographic seminars that take into account percentage of the whole area of relevant habitats could have only been used if the whole map had existed beforehand. In any case, although the method was prepared beforehand, it was not transparent enough to persuade the stakeholders that the sites were proposed following an exact scientific method.

Preparation of the proposal of sites by Slovenian Forest Service: The SFS has prepared, in guidance and coordination with the NPA, particularly with the Natura 2000 project team, a complete proposal of pSCI for forest *habitat types* based on its own database. The proposal was accepted and also finally adopted without any significant changes. This exercise was a good example how fruitful cooperation between the SFS and NPA could be if both parties establish a true dialogue, based on mutual trust and understanding. Unfortunately, the SFS was not invited from the responsible authority for professional collaboration in the establishing the other proposals of Natura 2000 sites, namely the pSCI and pSPA for forest *species* within forests. Only a few SFS wildlife specialists (for large carnivores and birds) have collaborated individually, not on behalf of the SFS, within this part of the project. It has to be underlined that the sites comprising forests as habitat types (forest plant communities) and species habitats of importance for the Community have been proposed as such because it is believed that forests in these sites already are in a favourable conservation status. Nevertheless, it is of utmost importance for further monitoring that criteria and indicators for

favorable conservation status are laid down and that they are elaborated in close cooperation between nature conservation authority and the SFS, representing the forest sector.

Approach to communication and consultation: In Slovenia, consultation with stakeholders, including landowners and forest users was envisaged not earlier than in the process of preparation of Natura 2000 management plans which are principally not obligatory (MESP 2004). In this way forest owners' consultation did not take place in the process of proposing the list of sites, with some exceptions for larger private forest owners at local level. However, different forms of presentations of the proposed sites to local communities were performed and some minor changes in the list of sites were made as a result of this activity.

The communication process, in which the SFS was involved, included several workshops for the team of communicators with the aim to improve communications skills and to prepare an appropriate strategy for presentations of selected Natura 2000 sites. The main aim of the communication was to inform the public generally about the project and to assure the local acceptability of the Natura 2000 concept. The public presentations were then performed for these sites before the process of finalizing of the Natura 2000 proposals was concluded. To support communication, many booklets regarding purposes and characteristics of selected Natura 2000 sites were issued and a web page was prepared. The aim was achieved in most of the local areas. The positive side of this process was also due to the fact that the Institute of the Republic of Slovenia for Nature Protection (IRSNP), the SFS and the Agricultural Extension Service (AES) were involved in it and cooperated very successfully.

Stakeholders to whom the sites were presented have always had the opportunity to comment and ask questions. The latter were answered whenever possible and the remarks were duly registered. However, many questions, particularly those about eventual land/forest management limitations (because of special conservation or protection requirements for certain habitat types and species) and their economic consequences for the land/forest owners remained without answers.

Although private forest and other land owners or users have not directly been invited to express their opinions about selection of the sites, their interests were indirectly represented through the Chamber for Agriculture and Forestry of Slovenia. This has enabled the process of public presentations of the Natura 2000 site proposals to be finished very quickly (in few month); there was not any serious opposition from the owner's side. Some more serious remarks were registered in the region where forest owners with larger forest areas prevail, who had expressed worries that Natura 2000 sites would bring them nothing else but lower income from forests. Special communication events, where besides experts also high ranking officials from the responsible ministries were present, gave them hope that the possible shortage in income as a result of Natura 2000 sites on their land would be compensated.

Before the final national list of pSCI and SPA sites was approved by the Government, local communities had been given the possibility, pursuant to the amended NCL guidelines, to propose a reduction of the proposed sites if they covered areas where local spatial plans have already been adopted, but not yet implemented, and where the situation in nature had not been changed yet. Many requirements of local communities were taken on board. In most valuable areas, however, the situation was solved with negotiations. The reduction of the original proposal was not really essential.

Summary and Conclusions

The Natura 2000 network of special conservation areas across the E. U. is one of the main pillars of EU action on biodiversity, and the listed sites already cover a very significant part of the E. U. territory. They are especially important for forests, as forest habitats in the E. U. member states will represent over half of all sites. The establishing process of the Natura sites is now, after serious delays, near to be completed for the old member countries. The new member countries are waiting for assessment of their proposals in case of SCIs, whereas the SPAs have already been designated by their governments. The E. U. priority has been devoted to the conservation measures and proper management of designated sites. Because of the high (preliminary) estimated costs for these measures the Commission proposes a new strategic approach to co-finance Natura 2000 enabling a much higher amount of financial sources to be used for this purpose. These resources should mainly come from the structural and rural development funds and possibly from the new biodiversity fund proposed.

Regarding the conservation concept, it was acknowledged within the E. U. Natura 2000 policy, that conservation of biodiversity and sustainable forest management, as defined in the Pan-European forest policy documents, are compatible and that farmers and forest owners can make a significant contribution to the conservation of biodiversity through their sustainable land use practices. On the other hand, the need for appropriate compensations or subsidies to support realization of conservation measures has been politically recognised. It is to hope that this will soon be the case also at national levels, especially in Slovenia, where there has been little financial support for forest development measures from rural development sources till now, and where nothing has been allocated for forest Natura conservation measures from these sources yet.

Slovenia is the EU member state with the largest proportion of proposed and, in case of SPA, already designated Natura sites. Nearly half of all forests will be Natura 2000 forests. That is why a new so called Natura forestry should be developed in the future, based on current sustainable and close-to-nature forestry tradition and practice. According to the newest interpretation and understanding of the Natura 2000 conservation requirements and principles, being fully compatible with principles of sustainable management, we do not expect any general limitation in sustainable forest management (e.g. in allowable cut) in Slovenia. We have a legitimate hope for financing incentives for forestry conservation measures for private forests within Natura 2000 in near future. An indirect consequence will actually be, along with a growing amount of E. U. funds dedicated to forestry conservation and development measures, the intensification of private forest management, which is now at a very low level.

Natura 2000 gives indirectly much more public importance to forests and sustainable forestry as it is the case today. However, this is not only true for Slovenia. The more demanding approach in Natura 2000 sites is a new challenge and promising for further development of the forestry profession, particularly for public forest services and forest research. The forest sector is expected articulate more forcefully its requirements for the allocation of appropriate budget resources to support public services, and biological and other investments to forests. Regarding nature and forest legislation and policy in Slovenia, there is a need to confer more biodiversity conservation responsibilities to the forest sector and trust them to the SFS, to adequately recognise the role of forest management plans within the Natura sites, and to establish a better collaboration with NPA. On the other hand, it is of great importance for the forest sector, particularly for the SFS, to invite and employ biologists or other nature conservation specialists to successfully perform additional nature conservation tasks.

In addition, it is of utmost importance for Slovenian forestry as well as for forestry of other (new) member states, to integrate successfully forest conservation measures needed for Natura 2000 sites into national rural development programmes, which should ensure appropriate amount of financial resources for forest sector. Regarding future activities and ambitions of the SFS as a public service, there is a strong interest to take over management, planning and monitoring of Natura 2000 sites in forests according to the NCL standards. Actually, it is hard to believe that these professional activities could be performed by any other institution. This is particularly important and rational for the state because the SFS already guides the management of all forests and manages the state hunting grounds of special purpose, which are included in the Natura 2000 network.

Although not specially discussed in the paper, it is suitable to underline some important technical requirements that should be fulfilled for successful Natura forestry in the future:

- Preparation of an appropriate new methodology for Natura 2000 management plans and/or adaptation of the existing methodologies of forest and wildlife management plans;
- Development of special conservation measures needed for individual habitat types and species for which the Natura sites are established and designated;
- Preparation of criteria for cost-valuation for conservation measures needed, particularly in the case that the income of forest owner is reduced;
- Further elaboration of the forestry system of incentives and/or subsidies, and development of a similar system for Natura 2000 forest sites.

At the very end, there is no doubt that Natura 2000 brings important additional opportunities and challenges in spite of certain limitations. Additional financial opportunities might be important for sustainable development of private agricultural and forest holdings in mountainous areas and marginal lands that contribute to the overall ecological stability of landscapes, preservation of forests and biodiversity, and to the activity of rural communities. In this spirit it is recommendable to fully accept the EU concept of ecological network and to put into effect the role which national forestry is able to play in it.

Acknowledgement: The authors thank Dragan Matijašić and his team from the Slovenia Forest Service for the data and information provided regarding the forest Natura 2000 sites in Slovenia.

References

- Council of Europe, 1979. Convention on the Conservation of European Wildlife and Natural Habitats, Bern, 19. 9. 1979. <http://conventions.coe.int/treaty/en/Treaties/Html/104.htm>
- European Commission, Agriculture DG, 1998. Council Resolution on a forestry strategy for the European Union, -Official Journal of the European Communities, No C 056, 26/02/1998. http://europa.eu.int/comm/agriculture/fore/comm/649_en.pdf
- European Commission, Environment DG, 1992. Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora, -Official Journal of the European Communities, No. L 206. <http://europa.eu.int/scadplus/leg/en/lvb/l28076.htm#AMENDINGACT>
- European Commission, Environment DG, 1998. Communication from Commission to the Council and the European Parliament on a European Community Biodiversity Strategy. COM (98) 42 final, Brussels, 4.2.1998. <http://europa.eu.int/comm/environment/docum/pdf/9842en.pdf>
- European Commission, Environment DG, 2002. Commission working document on Natura 2000, Brussels, 7.12. 2002.

http://europa.eu.int/comm/environment/nature/nature_conservation/useful_info/documents_publications/pdf/faq_en.pdf

European Commission, Environment DG, 2003. Natura 2000 and Forests. 'Challenges and Opportunities'. Interpretation Guide. Luxemburg, 100 pp..

http://europa.eu.int/comm/environment/nature/nature_conservation/useful_info/documents_publications/pdf/n2kforest_en.pdf

European Commission, Environment DG, 2004: Report from the Commission of 5 January 2004 on the implementation of the Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora [COM(2003) 845 final].

http://europa.eu.int/eur-lex/lex/LexUriServ/site/en/com/2003/com2003_0845en01.pdf

European Commission, Environment DG, 2004. Communication from the Commission to the Council and the European Parliament. Financing Natura 2000. Brussels, 15.07.2004, COM(2004)431 final.

<http://europa.eu.int/comm/environment/docum/>

European Commission, DG Environment, 2005. Biodiversity Barometer, March, 2005.

http://europa.eu.int/comm/environment/nature/nature_conservation/useful_info/barometer/barometer.htm

European Parliament, 2005. Resolution on Financing Natura 2000 (2004/2164(INI)).

<http://www2.europarl.eu.int/omk/sipade2?PUBREF=-//EP//TEXT+TA+P6-TA-2005-0078+0+DOC+XML+V0//EN&LEVEL=3&NAV=X>,

Ferlin, F., Matijašić, D., Golob, A., 2005. Questionnaire (Slovenia). 7th IUFRO RG 6.13.00 International Symposium on Legal Aspects of European Forest Sustainable Development, 11-15 May 2005, Serbia, 7 p.

Parliament of the Republic of Slovenia, 1999. Nature Conservation Act. OJ RS No. 56/99, 30.6.1999 (English translation)

<http://www.sigov.si/mop/en/index.htm>

MCPFE, 2000. General declarations and resolutions adopted at the ministerial conferences on the protection of forests in Europe. Strasbourg 1990 — Helsinki 1993 — Lisbon 1998. Ministerial Conference on the Protection of Forests in Europe. Liaison Unit Vienna. 88 pp.

http://www.mcpfe.org/publications/available_at_lu/

Ministry of Agriculture, Forestry and Food (MAFF), 1995. Act on forests (1993). Ljubljana, 47 p.

Ministry of Agriculture, Forestry and Food (MAFF), 1996. Forest Development Programme of Slovenia (1996). Ljubljana, 26. p..

Ministry of Environment and Spatial Planning (MESP), 2004. The Natura 2000 in Slovenia (internet description and map, in Slovene). <http://www.sigov.si/mop/>

UNCED, 1992. Agenda 21: Programme of Action for Sustainable Development. Rio Declaration of Environment and Development. Statement of Forest Principles. - The final text of agreements negotiated by Governments at the United Nations Conference on Environment and Development (UNCED), 3-14 June 1992, Rio de Janeiro, Brazil, 389 p.

<http://www.un.org/esa/sustdev/documents/agenda21/index.htm>

UNEP, 1992. Convention on biological diversity. Rio de Janeiro, 5 June 1992.

<http://www.biodiv.org/doc/legal/cbd-en.pdf>

Regulations and standards in environmental protection in relation to ISO 14000

Djordje Jovic, Dragica Stankovic and Aleksandar Radosavljevic

Abstract

In the past forest management planning, in particular objectives and standards, were neither tested nor compared with ISO standards which refer to the management of environmental protection activities. The objective of this paper is to check the accordance of existing standards in forest management planning with ISO 14000 standards and assess the possibilities for their implementation. It presents an account of important world standards and regulations as well as an evaluation of the basic content of the series of ISO 14000 standards.

Keywords: certification standards, environment regulations, forest management planning, biodiversity, ISO 14000

Introduction

The base of rational use of forest resources is, inter alia, warranted by management planning. Pursuant to the prevailing regulations and enactments, this is achieved primarily through the elaboration of forest management plans. An important objective in drawing up such plans is the implementation of environmental protection in the widest sense, in accordance with the principal targeted long-term requirement of rational wood harvesting. In the previous practice of forest management planning, internal regulations and standards had specific contents and meanings. This refers both to the terminology and to the meanings of individual professional terms.

An essential characteristic of regulations and guidelines in the practice of forest management planning today is that they are, to a good degree, harmonised or should be harmonised with respective experiences worldwide (FAO, IUFRO, IUCN criteria, etc.). However, the concrete regulations and standards are often not checked and compared with ISO standards, especially with the ISO 14000 series referring to the management of environmental protection. This paper examines the possibilities of harmonisation the standards and regulations in forest management planning with ISO 14000 series and the possibilities of their implementation.

Environmental standards are defined as the principal products, processes, rules, guidelines or regulations identified in written documents. Standards vary in the content as they depend on the object of certification, e.g. standards of products, standards of processes, standards of forest management, etc. Standards also vary in the scope, detail and in the degree of their legal implications. The standards of sustainable forest management differ at the global, regional, local and management unit levels of application. For the present form of certification, the management unit standards are of primary significance, because they establish the rules of management in a given forest area. As for identical global standards of sustainable forest management, those who pursue them face the dilemma that any sustainable forest management is a concept based on values which differ worldwide. The pragmatic approach to the solution of this problem is the implementation of different standards for different regions or countries.

International Initiatives and Conventions

The foundations of sustainable development were established at the United Nations Conference on Environment and Development (UNCED) held in 1992. This conference adopted “Agenda 21”, the “The Convention on biological diversity”, the “Framework Convention on Climate Change”, and the “Non-legally binding authoritative statement of principles for a global consensus on the management, conservation and sustainable development of all types of forests”. *Agenda 21* addresses the greatest environmental issues in the world today and its objective is to prepare the world for the challenges of the 21st century. It reflects the global consensus and a high degree of political agreement on the inseparability of development and environment. Its realisation requires national strategies, policies, plans and programmes for which governments have the highest responsibility. The international community will support national efforts and the United Nations system has a key role to play. Other international, regional and sub-regional organisations should participate in these efforts. The participation of stake-holders, non-governmental organisations and other groups should be stimulated.

At the second *Ministerial Conference on the Protection of Forests in Europe (MCPFE)* held in Helsinki 1993, the European countries and the European Community demonstrated their willingness to carry out the resolutions of the United Nations Conference on Environment and Development (UNCED). They adopted the resolutions *Resolution H1* “General guidelines for the sustainable management of forests in Europe” and *Resolution H2* “General guidelines for the conservation of biodiversity of European forests”. Together, the two Resolutions establish a framework for national initiatives enhancing sustainable forest management in Europe and a significant base for regional cooperation. European governments, in the light of their commitments, made significant efforts to ensure the advancement of sustainable forest management.

The third Ministerial Conference was held in Lisbon, Portugal, in June 1998 with the participation of the representatives from 36 European countries, the European Community, five country-observers, and the representatives of 14 international organisations. The conference adopted *Resolution L1* “People, forests and forestry – enhancement of the socioeconomic aspects of sustainable forest management” and *Resolution L2* “Pan-European criteria, indicators and operational level guidelines of sustainable forest management. Together, the two resolutions of the conference are the attempt of the international European community to promote sustainable forest management and to foster changes in national forest policies and legislation as well as forest and environmental education. Especially Resolution L2 is a solid basis for sustainable forest uses and for forest certification, as one of the methods to implement them.

In addition the *General Declaration* of the conference declares, inter alia, that “the heritage of healthy and biologically diverse forests for future generations, positive contribution to the carbon and oxygen cycles, protection of soil and water resources, protection of the population and infrastructure against natural hazards, providing the income and employments, especially in rural regions and the benefit of providing recreation and cultural values to the entire mankind. These characteristics of forests which the generations of forest owners and users, and the society in general, have been developing and will develop in future are the present and future values.”

Certification of sustainable forest management

Forest certification can be defined as the process which results in a formal document (certificate) elaborated by third party independent organisations, which defines the location and the management status of the forest from which a certain kind and quantity of wood originates. Certification of forest management includes the inspection of forest practices in the field according to pre-defined standards and inspection of documents such as management and harvesting plans. Certification of forest management may be performed at different levels e. g. the management unit, the forest owner unit or at for a region or country. Certification of forest products should affect the buyer's selection and the certification process should follow the product through the entire production process, from the forest to the shop. Certification systems therefore apply the assessment of the entire "chain-of-custody" which includes log transport and primary conversion, further transport and final processing.

Certification is currently performed by nongovernmental organisations and private companies, either at national or at international levels. It is based on the specific social, ecological and economic criteria. The most frequently mentioned organisations at the international level are the Forest Stewardship Council (FSC), the Initiative for Pan-European Forest Certification (PEFC) and the International Organisation for Standardisation (ISO).

The Forest Stewardship Council (FSC): This organisation supports an environmentally appropriate management of the world's forests that is socially beneficial and economically viable. The Council aims to reach a balance between social, ecological and economic interests in forest management, promotes good forest management by evaluation and certification, and stimulates the development of national standards of forest management by training and educational activities. The Forest Stewardship Council was established in 1993 at the founding conference in Toronto, Canada and the founding members ratified "Principles and Criteria" by a vote in 1994. The principles apply to all tropical, temperate and boreal forests managed for timber production. The certifiers should apply national standards for the assessment of individual forest operations. The standards which are compatible with the FSC principles and criteria should be adapted to the situations in the field and be developed locally, in consultation with the forest owners in each country.

In 1995, the Council accredited the first controllers for natural forest management. In 1996, the members adopted the principles for plantation management and the FSC started the process of accreditation of controllers. The FSC also supports initiatives towards the development of national certification standards in countries ranging from Sweden to Indonesia. The FSC logo now appears on the market of hundreds of certified products. In January 1997, the Council consisted of 178 members from 37 countries, which is 70% more than in 1996. 42% of the members were in environmental, 40% in economic, and 18% in social Councils. 69% members were from developed countries and 31% from developing countries.

Initiative for Pan-European Forest Certification (PEFC): The Pan-European initiative for forest certification started in August 1998 and the system was formally represented in Paris in June 1999. It was established by numerous stakeholders in forestry from a range of European countries. It applies the Pan-European criteria and indicators, and the "Pan-European operational level guidelines" adopted at the "Ministerial Conference on the Protection of Forests in Europe (MCPFE)" as the base for applicable standards and third party assessment. Today, established groups of organisations from 15 European countries participate in the certification process. The PEFC is primarily the initiative of private forest owners who tend to adapt certification to a situation with many small-scale forest holdings. This means that the

system should be suitable for the conditions of family holdings, mostly occurring in Europe. The PEFC Organisation consists of Pan-European and national organisations. At the Pan-European level there are two organisations: the General Assembly of PEFC Council and the Board of Directors (with the General Treasurer). At the national level there is a National managing body.

International Organization for Standardization (ISO): As the reaction to FSC initiative, the Canadian pulp and paper industry, together with the Australian industry, proposed ISO to develop forest standards. In 1995 ISO started consultations on specific standards based on sustainable forest management in the framework of the 14000 series on Environmental Management Systems. Later on, the Working Group in the framework of the Technical Committee for ISO 14000 (TC 207) began to work on the standards. As specific sector standards are not foreseen within ISO 14000 series, the document offers only guidelines on a voluntary basis to forest organisations for the potential application of this series of standards to forestry. In March 1998, ISO adopted the report by the Technical Committee which is incorporated in the series ISO 14000 as ISO Technical Report (ISO/TR 14061).

ISO 14001, Environmental Management Systems – specification with guidance for use: These specifications have been made on the basis of the ISO 14000 series and specify the demand for environmental management. It allows that an organisation can be certified following an independent third-party audit, and can be used for self-declaration of conformance with the standards. The Specification requires that environmental management according to ISO 14001 is based on a commitment to environmental management and the development of environmental protection policy.

Planning environmental management has to include:

- identification of the significant environmental aspects and their joint effects;
- legal requirements for the activities of organisations, and for products and services;
- development of documented objectives for the reduction of the organisation's negative impacts on the environment;
- establishment and implementation of environmental management programmes which include appropriate relocations of resources and the time framework within which the objectives should be accomplished;

The implementation of the Environmental Management System has to include:

- development of training programmes;
- taking over the responsibilities and roles of the previously formed management and organisation structure;
- procedures and regulations for the establishment of external and internal communications;
- accompanying documents and mechanisms for their control;
- procedures for the control of operations;
- preparation for extraordinary situations and testing of the system behaviour in such situations.

The implementation and continual enhancement of the Environmental Management System requires:

- monitoring and assessment of operations and activities;
- keeping data files;
- creation of procedures for overcoming the cases when the standards disagree with the organisation's policy and legislation;

- development of procedures, programmes and processes for the prevention of repeated disharmony;
- procedures and programmes for the verification of the Environmental Management System:
- regular verification of the Environmental Management System by the management, in order to assess its adequacy, efficacy and creating the recommendations for its permanent enhancement.

The Laws and regulations in our country

To be able to examine the possibility of introducing the Environmental Management System it is necessary to analyse the current legislation, and the methods of solving the issues regarding the area covered by forest in the narrow sense; the area of protected nature; other resources significant for forestry (agriculture, mining, spatial planning, etc.); and specific activities related to forestry.

The Constitution of the Republic of Serbia, Article 72, states: “The Republic of Serbia regulates and ensures: ...5. The system of environmental protection and enhancement; protection and enhancement of plant and animal life” which shows the intention of the State to ensure the unobstructed development of plant and animal life on its territory.

Forest Law (1991) provides for the basic document in the field of forest management planning, i.e. the forest management plan. It determines the types of plans (plan for forests of Serbia, general management plans, special plans and programmes), which plans are applied to which forests (mainly depending on ownership), and who enacts the plans and for which time period. Articles 25 and 26 of the law regulate the regions which are covered by general respectively special forest management plans. Thus, “a general plan is enacted for forests covered by one forest region i.e. national park” (Article 25) whereas “a special plan is enacted for one management unit” (Article 26). The part on silviculture and on forest improvement and harvesting regulates the duties of forest owners and users regarding management, silviculture and tending, as well as the establishment of new forests. Article 36 of the Forest Law states: “Forest users and owners should reforest the burnt areas, areas on which regeneration and reforestation were not successful, as well as the areas deforested by illegal felling and clearcutting or by illegal felling of rare tree species tree, within a period determined by the authorised inspection”. The rare and endangered tree species, forest fruits and rare plant species are protected legally from felling or collection.

The forest law provides for the allocation of financial resources for simple and extended forest reproduction. Article 54, paragraph 4, states that: “The finances for the rehabilitation of degraded forests and other wooded land in the form of the compensation are allocated by the enterprises which endanger the forest by their activity”. Article 54 regulates the compensation for felled trees, for the use of other wooded land under tenure, and for the use of forests and other wooded land leased for pasturage, but does not refer to other forms of multiple uses (recreation, etc.). Special forest protection includes measures which must be executed by the user of forests and other wooded land. Article 65 (paragraph 1) states: “Forest users and owners must undertake measures to protect forests against fire, other natural disasters, plant diseases, pests and other damage, and they must undertake the tending of forest plantations”. During forest management operations forest owners must maintain and establish forest order. “Forest order means the state of the forest which ensures the conditions for its maintenance, reproduction and enhancement, and especially protection against fire, plant diseases and pests,

protection of forest soil against the development of erosion processes resulting from felling and removal of trees from forests and the protection of regeneration” (Article 66, par.2).

Hunting Law (1991): This law regulates the protection, breeding, hunting and use of game as the natural resource (Article 1). It determines the measures of game protection, the methods of breeding to achieve an adequate game density and quality, and the obligations of the owners of hunting grounds. For example (Article 2): “Hunting ground, in the sense of this Law, is the area of land, water and forest designated as a hunting natural environment that ensures the ecological conditions for the successful breeding of one or several game species.” The measures of game protection are permanent prohibition of hunting (for rare and endangered species), prohibition of hunting during a definite period (closed season), and the establishment of hunting reserves.

Law on Environmental Protection (2004): This law integrates all environmental factors (air, water, soil, plants, animals) and regulates the protection measures of each individual factor and for the environment in general. The Constitution of the Republic of Serbia mentions the system of environmental protection and enhancement (Article 72) and this law gives the precise account (Article 2): “The system of environmental protection and enhancement includes a series of measures and conditions for conservation and protection of natural and man-made values of the environment; protection of people and environment against pollution; protection against the impact of harmful and dangerous substances (ionising and non-ionising radiation, noise and vibrations); protection against destruction and degradation of natural values; and measures and conditions for the enhancement of environmental quality.”

The second part of *Environmental Law* states protection measures for each individual resource. It starts from space management and the respective planning documents (spatial plans and town plans) and identifies the necessary protection measures (Article 14). Article 15 refers to special regimes of conservation, designation of regions of endangered environment in spatial plans and town plans, but does not deal with sectoral plans (forest management plan, hunting management plan, water management plan, etc.). The Law then regulates more specific protection measures for individual resources.

The part of the law addressing water protection reads as follows: “It is forbidden to pollute the underground and surface waters by releasing waste water which contains hazardous and harmful substances in harmful amounts, i.e. concentrations above the critical values, as well as other activities which can impair the prescribed quality of water in the recipient”(Article 23). The protection of soil provides for measures against direct pollution (inadequate application of fertilisers, deposition of hazardous substances), and soil degradation (exploitation of minerals, deposition of ash, waste tips, etc.). The problem of soil degradation is resolved by the following measures: “Those who degrade the soil by exploiting mineral raw materials, or by deposition of waste, ash, and slag, or by other activities must restore the land or rehabilitate the land in other ways, pursuant to the rehabilitation project which is submitted by the user together with the application for the licence for the exploitation of mineral raw materials, or the licence for the deposition of waste, ash and slag...” (Article 29).

Law on National Parks (1993): This law is the continuation of the environmental protection law and defines the national park as: “...the region which by its ecological, bio-geographical and other characteristics represents the natural entity of exceptional significance, with ecosystems and landscapes of special values regarding the origin and diversity of vegetation, flora and fauna, and if it has one or several of the following characteristics: representative biological, geo-morphological, geological, hydrological and other phenomena and processes of cultural-historical values with the representative forms of these values created in the

interaction of man and his natural environment” (Article 2). The law regulates the measures of protection and management and the implementation of such measures.

Law on Agricultural Land (1992): Article 4 states:” The Plan of Protection (in further text: Plan) for the territory of the Republic and for its parts, in conformity with the territorial organisation of the Republic, is enacted in order to ensure the rational use of agricultural land, *environmental enhancement*, production of safe food (in further text: healthy food), zoning of agricultural production...”. From this wording it can be concluded that agricultural land, as an integral part of the environment, is to be managed like the other parts of the environment. Special measures regulate the protection and conservation of chemical and biological properties of agricultural land (Article 16).

Spatial Plan of the Republic of Serbia is a strategic document of development till 2010. Spatial planning addresses the protection and use of natural resources (agricultural and forest soils, water, minerals and ores), environmental protection and protection of natural and unmovable cultural resources. This document defines:

- a long-term strategy of organisation, use and spatial management in the Republic of Serbia;
- planning principles and criteria for the use of natural resources and environmental protection;
- demands for the protection and use of the regions of special significance.

Rule books and guidelines address more precisely the issues which are dealt with by the laws. They can be enacted by the Ministries to support the organisations in the implementation of the laws and are of a general character. Rule books and guidelines can also be enacted by the organisations to regulate internal decision-making processes. The introduction of the Environmental Management System requires that the organisations which introduce the system have a list of laws and rule books which relate to their activities, products and services.

The Draft Forest Policy of Serbia was drawn up in the last two years, supported by UN FAO and with the participation of all stakeholders concerned. It is the consequence of the change of global attitudes to forest goods and services. This document addresses in detail the role of the State, the forestry sector, and of local community, individuals and NGOs in the development of sustainable forest management. It follows the recommendations of the Declarations and Resolutions of the Ministerial Conference on the Protection of Forests in Europe (MCPFE), and takes into account the economic, ecological, social and cultural functions of forests. The draft forest policy of Serbia provides for a strategic sectoral planning framework which will have to be formalized by the new forest law by and by the enactment of the Action Plan of Forest and Forestry Development.

Case study with regard to ISO 14001: To assess the potential for application of ISO 14001 in forest management planning, the ISO 14001 series was methodologically assessed in a concrete case study for the Management Unit “Goč – Gvozdac – A“, and the concrete Forest Administration Unit – Teaching Base Goč. In this Management Unit, the following requirements have been completely fulfilled and harmonised with the laws that have been reviewed in the previous section:

- identification of the significant environmental aspects and their joint effects;
- legal and other requirements for the activities of organisations, products and services;
- development of documented objectives for the reduction of the organisation’s negative impacts on the environment;

- drawing up of the accompanying documents and mechanisms for their control;
- procedure for the control of operations;
- preparation for an extraordinary situation and testing of the system behaviour in such situations.

In addition to the demands which are completely complied with, there are those which are not fully complied with. They are:

- commitment of the management for environmental protection,
- monitoring of changes,
- procedure for control operation,
- procedure for establishment of external and internal communications.

Conclusion

The existence of the legal base for the implementation of ISO 14000 series is proved by the fact that the environment and its protection are dealt with by the Constitution of the Republic of Serbia, as well as by all Laws which, in addition to the Forest Law as the main Law, are relevant in forest management planning (Law on Environmental Protection, Law on Seed and Planting Material, Hunting Law, Law on Water, Law on Agricultural Land, etc.). It can be concluded that the major part of the principles, criteria and indicators of sustainable forest management have already been incorporated in forest management plans at the local and regional levels, and to a good extent at the State level.

The principles and indicators are indirectly applied and applicable to the above plan documents to the extent which corresponds to the forest condition and the state of the system at the time of management. In their application it must be taken into account that the forests differ by composition (state), objectives of management, ownership structure, etc. This, as well as the recommendations of the Declarations and Resolutions of the Ministerial Conference on the Protection of Forests in Europe (MCPFE), is incorporated in the Draft of the Forest Policy of Serbia.

ISO 14001 requires that the scope of each Environmental Management System be clearly defined and that the organisation controls its operations and its activities. This includes primarily the operations of resource management. The plans cover the basic resources managed by the forest administration unit. The component part of the plans is keeping the files on the performed works individually for each resource, and the control of the works is carried out by the Republican Inspection (by the adopted procedure).

The forest organisation's self-declaration of conformance with the standard, the control of Environmental Management System by the second party and the certificate ISO 14001 by the third party are the opportunities by which the organisation demonstrates that it has incorporated an efficient Environmental Management System. In the concrete case, the self-declaration of conformance with the standard does not exist, which is one of the pre-conditions for the introduction of the Environmental Management System.

However, in addition to the self-declaration of conformance, it is possible to control the system by the second party, which has been partly implemented (forest inspection, buyers). Perhaps the third solution - certificate ISO 14001 by the third party would be the best solution, because it requires the independent certification of the system, and the certification by the accredited certifier can provide an additional degree of confidence.

References

- FSC (1999): Kriterijumi i indikatori održivog gazdovanja šumama, FSC.com
- ISO/TS 207 N 197 Tehnički izveštaj - Nacrt 09 ISO/WD 14061 Informativno referentni materijal kao pomoć šumarskim organizacijama u primeni standarda ISO 14001 i ISO 14004 standardi sistema za upravljanje životnom sredinom, 1997.
- Rametsteiner, E. (2000): Sustainable Forest Management Certification, Frame Conditions, System Designs and Impact Assessment - Ministerial Conference on the Protection of Forests in Europe, Liaison Unit Vienna; pp 35-37; 52-55; 79-87.
- TCP/YUG/2902, (2003): Institutional Development and Capacity Building for National Forest Programme of Serbia. FAO Project in cooperation with the Government of Serbia, First report on forestry legislation, Belgrade.
- D. Milovanović, Đ. Jović. (2002): Sertifikacija kao doprinos savremenom gazdovanju šumama prihvatljiv za životnu sredinu. Šumarstvo br.1-3, 41-51..
- Jović, D. (1976) Usklađivanje različitih funkcija šuma pri planiranju gazdovanja. Glasnik Šumarskog fakulteta, posebno izdanje, Serija A Šumarstvo, Beograd, str.217-221.
- Jović, D., Banković, S., Medarević, M., Milovanović, D. (1995): Informacioni sistem u šumama Srbije – informatika u šumarstvu “Monografija “Potencijali šuma i šumskih područja i njihov značaj za razvoj Srbije”, Beograd, str. 107-112.
- Jović, D., Medarević, M.(1991): Sistemi planiranja gazdovanja šumskim područjima (u okviru nove organizacije šumarstva Srbije). Glasnik Šumarskog fakulteta, br.73, Beograd.
- Jović, Đ. (2004): Mogućnost i osnove za primenu standarda ISO 14000 u oblasti planiranja gazdovanja šumama i šumskim područjima, Magistarska teza, Beograd.
- Kadović, R., Đorović, M., Macan, G., Letić, L.J. (1994.): Opterećenost šume bukve i jele (*Abieti-Fagetum*) na planini Goč vazдушnim polutantima, Monografija "Aerozagađenja i šumski ekosistemi", Beograd, str. 53-60.
- Kečić, L.J. (2003): Strateške osnove i pristup izradi nacionalnog šumarskog programa, Magistarska teza, Beograd.
- Knežević, M., Kadović, R. (1994): Sadržaj teških metala u zemljištu sliva Vaona na Goču, Monografija "Aerozagađenja i šumski ekosistemi", str. 117-123, Beograd.
- Milovanović, D., Jović Đ. (2002): Sertifikacija kao doprinos savremenom gazdovanju šumama prihvatljiv za životnu sredinu. Šumarstvo br.1-3, 41-51.
- Nikolić, D., Rakočević, V.(1992): Zakonodavstvo u oblasti šumarstva, Monografija “Šumarstvo i prerada drveta kroz vekove”, Beograd, str. 159-182.
- Posebna osnova gazdovanja šumama za gazdinsku jedinicu "Goč - Gvozdac A", Beograd, 1998.
- Posebna osnova gazdovanja šumama za gazdinsku jedinicu "Goč - Gvozdac B", Beograd, 1982.
- Pravilnik o zaštiti od požara, JP “Srbijašume”, Beograd, 1993.
- Pravilnik o paši i žirenju, JP “Srbijašume”, Beograd, 1992.
- Pravilnik o sadržini i načinu izrade lovne osnove lovišta, lovne osnove lovnog područja i godišnjeg plana gazdovanja lovištem, SL. GL. RS, br.13, 1994.
- Pravilnik o sadržini osnova i programa gazdovanja šumama, godišnjeg izvođačkog plana i privremenog godišnjeg plana gazdovanja privatnim šumama, SL. GL. RS, br.122, 2003.
- Prostorni plan Republike Srbije (nacrt), Institut za arhitekturu i urbanizam Srbije, Beograd, 1994.

Ustav Republike Srbije, SL.GL. RS 1, 1990.

Zakon o vodama, SL.GL. RS, br.46, 1991.

Zakon o zaštiti životne sredine, SL.GL. RS, br. 66/91, 83/92, 53/95.

Zakon o lovstvu, SL.GL. RS, br. 39, 1993.

Zakon o nacionalnim parkovima, SL.GL. RS, br. 39, 1993.

Zakon o poljoprivrednom zemljištu, SL.GL. RS, br.49, 1992.

Zakon o semenu i sadnom materijalu, SL.GL. RS, br.54, 1993.

Zakon o šumama, SL.GL. RS, br.46, 1991.

JUS ISO 14000 Upravljanje zaštitom životne sredine – Savezni zavod za standardizaciju, Beograd, 1998.

JUS D.A0.200 Šumsko – privredne karte, Tipovi šumskog zemljišta, boje i oznake, Sl. list SFRJ br. 36/1968.

JUS D.A0.200 Šumsko – privredne karte, Sastojinska karta, Sastav, starost i drvena zapremina, Sl. list SFRJ br. 36/1968.

JUS D.A0.210 Šumsko – privredne karte, Oznake uzgojnih i glavnih seča, Sl. list SFRJ br. 36/1968.

JUS D.A0.220 Šumsko – privredne karte, Šumski saobraćajni objekti, boje i oznake, Sl. list SFRJ br. 36/1968.

JUS D.A0.236 Šumski znakovi, Obeležavanje granice između odseka (sastojina), Znak granice između odseka (sastojina) Sl. list SFRJ br. 35/1968.

***** (2005): Šumarska politika Srbije. Nacrt. Beograd

***** (1997): WWF Guide to Forest certification, WWF – UK, Panda House; pp 3-4; 6-11.

***** (1998): Sustainable Forest Management in Europe, Special Report on the Follow-up on the implementation of Resolutions H1 and H2 of the Helsinki Ministerial Conference – Liaison unit in Lisbon, pp 1 – 3.

***** (1999): Geneva Timber and Forest Discussion Papers; Forest Certification Update for the ECE Region Summer 1999 - United Nations New York and Geneva, pp 1 – 5.

***** (1999): Agenda 21 : Poglavlje 11, <http://www.UNDP.org>

***** (2000): General Declarations and Resolutions – Ministerial Conference on the Protection of Forests in Europe, Liaison Unit Vienna.

***** (2001): Environmental management and ISO 14000, ISO, Geneva, pp. 28-30; 31-75.

***** (2001): State of the world's forest, Food and Agriculture Organization of the United Nations, Rome; pp 61-63.

Forestry as part of nature conservation in the European Union

*Darij Krajcic**

Abstract

Forestry and nature conservation have their beginning to a considerable extent in common. At the end of the 19th century, however, nature conservation embarked on a new course of development and started to design its own methods and approaches. Nature conservation is thus concerned not only with forests but with landscape as a whole. Restrictions placed on the right of ownership, due to the ecological and social roles of property, suggest that a joint action should be taken by forestry and nature conservation. Today nature conservation is searching for its own solutions through conservation of biodiversity and of natural values, based on sustainable utilisation and sustainable development. It is becoming more and more normative and less subjective. There is now a possibility for closer cooperation between forestry and nature conservation than ever before. Forestry should take the opportunity to open up to other active participants, to the inclusion of forestry knowledge in nature conservation management (e.g. Natura 2000), and should consider it in nature conservation sections of forest management plans. Apprehension about nature conservation aggression or formation of closed forestry circles, indicating a defensive reaction, is not an appropriate solution.

Keywords: biodiversity, management plans, restrictions on forest ownership

Introduction

A considerable part of Europe is covered with forests, the importance of which differs from country to country. In some countries it depends more on their economic function in society, while in others, particularly in those where forest areas are not so abundant, they have a significant social and ecological function. It also depends on tradition, legislation and social condition of society. Therefore it is more difficult to adopt a uniform European forestry policy than, for example, in agriculture. The driving force in this respect is at present the ministerial process on the protection of European forests.

Society became aware of non-economic forest functions a long time ago. In Slovenia the first regulations over the use of forests were introduced as early as in 1406 in the form of forest ordinances. These were followed by a number of regulations, mainly based on forest use limitations in order to maintain sustainable yield and non-economic forest functions. The end of the 19th century may be considered as the beginning of an organised nature conservation field gradually designing its own methods. Nature conservation is naturally concerned with landscape as whole, that is, with non-forested area as well. At that time the first national parks were designated. Nature conservation was based primarily on the principle of preservation, that is, on the protection of part of nature. *Spomenica* (Memorandum, 1920) contains an interesting detail, namely that an alpine park should be financed by the forest within the park. Nature conservation at that time was not yet based on sustainable use of a resource (e.g. forest

* Ass. Prof., Dr., Institute of the Republic of Slovenia for Nature Conservation, Dunajska 22, Ljubljana, SLO

and landscape). The Biodiversity Convention (1992) represents an important change and a move towards a more uniform view on nature conservation. Biodiversity conservation is not pursued any more for its own sake as sustainable use is a constituent part of conservation.

The main objectives and features of the E. U. policy in the field of nature conservation are based on the Biodiversity Convention (1992), the Convention on Wetlands (Ramsar, 1975), the Convention on the Conservation of European Migratory Species of Wild Fauna (Bonn, 1983), and the Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1982). In the light of these conventions, the E. U. designed a Council Directive, three Council Regulations and one Council Ruling, all of which regulate trade with species, as well as the Council Directive 79/409/EEC on the Conservation of Birds, and the Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wildlife (GOLOB 2004). The latter two directives determine ecological sites of European importance called the network Natura 2000. Through all these processes the awareness of biodiversity loss is visible, leading to the restrictions placed on the right of ownership.

Restrictions placed on the right of ownership

The right to ownership and the understanding of ownership relations have been affected by changes throughout the course of history in accordance with the development of moral principles, religion, family, state, economic development, trade and the level of science and technology. During the whole history of ownership, theoreticians tried to co-ordinate cases of ownership relations, characteristic of the prevailing periods, with human nature (FERFILA 1986). Ownership then is a quality inborn in humans and entirely dependent on human nature. Thus it will exist as long as society exists. In the course of history, ownership of land property has been of economic and particularly of political importance. It represented control over space and social life.

Fig.1 shows changes in the ratio between economic, social and ecological functions of ownership at different historical stages of society. Since accurate ratios between individual functions of ownership are unknown, just approximate ratios are shown by the graph (KRAJCIC 2001). The ecological function has only recently become of importance and is likely to be growing in the future. The ratio between economic and social functions will be changing in accordance with the development in economic, ecological and social functions of forest. For example, the importance of the timber production function of Japan's forests decreased from 50% to a mere 22%, according to results of opinion polls conducted for the period 1980 - 1996 (MURASHIMA 1997), whereas ecological and social functions increased. It has been reported that in some places ecological and social functions are considerably higher than the economic function (LIN/AN 1997). Within the framework of this context, we can understand the EU directives in the field of spatial planning and nature conservation.

Essential tools of biodiversity conservation

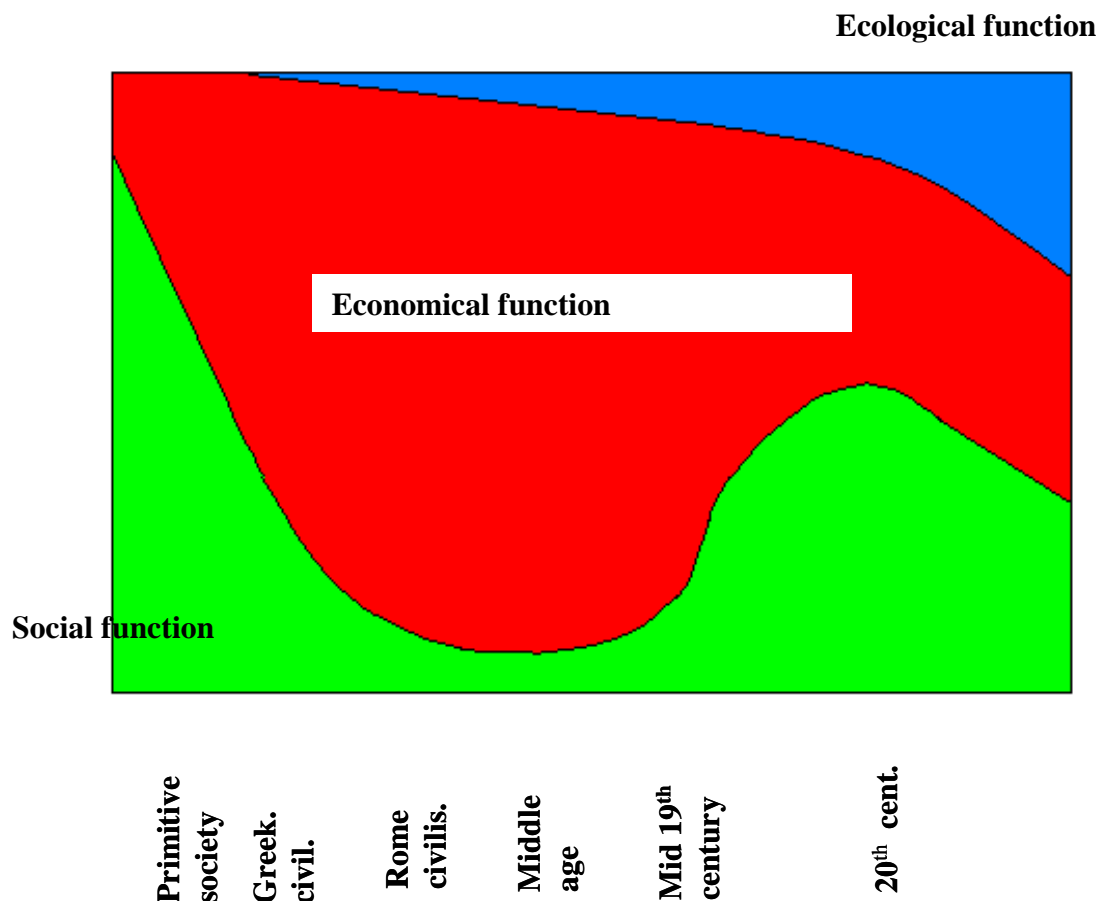
Biodiversity is part of nature conservation that deals with living nature based on the following four tools:

- Preparation of criteria for determining the status of species and habitat types (e. g. red lists, annexes to conventions, directives),
- Designation of areas of importance to them,
- Monitoring of the state of species and habitat types within and outside a given area,

- Implementation of measures to be taken for conservation of species and habitat types (management plans and required management activities).

How does forestry fit into this process? It has undoubtedly a long tradition and a great deal of experience in all four guidelines. However, it is essential that this knowledge and experience can be incorporated into nature conservation.

Figure 1: Ratio between economic, social and ecological functions of ownership



With regard to the designation of areas of importance to biodiversity conservation the role of forestry in this respect depends on its level of organisation. In countries in which there is a uniform state forest organisation with an adequate geo-coded data basis, foresters are usually able to designate areas of habitat types with a certain status. They have the best data on the occurrence and distribution of habitat types, and information on the quality of data. In addition, they can often actively participate in the determination of areas for certain species, particularly for large carnivores and other wild animals.

For several centuries monitoring has been a continuous task for foresters. Over this long period of time, methods have undoubtedly changed and improved. At first, monitoring was mainly intended to check changes in timber production categories (forest area, timber stock, increment, felling volumes, and tree species composition). Today monitoring is becoming

more and more varied (changes in areas of habitat types, in vitality of trees etc.). Prospects for forestry are primarily the development of biodiversity monitoring in the forest and, above all, monitoring of habitat types and of certain animal species. Another objective could be the search for correlations between habitat types and certain species dependent on them. Thus direct monitoring of the state of species would become superfluous as their trend would be determined indirectly by monitoring habitat types. Monitoring of specific species (e.g. beetles, bats, birds) is of lesser interest to forestry and should be dealt with by other experts.

The Habitat Directive for Natura 2000 sites envisages appropriate management plans, designed especially for areas of importance to nature conservation, or integrated in other development programmes. As regards forestry, it seems reasonable to utilise the system of forest management planning in countries in which it is already well developed. Creating a new level of planning in such cases seems to be superfluous. Adequate inclusion of nature conservation into forest management plans would not only provide a new content of these programmes but it would also increase their social value. In such revised forest management plans, ecological requirements of species and habitat types in a given area should be determined, their favourable conditions defined, and adequate measures for conservation drawn up.

It is the essential task of forestry to be receptive to new knowledge and know-how in the field of nature conservation, to engage a dialogue with new social groups, and to apply conservation principles to its own activities. This approach may cause difficulty and occasionally even distress. Nowadays new fields with specific knowledge and different attitudes interact with forestry. Rather than ignoring this social process, active participation is recommended. The participation should be systematic and in accordance with legislation, particularly in countries with a well-developed national forestry network. This is certainly true of the West Balkan countries. The process needs attention of all leading national institutions in forestry (universities, institutes).

The management of areas of importance to nature conservation (e.g. Natura 2000) presents an additional challenge to forestry. In a number of countries, forestry proved to manage forests effectively, especially state forests, and, in some countries, private forests as well. Management of Natura 2000 sites does not represent a completely new approach. In many countries, forestry can offer real knowledge and lots of experience. On the other hand, rules and principles stated in management plans of Natura 2000 sites should be included in forest management plans along with knowledge and experience attained so far. It should once more be underlined that the key factor for forestry will be opening up to new social tendencies.

Recommendations to forestry for an active involvement in social processes

There are no special EU directives or regulations in the field of forestry. Yet forestry may be present implicitly in a number of other directives concerning nature conservation or physical planning. This role undoubtedly represents new opportunities for development and recognition in the social sphere of a country. Forestry then faces a challenge. If it is accepted and integrated into new social processes, the social status of forestry will certainly be promoted.

Active participation in these processes requires a new approach. The key factors are as follows:

- *Introduction of a new terminology.* Terminology of nature conservation and spatial planning is to be included in forestry terminology and to be used in everyday tasks. It

is interesting for us to note that this is not just a language problem but primarily a problem of incorporating forestry into society on the one hand, and of incorporating social processes into forestry on the other hand.

- *Readiness to “sell” forestry patents for planning, monitoring and management to the field of spatial planning and nature conservation.* As to the latter, in particular, there is still considerable chaos with a number of unresolved issues. In this respect, forestry has a well-developed technology and lots of experience, which could be adapted to a certain extent to new fields. This would require a daring approach and readiness for adaptation.
- *Readiness to face a well-argued confrontation of doctrines.* A number of other fields with different attitudes and interests interact in the forested landscape. As a result, conflicts arise between old and new participants and this is not unusual in a democratic society. It is reasonable to accept them and try to teach and explain attitudes practised by forestry, particularly with regard to utilisation of the resource (e.g. timber), taking into account other forest functions (ecological and social functions). To find a solution, foresters should not be complacent taking the view that they knew best. New aspects should be considered and included in forest management.
- *From a monologue to communication.* Self-assurance about one's own importance and grandeur is outmoded. The role and significance of a sector of society are indicated in the so-called social market either in solely monetary terms (e.g. financially important fields) or in non-monetary terms (e.g. culture) or in a combination of both. Especially in fields, which are not financially important (e.g. forestry), the new approach is of even more significance.
- *Transfer of forestry personnel into other fields linked with nature conservation and physical planning.* This is another important aspect which merits increasingly attention.

Case Life III Project: Natura 2000 in Slovenia - Management models and information system

The Institute of the Republic of Slovenia for Nature Conservation has commenced carrying out a project intended to solve some of the problems stated above with the following objectives:

- Development of Guidelines for the preparation of management plans for Natura 2000 sites in Slovenia. The task is to be carried out by a working group of representatives of Slovenian organizations at different levels of planning in cooperation with local communities.
- How to include management plans of Natura 2000 into current plans of individual sectors?
- Preparation of five pilot management plans based on the Guidelines, which deal with eight sites in accordance with the Habitat Directive and three sites in accordance with the Birds Directive.
- Preparation of proposals for eventual changes in legislation in the field of sector planning.

It is essential that the approach is based on partnership. Therefore a number of partners from different fields such as forestry, water management, agriculture and fishery take part in the project. Its intent is to include all available patents in the field of planning and management of

different resources. This seems to be the most efficient and economical model seeking a solution to the planning and management of Natura 2000 sites.

Who will survive?

The present development, a constituent part of which is globalization, has introduced market principles practically into all spheres of society. Even in fields in which there is apparently no direct link with finance, market forces operate invisibly yet relentlessly. In conclusion, let us attempt to identify, from the wide range of active participants, the ones who have the best chance to survive: the greatest, the strongest, the wisest, the most adaptable ones, the smallest, the weakest, the most important, the most self-assured, and the most handsome ones. And somehow we tend to be in favour of the fourth.

References

- FERFILA, B., 1986. Pregled teoretičnih razmišljanj o lastnini.- Ljubljana. Anthropos, 3-4, s. 300-308.
- GOLOB, A. 2004. Gozdnogospodarski načrti in ohranjanje biotske pestrosti gozdov v Sloveniji v luči pravnega reda Evropske unije. Agencija Republike Slovenije za okolje, 13 s.
- KRAJCIC, D. 2001. Državni gozdovi v Sloveniji kot lastninska kategorija in objekt gospodarjenja. (Slovenia's State Forests as an Ownership Category and the Subject of Management) Strokovna in znanstvena dela 119, Univerza v Ljubljani, Biotehniška fakulteta, Oddelek za gozdarstvo in obnovljive gozdne vire, 215 s.
- LIN, L., L. / AN, L., K. 1997. Measuring the Private Holding Forestland Use - Efficiency towards Sustainability: An Illustration of Nankang Watershed in Taiwan. V: Sustainable Management of Small Scale Forestry (Murashima, Y., ur.), Proceedings of IUFRO Symposium. - Kyoto, s. 29-35.
- MURASHIMA, Y., 1997. Management of Private Forests and Sustainable Forestry in Japan V: Sustainable Management of Small Scale Forestry (Murashima, Y., ur.), Proceedings of IUFRO Symposium. - Kyoto, s. 12-18.
- Bird's directive (79/406/EEC).
- Convention on biological diversity 1992. Rio de Janeiro, 1992.
- Directive on the assessment of the effect of certain plans and programmes on the environment (2001/42/EC), 27.juni 2001.
- Habitat directive (92/43/EEC)
- Spomenica 1920, Spomenica Odseka za varstvo prirode in prirodnih spomenikov. Glasnik Muzejskega društva za Slovenijo, s. 69-75.
- Water Framework Directive (2000/60/EC), 22. december 2000.

Forest policy in the European Union: Current state and past developments*

Marius Lazdinis **

Introduction

The European Union (EU) forest sector is characterised by a great diversity of forest types, extent of forest cover, ownership structure and socio-economic conditions. In total, forests and other wooded land occupy some 160 million ha or 35% of the land area of the EU's twenty five Member States (Commission of the European Communities, 2005a). EU forests are situated in very different ecological environments, ranging from boreal to Mediterranean, and from alpine to lowlands. Forests contribute to scenic and cultural values, and support other activities, such as recreation, hunting and tourism.

About 60% of the forests in the EU are in private ownership, with about 15 million private forest owners (Commission of the European Communities, 2005a). The EU is one of the largest producers, traders and consumers of forest products in the world. Forestry and forest-based and related industries employ about 3.4 million people, with an annual production value of about EUR 356 billion (2001). Average annual timber production in the EU amounts to almost 400 million m³, with only slightly over 60% of the annual forest growth being harvested (Commission of the European Communities, 2005a). Besides wood and cork, forests produce other products, such as resins, medicinal plants, mushrooms and berries.

The general competences of the EU are derived from the Treaty establishing the European Communities (signed in Paris in 1951 and in Rome in 1957) and from the Treaty on the European Union (signed in Maastricht in 1992). The Treaties determine areas of common policies, and the Community acts in line with the defined competences and objectives. Simply speaking, for any Community action the "legal basis" is necessary. This legal basis is provided by primary legislation – the Treaties. As forests and forestry are not directly mentioned in the Treaties, since 1957 all actions in the area of forests and forestry have been carried out under the legal bases relating to other policies, such as agriculture (rural development), environment (e.g. biodiversity conservation), energy (climate change mitigation), and internal market (forest products). Forest policy as such in the EU is largely a national competence and is dealt with using the principle of subsidiarity and the concept of shared responsibility.

In this article the developments in the field of forest-related policy since the establishment of the European Union are described. The individual stages in the development of the EU forest-related policy are reflected in *Figure 1* and are further presented in the subsequent sections. The paper ends with a presentation of recent progress made in this area, providing also a rough outline of the EU Forest Action Plan due to be completed by the middle of 2006.

* This article represents solely the views of its author and can not in any circumstances be regarded as the official position of the Commission.

** European Commission, DG Agriculture and Rural Development, Unit F1-Environment and Forestry

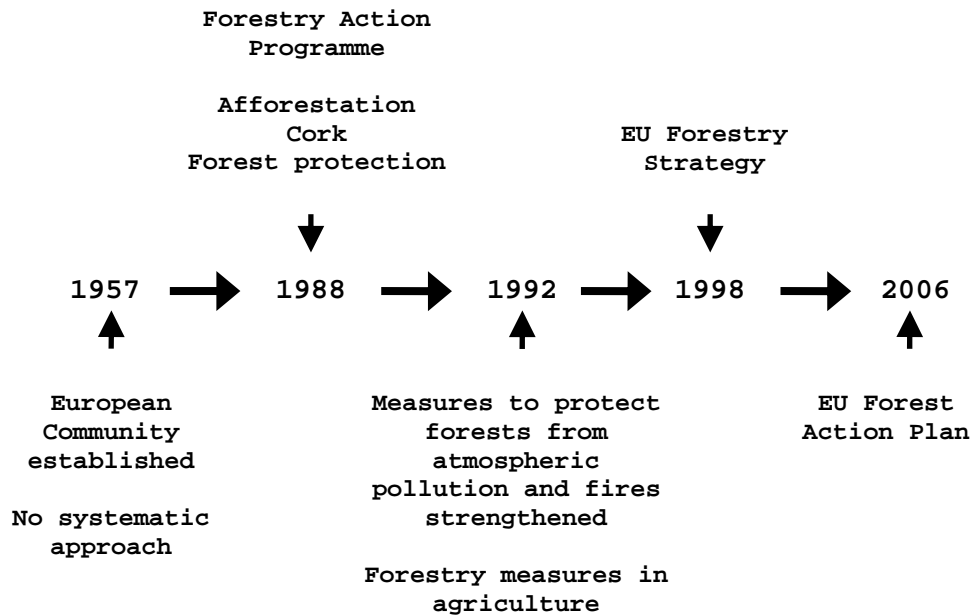


Figure 1: Main stages in the development of EU forest-related policy

1957 – European Community established. No systematic approach to forestry

The EU is founded on four treaties: (1) the Treaty establishing the European Coal and Steel Community (signed in April 1951 and expired in 2002); (2) the Treaty establishing the European Economic Community (signed in 1957); (3) the Treaty establishing the European Atomic Energy Community (signed in 1957); and (4) the Treaty on European Union (signed in 1992). The first three of these treaties created the three “European Communities” – the system of joint decision-making on coal, steel, nuclear power and other major sectors of the member states’ economies. Six countries are founders of the European Communities: Belgium, France, Germany, Italy, Luxembourg and the Netherlands. The Community institutions – set up to manage the system of individual communities – were merged in 1967, resulting in a single Council, the EU’s main decision-making body – voice of the Member States, and a single European Commission. The Commission is a politically independent institution that represents and upholds the interests of the EU as a whole; proposes legislation, policies and programmes of action, and is responsible for implementing the decisions of Parliament and Council.

The European Economic Community, in addition to its economic role, gradually took a wide range of responsibilities including social, environmental and regional policies. Since it was no longer a purely economic community, the fourth Treaty (Maastricht, 1992) renamed it simply “the European Community” (EC). The Maastricht Treaty also introduced new forms of cooperation between the member state governments, for example, on defence and in the area of “justice and home affairs”. By adding this intergovernmental cooperation to the existing Community system, the Maastricht Treaty created a new structure with three “pillars”, which is political as well as economic. This structure was named the European Union.

All actions in the area of forest policy since the establishment of the EC have been carried out under legal bases relating to other policies, such as the common agricultural policy, regional policy and trade policy. The lack of a specific legal basis in the Treaties has meant that all measures in this area have been developed without a coherent predetermined objective.

Objectives have, in fact, been established on an ad-hoc basis. During the period of 1964-1988 the EC took certain measures to develop the forestry sector, but these lacked a systematic approach and were always directly linked to the common agricultural policy, in particular the policy on improving agricultural structures. The measures concerned harmonisation of legislation, the development of forests and forestry, protection of forests against atmospheric pollution and fires, and forestry research (European Parliament, 2004).

1988 – Forestry Action Programme – Afforestation, Cork, Forest Protection

The Community adopted a more coherent approach to its forestry projects during the period 1988-1992 (European Parliament, 2004). In 1988 the Commission published its communication (COM (88) 255) on a Community strategy and action programme for the forestry sector. The communication set out the following objectives:

- To encourage participation by the whole forestry sector in planning land use, thus contributing to rural development;
- To provide the Community with a measure of security of timber supply;
- To help conserve and improve the environment;
- To give the forestry sector the dynamism it needs to carry out better its various functions;
- To safeguard the Community's forests and protect them from major causes of damage;
- To extend the role of forests as natural settings for recreation.

The Council has adopted a forestry action programme with a focus on five main areas: (1) afforestation of agricultural land; (2) development and optimum use of forests in rural areas; (3) cork; (4) forest protection; (5) accompanying measures (European Parliament, 2004).

1992 – Measures to protect forests from atmospheric pollution and fires strengthened, forestry measures in agriculture

In 1992, Community measures in forest sector entered a more ambitious phase (European Parliament, 2004). Decisions in two main areas fundamentally modified the previous approach. First, measures to protect forests from atmospheric pollution and fires were strengthened through the Regulation No 2157/92 and Regulation No 2158/92. In the field of pollution periodic inventories of damage caused to forests and intensive monitoring of forestry ecosystems and pilot projects for improving awareness of the effects of atmospheric pollution on forests and for restoring damaged forests were foreseen. In the field of forest fires, the Community measures were to be concentrated in high-risk areas; Member States were to draw up forest fire protection plans including analyses of the causes of fires. A Community information system and EU support for protection measures were also foreseen in this field. Second, regulations aimed at supporting forestry measures in agriculture were adopted in 1992 as part of the measures accompanying the reform of the CAP. Regulation No 2080/92 instituting a Community aid scheme for forestry measures in agriculture provided for:

- Aid to cover afforestation costs;
- A premium to cover maintenance costs;
- Annual premiums to cover loss of income as a result of afforestation;
- Aid for the improvement of woodlands.

Since 1992, other Community measures in the forestry sector included the European Forestry Information and Communication System (EFICS) and forestry research co-financed under the EU's research and development programmes in the field of agricultural and environmental research (European Parliament, 2004).

1998 – EU Forestry Strategy

In 1998, the Council Resolution on a Forestry Strategy for the European Union (Council of the European Union, 1999) established a framework for forest-related actions in support of sustainable forest management. This Strategy was the outcome of a process initiated in 1996 with a call from the European Parliament (A4-0414/96, OJ C55, 24.2.1997, p. 22) requesting the Commission to put forward a legislative proposal on a European Forestry Strategy, in response to which the Commission presented a corresponding Communication to the Council and the European Parliament (Commission of the European Communities, 1998). The growing concern about the coherence between the forest policies of the Member States and forest related activities at the EU level, as well as the rising profile of forests in international policy debates and initiatives in the area of sustainable development, were the main driving forces behind the adoption of the EU Forestry Strategy.

The Strategy provides a basis for coordination of the forest policies of the Member States and Community policies and initiatives relevant to forests and forestry. Even though a forest policy as such at Community level does not exist, over the years a number of EU policies and initiatives which, through their horizontal or territorial character substantially affect forests and forestry, were adopted (Commission of the European Communities, 2005b).

The Strategy emphasises the importance of the multifunctional role of forests and sustainable forest management and identifies a series of key elements on which its implementation is to be based. These include:

- Forest policy is mainly a Member State competence, while the EU can contribute to the implementation of sustainable forest management through common policies, based on the principle of subsidiarity and the concept of shared responsibility;
- Implementation of international commitments, principles and recommendations through national or sub-national forest programmes developed by the Member States and active participation in all forest-related international processes;
- The need to improve co-ordination, communication and co-operation in all policy areas of relevance to the forest sector, both within the Commission and with the Member States, and also among the Member States.

These elements form the basis for the EU Forestry Strategy and its implementation process.

The Council Resolution on a Forestry Strategy also asked the Commission to present to the Council an implementation report five years after its adoption. The consultations carried out in 2004-2005 by the European Commission in the context of the preparation of the Communication reporting on the implementation of the EU Forestry Strategy revealed a number of emerging issues that have a potential to undermine the multifunctionality and sustainability of EU forestry (Commission of the European Communities, 2005a,c).

Generally, it appears that the competitiveness and economic viability of sustainable forestry in many parts of the EU are increasingly being challenged. Forest owners and managers are expected to provide a wide range of environmental and social goods and services to society, although they largely rely on wood sales for revenue. There is an emerging necessity to enhance cross-sectoral cooperation and coordination and coherence between forest policy and

other policies that affect forests and forestry. The need for good governance for the protection and sustainable management of forests is increasingly underlined requiring additional efforts, resources and skills from forest owners and managers.

In this context, the continuation of multifunctional and sustainable EU forestry, providing society with a range of economic, environmental and social benefits, plays an important role. EU forestry can contribute to the Lisbon objectives (Lisbon Strategy, 2005) of sustainable economic growth and competitiveness, and the Gothenburg objectives (European Commission, 2002) of safeguarding the quantity and the quality of the natural resource base. However, in order to maintain and maximise this contribution, it is seen that the newly emerging context must be considered and addressed in a pro-active, coherent and coordinated way.

The Commission Communication to the Council and the European Parliament on the implementation of the EU Forestry Strategy (Commission of the European Communities, 2005a), which was drafted based on the above consultations, outlines two proposals for action: (1) to develop an EU Action Plan for Sustainable Forest Management; and (2) to review the existing Community means and practices to facilitate coordination, communication and cooperation between different policy sectors that have an influence on forestry.

2006 – EU Forest Action Plan

The Commission Communication was discussed in the Council Working Party on Forestry and the Council's Special Committee on Agriculture in April/May 2005. General agreement was found among the Member States to support the Commission proposals put forward in the Communication. The Agricultural and Fisheries Council on 30/31 May adopted Council Conclusions on an EU Forest Action Plan (Council of the European Union 2005). The Council Conclusions recognize that the experiences gained in the past implementation period of the EU Forestry Strategy show that forests play an important role in overall sustainable development, in particular in rural areas. At the same time forests are crucial for the fulfilment of the EU's commitment to halt the loss of biodiversity, to mitigate climate change and to combat desertification. The economic, ecological and social relevance of the forest sector in the EU and the contribution that forests and forestry can provide to the Lisbon and Gothenburg objectives are acknowledged.

It is noted that the basic principles and elements identified in the 1998 Forestry Strategy are still valid, but that its implementation needs to be adapted to the newly emerging policy context. The Council also recognized the limited visibility of the forest sector and the need for greater coherence of forest related policies as well as changes in the global, regional and national policy context, which suggest that the EU Forestry Strategy ought to be updated as a basis for the EU Forest Action Plan. The Action Plan should develop a proactive approach allowing the forest sector to enhance its competitiveness and economic viability, and address adequately the growing needs and expectations of society and the challenges of globalisation. The EU Forestry Strategy has provided a reference basis for forest-related EU policies and initiatives, but there is a need to strengthen coherence between these policies and initiatives, and to enhance coordination within the Commission and between the Commission and the Member States.

The EU Forest Action Plan is due to be completed by the mid-2006. It is foreseen that it provides a coherent framework for the implementation of forest-related actions at Community and Member States level and serve as an instrument of coordination between different

Community actions, as well as between Community actions and the forest policies of the Member States. It is also expected that the Action Plan will be elaborated by the Commission in close co-operation with the Member States and in consultation with stakeholders, and will in a balanced way address the economic, ecological and social dimensions of sustainable forest management, including within the international context. The Forest Action Plan should provide a coherent set of actions, in line with the Lisbon and Gothenburg strategies, based on clear objectives, which should interact with and provide guidance to the objectives of other Community policies, as well as to the implementation of forest-related international commitments. Both, Community forest-related actions and forest-related actions in Member States, including national forest programmes, should be encompassed in the Action Plan.

Next to the recommendation on the development of the EU Forest Action Plan, the Council also recommended that the Commission, in close co-operation with the Member States, should examine the existing instruments at EU level which could be used to realise the proposed actions. The Council invited the Commission to enhance the existing Community means and practices to facilitate co-ordination, communication and co-operation between different policy sectors that have an influence on forestry.

Conclusions

Upon the establishment of the European Communities, and later while modifying the Treaties, the Member States have chosen to maintain forest policy under the national competence. However, as policies in other fields developed on the Community level, in light of the absence of a common forest policy, over the years forests and forestry have become increasingly influenced by other horizontal or sectoral policies. The forest sector stakeholders, though, have been urging for and trying in several attempts, to coordinate policy and decision-making related to forests and forestry on the Community level. The 1998 EU Forestry Strategy was introduced after the 1988 Forestry Action Programme, and the 2006 EU Forest Action Plan is being prepared after the five years of implementation of this Strategy. Each attempt has had its own expectations, some of which seem not to have been fulfilled and left for the subsequent trials.

The continuous debates over forest and forestry policy in the EU seem to be locked in the dilemma. On the one hand, forest sector stakeholders are interested in maintaining the *status quo* in this policy area, i.e., maintaining forestry under the national competence and having a minimised Community intervention. On the other hand, there seems to be a consensus that coordination, coherence and actions on the Community level in the forest and forestry related policy fields must be improved. In addition to the above, in light of debates over the financial perspectives for the period 2007-2013, we can almost be certain that no major additional financial resources will be reserved for the forestry actions.

In this context, the development of the EU Forest Action Plan appears to be a very important, though not an easy task. The challenge is how to facilitate development of the sector without substantial regulatory and financial means and in the absence of a strong concerted interest from all the Member States to enhance these means on the Community level. The choice for the Action Plan may be to attempt to facilitate progress in small steps. It is important to rebuild confidence in the forest sector; to demonstrate that those representing the interests of forests and forestry may act in a coordinated and concerted manner and accomplish the self-defined objectives by using actions requiring resources. The success in implementing actions, periodic and frequent reporting, benchmarking and sharing experiences on best practices may help to raise forest and forestry issues higher on the political agenda and draw the positive

attention of a broader society to forestry. The political visibility and a mandate by the general public may lead to more political strength in setting and implementing forest development agendas.

References

- Commission of the European Communities. 2005a. Communication from the Commission to the Council and the European Parliament “Reporting on the implementation of the EU Forestry Strategy”. COM(2005) 84 final.
- Commission of the European Communities. 2005b. Commission staff working document on the implementation of the EU Forestry Strategy. COM(2005) 84 final.
- Commission of the European Communities. 2005c. Report from the stakeholder consultation on the draft Commission staff working document on the implementation of the EU Forestry Strategy. Available at: http://www.eu.int/comm/agriculture/consultations/forestry/index_en.htm.
- Commission of the European Communities. 1998. Communication from the Commission to the Council and the European Parliament on a Forestry Strategy for the EU. COM (1998) 649 final, 18.11.1998.
- Council of the European Union. 2005. Council Conclusions on an EU Forest Action Plan. 2662nd Council meeting Agriculture and Fisheries, Brussels, 30 and 31 May 2005.
- Council of the European Union. 1999. Council Resolution of 15 December 1998 on a Forestry Strategy for the European Union. OJ C56, 26.2.1999.
- European Commission. 2002. A European Union strategy for sustainable development. Office of Official Publications of the European Commission, Luxembourg. Available at: http://europa.eu.int/comm/sustainable/docs/strategy_en.pdf#search='Gothenburg%20strategy'
- European Parliament. 2004. Fact sheets on the European Union. Office for Official Publications of the European Communities.
- Lisbon Strategy. 2005. See at: http://europa.eu.int/growthandjobs/index_en.htm

List of Regulations mentioned in the text

Council Regulation (EEC) No 2157/92 of 23 July 1992 amending Regulation (EEC) No 3528/86 on the protection of the Community's forests against atmospheric pollution, OJ L 217, 31.07.1992, p.1.

Council Regulation (EEC) No 2158/92 of 23 July 1992 on protection of the Community's forests against fire, OJ L217, 31.7.1992, p. 3.

Council Regulation (EEC) No 2080/92 of 30 June 1992 instituting a Community aid scheme for forestry measures in agriculture, OJ L 215, 30.7.1992, p. 96.

Most of the above documents and additional information on the EU Forest Action Plan can be found on the website:

http://ec.europa.eu/agriculture/fore/publi/index_en.htm

IUCN-The World Conservation Union: Partner for harmonisation of forestry and nature conservation in South Eastern Europe

*Jörg Lohmann**

Abstract

The World Conservation Union (IUCN), a globally working organisation covering more than thousand members, and its Regional Office for Europe (ROfE), are running the European Programme with the goal “To halt the Loss of Biodiversity by 2010 (Countdown 2010)”. The programme implementation in South Eastern Europe (Stability Pact Region) is based on the “Conservation without Frontiers-Strategy” and is carried out by the Programme Office for South Eastern Europe in Belgrade. Special consideration is given to a transboundary approach regarding protected area management, which is achieved by the “European Green Belt Initiative”.

The global approach of IUCN towards the forestry sector is specified in the IUCN Forest Conservation Programme and the IUCN / WWF Forests for Life Strategy. IUCN supports the integration of biodiversity into economics, such as the forestry sector, for sustainable development. The IUCN approach is supported by technical in-house expertise from the IUCN Environmental Law Centre in Bonn regarding foreseen changes in laws upon request of partners. Further on IUCN maintains strong links with international organisations such as UNESCO and UNDP and carries out international missions upon request of governmental bodies or civil society. IUCN is striving to cooperate closely with the forestry sector on policy, forest economics and legislation aiming at integrated biodiversity conservation, a sustainable development of the region and a joint commitment towards international environmental standards in order to harmonize forestry and nature conservation in South Eastern Europe.

Keywords: The World Conservation Union (IUCN), World Conservation Congress, Countdown 2010, European Green Belt, trans-boundary conservation;

The role of IUCN and its European Programme

IUCN – The World Conservation Union is a globally working unique Union representing key-players and stakeholders in the environmental sector with members from some 140 countries including 77 states, 114 government agencies, and 800-plus NGOs. More than 10,000 internationally-recognised scientists and experts from more than 180 countries volunteer their services to its six global commissions (Species Survival Commission (SSC), World Commission on Protected Areas (WCPA), Commission on Education and Communication (CEC,) Environment, Economic and Social Policy (CEESP), Commission on Environmental Law (CEL), Commission on Ecosystem Management (CEM)). Its 1000 staff members in offices around the world are working on some 500 projects worldwide. Additional promotion of IUCN is provided by regional councillors elected regularly during IUCN-Convents. Those councillors are functioning as advocates for the environment and

* Director of IUCN, The World Conservation Union, e-mail: Joerg.Lohmann@iucn.org

support the regional offices regarding their work with the constituency as well. The vision of IUCN “*A just world that values and conserves nature*” is pursued by the corresponding mission: “*To influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.*”

IUCN – Vision

“A just world that values and conserves nature“!

IUCN - MISSION:

- To foster and fortify an European network of excellence in environmental research, policy and best practice, with the aim to:
- Contribute to IUCN’s global mission;
- Support the integration of biodiversity conservation into econ. development;
- Support innovative initiatives for the multi-functional, sustainable use of natural resources.

The scope of global work of IUCN is distributed into regional programme areas worldwide, from which the European Programme area – spanning from Greenland to Kamtchatka in the very Far East – is the largest one. Within the European Programme area, there is the Mediterranean Programme office, located in Malaga taking care of marine ecosystems of the Mediterranean, Adriatic and Ionian Seas. The terrestrial ecosystems and freshwater systems are covered by the Regional Office for Europe (ROfE), which is located in Brussels. It maintains close cooperation with other programme and regional offices as well as with the Environmental Law Centre in Bonn, the Public Service Unit in Cambridge, and the Commissions in the region.

ROfE has developed the IUCN-European Programme with the main goal to *Halt the Loss of Biodiversity by 2010* mainly focussing on the objectives of *Understanding the main drivers of biodiversity change* and *Managing our natural heritage* (IUCN-ROfE (1) 2004). The programme implementation is supported for some years already by the IUCN-Office for Central Europe in Poland and the Office for the Commonwealth of Independent States in the Russian Federation. In summer 2004 the Programme Office for South Eastern Europe (IUCN-SEE) has been established in Belgrade based on the request of constituency in South Eastern Europe and international partner organisations (IUCN-ROfE (2) 2004). Being located in the premises of the Institute for Nature Protection of Serbia, Belgrade, a member of IUCN, the sub-regional office takes care of the IUCN activities within the Stability Pact Region except Moldova.

The Countdown 2010, which embraces the overall goal of the European Programme “*Halt the Loss of Biodiversity by 2010*” has been launched by ROfE in May 2004 and was presented to a global audience during the IUCN-World Conservation Congress in Bangkok in November 2004. It is supported by a large group of international organisations and has gained national importance in the Netherlands, where the county of Noord-Brabant has implemented this goal into its regional development strategies.

According to the Regional office for Europe, "...the Countdown 2010 adds value by:

- raising awareness among Pan-European stakeholders that so far have low interest or awareness of biodiversity, and in particular of the 2010 target;
- facilitating and coordinating action by, and building synergies between the many committed organisations in order to raise the profile of the 2010 target and to critically review the progress made in reaching it;
- providing knowledge management to enhance and facilitate existing work aimed at reaching the 2010 target;
- highlighting work done, and work that needs to be done, in order to achieve the 2010 target.

"If managed well, Countdown 2010 will help politicians, having many calls for action, by becoming a federating campaign in which individual interests can be fit," states Nicholas Hanley, a member of the European Commission.

Programme Office for South Eastern Europe and its Strategic Plan

The implementation of the European Programme in South-Eastern Europe is based on the Strategic Plan called *Conservation without Frontiers – towards a new image for the Balkans* which characterises the basic mission of the Programme Office in Belgrade (Schneider-Jacoby and Christophersen 2004).

One approach of this strategy is *trans-boundary protected area management* which is supposed to overcome administrative borders and hurdles between newly established countries after disintegration of former Yugoslavia by focussing on transboundary natural assets in these countries. Examples for such natural elements, requiring international management, are river systems, such as the Danube and the Sava River, and mountain ridges, like the Dinaric Arc. They have been identified by the United Nations Environment Programme's World Conservation Monitoring Centre in 2001 (Sandwith et al. 2003). The harmonisation of the management of such areas is of highest importance regarding the protection status and is to be considered as a milestone towards harmonisation of local environmental legislation respecting the Environmental Acquis of the EU-Accession Process. During a Man and Biosphere Workshop, organised by UNESCO/IUCN and Swiss Development Cooperation (SDC) IUCN-SEE has developed a map with more than 30 potential sites for transboundary cooperation, which are considered as important for all involved countries.

Together with 10 members in the region (2 from Serbia and Montenegro) IUCN-SEE is supporting cross-border cooperation on protected area management by ecological networking and the "Green Belt Initiative". This intends to convert the former "Iron Curtain" between Western and Eastern European Blocks into a linear corridor for linking existing and potential new protected areas throughout Europe. It also functions as an ecological laboratory and communication tool (Terry 2005). Especially Serbia and Montenegro have a high potential for Green Belt borders with neighbouring countries such as Hungary, Romania, Bulgaria and Albania, and shall benefit from the extension of the already existing Central European Green Belt towards South Eastern Europe (Brunner et al. 1999). The further development of this initiative, already well established in Central Europe and Scandinavia, requires involvement of local and regional stakeholders such as communities and land users.

The second approach of the IUCN Strategy for SEE, *Sustainable use and conservation of biodiversity*, is based on the overall goal of the European Programme "*Halt the Loss of Biodiversity by 2010*", mentioned above. During an "*UNESCO/ROSTE-IUCN Joint*

International Workshop” a comprehensive analysis of potential new sites for transboundary cooperation was made in South Eastern Europe (Andrian 2004) and IUCN-SEE was endorsed with the mandate to function as hub for information regarding biodiversity. Based on the support of local stakeholders and constituency as well as with international partners IUCN-SEE provides updated information in a regular published electronic bulletin, informing about projects and activities in the region of South Eastern Europe. Together with the ROFE Newsletter and the internet based information by IUCN, there is a comprehensive access to information regarding environmental issues (www.iucneurope.org / ROFE Publications).

IUCN-Approach to the forestry sector

“The IUCN Forest Conservation Programme (FCP) is a global thematic programme of the IUCN Secretariat and supports the forest-related activities of the Union, its Members and Commissions. The mission of the FCP, in line with the global IUCN mission, is *to influence, encourage and assist societies throughout the world to conserve biological diversity in forests and tree-dominated landscapes and ensure that the use of forest resources is equitable and ecologically sustainable*. The programme consists of a global secretariat based at the IUCN Headquarters and an out -posted office in Canada that coordinates the programme’s work on temperate and boreal forests. The programme is also directly linked to and coordinated with a worldwide network of regional forest programmes based in different IUCN regional offices, which enables it to remain actively engaged in a wide range of field-based forestry projects ensuring that its global policy work remains well-grounded in local realities. The FCP’s work thus spans global, regional, national and local levels in all the IUCN operational regions across Asia, Africa, Europe, and North and South America.” (IUCN-FCP 2005)

The overall rationale of the programme is described in the joint *IUCN/WWF Forests Life Strategy* which was first adopted in 1996 (IUCN/WWF 1996) and then reaffirmed by the 2nd World Conservation Congress in Amman in 2000. “This document provides the programme with a clear and comprehensive long -term direction for safeguarding the world’s forests and is, as such, expected to remain relevant for many years to come. The Forests Life Strategy is also a philosophical statement on how the world’s forests are to be conserved, not only through protection, but also through sustainable use and restoration. Nevertheless this strategy is not designed to help prioritize among issues, such as those highlighted in the accompanying Situational Analysis, over the medium-term and is therefore of restricted value as a framework for quadrennial planning purposes. For the purpose of articulating its medium -term aims and objectives, the Forest Conservation Programme, like other IUCN component programmes, follows the IUCN Intercessional Programme, a framework planning document developed every four years by the Union to guide its work between World Conservation Congresses.”

Based on a situation analysis of forests and tree-dominated landscapes focussing on the current state of world’s forests and trends in forest land use change, IUCN identified deforestation and degradation and fragmentation of biodiversity rich forest ecosystems as major problems for conservation. The proximate and underlying drivers of forest related land use change are agricultural expansion, infrastructure development, wood harvesting, forest fires, alien invasive species, climate change, poverty, imperfect local, national and international markets, weak forest governance, inadequate policies and rules of law, and demographic factors.

Regarding the situation in South-Eastern Europe, another important condition is the political shift from a centralised towards a free market system. Together with the necessary changes in

market economy this requires new underlying forest policies/strategies and corresponding adjusted forest legislation.

IUCN/WWF “Forests For Life Strategy” (Source: *Reaffirming the Vision*, IUCN/WWF, 2000) :

- Establish a network of ecologically representative, socially beneficial and effectively managed forest protected areas;
- Achieve environmentally appropriate, socially beneficial and economically viable management of forests outside protected areas;
- Develop and implement environmentally appropriate and socially beneficial programmes to restore deforested and degraded forest landscapes;
- Protect forests from pollution and global warming by reducing polluting emissions and managing forests for resilience to climate change; and
- Ensure that political and commercial decisions taken in other sectors safeguard forest resources and result in a fair distribution of associated costs and benefits. (Source: *Reaffirming the Vision*, IUCN/WWF, 2000, See Annex II for FCP component programme consultation document.)

The IUCN approach to the challenge on the global level in the programme period of 2005-2008 is focussing on the “Need for workable strategies that value and conserve forest biodiversity, Assurance of forest conservation contributing to a just and equitable world and Assurance that conservation interventions leverage significant change – the latter aiming at Forest Law Enforcement, Governance and Trade as well as International Forest Policy”. The response of the IUCN Forest Conservation Programme, thus, is based on “Generating and disseminating reliable and science-based forest and land-use related knowledge and learning”, “Assisting key stakeholders, both at the local and international level, to strengthen their capacity in forest management and conservation” and “Influencing forest-related decision - making structures and governance processes”. Especially the last issue is of highest importance in the Balkans, due to the ongoing political changes and the privatisation of forest areas.

IUCN is following an integrated approach toward forest conservation through the IUCN-Secretariat, by working not only vertically (HQs based programmes) but also horizontally by coordinating, supporting and providing services to partners such as WWF, World Bank, European Commission, and UNDP as well as to the stakeholders.

The global IUCN approach consists of three elements which are linking policy and practice, thematic prioritization as a basis for joint programming with IUCN regions, and Partnerships. The main goal has been formulated as: “*Decision makers and other stakeholders who influence forest land use, including IUCN’s members and partners, possess the knowledge, tools, capacity and commitment necessary to halt and reverse forest biodiversity loss and embrace conservation strategies that improve the livelihoods of forest dependent people, especially those of the rural poor.*” This serves the vision that: “*the world will have more extensive, more diverse and higher quality forest landscapes. These will meet human needs and aspirations fairly, while conserving biological diversity and fulfilling ecosystem functions necessary for all life on earth.*”

Among the programmatic objectives for the period 2005 – 2008 especially the following ones are to be mentioned:

- “Understanding forest biodiversity in a changing world”
- “Understanding forest biodiversity as livelihood resource”
- “Making forest values count”
- “Supporting international forest policy to deliver tangible improvements in forest practice”
- “Working with stakeholders to protect, manage and restore forest landscapes for the benefit of both people and nature”

To implement the objectives needs strong cooperation of IUCN with international partners and organisations. For South Eastern Europe, the focus on non timber products, especially medicinal and aromatic herbs or plants as well as promotion of the recreational function for sustainable tourism in protected area forests are considered as ways towards integrated biodiversity conservation regarding forestry sector development (Eagles et al. 2002). To meet the programmatic objectives the strategies are based on *Knowledge*, *Empowerment* and *Governance*, which reflects the high commitment of the programme to generate and manage knowledge on forest conservation and sustainable use. The level of achievement is checked by a monitoring and evaluation plan, which documents the results-related to the assumptions first and to the corresponding indicators second. This will provide the basis for programme success evaluation.

Case studies in South Eastern Europe and additional assets of IUCN

Upon request of the competent authorities in Montenegro, IUCN carried out a mission under leadership of UNESCO regarding the planned Tara Canyon Dam Construction (Buk-Bijela Dam) and analysed the publicly debated issues on the spot. Based on the recommendations given in the final report of UNESCO/IUCN the Government of Montenegro has brought the construction plans to a halt. The options for further development of the region will now be considered jointly according to the international recommendation respecting national authority and the special situation in the “Ecological State of Montenegro”.

Another example for IUCN action in SEE is the commenting on planned change of environmental legislation in Bulgaria, which is considered to weaken the protection status of various protected areas significantly. IUCN carried out a professional analysis of the foreseen changes by its Environmental Law Centre and external expertise. The comments were harmonised with other organisations such as WWF and Plantlife which had submitted a separate statement on this issue to the Bulgarian authorities.

These actions were possible through cooperation of the IUCN secretariat (HQs, ROfE and SEE-Programme Office) with regional councillors and partner organisations. The reason for the intervention of IUCN, however, had not been stimulated by the organisation itself. It was based on the request of its constituency that had been formulated during the members meeting in 2004 by accusing the lack of transparency, lack of access to data regarding environmental issues and insufficient legislation for nature conservation. Besides the in-house expertise and resources of IUCN and the allied partners, the crucial backbone for the success of IUCN in the region is based on the constituency. Members representing governmental as well as non governmental organisations are guaranteeing that environmental issues are gaining public awareness and are placed on the political agenda. Decision makers are alerted about their

responsibility for a wise implementation of environmental policy, which stretches far beyond national borders and reaches regional and even international importance.

Additional assets of IUCN as an unique advocate for sustainable use of environmental resources are regular regional meetings and especially the World Conservation Congress, which took place with a registered number of close to 5.000 experts and participants worldwide (www.iucn.org/WCC). Participants became familiar with the world's latest scientific knowledge, saw landmark initiatives launched, took part in high-level debates, signed a number of agreements, and voted on over 100 resolutions on critical conservation issues, ranging from Genetically Modified Organisms (GMOs) to the conservation of the oceans. All these contributions urged the IUCN constituency to progress with implementation and monitoring throughout the globe in all relevant sectors. An important aspect to be mentioned here are the *"Addis Abbeba Principles and Guidelines for sustainable use of biodiversity"*. The statement *"...Consumptive use of wild living resources is an imperative for many of the world's poorest people, yet with the global population burgeoning, these resources are threatened by over-use, which jeopardises both human livelihoods and biodiversity."* certainly counts also for the Balkans, where hunting and wildlife use has a long tradition and is an integrated part of many land use activities.

Further on IUCN – The World Conservation Union together with UNESCO announced a partnership to develop indicators to assess the progress in education for sustainable development, during the Congress in Bangkok. *"We need to accelerate the process of learning for change towards sustainability. It is not enough to have awareness we need to engage people to think critically about how we are managing our lives, societies and resources"*, said Denise Hamú, Chair of the IUCN Commission on Education and Communication (CEC). *"We need to measure how well we are progressing,"* added Hamú. The consequent follow up of teaching and training of sustainability on all levels of intervention as well as the transparent dissemination of corresponding data and giving access to these data to all stakeholders is an integral part of IUCN Activities.

The Red Lists of Threatened Species of IUCN are well elaborated for many countries in South-Eastern Europe, however, harmonisation and further development towards an European list is still missing. The categories for protected areas, developed by IUCN have gained international acknowledgement and became an important tool for planning and management of protected areas (Phillips 2002). Together with the Food and Agriculture Organisation (FAO) and the European Confederation of Private Forest Owners (ECPF) IUCN is organising a Forest Policy conference on improved land use in South Eastern Europe in Croatia and is involved in the IUFRO Symposium on Forest legislation as well.

Conclusion: Outlook about Role and Function of IUCN to the Forestry Sector

Based on the global experience and the tremendous amount of human resources, expertise and gained experience IUCN represents a strong player of the international community regarding environmental conservation. Besides its in-house capacities, the allied organisations and especially its constituencies provide a professional tool for successful project implementation based on globally acknowledged and approved principles of sustainability, transparency, stakeholder participation, and appropriate levels of intervention into sector programmes.

The forestry sector is considered as one of the most important ones regarding biodiversity conservation. At the same time forests are heavily impacted by ongoing conflicts of interest, being put under more pressure even by being used as "battlefields" for negotiation of difficult

political problems such as privatisation and land use priorities / conflicts regarding priority function of forests. Additional lessons learnt are available to be provided by the IUCN Programme Office for Central Europe regarding the private forest owner situation and communication concerning biodiversity (Tyszko 2004). These IUCN experts are also involved in the development of *Pan-European Policy Guidelines for Afforestation mitigating Climate Change* (IUCN-CE 2004).

IUCN respects the national authority of existing management structures and offers to provide additional expertise and support regarding the environmental aspects and biodiversity conservation as an integrated element of economical development. The forestry service is recognized as a basically well educated expert community. IUCN is ready to provide additional training and information about special environmental aspects upon request of its partners. Simultaneously IUCN-SEE is eager to learn more about the specific situation in the forestry sector and the ongoing problems in order to be able to develop solutions in a common approach. An improving forest economy based on a sound forest policy and underlying forest legislation is crucial for the survival of the forestry service as a management body as well as for sustainability of forest management. This goal requires a joint effort of all stakeholders and a partnership between IUCN and the forestry sector. IUCN stands ready to support this partnership on environmental legislation, policy and sustainable development based on integrated biodiversity conservation for a just world that values and conserves nature on the Balkans.

Literature

- Andrian, G. et al. 2004. MAB Biosphere Reserves and Transboundary Cooperation in the SEE Region. International workshop on MAB Biosphere Reserves, CD available at UNESCO Office in Venice, Italy. ISBN 86-80-877-13-1
- Brunner, R. in collaboration with the EUROPARC Federation (FNNPE) and the World Commission on Protected Areas (WCPA) of the World Conservation Union (IUCN). 1999: Parks for Life: Transboundary Protected Areas in Europe. CIP-Kataolni zapis o publikaciji, Narodna in univerzitetna knjižnica, Ljubljana 502.4(4), Slovenia
- Eagles, Paul F.J., McCool, Stephen, F. and Haynes, Christopher D. 2002: Sustainable Tourism in Protected Areas: Guidelines for planning and Management. IUCN Gland, Switzerland and Cambridge, UK. xv+183pp.
- IUCN-Environmental Law Programme, 2004. IUCN-Environmental Law Programme Mission. *IUCN-Environmental Law Programme Newsletter 2004 issue*. P. 55, IUCN Environmental Law Programme, Bonn Germany
- IUCN-Forest Conservation Programme (IUCN-FCP). 2005.
http://www.iucn.org/themes/fcp/publications/files/fcp_componentprogramme_2005-2008.pdf
- IUCN/WWF. 1996: Forests for Life Strategy. The WWF / IUCN Forest policy book. Published by WWF-UK, Panda House Weyside Park, Godalming, Surrey GU7 1XR, Registered charity number 201707, ©WWF International and IUCN, February 1996, ISBN NUMBER 1 85850 090 7
http://www.iucn.org/themes/fcp/publications/files/forest_forlife.pdf

- IUCN-Programme Office for Central Europe (IUCN-CE) 2004. Afforestation and Reforestation for Climate Change Mitigation: Potentials for Pan-European Action. IUCN-CE, Warsaw, Poland 2004, ISBN 2-8317-0723-4
- IUCN-Programme Office for South Eastern Europe (IUCN-SEE) 2005. IUCN South Eastern European e-Bulletin. www.iucneurope.org/ ROfE Publications.
- IUCN-Regional Office for Europe (IUCN-ROfE, (1), 2004. IUCN European Programme. . IUCN-Regional Office for Europe Newsletter, Vol. 2 Winter 2004, SUPPL, pp1-15, Brussels
- IUCN-Regional Office for Europe (IUCN-ROfE, (2), 2004. New Office. *IUCN-Regional Office for Europe Newsletter, Vol. 3 Spring 2004, p 3.*, Brussels
- IUCN-Regional Office for Europe (IUCN-ROfE, (3), 2004. Sustainable land use in European protected areas. *IUCN-Regional Office for Europe Newsletter, Vol. 4 Summer 2004, SUPPL. 12 p.*, Brussels
- Phillips, A. 2002. Management Guidelines for IUCN Category V Protected Areas, Protected Landscapes /Seascapes. IUCN Gland, Switzerland and Cambridge, UK. Xv+122pp. Fig.2 and Page 8
- Sandwith, T., Shine, C., Hamilton, L. and Sheppard, D. 2003. Transboundary Protected Areas for Peace and Co-operation. IUCN Gland, Switzerland and Cambridge, UK. xi+111pp. Appendix 2, page 81
- Schneider-Jacoby, M. and Christophersen, T. 2004. "Conservation without Frontiers - Towards a new Image for the Balkans": A Strategic Plan for the IUCN South-Eastern European Programme. Compiled by EURONATUR for IUCN Regional Office for Europe (ROfE) in cooperation with IUCN/WCPA IUCN Strategic plan for South Eastern Europe. IUCN-Regional Office for Europe, 26 pp. Available at IUCN-ROfE, Blv. Louis-Schmidt 64, Brussels
- Terry, A. 2005. European Greenbelt. IUCN-Regional Office for Europe, Available at IUCN-ROfE, Blv. Louis-Schmidt 64, Brussels.
<http://www.countdown2010.net/documents/European%20Green%20Belt.pdf>
- Terry, A. and Christophersen, T. 2003. European Challenges for Biodiversity. A Situation Analysis for the Development of the IUCN European Programme 2005-2008. *IUCN-Regional Office for Europe Newsletter, Vol. 1 Autumn 2003 SUPPL.1*, Brussels
- The World Bank, 2002. The Road to Stability and Prosperity in South Eastern Europe: A Regional Strategy Paper, Chapter F. Environmental policy, Legislation and Institutions. pp 153-155
- Tyszkowski P. (Editor) 2004. Communicating Biodiversity Conservation to Forest Owners in East-Central Europe: Major Issues and Model Communication Strategies. IUCN Programme Office for Central Europe, Warsaw, Poland, 2004. ISBN: 2-8317-0821-4
- Zitkovic, M. 2004. Funding nature conservation in South-Eastern Europe. *IUCN-Regional Office for Europe Newsletter, Vol. 5 Autumn 2004, p.7*, Brussels

Conflicts and partnerships between forestry and nature conservation in Eastern Europe

Ioan V. Abrudan and Gheorghe Parnuta

Introduction

The principle of “sustainable wood production” has been applied in forest management for many decades in Eastern European countries. There are some relevant differences between countries, both with regard to the implementation of this principle and to day-to-day forest management practices. The differences are mainly determined by the differences in the historical and political background of each country and country region that result from the former empires (Austrian-Hungarian, Turkish, Russian etc.); the period of communism; and the evolution after the fall of communism.

Conflicts between forestry and nature protection

In general, during the communism period all countries in the region considered the protection functions of forest in their forest management planning. The protection functions were mainly related to (a) watershed protection; (b) erosion control; (c) protection against atmospheric pollution; (d) conservation of the genetic pool; (e) forest/biodiversity conservation (Box 1 for the Romanian case). In many Eastern European countries large protected areas (national and nature parks) consist mainly of forest ecosystems, especially in the Carpathians.

Nature protection became an important issue in the region after the fall of communism in the late 80's/early 90's due to stronger environmental protection authority and more active NGO movement. Increasing conflicts between forestry and nature protection became evident during this period as the public authorities for environmental protection and NGOs have got actively involved in nature and landscape protection. At the same time political, legislative and institutional decisions regarding nature protection have been taken at the global level (Convention on Biological Diversity, CBD, 1992), at the European level (Bird and Habitats Directives, Natura 2000), as well as at national levels (new national nature protection laws and biodiversity conservation action plans).

The nature of conflicts is determined by various reasons such as:

- improper legislation frameworks (e.g. forest legislation not correlated with the nature protection legislation);
- improper institutional frameworks (e.g. weak and understaffed institutions lacking adequately defined competences);
- improper funding for nature protection (e.g. poor inspection services, weak national park administrations, lack of funding to compensate economic losses of land owners due to restrictions imposed by the nature protection/conservation status);
- changes in forest ownership/difference between status of nature protection in state and private forest;
- difficult economic and social conditions in the region (poverty, unemployment).

Box 1. Grading of protection forests by subgroups and functional categories

Functional Subgroup	Functional Category
1.1: Forest with water protection function	<p>1.1.a) forests in well and water source protection areas, mapped based on relevant studies and approved by the Ministry of Silviculture (MS)</p> <p>1.1.b) forests on slopes adjacent to lakes/reservoirs</p> <p>1.1.c) forests on slopes in mountain and hilly regions up to 15 - 30 km away from the lakes/reservoirs and in their collection watershed</p> <p>1.1.d) forests along Danube riverbanks and Danube Delta and along the interior rivers</p> <p>1.1.e) forests in the vicinity of river floors</p> <p>1.1.f) forests in the area between the river floor and river bank area</p> <p>1.1.g) forests in watersheds with active torrents</p> <p>1.1.h) forests for protection of water sources (wells) for trout farms and on the slopes surrounding trout farms (minimum 100 ha);</p> <p>1.1.i) dwarf pine in the vicinity of alpine meadows</p>
1.2: Forest with site and soil protection function	<p><i>1.2.a) forests on stony slopes, debris with slopes steeper than 40°, flisch with slopes steeper than 35°, sandy soils with slopes steeper than 30°, and any steep slope with high erosion</i></p> <p>1.2.b) forests (entire compartments) adjacent to public roads and railways in broken terrain</p> <p>1.2.c) forests surrounding alpine meadows, in strips 100 - 300 m wide (width according to the site conditions and structure of stands)</p> <p>1.2.d) forests surrounding industrial and hydrotechnical structures at a minimum radius of 50 m and at a maximum radius depending on the erosion/landslide conditions</p> <p>1.2.e) forest plantation on degraded/eroded lands</p> <p>1.2.f) forests in areas where avalanches are originating or run-off</p> <p>1.2.g) forests on moving sands</p> <p>1.2.h) forests in landsliding areas</p> <p>1.2.i) forests in swamp areas</p> <p>1.2.j) forests around open mines in strips 100-300 m wide (width according to the site conditions and structure of stands)</p> <p>1.2.k) forests in karst areas</p> <p>1.2.l) forests on land with erosion/sliding vulnerability, with slopes lower than those mentioned at 1.2.a</p>
1.3: Forest with protection function against climatic and industrial threat factors	<p>1.3.a) steppe forests, forests situated at the limit between steppe - silvo-steppe, except riverine forests</p> <p>1.3.b) forests near Black Sea and seaside lakes, at a radius of 15 km</p> <p>1.3.c) oak forests under conservation in plain areas</p> <p>1.3.d) forests from the surrounding compartments of reservoirs and fish lakes</p> <p>1.3.e) alignments and hedges protecting agricultural lands, communication ways, industrial objectives and localities</p> <p>1.3.f) forests at high altitudes with difficult regeneration conditions</p> <p>1.3.g) scattered forests in the plain region with an area smaller than 100 ha</p> <p>1.3.h) forests in areas with high air pollution, identified by studies approved by the MS</p> <p>1.3.i) forests in areas with low air pollution, identified by studies approved by</p>

	<p>the MS</p> <p>1.3.j) forests surrounding ash, sterile and waste heaps at a radius of 2 km according to the threats to the environment</p> <p>1.3.k) forest edges (limits) situated in plain regions, in strips up to 20 m wide</p>
1.4: Forest with recreation function	<p>1.4.a) park forests and other high recreation value forests, as established by the MS</p> <p>1.4.b) peri-urban forests, of size established based on criteria of number of inhabitants (as set by the MS)</p> <p>1.4.c) forests with very high functional value surrounding resorts or hospitals, approved by the MS</p> <p>1.4.d) forests with medium and high functional value surrounding resorts or hospitals, approved by the MS</p> <p>1.4.e) forests of landscape value around cultural sites (established by law) at a radius of up to 1km, according to the importance of the site</p> <p>1.4.f) forest strips around hotels, motels, camping sites etc., at a radius of up to 1 km and an area of up to 50 ha, according to the importance of the place</p> <p>1.4.g) forests around co-operatives and agricultural farm centres, at a radius of up to 1 km and an area of up to 50 ha</p> <p>1.4.h) forests situated at a distance up to 2 km from villages in the plain region, and of an area up to 50 ha</p> <p>1.4.i) entire compartments along the communication ways of high tourism interest</p> <p>1.4.j) forests managed for game conservation or intensive management</p> <p>1.4.k) forests protecting special locations, approved by the MS</p>
1.5: Forest of scientific interest and for the protection of forest genetic fund	<p>1.5.a) core areas of the national parks established by law</p> <p>1.5.b) natural parks, aiming to preserve the natural landscape</p> <p>1.5.c) nature reserves</p> <p>1.5.d) scientific reserves</p> <p>1.5.e) landscape reserves established by law</p> <p>1.5.f) natural monuments</p> <p>1.5.g) forests where scientific research /experimental permanent plots are located</p> <p>1.5.h) seed reserves</p> <p>1.5.i) forests designated for the protection of fauna species (capercaillie, bear, chamois), established by the MS</p> <p>1.5.j) old-growth forests of high value and forests of very rare species, delineated by the Ministry of Agriculture</p> <p>1.5.k) dendrological parks and arboreta</p>

On one hand forest management is under an increasing pressure to deal with environmental and nature protection, and on the other hand the economic and social expectations from forest management are increasing. Balancing these three interests is becoming a priority for forest management in a changing European and international context and the last decade changes in forest ownership in Eastern Europe make the harmonisation process of conflicting interests more complicated. In most countries there is no funding to compensate forest owners for the loss of income from their property due to nature protection although the respective legislation/regulations are in place (e.g. Romania, Slovakia etc.). Whilst in the case of state forests, the owner can afford the loss of income from forest protection (relatively large area of state forest, economically viable state forest companies), in the case of private forest, the

owners may have to carry serious financial losses due to nature protection. This situation is leading to either illegal logging or open conflicts between forest owners and the authorities (see Box 2).

Box 2. Example of conflict between forest owners and national park administrations in Romania

Conflicts between the private forest owners and the national park administrations have been recorded after 2001 in Romania, when the restitution process accelerated significantly. Such conflicts (e.g. in Piatra Craiului National Park, Ceahlau National Park etc.) were generated either by the misunderstanding of the role and responsibilities of the park administrations, or by typical protection-production conflicting interests and the lack of state capacity to compensate the forest owners for their production loss in such situations.

After the fall of communism the NGO movement has developed significantly in Eastern Europe, especially via large international NGOs which became very active (World Wide Fund for Nature, Green Peace, Friends of the Earth) or NGO grant makers (Foundation for the Development of the Civil Society, Environmental Partnership Foundation). Many of them support the development and enlargement of existing networks of protected areas and in some situations their interests are in conflict with those of forest owners or state forest companies (Abrudan and Tamas, 2003).

Partnerships between forestry and nature protection

In many Eastern European countries the forest managers/foresters were those who decades or even centuries ago took serious steps in conservation of relevant forest ecosystems, especially in the case of virgin, old-growth forests (Giurgiu et al., 2001). Forest owners (especially landlords or royal families) had also established “protected forest areas” on their own land and in several situations preserved the forest in order to create proper conditions for game populations due to their hunting interests.

Box 3. Some examples of Romanian forests which were placed under a legal protection status due to the initiative of the foresters

- Letea and Cara-Orman (1881)
- Niculitel (1927)
- Domogled, Pietrosul Mare, Slatioara, Giumalau, Bucegi, Beusnita (1930)
- Cetatile Ponorului, Valea Galbenei (1954)

If there are still natural, old-growth forests in the countries left, this is partly due to the effort of the forest managers as in the communism period the influence of nature conservation bodies was limited and the activity of NGOs very restricted or impossible. Higher education in forestry has had a strong ecological and nature protection component in many Eastern

European countries and an analysis of the present forestry curricula could easily identify a significant number of modules/topics related to nature conservation. Nowadays, forest managers are increasingly aware of the need to balance forest production and nature protection interests. In many Eastern European countries they are positively involved in the management and administration of protected areas. For example, in Romania all national and nature park administrations except one are under the National Forest Administration – Romsilva (Toader *et al.*, 2004).

Conclusion

Despite of various conflicts between forestry and nature protection, due to legislative, institutional, funding and ownership reasons, forest managers have had an important role in nature protection in Eastern Europe. Balancing forest production and nature protection interests has become during the last decade and will remain in the future an important priority for the forestry sector facing a rapidly changing political, economic and social context.

References

- Abrudan, I.V. and Tamas, S. (2003): Production versus Protection in Romanian Forest Management. Paper presented at the *International Conference: Management of Forests as a Natural Ressource in the Balkan/SEE Region*. Ohrid, Makedonia (manuscript);
- Giurgiu et al., (2001): *Padurile virgine din Romania*. ASBL Foret Vallonne, Belgium;
- Toader et al. (2004): *Romanian Forests. National Parks and Nature Parks*. Editura Intact Bucuresti, Romania;
- *** (1986) *Norme tehnice pentru amenajarea padurilor (5)*. Ministerul Silviculturii, Bucuresti.

Legal similarities and differences of environmental protection and forestry in West Balkan countries

*Mirjana Stanisic **, *Dusan Jovic*** and *Dragan Nonic****

Abstract

The five countries in the Western Balkans can truly be considered as countries with “economies in transition”. They have more or less similar problems in forestry e.g. weakening of forest institutions and industries through rapid political change, conflicts that did impact changes in resource ownership, and need for upgrading, training, education. Despite changes of the legal and economic system all of mentioned countries have undertaken, respectively are still in the process of doing it, revisions of old or adoption of new environmental and forestry laws, regulations, strategies and policies. Serbia did in 2004 adopt 4 new laws relating to environment protection, FBiH and Republic of Srpska adopted in 2002 a new Law on Spatial Planning, Croatia started in 2003 with the elaboration of a National Forestry Policy and Strategy, and Albania adopted a new Law on Environmental Protection in 2002. The integration of these countries into the European structures and, ultimately, their membership in the European Union, are a major issue during the years to come, as the enlargement of the European Union is one of the major challenges at the beginning of the 21st century.

Keywords: West Balkan, forestry sector, environmental legislation, forest law, policy harmonization.

Introduction

Geographically the Western Balkan region comprises the countries Bosnia and Herzegovina, Croatia, Macedonia, Serbia and Montenegro from the former republics of Yugoslavia, and Albania. Geopolitically these countries represent a region with a complicated recent history. Despite the differences they have in population (Serbia and Montenegro 8.1 mill people, Macedonia 2 mill people), similarity is obvious with regard to their Gross National Income (all countries excluding Croatia have a GNI of less than 2 000 US\$). They have a great variety regarding their land area (Macedonia is almost 5 times smaller than Serbia and Montenegro) and population. After the fall of the socialist regime all these countries are experiencing very strong changes in the society, resulting from the strong transition towards market economy and modernization. All of the countries of West Balkan are in the Stabilization and Accession process (SAP) towards the membership to European Union.

* Mirjana Stanisic-Quaedvlieg, BSc., Maastricht School of Management, Maastricht/ NL. Tel: +31 43 38 70 839, E-mail: mira71@gmail.com; ep@msm.nl

** Dusan Jovic, BSc., Ministry of Agriculture, Forestry and Water Management - Directorate of Forests, Belgrade/ Serbia. Tel: +381 11 553 261, E-mail: djjovic@net.yu

*** Dr. Dragan Nonic, Faculty of Forestry, Belgrade/ Serbia. Tel: + 381 11 2553 122, E-mail: dnonic@Eunet.yu

Table 1: Country data profile

Country	Land Area Km ²	Population in 2003 in mill	2003 GNI, Atlas method (US \$ billions)	2003 GNI per capita, Atlas method (US \$)
Albania	28 750	3.2	5.5	1.740
Croatia	56 691	4.5	23.8	5.350
FBIH	51 200	4.1	6.4	1,540
Republic of Srpska	25 713	2.0	4.1	1,980
FYR Macedonia	102 173	8.1	15.5	1.910
Serbia and Montenegro				

Source: The World Bank: "World Development Indicators Database: 2004", Washington D.C., the World Bank, 2004

Basic environmental acts and laws

In *Albania*, Law Nr. 8934 on Environmental Protection, approved on September 2002, provides a national priority role for the environmental protection. The law has a great influence on the responsibility of state organizations toward environment, and also on private subjects and legal persons. Government Decision Nr. 103/2002 on monitoring of environment in the Republic of Albania determines the tasks for each. During 2003, a whole group of new laws were adopted such as Law on Environmental Impact Assessment (Law Nr. 8990,; Law on Protection of the Air from Pollution (Law Nr. 8897, 2002); and Law on Protected Areas (Law Nr. 8906, 2002). In addition the following laws adopted since 1991 are applicable: Law on Forestry and the Forest Service Police (Law Nr. 7623, 1992), Law on Pasture and Meadows (Law Nr. 7917, 1995), Law on Land and its Distribution (Law No 7501, 1991) Wildlife Law (Law Nr. 7875,1995), Law on the Protection of Wild Fauna and Hunting. (1994), Law on Plant Protection Service (Law Nr. 7662, 1993), and the Law on Water (Law Nr. 8093, 1996).

In *Croatia* the Law on Nature Protection (Official Gazette Nr. 162/03) the Environmental Protection Act (Official Gazette Nr. 82/94, 128/99), the Ordinance on Environmental Impact Assessment (Official Gazette Nr. 59/00, 136/04), the Air Protection Act (Official Gazette Nr. 48/95, 178/04) and the Waste Act (Official Gazette Nr. 178/04), have been adopted or amended during the period 2000 to 2005. Other relevant laws are the Law on Water (Official Gazette Nr. 107/95) the Law on Hunting (Official Gazette Nr. 10/94, 22/94, 5/95, 25/96, 33/97, 44/98, 29/99, 14/01), the Law on Forests (Official Gazette Nr. 52/90, 9/91, 76/93, 13/02), and the Agriculture Law (Official Gazette Nr. 66/01, 87/02, 81/05).

According to the Constitution (1995), the country of *Bosnia and Herzegovina* is composed of two Entities: the Federation of Bosnia and Herzegovina (FBIH) and Republic of Srpska (RS). An important set of legislation was promulgated in 2002 / 2003 in the *Federation of Bosnia and Herzegovina*: Law on Physical Planning - (Official Gazette of F BiH, Nr. 52/02); Law on Waste Management (Official Gazette of FBIH, Nr. 33/03); Air Protection Law (Official Gazette of FBIH, Nr. 33/03); Water Protection Law (Official Gazette of FBIH, Nr. 33/03);

Environment Protection Law (Official Gazette of FBiH, Nr. 33/03); Law on Protection of Nature (Official Gazette of FBiH, Nr. 33/03); Law on Fund for Environment Protection of the Federation BiH (Official Gazette of FBiH, Nr. 33/03); Law on Forests (Official Gazette of FBiH 20/02 and 29/03). In the **Republika Srpska** new laws were adopted and old ones amended such as: Law on Environmental Protection; Law on Air Protection; Law on Water Protection; Law on Waste Management; Law on Nature Protection; and Law on the Environmental Fund. These laws were adopted in 2002 (Official Gazette of RS Nr. 50, 51, 53/2002) together with the Law on Hunting (Official Gazette RS 4/2002) and the Law on Forests (Official Gazette RS Nr. 66/2003). The Law on Physical Planning (Official Gazette of RS, Nr. 19/96, 25/96, 10/98, 84/02) and the Water Law (Official Gazette of the RS, Nr. 10/98, 51/01) are amended.

According to the text of the Constitution of the **FYR of Macedonia**, “everyone has the right to a healthy environment to live in”, but also “everyone is obliged to promote and protect the environment. The Republic provides conditions for the exercise of the right of citizens to a healthy environment” (Article 43 of the Constitution). The bases of the system of environment protection and conservation in the Republic are Law on Environment and Nature Protection and Promotion (Official Gazette of RM, Nr. 69/96, 13/99, 96/00, 41/00 and 45/2002); Law on National Park Conservation (Official Gazette of RM Nr. 33/80); Law on Spatial and Urban Planning (Official Gazette of RM, Nr. 4/96, 8/96, 70/96, 7/97, 28/97, 53/01 and 45/2002); Law on Hunting (Official Gazette of RM, Nr. 20/96); Law on Forests (Official Gazette of RM Nr. 47/97); and Law on Water Resources (Official Gazette of RM, Nr. 4/98 and 19/2000). Other relevant texts are Law on Meadow and Pasture Management and Usage (Official Gazette of SRM Nr. 20/74); the Law on Air Protection against Pollution (Official Gazette of RM Nr. 20/74, 6/81, 10/90 and 62/93); Law on Agricultural Land (1998)

In 2004 **Serbia** adopted four new laws regarding environment protection: Law on Environment Protection (Official Gazette Nr. 135/04), Law on Environmental Impact Assessment (Official Gazette Nr. 135/04), Law on Integrated Protection and Control of Environmental Pollution (135/04), Law on Strategic Evaluation of Impact on Environment (Official Gazette Nr. 135/04). Other laws concerning environment are: Law on Waters (Official Gazette Nr. 46/91, 73/91, 80/91, 53/93, 48/94 and 54/96), Law on Forests (Official Gazette No. 46/91, 83/92, 54/93, 67/93, 48/94, 54/96), Law on Agricultural Land (Official Gazette 49/92, 53/1993, 67/93, 48/94, 46/95, 57/96 and 14/2000), Law on Natural Parks (Official Gazette Nr. 39/93, 44/93, 53/93, 67/93, 48/94), and Law on Air Protection (Official Gazette Nr. 14/1980). **The Republic of Montenegro** published the Law on the Environment in 1996 (Official Gazette Nr 12/1996, 55/2000). This Law provides the main principles, such as polluter pays, environmental impact assessment, data transparency and user pays for environmental protection. Other relevant laws and regulations include: Law on Air Protection (1980), Law on Waters (1995), Law on Nature Protection (1978, 1982, 1989), Law on National Parks (1991), Law on Forests (1993, 2000), Law on Agriculture (1992), and the Regulation on Environmental Impact Assessment (Official Gazette Nr. 14/1997).

Environment and forestry strategies

The National Environmental Action Plan in **Albania** was prepared in 1994 and updated in 2002. It outlines organizational, administrative, legal and technical activities that provide a basis for sustainable development in the economic reform process. Environmental protection measures need to overcome pollution and address new environmental problems.

Table 2: Relevant environmental laws

Laws Countries	Air	Forests	Nature Protection	Soil	Water
Albania	2002	1992	2002 ¹	1991	1996
Croatia	1995 ²	1990 ³	2003	2001 ⁴	1995
FBIH	2003	2002 ⁵	2003	1998	2003
Republic of Srpska	2002	2003	2002	1997	1998 ⁶
FYR Macedonia	1974 ⁷	1997	1996 ⁸	1998	1998 ⁹
Serbia and Montenegro	1980	1991 ¹⁰	-	1992 ¹¹	1991 ¹²
	1980	1993 ¹³	1978 ¹⁴	1992	1995

Source: M Stanisic, D Jovic, D Nonic: : Legal similarities and differences in West Balkan Countries, 2005

¹ Law on Protected Areas

² Law was amended in 2002

³ Law was amended in 2002

⁴ Law was amended in 2005

⁵ Law was amended in 2003

⁶ Law was amended in 2003

⁷ Law was amended in 1993

⁸ Law was amended in 2002

⁹ Law was amended in 2000

¹⁰ Law was amended in 1996

¹¹ Law was amended in 2000

¹² Law was amended in 1996

¹³ Law was amended in 2003

¹⁴ Law was amended in 1989

Further, the Albanian Government adopts National Strategies for Socio-Economic Development and for Rural development (2001), a National Biodiversity Strategy and Action Plan (2000), the National Water Strategy (1997), a Strategy for Energy, a National Plan for the Urban Waste Management, the Coastal Zone Management Plan, and the Agriculture Development Strategy known as "Green Strategy" (1998), The Strategy for the Forest and Pasture Sectors (1998) is incorporated in the Green Strategy. The present policy framework for the forestry and pasture provides a relatively clear and consistent basis for the development of the sector.

A National Environmental Action Plan (NEAP) was prepared in parallel with support from the World Bank in **FBIH and Republika Srpska**, and adopted in 2003. The eight priorities identified in the NEAP are: water resource management and waste-water treatment; sustainable development in rural areas; environmental management (information system, integral planning and education); protection of biological and landscape diversity; waste and waste management; economy and sustainable development; public health; and mining. About 450 projects have been initiated under this plan. The expected outputs are long-term priorities, assistance in participation in international processes, guidance in drafting laws and policies, and support institution building to the country. Environment and water sector reviews were part of the Poverty Reduction Strategy Paper respectively the mid-term Development Strategy of Bosnia and Herzegovina (2004-2007) that had been adopted in 2004. Other environmental policy-making documents are the Mediterranean Action Plan (MAP), approved in December 1999, and the State Strategy for Solid Waste Management adopted in 2000-2001 by the

Governments of both entities The MAP should promote the implementation of the Barcelona Convention and its Protocols. A review of issues related to this objective has been undertaken, and a National Action Plan was drafted in January 2000. For forestry, there are no official strategic documents available, but the NEAP proposes a number of measures and activities, including the development of a long-term program for forest development, mid-term forest management plans, a program of widespread forest reproduction, the expansion of protected areas, forest certification, improved accessibility to forests areas through road building, removal of mines, and monitoring.

In **Croatia**, the National Environmental Protection Strategy along with the National Environmental Action Plan (NEAP) (Official Gazette Nr 46/02) was adopted as one of the 19 thematic documents originating within the Development Strategy Project "Croatia in the 21st. Century ". There are other sectoral strategies, some of them already adopted by Parliament and some under preparation: the Strategy of Physical Planning of the Republic of Croatia (1997), the Program of Physical Planning of the Republic of Croatia (1999), and the Biological and Landscape Diversity Protection Strategy and Action Plan (Official Gazette No. 81/99). The National Forest Program is based on the conclusion of the Croatian Government (GovRC) and entitled National Forest Policy and Strategy (NFPS) of July 2003. Based on the NFPS and on the Law on changes and amendments to the Forest Law, LRAFL) a procedure was initiated for renewing the applicable forest legislation. A number of other regulations, orders, statutes and acts on forests, forest management, and organization in forestry have been formulated.

In 1996, the Government of FYR **Macedonia** developed and adopted the National Environmental Action Plan (NEAP), which is the main environmental strategy document. The Section for European Integration within the General Secretariat of the Government (Council of Ministers) has worked out the Action Plan for the Implementation of the Stabilization and Association Agreement, and the National Programme for Approximation of Legislation. Highest priority is given to horizontal legislation, including the Directive on Environment Impact Assessment, the Directive on Access to Environmental Information, the Directive on Information, and the Regulations of the European Environment Agency. National Strategies for Wastewater Management and for Solid Waste Management are in preparation under the guidance of the Section for European Integration. Macedonia is currently working on the project "Institutional development and capacity building in forestry and forest industry sub sectors" (2004-2006). The project will strengthen the policy environment and institutional capacity for sustainable conservation and management of forest resources in order to enhance their economic, environmental and social contribution to the wellbeing of the Macedonian society. The focus is on support to formulation of a new forestry policy, design of a national forestry strategy in compliance with national development and environmental action plans and European Union standards; and review of forestry legislation and harmonization with new forestry policy and EU rules and regulations.

After adopting a set of five new laws the next step in **Serbia** is the elaboration of a National Environmental Strategy and a National Environmental Action Plan (NEAP). A NEAP draft document, covering a period of 10 years, has been made, presenting a basic document for planning and integral environmental management that is to be submitted to Parliament for the adoption. Other drafts for local ecological Environmental Planes (LEAP) exist for some cities (Valjevo, Vrbas Cacak, Bujanovac). In 1991, the Parliament declared **Montenegro** as 'Ecological State'. This statement later formed part of the constitution and reflects a commitment of the government at the highest level to protect the environment. In March 2001, the government adopted the "developmental directions of Montenegro, the Ecological

State” which provided long-term strategic directions including environmental, economic and social aspects.

Formulation of a new Forest Policy of Serbia has occurred during the period 2003-2005 with assistance from FAO through the project “Institutional development and capacity building for the National Forest Program of Serbia”. The new forest policy text is under public debate and expected to be adopted by the Serbian Government in 2005. It has been developed through participatory process of most of the stakeholders in the forestry cluster (e. g. private forest owners, local communities, representatives of environment protection) and a considerable number of people were actively involved in the elaboration of forest policy goals and measures. One of the main problems was how to motivate private forest owners in creating associations in order to express more forcefully their interests. The results at this point of development of forestry institutions are modest (3 new forest associations) and show in which direction future activities of the forest administration should go. By supporting the development of the National Forest Program of Serbia, the project contributes to the country implementation of recommendations articulated by the international forest policy debate promoted by the United Nations since the 1995’s through IPF/IFF/UNFF and FAO, as well as by the resolutions of the Ministerial Conference for the Protection of European Forests. There are other ongoing programs such as: Program for the forestry sector in Serbia, supported by the Norwegian Government; the Public Relation Strategy – a project for creating the PR strategy of Directorate of Forests – that is prepared in cooperation with the Canadian agency CESO.

In **Montenegro** participatory processes regarding the formulation of national forest policy are still in the preparation phase. The Government of Montenegro adopted the Agenda of Economy Reform in 2003 and, with support and cooperation of World Bank, the Development and Poverty Reduction Strategy in Montenegro (Millennium Development Goals). Both projects incorporated several subprojects related to forestry issues. There are other ongoing programs such as: the FODEMO Project (Forestry Development in Montenegro), realized in cooperation with the Government of Luxemburg; the Introduction of GIS in forestry in Montenegro, supported by UNDP; Forest Certification; and the Project for development and recovery of the wood industries in Montenegro.

Conclusions

All West Balkan countries have a legacy of complicated recent history and are now in a “transition” period, economically as well as legally. The overall situation has a considerable influence on the forestry sector in the countries that have a long tradition and well established experiences in sustainable forest management dating from 20th Century. Nowadays they all make a step forward by approaching European Union. The objective is the same for all of West Balkan countries, only the measures taken are different. That is obvious in national legislation and in the manner they are creating their strategies regarding forestry and environment.

Some of the countries recently did adopt new laws (Albania, BIH and Serbia) and the others did amend their laws on Environment Protection (Croatia, Macedonia) in accordance with international trends and demands. There are also an increased number of newly adopted and amended laws regarding air and nature protection. Some countries did go further with strategies (e. g. Croatia) while Macedonia, for instances, enforces more horizontal legislations. All countries are using National Environmental Actions Plans as a framework for policy making, building up governmental institutions and capacity building. In Albania the

elaboration of a framework for forestry policy occurs under the Strategy of Agricultural Development, while Croatia, Macedonia and Serbia and Montenegro are developing their forestry policy as a separate project. They thus endeavour to create a solid base for national legislation in accordance with international trends, in order to implement recommendations of the United Nations and the Ministerial Conference for the Protection of Forests in Europe.

References

1. Djurovic B., (2003): EIA Overview, EIA Capacity-Building in South Eastern Europe – Montenegro, Elaborated within the REReP 1.4 project, REC
2. Nikolov N.,(2004): Illegal Logging and Trade of Illegally Derived Forest Products in the UNECE Region : Causes and Extent, Country Report for the Republic of Macedonia, Geneva, Switzerland
3. Silajdzic I., (2002): Bosnia and Herzegovina – National EIA Overview, Elaborated within the REReP 1.4 project EIA Capacity-Building in South Eastern Europe, REC
4. Stefanovic DSj., (2003): Report on the Current Status of Acceptance and Implementation of Multilateral Environmental Agreements in Bosnia and Herzegovina, BIH
5. Tahiri A., Kellezi M., Terpollari A., Pasho E., (2003): Country Report Albania, Faculty of Forestry Sciences, Freiburg, Germany
6. Vesic A., (2003): EIA Overview, EIA Capacity-Building in South Eastern Europe – Serbia, Elaborated within the REReP 1.4 project, REC
7. (2004): AIMS: Support for Acceptance and Implementation of Multilateral Environmental Agreements (MEAs) in South Eastern Europe, Assessment and Research Project for REReP 1.12, REC
8. (2001): Approximation of the legislation of the Republic of Macedonia with that of the European Union, Sector for European Integration, Government of the Republic of Macedonia
9. (2004): Environmental Performance Review – Bosnia and Herzegovina, UNECE
10. (2003): Europe and Central Asia Region- Forest Policy and Strategy Note, ECA Draft Forest Policy and Strategy Note, World Bank
11. (2001): Evaluation and Future Development of the EIA System in Albania, METAP EIA Institutional Strengthening Project
12. (2004): Forest Policy of Serbia – Draft, The Republic of Serbia Ministry of Agriculture, Forestry and Water Management, Belgrade, Serbia and Montenegro
13. (2004): Izvodi Izvestaja o Radu Uprave za Zastitu Zivotne Sredine u 2004 Godini, Ministarstvo Nauke i Zastite Zivotne Sredine, Uprava za Zastitu Zivotne sredine, Republika Srbija
14. Jovic, D., Nonic, D., Stanisic M., (2003): Cross Sectoral Policy Impacts on Forestry and Environment in Serbia” - International Symposium “Challenges in Strengthening of Capacities for Forest Policy Development in CITs” – European Forestry Institute, Belgrade, Serbia and Montenegro,
15. (2004): Nacionalna Sumarska Politika i Strategija, Ministarstvo Poljoprivrede i Sumarstva, Hrvatska
16. (2002): National Assessment Report for the World Summit on Sustainable Development, Republic of Albania, Johannesburg
17. (2004): National Report to the Fifth Session of the United Nations Forum on Forests Serbia and Montenegro, Serbia and Montenegro

18. Ranković N., Nonić D., Stanišić M, Jović D., Jović P., Zarić V. (2003): Serbia- Country Report, Proceedings of International Conference “Management of forests as a natural resources in the Balkan/SEE region”, Ohrid
19. (2004): Republic of Croatia Illegal Logging and Trade of Illegally-Derived Forest Products, Ministry of Agriculture, Forestry and Water Management, Croatia, Geneva, Switzerland
20. (2003): Serbia and Montenegro Country Environmental Analysis, World Bank
21. (2004): Stabilization and Association Report -Former Yugoslav Republic of Macedonia, Commission Staff Working Paper, Commission of the EC
22. (2004): Strategy for development cooperation with Serbia and Montenegro (excluding Kosovo) 2004-2007, Government Offices, Ministry for Foreign Affairs, Serbia and Montenegro

Sites

<http://www.albania-agroweb.net/> - Agro web Albania
<http://www.usud.hr/> - Constitutional Court of the Republic of Croatia
<http://europa.eu.int/> - European Union
<http://www.fao.org/forestry/> - FAO Forestry section
<http://www.fbihvlada.gov.ba/> - Government of Federation of Bosnia and Herzegovina
<http://www.vladars.net/lt/zakoni/> - Government of Republic of Srpska
<http://www.mps.hr/splash.asp> - Ministry of Agriculture, Forestry and Water Management, Croatia
<http://www.mfa.gov.yu/Srpski/indexs.htm> - Ministry of Foreign Affairs, Serbia and Montenegro
<http://www.mzopu.hr/> - Ministry of Environmental Protection, Physical Planning and Construction, Croatia
<http://www.moepg.gov.mk/default-MK.asp> - Ministry of Environment and Physical Planning, FYR Macedonia
<http://www.ekoserb.sr.gov.yu/> - Ministry for Science and Environment Protection, Directorate for the Environmental Protection
<http://www.rec.org/> - The Regional Environmental Center for Central and Eastern Europe
<http://www.sei.gov.mk/portal/eng/default.asp> - Sector for European Integration, FYR Macedonia
<http://www.unece.org/env/welcome.html> - United Nations Economic Commissions for Europe
<http://enrin.grida.no/> - UNEP Green Arenal

The forests in European Union strategies for sustainable use of natural resources and sustainable development *

*Andjelka Mihajlov** and Aleksandar Vasiljević****

Abstract

In order to discuss so-called collision between forest and environment related policy and legislation in an integrated and harmonised approach the presentation is focused on the EU Strategy for sustainable development and on EU the Thematic Strategy on Sustainable Use of Natural Resources. Among other, it will be highlighted that forest policy should give priority to sustainable development and that forestry prices need to reflect environmental and social costs. This will result in a market with less polluting products and services, contribute to more environmentally friendly consumer behaviour, limit climate change, and meet the Kyoto commitments. It will also contribute to proper integrated chemical and environmental management and show more responsible management of natural resources. By this approach the draft Forest Policy of Serbia will be discussed. One has to keep in mind that within the EU legislative framework forests are considered in the chapter Environment as a natural resource under horizontal legislation, and as a part of nature protection. The presentation reaffirms and supports the vision and importance to provide for conditions of sustainable use of forests and other natural resources in the national legislation as a tool for efficient approximation with relevant EU environmental standards.

Keywords: forests, sustainable development, sustainable use, environment, policy

Philosophy: “Environment and Sustainable use of Natural Resources are two sides of sustainable future coin”

It is important to know that environmental protection is not the environment as the system, and a forest is not a substitution for forestry. The first step in building up a system of our sustainable future is to understand differences. There are a language / translation problems in the Serbian translation of environment, most often translated as *ecology*, and forests, most often translated as *forestry*. Talking about the environmental pillar, we are recalling the following diagram (*Figure 1*) representing time versus environmental management system performance in developed and developing countries (Mihajlov A. and H. Stevanović-Čarapina, 1997). The understanding of this diagram helps to understand the difference between the terms “environmental protection” and “environment”.

Talking about forests, we are pointing out that forests are a national wealth and resource that must be preserved and increased in order to meet society's environmental, economic and social needs. Resources can be defined as those parts of the Earth's biological and mineral

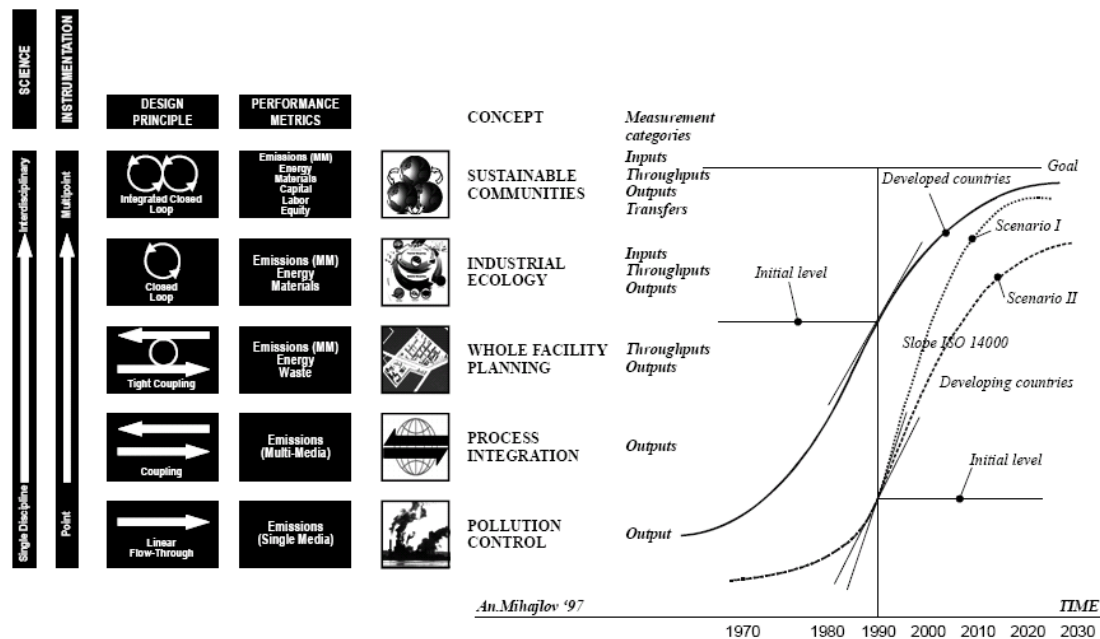
* A.Vasiljevic contributed by his knowledge on forests science; however, the approach presented, mainly through environmental governance, is the view performed by A.Mihajlov

** Faculty for Technical Sciences, University of Novi Sad/City Public Health Institute Beograd / EU-UNEP expert on sustainable consumption and production, anmi@eunet.yu

*** Serbian Ministry for Agriculture, Forestry and Water; Directorate for Forestry, Belgrade

endowment from which society derives value. In *Figure 2* the EU Thematic Strategy of 2005 provides for a classification of resources allowing a division of the complex field of the resources into functional areas of interest. Forests are a renewable resource that is extinguishable like other biological resources including biodiversity and forms part of vulnerable reservoirs like fertile soils and fresh water basins.

Figure 1: Diagram on the difference between environmental protection and environment



It is obvious that space is required to produce all mentioned resources: energy e.g. solar and wind parks, and agriculture and forestry including the conservation of biodiversity. Their functions have to be combined with all human activities related to the use of these resources, e.g. housing, manufacturing and transportation. Space is therefore to be considered as a key resource. Understanding this will give the difference between terms “forest as a system” and “forestry as processing of a resource”. Important concepts in resources economics are resource productivity and resource efficiency. The latter can be defined as the efficiency with which we use energy and materials throughout the economy, i.e. the value added per unit of resource input. An example of resource productivity calculation is dividing the total economic activity of a country (expressed in GDP) by the total material use (tons). The reverse of this quotient, i.e. material use divided by economic activity, is also used and called the material intensity of the economy.

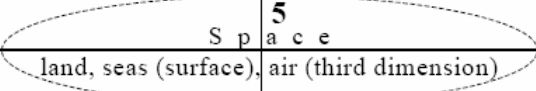
In order to understand the environmental implications of resource processing and consumption, it is necessary to include both upstream and downstream i.e. sources and sinks. The term eco-efficiency is often employed in this context and can be defined as the efficiency with which environmental resources (both sources and sinks) are used to meet human needs. This definition includes the use of bio-productive land and oceans, both at the input side (biomass, cattle breeding, fishing etc.) and at the output side (absorption of pollutants). Thus eco-efficiency is much broader defined than resource productivity.

The drain on biotic resources is particularly alarming; biodiversity and fertile soils are being rapidly used up. Research by WWF indicates that the ‘health’ of the world ecosystem, based

on measurements of the loss of forest area and freshwater and marine animal species, has declined by 30% in 25 years (EU Thematic Strategy, 2005). Half the natural forest cover worldwide has already disappeared, 13% during the last 30 years. Europe only has 1% of its original forest cover left. And there is no sign of this attack on biodiversity diminishing. Poverty is an important underlying cause of further deforestation, of which about two thirds is carried out by small farmers clearing land for cultivation and to obtain wood for fuel. The extraction and use of natural resources are responsible for environmental problems all over the world, and the social and economic impacts of their use cannot always be justified.

Figure 2: Scheme for a classification of natural resources (EU Thematic Strategy, Draft 2003)

	Non-extinguishable resources	Extinguishable resources
Renewable resources	<p>1</p> <p>Flow resources: solar, wind, wave, rainwater.</p> <p>Reservoirs: air (oxygen, CO₂), oceans (water)</p>	<p>2</p> <p>Biological resources: forests, fish, biomass</p> <p>Reservoirs: fresh water basins, aquifers, fertile soil</p>
Non-renewable resources	<p>3</p> <p>Recyclable resources: metals</p> <p>Recoverable resources: other minerals, land</p>	<p>4</p> <p>Non-renewable and non-recoverable resources: fossil fuels: oil, gas, coal</p>



Forests: Strategy development

Sustainable Development: The Sustainable Development Strategy (EU Strategy, 2001) provides the broad framework for promoting sustainable consumption and production in the EU. At Lisbon EU leaders stated their objective of making the Union the world's 'most competitive and dynamic knowledge-based economy' by 2010. The adoption of the EU Sustainable Development Strategy in 2001 added a third environmental pillar to the Lisbon Strategy. The need to pursue, in a balanced way, economic growth, social improvements and environmental protection was translated into detailed objectives and actions. The Strategy identifies six key areas: climate change, health, natural resources, poverty and exclusion, ageing and demography, land use and mobility. At least four areas are very much connected with forests. The forest policy should give priority to sustainable development and forestry prices need to reflect environmental and social costs:

- This will result in a market with less polluting products and services and contribute to change consumer behaviour.
- It will limit climate change and contribute to meet Kyoto commitments.
- It will contribute to properly integrate chemical and environmental management.
- It will foster more responsible management of natural resources.

Sustainable use of natural resources: Twenty percents of Earth's population accounts for 80% of worldwide consumption of natural resources. This fact calls for a moral debate on the

resource intensity of EU economies. All economic and social development depends on supplies of natural resources while exerting at the same time pressure on those resources through emissions and waste. Due to the pervasive demand for natural resources many different policies affect their use and have associated environmental impacts. This includes, for instance, economic policy, fiscal policy, agricultural policy, energy policy, trade and transport policy. However, these policies are not coordinated towards coherent goals regarding the quantities used or the environmental impacts generated.

While Lisbon and Gothenburg provide the broader framework the EU's environmental goals are laid down in the Sixth Community Environment Action Program (6EAP). Key objectives are to ensure a high level of protection and to break the link between environmental pressures and economic growth. By 2005 the 6EAP complemented by seven thematic strategies with clear objectives and targets in key areas: air quality, soil protection, sustainable use of pesticides, protection and conservation of the marine environment, waste prevention and recycling, and sustainable use and management of natural resources and urban environment. While all are relevant for sustainable consumption and production, the strategies on natural resources, waste and urban environment will contribute directly to achieving the objectives of Johannesburg Plan of Implementation, Chapter III.

The Thematic Strategy on sustainable use of natural resources (EU Thematic Strategy, 2005) will tackle resources use in a comprehensive way. The overarching goal of the Strategy is to de-couple environmental impacts associated with the use of natural resources from economic growth, in support of sustainable development. To achieve this, the Strategy provides a framework and measures that allow resources to be used in a sustainable way without further harming the environment. It is based on three core tasks:

- gathering and keeping up-to-date information;
- assessing policies that directly or indirectly affect resources,
- identifying appropriate measures, in particular such measures as to be integrated into other policies.

The final Strategy is developed in an open and collaborative process involving stakeholders and adopted in 2005. Its time-scale is 25 years. In order to tackle the problems important elements in the Strategy are:

- Identifying the links between environmental pressures (air, water, soil) and resource use explicit;
- Making the various policies that influence resource use transparent (such as taxation, technology development, agriculture, transport);
- Exploring an integrative approach able to create conditions that stimulate the actors to shift to more sustainable resources, to use cleaner technologies, and to work closely with all relevant actors in order to find synergies;
- Finding strategies that can remove obstacles for leapfrog technologies such as fuel cells, solar cells, hydrogen use, and new transport technologies.

Sustainable consumption and production: Sustainable consumption and production is at the core of sustainable development, encompassing the three dimensions - economic, social and environmental (Mihajlov A., 2005). At the World Summit on Sustainable Development (WSSD) in 2002, all countries committed themselves to promoting sustainable patterns of consumption and production, with developed countries taking the lead (Serbia 2002 is on the right track, 2002). More specifically, countries made a commitment to promote the development of a 10-year framework of programs on sustainable consumption and production, in support of national and regional initiatives. In March 2003, the European

Council identified sustainable consumption and production and the development of the 10-year framework as one of the key priorities for the EU in the follow-up process to the WSSD.

Towards EU integration – Chapter Environment

Serbia is a Danube, Balkan, and South Eastern European country. In 2000, following a decade of turmoil in the Balkans, it is decided that the route to stability in the region was through steadily closer association with the EU and with the clear prospect of membership (Mihajlov A., 2001). Having the subject forests as the key word for this paper, a few milestones for Serbia's sustainable developed future have to be mentioned:

- 2001: State of Environment determined (Report, 2002; World Bank 2001/2002);
- 2002: Milestone sentence and commitment by Prime Minister "Environment is the priority support to economic development" (Serbia is on the right track, 2002); WSSD active participation;
- 2003: Poverty Reduction Strategy (PRSP, 2003); changes of State of Environment and Natural Resources determined (Report, 2003; UNECE, 2003); participation on Fourth Ministerial Conference on the Protection of Forests in Europe (Mihajlov A., 2003 a); Participation on Kyev „Environment for Europe „ Pan-European Ministerial Conference (Mihajlov A., 2002); International cooperation and projects started (Mihajlov A., 2003; 2004); National Committee for Sustainable Development established, and NSDS initiated;
- 2004: Forests Policy drafted (Forest Policy, 2004);
- 2005: Feasibility Study on the preparedness of Serbia and Montenegro to negotiate a Stabilisation and Association Agreement with the European Union, SEC (2005) 478 final (Feasibility Study, 2005).

National Poverty Reduction Strategy for Serbia (2003):

- Raising income and employment rate in rural areas through the development of forestry (including afforestation and wood processing). The emphasis shall also be placed on professional training.
- Providing sustainability of the environment is one of the eight UN Millennium Development Goals (MDG). In Serbia there is a need to improve all spheres of development goals:....., including management of forest resources and retention of biodiversity.

Feasibility study (2005):

- Agriculture is a key sector in both Serbia and Montenegro. Primary agricultural production (including forestry) accounts for 21% of Serbia's GDP and 15.6% of Montenegro's. These sectors (including fisheries) have considerable further growth potential both in terms of production and trade.
- Environment - In the framework of an SAA, both Serbia and Montenegro would strengthen their co-operation with the EU in combating deterioration of the environment, in particular but not exclusively, with regard to protection of forest, flora and fauna.

Policy development – highlighting forests (not forestry): EU legislative framework forests are considered in chapter Environment (as natural resource under horizontal legislation, as well as in the part of nature protection). The following issues are to be faced in a forest (as resource)

strategy has to address, among other, environmental impacts associated with resource use increases and scarcity of renewable resources such forests.

For the Millennium Development Goals implementation (World Bank, 2003) important sustainability indicators are:

- The proportion of land area covered by forest,
- The ratio of area protected to maintain biological diversity to surface area,
- The carbon dioxide emissions (per capita).

They are targeting the integration of the principle of sustainable development into country policies and programs in order to reverse the losses of environmental resources.

Following the sustainable development principles as well as the state of quality of the environment at global and national levels (Mihajlov A., 2003 a) “the reforms in the forestry sector in our country comprise the following: The national policy and strategy should open the way for joint efforts in this area, including the development and strengthening of the institutions, reaching the national programme for management, preservation and sustainable development of forests and forest lands and improving the co-ordination mechanism of inter-sector policies.”

As noted (Forest Policy, 2004) the state has four basic functions in the forest sector: the regulatory, oversight, ownership, and support functions. The economic goal of the forest policy is to ensure the sustainable development and profitability of the forest sector, taking into account environmental and social requirements and to generating the greatest possible increase in value added. The support function includes activities carried out by state institutions and/or with state funding to create conditions for the stabilization of long-term forest functions and to promoting private entrepreneurship:

- professional and academic education;
- forest owner extension and consultancy systems;
- forest science;
- forest inventory;
- statistical and information systems;
- pest and disease control;
- forest fire fighting;
- supervision of forest regeneration materials;
- forest monitoring etc.

It should be noted that National Forest Policy (Forest Policy, 2004, p.28) is based on the following general principles:

- *National objectives:* Forest policy has to be consistent with the Constitutional commitments and national objectives and guidelines of sustainable development stated in the plan documents of the Republic of Serbia.
- *Conservation and sustainable development:* The forests in Serbia will be managed so as to meet the needs of the present and future generations.
- *Life conditions:* Improvement of life conditions should be the main goal of all strategies and activities of forestry sector development.
- *Biodiversity and environmental benefits:* The development of the forestry sector should safeguard the biodiversity of Serbia's forests and procure environmental benefits by effective strategies of forest ecosystem conservation.
- *Partnership in management:* The new inter-institutional relations should promote efficiency, transparency and professionalism, and should inspire confidence among all stakeholders.

- *Cultural and traditional heritage:* The development of the forestry sector will consider the national cultural and traditional heritage.
- *International commitments:* The development of legislation should harmonize national interests with international commitments affecting the forestry sector.
- *Evaluation of the sector:* The evaluation of environmental and social functions should be an integral part of the overall assessment of the sector development strategy.

Altogether, forest policy should be taken as the basic framework. It should give priority to sustainable development forestry prices which reflect environmental and social costs. This will result in a market with less polluting products and services and contribute to changes in consumer behaviour.

Concluding remark

This paper reaffirms and supports the vision and importance to include conditions of sustainable use of forest and other natural resources in national legislation, as a tool for efficient approximation with relevant EU environmental standards. Sustainable development tools should be introduced by practical means in policies and strategies. The national sustainable development strategy needs to be finished and approved.

Literature cited

- EU Strategy (2001) for Sustainable Development – COM (2001) 264 final
 EU Thematic Strategy (2003) on Sustainable Use of Natural Resources – COM (2003) 572
 Feasibility Study (2005) on the preparedness of Serbia and Montenegro to negotiate a Stabilisation and Association Agreement with the European Union, SEC (2005) 478
 Forest Policy (2004) of Serbia-Draft, Ministry of Agriculture, Forestry and Water Management of Serbia
 Mihajlov A., Stevanovic-Carapina H. (1997) Different Initial Levels for ISO 14000 in Developing and Developed Countries, HazWasteWorld-Superfund XVIII Conference Proceedings Volume 1, pp 1-5, Washington, USA
 Mihajlov, A. (2001): Reform Agenda for Environmental Sector in Serbia as the Support to Environmental Security in the Country – On the Path to Stability and Growth. Introductory lecture, Organization for Security and Co-operation in Europe, Tenth OSCE Economic Forum on “The co-operation for the sustainable use and the protection of quality of water in the context of the OSCE”, First Preparatory Seminar. Belgrade
 Mihajlov A. (2002): Understanding linkages and full inclusion of the country in “Environment for Europe” Process, First Preparatory Meeting for the introduction of Yugoslavia (SRM) to “Environment for Europe Process” June 20-21, 2002, Belgrade
 Mihajlov A. (2003a): Statements of European Countries and European Community-Commitment of Serbia and Montenegro to Reforms with Environmental, Forests and Other Natural Resources Protection Components, Fourth Ministerial Conference on the Protection of Forests in Europe, Conference Proceedings, p.134-135, Vienna, Austria
 Mihajlov A. (2003b): Participation and opening speech on International Conference on Sustainable Development for Lasting Peace: Shared Water, Shared Future, Shared Knowledge, May 6-7, Athens, Greece

- Mihajlov A, (2004): Environmental Cohesion of Western Balkan Countries as the Tool and Condition for EU Accession, Book of Abstracts of 8th EACES (European Association for Comparative Economic Studies) conference-*EU Enlargement-what comes after 2004?*, Beograd 2004, p.131
- Mihajlov A. (2005): Održivi razvoj i životna sredina ka Evropskoj Uniji, monografska publikacija uz Regionalni simpozijum sa međunarodnim učešćem “Životna sredina ka Evropi”, juni 2005 Beograd; book “Sustainable development and Environment towards Europe in 95+ steps” published in English by support of Canada Fund in 2006, Serbian Chamber of Commerce/ Environmental Ambassadors, Beograd
- PRSP (2003): Poverty Reduction Strategy Paper for Serbia
- REPORT (2002) on the State of the Environment in 2000 and Priorities for 2001+ for Serbia. Ministry for Protection of Natural Resources and Environment
- Report (2003) of the state of the environment and natural resources for 2002 for Serbia (in Serbian), Ministry for Protection of Natural Resources and Environment
- Serbia 2002 is on the right track (2002), with Message of Prime Minister Zoran Djindjic in the year of WSSD, June 2002
- Ministry for the Protection of Natural Resources and Environment of Serbia – for WSSD
- The GlobScan Survey (2005) of Sustainability Experts: 2004-2 Highlights Report, GlobScan
- UNECE (2003): UNECE “Environmental Performance Review for Yugoslavia”
- World Bank (2001/2002), Environmental Sector Review for FRY
- World Bank (2003): Meeting the Environment Millennium Development Goal in Europe and Central Asia

Role of state forest institutions in the implementation of forest law

*Mirjana Stevanov and Max Krott**

Abstract

Recent forest legislation developments are showing that new forest and forest-related laws have been formulated or that the revision of the existing ones, has taken place in almost all European countries. The most remarkable developments occur within the East and Central European states, where political and socio-economic changes imposed creation of completely new forest legislation. The State Forest Service (SFS) is a major player in the implementation of forest and forest-related laws. It is a part of the public authority and, within the framework of its authority tasks, bears responsibility over the whole forest territory independent from ownership. On the other hand, the SFS manages the state-owned forests ranging from 5% to 90% of the whole forest area in different European countries. Looking at East and Central European countries, state-owned forests will continue to exist on more than a half of the whole forest area after the restitution / re-privatization processes. Within their authority and management duties, forest institutions in Europe developed various organizational models in order to achieve goals formulated in the legislation. How well does the state forest service fit to the goals formulated in forest and forest-related laws is the question with which this paper is concerned. Because the great variety of forest institutions is evident, the answer is given by benchmarking based on a comparison between SFS performance and goals formulated in the forest and forest-related laws. Goals cover a great variety of laws and great diversity of state forest institutions, they are formulated in theoretically sound and empirically feasible terms, and visualised as benchmarking criteria in the benchmarking model. The benchmarking model for international comparison provides guidance on the overall SFS performance and helps optimizing forest service tasks and organization toward legally defined goals.

1 Introduction: Misuse of comparisons

Reforming state forest institutions is an important issue of forest policy all over Europe. A prominent argument of the debate is that state forest institutions are too expensive. E.g. since 1999 in Germany the “Frankfurter Allgemeine Zeitung” has constantly been reporting about ‘profits in Austrian and red numbers in German state forests’¹, taking ÖBf AG as an example for success. The simplicity of the argument that the state forests should make profits give political strength to this goal even if it is well known that state forests have a broader obligation than making money. In nearly all countries the forest laws formulate specific public tasks for the state forests comprising the guaranty of benefits from forests like recreation, protection and biodiversity. In the last decade the reforms of the forest law, especially in Eastern Europe, have underlined the importance of sustainable forest management aimed at the multiple-use of forests. There are no doubts that making profit

* University of Goettingen, Germany, Institute for forest policy, forest history and nature protection, Buesgenweg 3, 37077 Goettingen, Germany, mzavodj@gwdg.de, mkrott@gwdg.de

¹ Frankfurter Allgemeine Zeitung: 25.08.99; 29.07.00; 25.11.01; 28.08.02; 03.07.04

cannot be the only criteria for the success of state forests but the fulfilling of all requirements stated in the law.

The challenge is to develop criteria which are able to evaluate the performance of the state forest institutions in a comprehensive manner but simultaneously are nearly as simple and easy applicable as making profit. Only such a set of criteria would allow a judgement of national state forest institutions and further comparison among different countries.

2 Question and theoretical approach

Forest laws formulate complex objectives concerning sustainable forest management (Schmithüsen 2000:11), appointing state forest institutions (SFI) with many diverse implementing tasks (Krott 2001). If laws are seen as the output of the forest-policy formulation² (Jann 1981:26) and state forest institutions as assigned with the law implementation² (Krott 2005a:265), then criteria for evaluating SFI performance need to be based in the newly formulated forest laws. In addition the evaluation of the role of state forest institutions in the implementation needs criteria which are clearly connected with the activities of the state forest institutions to achieve specific goals of sustainable forest management. E.g., it is not sufficient to measure the goal of biodiversity of the forest but it is important to evaluate at the same time whether this standard is achieved by economic or political activities of the state forest institutions. Such information can be produced by a causative evaluation which focuses on the causative factors of specific performances of the state forest institutions (Hasanagas, Krott 2006, Levine et al. 1981).

The criteria for causative evaluation have to be based on scientific theories. If the roles of the state forest institutions may be comprised under policy and management ones (Krott 2005a:141; Krott, Stevanov 2004) then criteria need to be linked to the political and economic theories, since there is no single theory that harmonises these roles together. Only the combination of these different theoretical frameworks enables comprehensive evaluation of the SFI performance. By using only one or another, one could not assess overall SFI performance and only one distorted comparison between SFIs would be produced.

A combination of political and economic theories, which normally do not get along with each other, is fruitful in this case. They cover overall SFI activities and, if the results and the knowledge won have to be transferred to the forest-policy decision makers in the field, it is important that practitioners can recognise them within their own scope of duties³. Because of that, additionally to their linkage to the theories, criteria should capture forest law objectives in the terms which are understandable for the forest-policy practice at the same time. The question is thus to develop criteria for a causative evaluation of state forest institutions which are in line with their various legally formulated tasks, taking into account the different roles SFIs play in the forest law implementation, and which are captured in terms theoretically based and empirically feasible at the same time. Additionally, a methodology should be designed for using these criteria in practice.

In order to be able to compare SFIs performance with many diverse standards extracted out of the forest laws, a method broader than one based only on quantifiable goals and comparison of economic key figures is chosen: benchmarking (Schwertzel 1997:12; Kreuz, Herter 1995:37). Benchmarking is a tool suitable for comparisons of vastly diverse criteria, as it is

² Within the policy theory, policy-making process may be analytically taken as consisting of two phases, policy formulation and policy implementation (Windhoff - Héritier 1987:19).

³ Management and policy ones.

the case here. It is a process of finding comparison standards (=benchmarks) and comparing specific benchmarking objects against them (Grundmann 2001; Pieske 1992:149; Griebler 2004:24), whereby not only quantifiable standards may be selected as benchmarks but all the different ones considered important looking from the perspective chosen (Straub 1997:48). Which criteria are going to be selected depends in the first place on the benchmarked object (Griebler 2004:28). Since there are no limits with respect to what is being benchmarked (Pieske 1995:57) the same may be concluded for the criteria: benchmarking enables comparison of highly diverse criteria. The confirmation is to be found in numerous practical examples (Camp 1994; Grundmann 2001; Griebler 2004; Straub 1997; Martin 2001). In our case, standards are extracted from different forest and forest related laws, the object of benchmarking being SFI performance⁴ and in order to be able to discuss results with the practitioners in a communicative way (Schwertzel 1997) selected criteria are made constructive parts of the benchmarking model. As models, being abstracting reproductions of reality, emphasize particular elements of it depending on the research approach chosen (Naßmacher 1991:19), criteria extracted from forest laws represent standards relevant for the SFI reforms seen from the forest-policy perspective.

The aim of this paper is to discuss different benchmarking criteria in respect to their roots in forest laws and economics as well as in political theories. Additionally, a pre-test of the benchmark model should be made about the ability of the model to measure the most relevant dimensions of recent reforms within state forest institutions and forest policy. Before, a brief discussion on limits of using Pan-European criteria in measuring SFI performance will be given as well as insides in new forest laws and forest institutions in Europe.

3 Relation between Pan-European and benchmarking criteria

The UN Conference on environment and development in Rio initiated⁵ several processes concerned with the development of criteria and indicators for sustainable forest management (SFM). In the European context, the Ministerial Conference on the Protection of Forests in Europe (MCPFE) is an example of such a process focusing on sustainable development and management of European forests. At the second⁶ Conference sustainable forest management was defined and outlined in resolution H1 (General Guidelines for the Sustainable Management of Forests in Europe). For the purpose of promotion, implementation and monitoring of the progress towards SFM in Europe an expert group developed subsequently the pan-European criteria⁷ and indicators (C&I) (MCPFE 2001b). They were adopted at the third conference⁶ (Lisbon Resolution L2) and the ministers responsible for forests agreed to continuously review and further improve the indicators (ibid.). The actual catalogue of improved⁸ C&I contains six criteria, which are judged with the help of 35 quantitative and a number of qualitative indicators (MCPFE 2003b). This C&I catalogue, when completely operationalised and the data collection and reporting systems harmonised, will be an outstanding process for monitoring and documenting the status of sustainable forest management and an excellent political tool for comparative judging of ecological, economic

⁴ See Chapter 5.

⁵ United Nations Conference on Environment and Development (Rio 1992) formulated in Chapter 11 of the Agenda 21 the need for '*scientifically sound criteria and guidelines for the management, conservation and sustainable development of all types of forests*' (URL <http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter11.htm>).

⁶ Held in Helsinki 1993 (first 1990 Strasbourg, second 1993 Helsinki, third 1998 Lisbon and fourth 2003 Vienna).

⁷ Known as Helsinki Criteria and now days as 'Pan-European criteria for sustainable forest management'

⁸ Adopted in Vienna.

and socio-cultural aspects of SFM Europe wide. The pan-European C&I represent one exceptionally good tool for value and goal oriented evaluations. Such evaluations make conditions and developments of SFM evident, showing whether its different aspects should/could be achieved. The goal oriented evaluation differs from the kind of information which is delivered by causative evaluations designed in this paper.

Benchmarking criteria and indicators are created for causative evaluations. They evaluate performance of SFIs respective goals formulated in forest laws and deliver also economic and political explanations⁹. The combination with the pan-European C&I could deliver most relevant information for reforms. Taken the biodiversity MCPFE criterion as an example: one part of biodiversity may consist of marketable products (benchmarking criterion: orientation toward new-markets¹⁰), another part of biodiversity is delivered as a public-good (orientation toward public-good demand¹), in addition other parts of biodiversity belong to the core concept of sustainable forestry (ecological sustainable management). Joint profiles of these two sets of C&I may be fruitful for analysing their relations and comparing results assessed by the pan-European criteria with the intensity of the political and/or economic performance measured with the help of causative evaluation. (Krott et al., 2006).

4 New forest laws and state forest institutions in Europe

The last one and a half decades are characterised by the dynamic changes in forest and forest related legislation. In most of the European countries new forest laws have been enacted or existing ones substantially amended (Schmithüsen et al. 2000, Bauer et al. 2004:1). The changes are most evident in the countries of Eastern and Central Europe (Cirelli 1999) but they haven't passed by the old democracies too. Since the beginning of 1990's young European democracies are undergoing overall reforms. Transition from centrally planned systems to market economy and democracy brought changes in all spheres of political, social and economic life. Forestry was not left aside. In most of these countries new forest laws were perceived as an urgent necessity and the replacement of old forest legislation has been completed amazingly fast (FAO 2001). Profoundly modified legal networks of forest, nature conservation and environmental protection legislation was introduced (Schmithüsen et al. 1999, 2000). This new legal framework, a very progressive and innovative one, was often hastily adopted and thus (in most of the cases) also accordingly revised in order to adjust to the real situation (Schmithüsen et al. 2002, Le Master et al. 2003).

This altering process has not been limited to the young democracies only. Change of forest and forest related legislation has gained considerable momentum throughout the whole continent (Cirelli and Schmithüsen 2000:1). Old democracies haven't undergone such a radical legal transformation as that was (and still is) the case with the transition countries, but shifts in social, political and economic contexts brought some revisions of the traditional legislation (Schmithüsen 2004, Abrudan et al. 2005, Krott 2005b). Countries such as Spain, Finland or Portugal have timely used windows of political opportunities and changed their forest laws entirely: Spain - Forest Law 1995, Finland - Forest Act 1996, Portugal - Forest Law, 1996 (Schmithüsen 2000:5).

⁹ Productivity and distribution of forest resources depend on ecological, economic and political processes, and because of that the goal achievement needs to be measured according to the standards which are close to these domains.

¹⁰ Benchmarking criteria, described in Chapter 5

New forest laws support all different aspects of sustainable forest management. They moved from the perspective focused on wood as a sustainable resource, addressing much wider range of private and public goods and values, acknowledging equal importance of production and conservation. Sustainable management and utilisation of forests are regulated in a way supporting sustained and balanced timber production, protection of forests for water and soil conservation and against natural disasters, recreational uses, biodiversity safeguarding, etc. (FAO 2001; Cirelli and Schmithüsen 2000). Forests are seen as a part of the broader natural resource base, contributing to the overall sustainable development.

The State Forest Service (SFS)¹¹ is a key player in the implementation of forest law in young as well as in the old democracies. This key position is based on the comprehensive tasks this service is dealing with (Krott 2001:43):

- As a part of the general public authority forest service has to fulfil authority tasks. Those comprise law enforcement and implementation control in the first place. It makes the forest authority responsible for the whole forest territory, independent from ownership categories. Further competencies make this institution engaged in forest policy formulation, extension services including technical advice, planning operations, allocation of financial incentives to private forest owners, and public reporting on forestry matters.
- Additionally, SFS is responsible for the management of state forest. State forests amount to between 7 – 90% of the forest area across the different European countries (Phare 1999). In the young democracies state-owned forests usually cover more than a half of the whole forest area and that will remain so also after privatization and restitution processes (ibid.). The State forest service is assigned with the management of these forests and in most of the cases represents the biggest forest enterprise in the country. Optimizing wood production with the production of public goods such as nature protection, environmental benefits or recreation is a complex task and a big challenge (Krott 2001).

Within the mentioned authority and management tasks, forest institutions in Europe have developed various organizational models (ibid.). Organisational variants range from those where all tasks on all levels are in the one hand (German 'Einheitsforstamt') up to those where management and authority duties are completely separated, which is the case in Austria for example. In addition, there are plenty of mixed cases, where a management institutions are appointed with certain authority tasks.

5 Benchmarking SFS performance against policy goals

Benchmarking is one instrument coming from the business management practice. It is used for identifying firm's performance and improvement possibilities based on comparisons with other firms or accepted performance standards (Grieble 2004; Straub 1998). The term benchmarking comes from the 'bench mark', which describes fixed points (on the bench¹² or in the space¹³) that are used as references for measuring all other points out of the comparisons (Camp 1994; Grieble 2004; Grundmann 2001; Straub 1997). Thus, in a broad sense, benchmarking may be taken as a principle of active setting of standards – benchmarks – according to which benchmarking objects¹⁴ may be compared (Grundmann 2001; Straub

¹¹ Comprise all state forest institutions (SFIs) within one country.

¹² In medieval times manufacturers marked the fixed lengths on their working benches which were used for the length measurements of other reproducible objects (Fromm 1999:93)

¹³ Later the term bench mark (BM) was overtaken for topography purposes, as a reference point in the land surveys (...)

¹⁴ Products, processes, performances, etc.

1997:46). As such, the principle is broadly applied in the private and public sector practice (Camp 1994; Gunasekaran, Gupta 2003; Julnes 2003) and it may be innovatively used in the field of policy and social science (Krott, Stevanov 2004). Since benchmarking is universal tool and there are no limits concerning its application (Pieske 1995:57).

In order to assess performance of state forest services they may be benchmarked against selected forest-policy goals. In our concrete case, benchmarking is focused on measuring performance of state forest institutions in the implementation of forest law (Figure 1). Performance refers to what has been delivered as an output by the SFI at a measured point in time. SFS output is measured with the help of performance indicators and evaluated against criteria selected (=benchmarks). The sources of benchmarks are new and revised forest and forest-related laws containing comprehensive standards according to which forest institutions are acting (Figure 1).

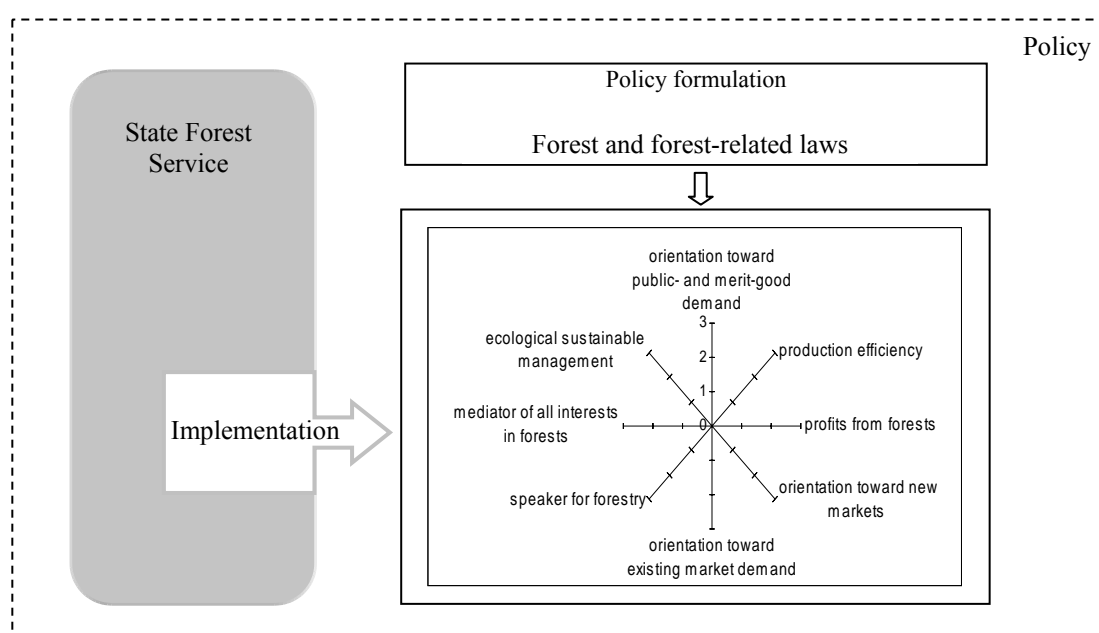


Figure 1: Benchmarking state forest services in the implementation of forest and forest-related laws

Objectives contained in the forest laws are in most of the cases multi-dimensional, vague and not rarely also contradictory (Jann 1981:51). Thus, the process of finding benchmarks is very important, constituting the way criteria are selected and the terms used to describe them. In order to find benchmarks which are suitable for an international comparison of SFIs and useful for the forest-policy decision makers, the following extracting procedure was applied: from among numerous statements concerning utilisation and/or protection of forests those were selected which were found in the great majority of different forest and forest-related laws examined and which were valid for different types of state forest institutions. Such extracted statements were linked to the relating political and economic theories¹⁵ in order to be captured in an operational way, enabling performance measurements. Beside their theoretical roots, terms used for describing criteria are chosen to be empirically feasible at the same time, while the information is to be made available for, and communicated with, the political practice. Policy scholars are aware of the fact that terms chosen need to be close to

¹⁵ They were linked to the economic and political theories while all SFS activities are taken to be grouped in the policy and management ones (Chapters 2 and 3).

the every-day interpretations of the policy practitioners so that they are able to recognise them within their own range of activities (Krott 1999:4). Not rarely, findings of social sciences are presented in very general scientific terms so that practitioners are not able to win any new information needed for their concrete decisions (Mueller 1994:57).

Relying on the extracting conditions described, the following criteria have been selected from forest and forest-related laws and taken as benchmarks according to which the overall SFS performance may be evaluated (Krott, Stevanov 2004):

Orientation toward user demand: Forest and forest-related legislation of different European countries agree that forests should serve to their users. Perspective focused on wood as a sustainable resource moves toward the broader one, addressing the wide range of private and public goods and values. Multiple-use forestry should enable sustained and balanced production and delivery of timber, recreation, protection, biodiversity, and many other goods and services demanded. When objectives going in line with these trends are linked to the economic theories (Klemperer 1996; Gregory 1972; Price 1989; Tietenberg 1992; Bergen 1997; Samuelson et al. 1992; Stiglitz 2000; Musgrave et al. 1992; Cabbage et al. 1993), the following goals appear as benchmarking criteria:

- SFI orientation toward existing market demand and
- SFI orientation toward public-and merit-good demand.

Existing market demand is demand on goods that are exchanged on existing product markets via pricing mechanism (Samuelson 1992), where timber is the most typical example, but also fuel and pulp-wood, other biological products, different materials and substances, etc. How does the market look like is not of the interest, orientation means whether SFS actively responds to the demand expressed. On the other hand forests produce outputs for which markets fail. Market failure refers to the inability of freely functioning markets to account for all the benefits provided by forests (ibid.), such are important part of the nature protection, recreation, biodiversity conservation, other environmental benefits, etc. These non-market goods are considered public ones as the exclusion principle can not be applied after they are produced (Glück 2002:80). Public-goods are delivered with the help of public means in order to serve to the existing demand from the different user groups. Merit goods are goods whose delivery is advantaged in the society as desirable and which are secured by the political intervention, independent from the preferences of the individual consumers (Musgrave et al. 1992:100). Examples are employment security or maintenance of the broad spectrum of private forest ownership. When politics recognises this risks better than markets (market goods) or society (public-goods) it feels itself legitimate to act corrective and establish merit goods¹⁶ (Krott 2005a:197).

Ecological sustainable management: When taken that sectors are organised around the core technologies, the core content of the forest sector and forest-policy is forest and its use (planting and harvesting, as core technologies). If forest disappears the same will happen to the forest sector, even if land is further managed in a sustainable way (but for other purposes). Thus, the core technologies are developed not only on the scientific knowledge base but the natural-science based knowledge is combined with political decision about the use (Decker, Ladikas 2004).

Preservation of the most important forestry output – sustained forest is a very important content of forest laws all over the Europe and it is politically declared as a merit good. Markets do not tend to preserve socially optimal forest area, soil productivity and stand

¹⁶ Or disadvantaged, in the case of demerit goods.

vitality, first of all while economy considers forest resources as substitutable ones. The core technology can be defined in the modern term of strong sustainability paradigm. Strong sustainability underlies the natural capital¹⁷ as fundamentally non-substitutable through other forms of capital¹⁷ and calls for the preservation of the physical stock of those forms of natural capital that are regarded as non-substitutable or so-called critical natural capital¹⁷ (Neumayer 2003). Here, natural capital comprise trees which are forestry used (sustainable used forest) and on the ground that is able to produce forest. This political goal of the forest sector, being formulated in forest laws in the ecological terms, is here comprised under the criterion:

Strengthening economic performance of forestry: There is a consensus in the forest legislation that economic performance of forestry should be increased and that state forest service should contribute to the objective to a high extent. When linked to the business management theories, this goal implies following benchmarking criteria:

- production efficiency,
- profits from forests and
- orientation toward new markets (Figure 2).

Production efficiency means that predefined outputs, market or public ones are produced in line with the cost minimising procedures (Oesten et al. 2002). Profits are oriented toward maximising the positive difference between revenues and production expenses (Meigs 1996:85). Orientation toward new markets is connected with the innovation. It relates to the active creating of new products, by 'shifting' them from the public into the marketable ones by marketing additional product benefits (Mantau et al. 2003; Pagiola et al 2002; Cesaro 1998). This three criteria count equally to SFIs oriented toward satisfying public and merit-good demand as well as SFIs oriented toward satisfying existing market demand. Both, market and public-goods may be produced cost efficiently, with the positive difference between revenues (public or market ones) and expenses and new markets differ from the existing ones¹⁸ anyway.

Political role of solving user conflicts: Forests are seen as a part of the broader natural resource base, contributing to the overall sustainable development. Forest resources are subject of interests of different sectors and forest sector should be thus coordinated and harmonised with the use, protection and development of overall natural resources. Coordination means inter-sectoral approach to planning and implementation of forest management and stakeholder participation. If this is linked to the political theories (political process), following options appear as benchmark criteria for the specific SFS:

- to be a speaker for forestry or
- to be a mediator between all interests in forests (Figure 2).

Speaker is accepted representative of the forest sector, promoting the concept of multiple-use forestry but advocating sustainable and profitable timber production, usually being supported by the strong timber industry (Sabatier 1988; Krott 2005a). Mediator is state forest institution skilfully facilitating deliberative process of finding solution concerning multiple forest use by balancing all interest in forests, without personally taking any side of the argument but relying on demands formulated by stakeholders involved (Falk 2005; Benz et al 2004; Lange, Schimank 2004; Hogl 2002). In order to be able to judge SFI performance against each of the

¹⁷ Capital assets include manmade capital, human capital, social capital and natural (environmental) capital. Natural assets for which there are no substitutes at all are termed 'critical natural assets'. Those for which there are substitutes but where substitutability is low are 'non-critical' natural resources. The sum of critical and non-critical assets is (total) natural capital.

¹⁸ Criterion: Orientation toward *existing* market demand

selected criteria, the way of using performance indicators was chosen. As the word ‘indicator’ already assumes, they act as signs or symptoms for the presence of something (Rametsteiner 2001:110). In order to be useful tools, indicators have to be chosen as relevant, reliable, valid and easy to measure (ibid.). Performance is presented on the scale from 1 – 3 (Figure 2), where each category shows how particular SFI utilises existing potential respective each benchmark.

6 Pre-test: relevance of the benchmarking for the reforms

Directions of last reforming processes in the public administration, as described by Jann (2002; 2004), Wegrich (2004) and Bandemer et al. (1998) among others, are caught under following catchwords: ‘slim’ and ‘activating’ administration. The first relates to the administration within the traditional government. State is lacking financial means for the increasing number of tasks and for the control of their delivery, along with the not highly efficient bureaucratic procedures. The way of searching solutions led to the experiences of the private sector and to management as the rational for reforms. Instruments as contracting management, output steering, decentralisation, outsourcing, privatising, etc., are overtaken from the private sector and transferred to the public one. Consequently, tasks which used to be delivered by the state were reduced and the administration is becoming slimmer. On the other side, there is the second, emerging concept, hiding behind the ‘activating’ catchword: governance. Not the state failure but the failure of the society is seen as the main obstacle for the socio-economic advance. Not only the state is responsible for problem solving but also the society itself, which need to be mobilised in looking for the way out of the specific problems. Within this concept the new programmatic relationship between the state, markets and the civil society has to be reached and the potential new role of the administration is to activate actors from all three spheres in joint search for solutions.

When looking at the ongoing reforms in the European forest sector, they can also be simplified by the two main trends, namely by the role of the state forest service within the traditional forest government and the new (potential) role within the elements of new forest governance (Krott 2005b):

- Within the traditional government, important forestry issues are handled by the state. The traditional public problem solving is reflected through the policy process, formulating binding forest policy programs and implementing them by partly binding means (Krott 2005a). The state has the authority to implement formulated solutions for all forest users. On that way it holds the central position in regulating the conflicts and in guiding the use of forests. State forest service plays important role in the traditional forest-policy making, because of its involvement in forest policy formulation as well as in the state wide implementation of formulated programs (Chapter 2). Additionally, it bears economic importance due to the management of state owned forests. SFS – comprising authority and management tasks combined within the different organisational models - is thus a key player within the traditional forest government.
- New treats for the forests and forestry problems going beyond the responsibilities of just one state or authority are examples where the traditional state centred government process is facing its limits. State finances and political power become insufficient to cope with arising problems of sustainability and new types of problem solving are asked (Krott 2005b). Since the late nineties the number of policy instruments that go beyond the responsibility of only one state authority arose, as for example national forest

programs (Glück et al. 1999) or international agreements (MCPFE, EU Forest strategy, etc.). These instruments fit into the new concept of forest policy-making – forest governance. That is a social bargaining process for regulating conflicts of interests in forests within self organising networks of public and/or private members (Benz 2004; Schuppert 2005; Krott 2005b). Such joint problem solving means that government is just one of the actors in the process, where also non-profit organisations, associations, all different enterprises on the markets, consumers, etc. also produce the rules on how forests are used (ibid.). Specific forest problems are nuclei around which networks of different actors are built. This kind of policy making needs someone who is competent and able to build up and maintain networks of inter-sectoral partnerships, balance different interests, following certain rules and procedures (ibid.). State forest service may fit well into this new potential role within the new elements of forest governance.

Benchmarking is relevant for the reforms while it is capable to measure both reforming trends described (the role of the SFS within the traditional government as well as the new role within the forest governance), by using comprehensive forest law standards as benchmarks. Benchmarks mirror overall common forest-policy objectives and on that way all SFS performance aspects are taken into account. When all performance aspects are considered it becomes clear which objectives are being well performed and which not. Now days, when the shortage of the financial means in the SFSs is increasing having a strong influence on the extent to which policy objectives may be pursued, reforms are characterised by shifting to the specific bundle of goals, depending on the policy-making system at hand:

- Within the forest government, state is expecting high production revenues from the SFS and more cost savings. In old democracies SFS deficits are permanently rising, opposite to the amounts of the financial means flowing from the budget to cover them. In young democracies state budget is seldom able to cover any SFS deficits and political pressures are posed on the state forest management to deliver more revenues. Reforms are thus concentrated on strengthening SFS economic performance and mean the shift to the 'profit seeking' institutions (Krott 2005b; Krott, Stevanov 2004). Such forest service performs particularly well against the bundle of specific objectives (Figure 2), where profit has a central position. Consequently, orientation toward existing market demand must be strong. On the other side, free supply of public-goods must be reduced because of the shortage in the public budget. These goods are delivered in so far new markets for public services are actively created (recreation, nature protection, CO₂ sequestration), bringing additional revenues for the SFS. Production of all goods and services is accomplished according to the cost-minimising principle, holding production efficiency on the high level. That is an additional reason for the reduced delivery of public-goods. Policy role of this SFS as speaker for forestry is diminished while savings in public funds reduce public administration, its extension and planning tasks and also some monitoring ones. Ecological sustainable management in production forests outside protected areas is strongly accepted principle. This prototype of SFS goes in line with the general changes in the public administration within the government (Jann 2002; Jann, Wegrich 2004).
- On the other side, institutional reforms may switch to the forest governance direction (Krott 2005b; Krott, Stevanov 2004), where SFS is about to leave the role of advocating the forestry and strengthen the position of broker between all different stake-holders that have interests in the use and protection of forests. In both, old and new democracies, this potential role is new for the traditionally closed forest sector, which has to open itself in activating society and enterprises to participate in decision making and forest

management. That presupposes the shift in the goals followed (Figure 2). SFS is tracing back from the speaker role and its activities are concentrated on becoming a mediator of all interests in forest, organising and mediating the process of joint search for solutions on sustainable multiple forest use. That presupposes unbiased SFS that is oriented toward demands of participating forest users and that is accepted as such from their and political side. In that case SFS will remain competent for most of the tasks concerning multiple forest use. Production efficiency with which new tasks are completed is kept on the high level as well as the ecological sustainable management. Orientation toward market demand is not primer any more but the orientation toward public-good demand, financed by the public means. Timber is produced in so far industry demand is expressed and it is reconsidered within the palette of all other demands. This prototype of SFS goes in line with the general changes in the public administration within the governance (Jann 2002; Jann, Wegrich 2004; Bandemer, Hilbert 1998).

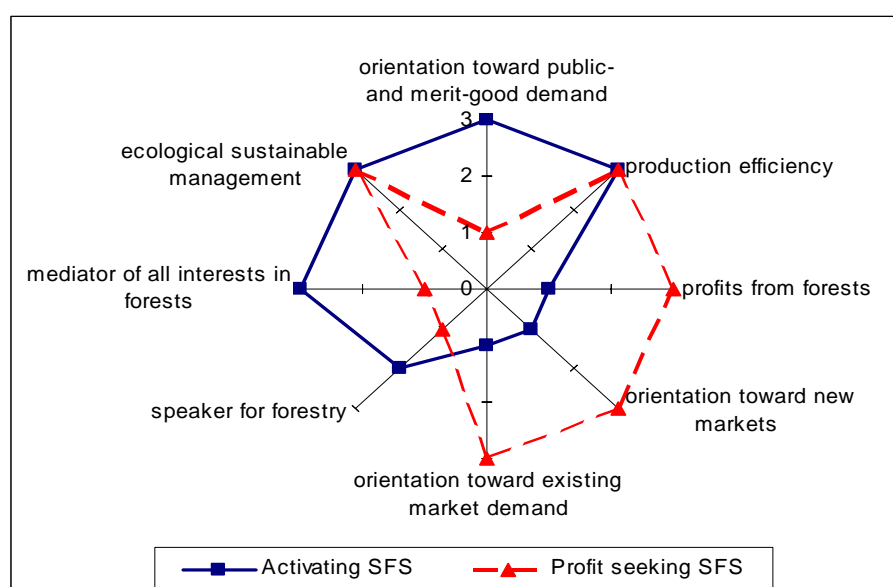


Figure 2: Benchmarking State Forest Service (SFS) against goals from forest and forest-related laws – prototypes of activating and profit seeking forest management institution
Source: Krott 2005b; Krott, Stevanov 2004, Krott, Sutter 2003.

Both prototypes described deliver particularly high output respective certain selected tasks and respective others not. That becomes clear after one comprehensive SFS performance measurement is undertaken. This is very important in the now days reforming processes, while reforms are oriented toward optimising SFS tasks and organisation and for that purposes an overall SFS performance is important (Krott, Sutter 2003; Krott, Stevanov 2004). Only after one comprehensive assessment of the institutional performance, done on the equal base by the application of the uniform standards, all benefits and their counterparts of the goals followed may be assessed out of the comparisons.

7 Conclusions: Relevant comparison by causative benchmarking

A benchmarking model is developed which should give a basis for international comparison of the role of state forest institutions in implementing the law. The benchmarking criteria should be relevant for the tasks formulated in the law and for the activities of the state forest

institutions. The concept of a causative evaluation by benchmarking was chosen with the following result:

1. The complex legally stated tasks of the state forest institutions can be covered well by a benchmarking model. Based on the concepts of public goods and marketable goods and political role the whole range of goals stated in forest laws is covered. The comparison can be sufficiently improved in respect to a comparison restricted to economically quantifiable standards only.
2. The criteria of the causative evaluation based on economic and political theories are simple. They give nevertheless important information about the processes which could change the output of state forest institutions. Such information is a valuable complement to the goal oriented evaluation by the pan-European C&I.
3. The model is able to discuss important trends of the ongoing reforms of the state forest institutions within forest government and forest governance concepts. The model shows the objectives strongly followed by specific prototypes. It makes clear that and how the “profit seeking state forest institution” differs from an “activating state forest institution”. A fair comparison is possible only if the differences in goals are considered which is neglected in the most recent political and scientific discussion often.
4. Future research is needed for developing operational benchmarking indicators and for empirical analysis to prove the potential of the benchmarking in practice.

Literature

Abrudan, I. V.; Schmithüsen, F.; Herbst, P., (Eds.), (2005): Legal Aspects of European Forest Sustainable Development. Proceedings of the 6th International Symposium, Poiana Brasov, Romania. Transilvania University, Brasov, 2005. 180 pp.

Bandemer, S. von, Hilbert, J. (1998): Vom expandierenden zum aktivierenden Staat. In: Bandemer, S. von, Blanke, B., Nullmeier, F., Wewer G. (hrsg): Handbuch zur Verwaltungsreform. Leske+Budrich, Opladen: 25-32.

Bauer, J., Kniivilä M., Schmithüsen, F. (2004): Forest legislation in Europe: how 23 countries approach the obligation to reforest, public access and use of non-wood forest products. United Nations, Geneva.

Benz, A., Lütz, S., Schimank, U., Simonis, G. (2004): Governance – Regieren in komplexen Regelsystemen. Verlag für Sozialwissenschaften, Wiesbaden.

Bergen, V. (1997): Volkswirtschaftslehre, Teil 1. Institut für Forstökonomie Georg-August Universität, Göttingen.

Camp, R. (1994): Benchmarking. Hanser, München.

Cesaro, L., Merlo, M., Milocco, E. (1998): Privatising public goods and services provided by forestry: modification of property rights or marketing techniques? In: Jöbstl, H., Merlo, M., Venzi, L. (eds.): Institutional aspects of managerial economics and accounting in forestry. IUFRO Proceedings, Roma-Ostia: 59-85.

Cirelli, M. T., Schmithüsen, F. 2000: Trends in Forestry Legislation: Western Europe. FAO Legal Papers Online #10. URL <http://fao.org/Legal/default.htm>

Cirelli, M. T. (1999): Trends in Forestry Legislation: Central and Eastern Europe. FAO Legal Papers Online #2. URL <http://fao.org/Legal/default.htm>

Cubbage, F.W., O’Laughlin, J., Bullock, C.S. (1993): Forest resource policy. John Wiley and Sons, NY.

- Decker, M., Ladikas, M. (eds.) 2004: Bridges between Science, Society and Policy. Springer, Berlin.
- Falk, G. (2005): Handbuch Mediation und Konfliktmanagement. Verlag Für Sozialwissenschaften, Wiesbaden.
- FAO (2001a): Forestry Legislation in Central and Eastern Europe: A Comparative Outlook. FAO Legal Papers Online No. 23, FAO. URL <http://www.fao.org/legal/default.htm>
- Glück, P. (2002): Property Rights and Multi-purpose Forest Management. In: Rankovic, N., Nonic, D.: Privatisation in Forestry. Proceedings of the international conference, Vol. II. Faculty of Forestry, Belgrade: 75-90.
- Glück, P., Oesten, G., Schanz, H., Volz, K-R. (eds.) (1999): Formulation and implementation of National Forest Programmes, EFI Proceedings No. 30, Joensuu.
- Grieble, O. (2004): Modelldestütztes Dienstleistungsbenchmarking, Eul, Lohmar.
- Gregory, R. G. (1972): Forest Resource Economics. Roland Press Company, NY.
- Grundmann, R. (2001): Benchmarking in der Sparkassenorganisation: konzeptionelle Überlegungen zu einem Informations- und Kommunikationssystem zur Unterstützung der Benchmarkingaktivitäten in einem Möglichen Benchmarking – Netzwerk der Sparkassenorganisationen. Dt. Sparkassen Verlag, Stuttgart.
- Gunasekaran, A., Gupta, K. (2003): Benchmarking in Public Administration and Public Policy. In: Rabin, J: Encyclopedia of Public Administration and Public Policy. Dekker, New York: 71-77.
- Hogl, K. (2002): Reflections on Inter-Sectoral Co.ordination in National Forest Programmes. In: Tikkanen, I., Glueck, P., Pajuoja, H. (eds.): Cross-Sectoral Policy Impacts on Forests. EFI Proceedings No. 46, Joensuu:75-89.
- Jann, W. (1981): Kategorien der Policy Forschung. Speyer Arbeitshäfte 37, Speyer.
- Jann, W. (2002): Der Wandel verwaltungspolitischer Bilder: von management zu governance. In: König, K.: Deutsche Verwaltung in der Weende zum 21. Jahrhundert, Baden-Baden: 279-303.
- Jann, W., Wegrich, K. (2004): Governance und Verwaltungspolitik. In: Benz, A. (Hrsg.): Governance – Regieren in komplexen Regelsystemen. Verlag für Sozialwissenschaften, Wiesbaden: 193-214.
- Julnes de Lancer, Patria (2003): Performance management. In: Rabin, J.: Encyclopedia of public administration and public policy. Dekker, New York (p. 901-905).
- Klemperer, D. (1996): Forest Resource Economics and Finance. McGraw Hill, NY.
- Krott, M. (2005a): Forest Policy Analysis. Kluwer Academic Publishers, Dordrecht.
- Krott, M. (2005b): Forest Government and Forest governance within a Europe in Change. In: Proceedings from the Conference: 'The Multifunctional Role of Forests: Policies, Methods and Case studies', 28.-30.04.2005, Padova, Italy (to be published by EFI).
- Krott, M. (2001): Strategien der staatlichen Forstverwaltung im Europäischen Vergleich 1991 – 2000. In: Strategien der staatlichen Forstverwaltung. Praxiserfahrungen im Europäischen Vergleich 1991 – 2000. Europaforum Forstverwaltung I-X. EFI Proceedings No.40, Joensuu: 11-39.
- Krott, M., Kermavnar, A., Matijasic, D. (1998): Reform der Staatsforstverwaltung: Erfahrungen und Zukunftskonzepte im europäischen Vergleich. Novo Mesto
- Krott, M. (1999): Politische Musterlösungen. Ansätze für eine wissenschaftliche Politikberatung am Beispiel Naturschutz. In: Zimmermann, W., Volken, T.: Zusammenstellung der fachlichen Beiträge, präsentiert am Jahrestreffen der deutschsprachigen Lehrstühle für Forstpolitikwissenschaft. ETH, Zürich: 1-12.
- Krott, M., Sutter, M. 2003: Forest Institutions in Transition Countries. In: Institutional Changes in Forest Management in Countries with Transition Economies: Problems and Solutions: 81-87.

URL: <http://www.profor.info/pdf/InstitutionalChangeWorkshopProceedings.pdf>

Krott, M., Stevanov, M. (2004): Evaluation of state forest services. Internal research report, Goettingen.

Krott, M., Hasanagas, N. (in press 2006): Measuring bridges between sectors: Causative evaluation of cross-sectorality. In: Forest Policy and Economics.

Le Master, D.; Herbst, P.; Schmithüsen, F., Eds., (2003): Experiences with New Forest and Environmental Laws in European Countries in Transition. Proceedings of the 4th International Symposium, IUFRO Research Group 6.1300, Jaunmokas Latvia, 2002. Forest Science Contributions Volume 29; Forest Policy and Forest Economics, Swiss Federal Institute of Technology, Zurich. 187 pp.

Mantau, U., Merlo M, Sekot, W., Welcker, B. (2001): Recreational and environmental markets for forest enterprises: a new approach toward marketability of public goods. Cabi, Wallingford.

Martin, J. (2001): Benchmarking im Krankenhaus. Katholische Fachhochschule Norddeutschland, Osnabrück

McDonald, G.T., Lane, M. B. (2004): Converging global indicators for sustainable forest management. Forest Policy and Economics Vol. 6/1: 63-70.

MCPFE (2003a): State of the Europe's forests 2003. The MCPFE Report on Sustainable Forest management in Europe. MCPFE, Vienna

MCPFE (2003b): Improved Pan-European Indicators for Sustainable Forest management as adopted by the MCPFE Expert Level meeting 7-8 October 2002, Vienna, Austria. MCPFE Liaison Unit, Vienna. URL http://www.mcpfe.org/publications/pdf/improved_indicators.pdf

MCPFE (2001b): Criteria and Indicators for sustainable forest management of the MCPFE: Review of Development and Current Status. International Expert meeting on monitoring, assessment and reporting on the progress towards sustainable forest management, Yokohama, Japan. Liaison Unit, Vienna.

Meigs, R. (1996): Accounting: the basis for business decisions. McGraw-Hill, New York.

Mueller, E. (1994): Zur Verwertung wissenschaftlicher Ergebnisse in der Umweltpolitik. In: Mursweick, A. (Hrsg.): Regieren und Politikberatung, Leske u. Budrich, Opladen: 49-57.

Musgrave, R., Musgrave, P., Kullmer, L. (1992): Die öffentlichen Finanzen in Theorie und Praxis. J.C.B. Mohr, Tübingen.

Naßmacher, H. (1991): Vergleichende Politikforschung: eine Einführung in Probleme und Methoden. Westdeutscher Verlag, Opladen.

Neumayer, E. (2003): Weak versus strong Sustainability: Exploring the limits of two opposing paradigms. Edward Elgar, Cheltenham.

Oesten, G., Roeder, A. (2002): Management von Forstbetrieben. Kessel, Remagen.

Pagiola, S., Bishop, J., Landell-Mills, N. (2002): James&James, London.

PHARE (1999): Conservation and Sustainable Management of Forests in Central and Eastern European Countries. PHARE Programme, European Commission, Brussels.

Pieske, R. (1995): Benchmarking in der Praxis: erfolgreiches Lernen von führenden Unternehmen. Verlag Moderne Industrie, Landsberg.

Price, C. (1989): The Theory and Application of Forest Economics. Basil Blackwell, Oxford.

Rametsteiner, E. (2001): SFM Indicators as Tools in Political and Economic Context. In: Raison, J., Brown, A., Flinn, D.: Criteria and Indicators for Sustainable Forest Management. CABI, Wallingford: p. 107-131.

- Samuelson, P., Nordhaus, W. (1992): Economics. McGraw-Hill, NY.
- Sabatier, Paul A., 1988: An advocacy coalition framework of policy change and the role of policy oriented learning therein. In: Policy Sciences, 21. (p.129-168)
- Schuppert, G.H. (2005): Governance-Forschung. Vergewisserung über Stand und Entwicklungslinien. Nomos, Baden-Baden.
- Schmithüsen, F., Herbst, P., Le Master D. (eds.) (1999): Experiences with New Forest and Environmental Laws in European Countries with Economies in Transition. Forstwissenschaftliche Beiträge der Professur für Forstpolitik und Forstökonomie, Vol 21, ETH, Zürich.
- Schmithüsen, F. (2000): The expanding framework of law and public policies: Governing sustainable uses and management in European forests. In: Schmithüsen, F., Herbst, P., Le Master, D.C., (eds): Forging a new Framework for Sustainable Forestry – Recent developments in European Forest Law. IUFRO World Series Vol. 10, Vienna: 1-27.
- Schmithüsen, F., Herbst, P., Le Master, D.C., (eds.) (2000): Forging a new Framework for Sustainable Forestry – Recent developments in European Forest Law. IUFRO World Series Vol. 10, Vienna.
- 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 International Symposium Organised by the IUFRO Research Group 6.1300, Ossiach, September 1999. Forest Science Contributions, Volume 23; Swiss Federal Institute of Technology, ETH, Zurich/Switzerland. 111 pp.
- Schmithüsen, F.; Iselin, G.; Le Master, D., (Eds.), 2002: Experiences with New Forest and Environmental Laws in European Countries with Economies in Transition. Proceedings of the Third International Symposium of the IUFRO Research Group 6.1300, Jundola/Bulgaria. Forest Science Contributions, Volume 26, Swiss Federal Institute of Technology, ETH, Zurich/Switzerland. (184 pp.)
- Schmithüsen, F.; Trejbalova, K.; Vancura, K., Eds., 2004: Legal Aspects of European Forest Sustainable Development. Proceedings of the 5th International Symposium Zidlochovice, Czech Republic. Forestry and Game Management Research Institute Jiloviste – Strnady. (252 pp.)
- Schmithüsen, F. (2004): European Forest Policy Developments in Changing Societies: Political Trends and Challenges to Research. International Seminar Forest Ecosystem and Landscape Research – Scientific Challenges and Opportunities. EFI Proceedings, Joensuu.
- Schwartzel, U. (1997): Benchmarking für Rundfunkveranstalter. Konzeptionen für kennzahlengestützte Wirtschaftlichkeitsvergleiche von Anwendungsproblemen im Rundfunk. Vistas, Berlin.
- Stevanov, M. (2005): Role of the state forest institutions in the forest sector and its transformation. Šumarstvo No 1-2, Udruženje šumarskih inženjera i tehničara, Beograd: 117-128.
- Stiglitz, J. (2000): Economics of the Public Sector. W.W. Northon & Co., NY.
- Straub, R. (1997): Benchmarking: eine Darstellung des benchmarking als modernes Instrument zur Leistungsverbesserung. Dissertation, Universität Zürich.
- Tietenberg, T. (1992): Environmental and Natural Resource Economics. Harper Collins Publishers, NY.
- Windhoff – Hérítier, A. (1987): Policy-Analyse. Campus, Frankfurt.

Administrative Procedure in Forestry

*Līga Menģele**

Abstract

Administrative procedure as one of legal disciplines has to be analysed in connection with forest management because it can serve as a means to implement the ideas of sustainable development. In this paper I touch upon the general ideas and understanding of the administrative procedure and the sustainable development concept. The major task of the administrative procedure is to protect human rights of the individuals in legal relations between the public authority from one side and the individual from another. The ideas of sustainable development embrace human rights as well. The economic interests are connected with property rights and social interests with the human rights. As for environmental interests one may state that they are connected with the rights to a healthy environment. Balancing of these three interests can be achieved by taking into account human rights as a basis of sustainable development and of administrative procedure.

Administrative procedure consists of two basic parts: the administrative procedure realized by public authorities and the administrative procedure in administrative courts. The ways of realizing administrative procedure will be analysed in this paper in connection with the forest sector.

Keywords: Sustainable forest management, administrative procedure, administrative acts, voluntary agreements, actual actions.

Introduction

Sustainable development is currently a priority not only in forestry but also in other sectors. A lot of effort is devoted to ensure sustainable development, which entails formulating sustainability criteria and indicators and identifying ever-new means for achieving them in any field. The administrative procedure is still a relatively novel branch in the theory of law, and its bearing on sustainable forest management has so far been inadequately treated, covering predominately aspects of state governance like building the administrative capacity, distribution of functions, and the need to consider a multiplicity of stakeholder interests regarding forest management and utilization. However, little or nothing is said about the essence of administrative procedure, its role in sustainable forest management, and the peculiarities related to forestry. With the aim to contribute to the understanding of the role of administrative procedure in sustainability oriented forest management, the given study focuses on the notion of administrative procedure, its bearing on sustainable development, including sustainable forest management, and its peculiarities in forestry.

* 13. Janvāra street 15, phone: +371 7222290, e-mail: liga.mengele@vmd.gov.lv, lietaskoks@one.lv

Notion of the administrative procedure

The administrative procedure as pertaining to public law governs the legal relations between a public authority and an individual. Regarding the individual, the authority via an administrative act enforces its will on the individual. However, in a law-governed society any authority is in its actions restricted by legal norms, which the individual may make advantage of through procedural protection.¹ The legal norms of administrative procedure set a frame within which the public authority is free to act and provide for the individual's right to self-defence in case the authority exceeds its competence.

The first phase of the administrative procedure is realized by the public authority, which in relation to the individual issues administrative acts, takes action, or informs the individual of his/her rights and obligations as well as of the procedure of contesting or executing administrative acts. Provided the individual considers the administrative procedure initiated by the authority as contradicting law or groundless, the case may be submitted for consideration at a court of law. As provided by law, the major goal of considering a case of administrative procedure at a court of law is to verify the legality and validity of the administrative acts issued, whether the actual actions is taken by the public authority within the frame of its competence, as well as whether the determination of public legal duties or rights of private persons and the adjudication of disputes arising from contracts are governed by public law². The human rights play an essential role in both the administrative procedure initiated by an authority and the court proceedings regarding the administrative procedure.

In the administrative procedure, the procedural guarantees assume an increasing importance along with the development and consolidation of human rights.³ Section 2, Paragraph 1 of the Latvia's Administrative Procedure Law considers the relations between the administrative procedure and human rights following the objective of the law, which is "to ensure the observance of basic democratic, law-governed state principles, especially human rights, in specific public legal relations between the state and a private person". The human rights may likewise be analysed in terms of the administrative procedure and sustainable forest management. The rationale for it stems from the goal of administrative procedure, which is to defend the human rights, whereas sustainable forest management actually implies the same.

In the administrative procedure related to environmental issues, the sustainability principle must be taken into account since the law provides that in administrative proceedings, institutions and courts are to be guided by external regulatory enactments, the legal norms of international law and the European Union (Community), as well as the general principles of law.⁴ In the environmental law, the sustainability principle is currently dominating. Thus, no administrative procedure in relation to forest management is valid without taking into account the human rights and the sustainability principle in forest management. In the following section we will consider the relations between sustainable forest management and human rights.

¹ Briede J., 2003. Administratīvais akts (Administrative act), Rīga, 9.lpp.

² Administratīvā procesa likuma 103. panta 1. daļa (Administrative procedure law, Section 103, Paragraph 1)

³ Ibid.

⁴ Administratīvā procesa likuma 15. panta 1.daļa (Administrative procedure law, Section 15, Paragraph 1)

Sustainable forest management

The Helsinki Conference of the European Forest Ministers of 1993 (known as the Helsinki Process) elaborated in greater detail the concept of sustainable forest management. The conference adopted four resolutions:

- *Helsinki Resolution H1* 'General Guidelines for the Sustainable Management of Forests in Europe'
- *Helsinki Resolution H2* 'General Guidelines for the Conservation of the Biodiversity of European Forests'
- *Helsinki Resolution H3* 'Forestry Cooperation with Countries with Economies in Transition'
- *Helsinki Resolution H4* 'Strategies for a Process of Long-term Adaptation of Forests in Europe to Climate Change'.

Resolution H1 defines the concept of sustainable management of forests which now is the most popular and widely used definition: "the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality, and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national and global levels, and that does not cause damage to other ecosystems."⁵

In Latvia, the concept of sustainable forest management is worked into the Latvian Forest Law (enacted on 14.02.2004.), taking Resolution H1 as the basis. Section 2 of the Forest Law quotes the major objective of forest management, which is ensuring sustainable forest management in all the country's forests, while providing guarantees of equal rights, inviolability of property, independence in economic activities, and imposing equal obligations to all the forest owners, holders, and users. As it follows from this definition, regarding the rights and obligations of the forest owner/legal possessor, the principle of sustainable forest management has a distinct priority over other aspects.

The forest's economic function implies reaching the forest owner's economic goals in forest utilization. Disposing of a thing, and from the viewpoint of the use rights to things the forest is a thing, is an inalienable right of the forest owner, legal possessor or any other person accordingly authorised to act in relation to forest management and utilisation. Gaining benefit from the property owned by the person is the realization of his/her ownership rights. Forest owners may be the state, municipalities, legal persons, and individuals. Regardless of the form of ownership, every owner has the right to dispose of his/her forest to reap its benefits. On the other hand, it follows that the human rights aspect appears to pertain to one forest owner group only, i.e. the individuals or natural persons. The individual's property rights are protected by the norms of the following legislative acts:

1. Under Section 105 of the Constitutions of the Republic of Latvia every individual has the right to own property.
2. Under Section 17 of the Charter of Fundamental Rights of the European Union everyone has the right to own, use, dispose of, and bequeath his/her lawfully acquired possession.
3. Under Section 17 of the 1948 Universal Human Rights Declaration everyone has the right to own property alone as well as in association with others.

⁵ Helsinki Resolution H1

The ownership right as one of the fundamental human rights are undisputable, and the state protects the individual's right to property. However, in relation to forest property the state via the administrative procedure permits or prohibits specific actions, for instance, timber harvesting, transformation of forestlands to other land uses, etc.

The economic function of forest is the most widely utilised one. Yet, the concept of sustainable forest management appears to be a kind of stool on three legs, since it implies forest management with due account for the forest's economic, ecological and social functions, including the impact of forest on humans.⁶ Consequently, sustainable forest management is based on three pillars, which refer to the economic, ecological and social functions performed by the forest. In recent years, a number of essential regulations in relation to the ecological and social benefits ensured by forest have been adopted. The problem lies in proving the significance of the forest's ecological and social benefits since none of them can be expressed in monetary terms or compared with the forest economic function.⁷ In the discussion to follow we will focus on the forest's ecological and social functions, for which the awareness level of the general public is currently lower as compared to the economic function.

The forest's ecological functions are related to the human right to healthy environment. The rights to environment are so far considered mainly in theory, but remain in actual legislative and regulatory acts to a great extent unresolved. The 1972 Stockholm UN Conference on the Human Environment considered for the first time relations between the human rights and environment. The conference adopted a declaration known as the Stockholm Declaration. Principle 1 of it provides that "man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations." This principle emphasizes both the right to a favourable life-sustaining environment and the obligation to maintain the environment in the said condition.

The international documents on human rights do not provide directly for environment conservation. However, the European Constitution, agreed in Brussels of June 18, 2004, Section II-37, proclaims the environment protection as a priority, stating that a high level of environment conservation and environment quality should be integrated in the EU policy and be supported by the guarantees akin to the sustainability principle. But this norm sets no frame and scope within which the human right to favourable environment must be ensured. Yet the obligation to take into account environment conservation and the highly general nature of this norm sets a wide frame for interpreting it in each individual case.

In Latvia, the human rights to favourable environment are protected by a constitutional norm. Section 115 of the Constitution of the Republic of Latvia proclaims that the state protects the individual's right to a healthy and favourable environment, providing information on the environment condition and taking care of its conservation and improvement.

The social function of forest is the third constituent of sustainable forestry. This function is usually less discussed compared to the forest's economic and ecological function, but this does not diminish the importance of this function. The social aspects of forest management are two-dimensional: they represent interaction between the forest and man, both as an individual and as acting in associations. This interaction may be direct or indirect. The direct interaction implies immediate relationship between man and forest; whereas in indirect interaction the entire forest sector forms the framework impacting the forest. The concept of

⁶ Report of the FAO/ECE/ILO Team of Specialists on Social Aspects of Sustainable Forest Management

⁷ Ibid, page 1

forest sector embraces all activities related to forest like timber harvesting, or any other benefit offered by forest, including activities planned for the future, and wood processing industries.⁸

The public interests in relation to forest cover a multiplicity of individual or collective interactions between man and forest. The scope and quality of these interests vary depending on the economical, cultural and technological development of the society.⁹ Since the maintenance of forest environment is in the public interests as it ensures a definite quality of life for humans, it is difficult to make a clear distinction between the forest's ecological and social functions. For instance, a disregard of the obligation to regenerate forest means both the violation of the demands for environment conservation and the degradation of the life quality of humans because of diminishing the earth's total live biomass.

In executing the administrative procedure in forestry it is essential to understand the essence of sustainable forest management. In the forest sector the administrative procedure is related to the man's ecological or environmental rights where sustainable development in the interests of current and future generation is one of the major prerogatives. It means that in applying via the administrative procedure the legal norms to concrete cases, the decision made must comply with the principle of sustainable forest management, and be balanced out between the owner's right to dispose of his/her property, and the public right to favourable environment and the appropriate quality of life. Thus, it may be concluded that ensuring the observance of human rights is a connecting link between sustainable forest management and administrative procedure. It is through the administrative procedure that the human rights implicit in the concept of sustainable forest management are translated into practical decisions.

Administrative procedure realized by public authorities

Administrative procedure in public authority or institution mainly goes with issuing administrative acts, making contracts governed by public law, and taking actual actions. The administrative procedure includes also issuing confirmations of the subject's rights, contesting the administrative acts and their realization. Confirming the person's rights in a given legal situation is one of the ways of implementing the principles of the 1998 Aarhus Convention (Denmark, 1998) which recognises the right to the access to information, the public involvement in decision-making, and the access to court in environmental matters. Receiving confirmation of the person's rights is only informative. The exercising of this right in a particular case means issuing an administrative act in relation to it. It is essential to analyse those aspects of the administrative procedure, which are related to the rights and duties of the parties of the administrative procedure in relation to whom the decision is made.

In Latvia, the State Forest Service (SFS) with the Ministry of Agriculture, which is a law-enforcement authority, is concerned with the administrative procedure. The Ministry of Agriculture, the Ministry of Environment, and the State Environment Service have a subordinate role in the administrative procedure related to forestry. These institutions and their role are not analysed here as the emphasis is on the subject of administrative procedure

⁸ Report of the FAO/ECE/ILO Team of Specialists on Social Aspects of Sustainable Forest Management "people, Forests and Sustainability, Social Elements of Sustainable Forest Management in Europe", Geneva, International Labour Office, 1997, pages 2, 3

⁹ Ibid, page 8

in forestry. That is why we start the discussion by analysing the administrative act, which is one of the major ways of realising the administrative procedure.

An administrative act taken by any public authority is addressed to an individual or a legal person in order to establish or alter the state of affairs, terminate concrete legal relations, or ascertain the actual facts. In forestry administrative acts mainly refer to a concrete action related to forest management and utilization, for instance, permitting or prohibiting timber harvesting and authorizing the building of forest roads; regulating the application of mineral fertilizers and pesticides, harvesting forest reproductive material and transforming forest land into non-forest uses; hunting and game management; and imposing administrative sanctions for the breach of legislative or regulatory acts in forest management and utilisation. There are also administrative acts, which confirm the existing situation, as for example, the decision on recognizing a given forest area as regenerated, or establishing a micro-reserve on forestland.

Normally, the administrative acts are addressed to the persons possessing a forest. In Latvia, these are forest owners, legal possessors, or tenants holding forest in permanent use. However, it must be pointed out that an administrative act may also be addressed to other members of the community provided they have some relationship with forest, for instance, terminating or prohibiting actions harmful to forest environment, or a ban on visiting forest during the season of high fire danger. It means that for disobeying similar administrative acts any person may be subjected to administrative sanctions.

Balancing different interests in an administrative act which may be compulsory, optional, or voluntary, is something the public authority must consider. In case the public authority issuing the administrative act has a wider freedom of action, a proper balance between the forest owner's right to make use of the benefits of his/her property and the public right to healthy environment and favourable living conditions assumes greater weight. For example, the forest owner's intention to transform forestland into non-forest uses is one of the cases significantly affecting the public interests. The respective entity, the SFS in the given case, must decide whether the land use transformation is feasible in a particular situation. Regarding the land use transformation, the legal regulation in Latvia is such that the major responsibility for it rests with the local governments, who decide for what purposes the given land will be used. In practice it means that forestland transformation to other land uses is possible, provided the territorial planning for the community envisages it. It implies that the public interests must be considered already in the process of developing territorial plans. The existing regulatory acts provide that public discussions are a part and parcel of the planning process.

As Latvia has shoreline along the Baltic Sea and the Riga Gulf, lots of forest holdings are on the sea coast whose owners would prefer to build the site over rather than keep it for forestry. Similar situation is with the possibilities for developing and building over forest-covered areas in the administrative boundaries of the cities and nearby areas. However, these forests are essential for recreation, for protecting the dune zone, and besides, forests act also as a carbon sink. In such a situation the forest authorities should carefully weigh between the forest owner's wish to use his/her holding for development and the public right to healthy and favourable environment.

In the administrative procedure for making similar decisions the principle of balancing out a multiplicity of stakeholder interests is of paramount importance. In deciding on a feasibility of land use transformation the principle of appropriateness assumes essential importance since it implies balancing out the interests of the economic utilization of forest and the forest conservation as a natural resource and environment-making component. Conflicting situations

arise when in territorial planning the local authorities disagree with the environment conservation authorities regarding the need to maintain the forest cover at the existing level and set aside for development the lands not covered by forest. However, in actual situations when forestland transformation is worked into the community's territorial plan, prevalence is often given to economic interests rather than environment conservation. Of course, the attitudes of different local authorities may vary in this respect. This paper does not give a detailed analysis of the relations between the local governments and the nature conservation authorities.

As far as the felling of trees is concerned, the public opinion is essential, for example, in case it refers to felling trees within the administrative boundaries of cities or specially protected nature areas. However, the regulatory acts do not oblige the authority to take into account the public opinion before issuing the related administrative act. Still, it must be pointed out that even in situations where the law does not require consultations with the public, the public opinion is observed indirectly by making the respective decision in line with the provisions of the legislative and regulatory acts. In cases the administrative act is compulsory or optional; the regulatory acts set strict limits for the freedom of action of the authorities. It is believed that setting the limits of authority for decision makers reflects the public opinion regarding legal regulation of one or another issue because the laws are enacted by the Parliament which is elected by the people and acts in the interests of the people. It implies that the public interests are identified and taken into account already in the process of drafting the respective bill. These principles stem from the notion of democratic society, proclaimed in Section 1 of the Constitution of the Republic of Latvia.

Regardless of its content, any administrative act is a unilateral action taken by the public authority, thus exercising or confirming its authority over the individual. In forest management, the entity usually restricts by an administrative act the forest owner in the interests of environment conservation and sustainable resources utilization. That is why increasingly the forest owner's awareness on environmental matters is essential. Furthermore, the forest owner is also a community member who likewise enjoys the right to favourable environment. The forest owner is unaware of or disregards the fact that management restrictions aimed at ensuring the human rights to favourable environment are also in his/her interests. But it must be admitted that the problem in observing the environmental constraints by the forest owners lies in the fact that the authority in a way administratively enforces on him/her the observance of these constraints. As the observance of these constraints is not accepted voluntarily there is a high probability that the forest owner would neglect them. Supremacy of the public authority, which issues an administrative act legally binding for the forest owner, occasionally lacks the anticipated effect because of the latter not feeling co-responsible for implementing the act.

To increase the level of awareness and feeling of responsibility on the part of the forest owner the authority, instead of acting through an administrative act, may make a contract governed by public law which may be used as a tool in the administrative procedure. *Voluntary contracts or administrative contracts* are one of the contracts of public law as provided by Section 12 of the State Administration Structure Law. Under Section 79, Paragraph 1, of the said law the contracts governed by public law are agreements between public persons and private individuals regarding the specification, amendment, termination or determination of administrative legal relations. As the said contract implies reaching an agreement between the contracting parties it may be said that the forest owner has voluntarily assumed obligations to comply with environmental constraints in managing his/her forest property. And the authority on its part allows the forest owner to reap benefits from it. It must be pointed out that an

agreement as a constituent part of the contract is typical for private law but occasionally is applied also to public law, including the administrative procedure where this instrument is used to ensure efficient functioning of the state administration. In relation to environment conservation, a contract governed by public law and the awareness building rather than an administrative act issued by the same authority may be more efficient.

The contract governed by public law must be fulfilled in the same way as the administrative act, and in case an individual fails to perform it voluntarily, legal coercion may follow. That is why there is no reason to consider the contract governed by public law a less efficient legal instrument compared to the administrative act. However, in practice the Latvian SFS as the leading authority for implementing the administrative procedure in the forest sector has so far concluded only one contract governed by public law. It refers to establishing a micro-reserve with the forest owner assuming responsibility for protecting and conserving the respective species. The SFS in its turn allows the owner laying out an educational trail on the holdings for schoolchildren and the general public to acquaint them with this species. The agreement provides that in case the situation with the species aggravates the contract is terminated and an administrative act is issued, prohibiting management intervention in the given forest area.

Being a novelty and the respective legal regulations in the State Administrative Structure Law being rather vague may explain the fact that in practice contracts governed by public law are few. From the viewpoint of the long-term validity of law a highly general wording of law is justified yet complicated for introducing a new legal instrument, but the content and the potential of application to concrete cases are ambiguous. Nevertheless one should point out that considering the need to balance the forest owner's right to reap benefit from his/her property and the public's right to healthy environment and favourable living conditions, the role of contracts governed by public law as a tool for implementing the administrative procedure will increase. This is essential because meeting the commitments on the basis of mutual agreement increases the sense of responsibility of the contracting parties, each contributing to sustainable forest management from opposite angles.

An actual action is the third major way of implementing the administrative procedure. According to the Administrative Procedure Law it is an action of an authority in the sphere of public law taken in a way other than issuing an administrative act, provided a private person has a right to such an action or the said action will or may result in infringement of the rights or legal interests of the private person. A failure to act is also an actual action of an authority, in case under the law it is or was obliged to act, or inform the subject of law of the obligation to perform the same.¹⁰

In forestry, an actual action goes with a variety of controls to be sure the forest owner observes the forest management and utilization regulations like compliance with the deadlines in forest regeneration, or taking preventive measures against forest fires. Considering that the actual action does not substantially affect the forest owner's legal situation as compared to the administrative act or the contract governed by public law, and that normally this action precedes an administrative act, the problems related to taking actual action for ensuring sustainable forest management are currently less topical than those related to the administrative act. Because of the relatively lower significance of actual action compared to other means of realizing the administrative procedure we do not consider it in greater detail.

¹⁰ Administratīvā procesa likuma 89. pants /Administrative procedure law, section 89

Administrative procedure considered in a court of law

The administrative procedure as a case considered in court is an additional tool for ensuring sustainable forest management and a possibility to balance the stakeholder interests provided the entity issuing the act has failed to achieve it by the administrative procedure. The Aarhus Convention recognizes the right to apply to court for solving environmental issues and any case of administrative procedure taken to court is a part and parcel of the execution of this right. Success of the court proceedings depend to a great extent on the level of expertise of the judge. To pass a decision related to forest management and utilization the judge must be familiar with administrative procedure, environmental law, and forest law. As the administrative law is a complex and highly involved branch of law the lack of knowledge for specific violations of law results in court decisions passed with no regard for sustainable forest management.

Under Latvian conditions, the problems arise because of the high workload of the administrative courts, which excludes prompt and efficient consideration of the case. There are administrative courts of three levels. Yet, unlike the conventional regional courts, which are in every administrative region, the country has only one administrative regional court with a seat in Riga. There is also only one administrative regional court compared to five conventional regional courts. The supreme authority over the two courts is one and the same Supreme Court. Because of it, resolving an administrative case at a court of law involves problems both as to the quality of decision and in view of the number of cases to be dealt with, the courts are barely in a position to consider them within reasonable time limits.

Conclusion

It is important to analyse the correlation between the administrative procedure and forest management and utilization in the light of achieving sustainable forest management. Administrative procedure can be used as a means realized by public authorities to balance forest owners' economic interests with the individuals' right to live in favourable environment.

Administrative procedure can be realized by issuing administrative acts, concluding voluntary agreements and taking actual actions. More attention has to be paid to possibilities of concluding voluntary contracts. Voluntary contracts are comparatively recent means used in environmental law. The way of making agreements instead of regulating processes with the help of enforcement methods is more effective in environmental law because of the very complex character of this field of law.

References

1. FAO/ECE/ILO Team of Specialists on Social Aspects of Sustainable Forest Management, 1997. Report "People, Forests and Sustainability, Social Elements of Sustainable Forest Management in Europe", Geneva;
2. Briede, J., 2003. Administratīvais akts, Rīga, 176 p.

Natural resource and environment as a role of forest policy and economics

*Radovan Nevenic**

Abstract

The forest and environment policy for natural resources management has changed dramatically in recent decades. Population growth, agricultural settlement, and growing trade, investment, and economic activity have increased pressure on all resources. Natural resources once used only locally have been appropriated for the manufacture of industrial products and international foodstuffs or urban expansion. Both large-scale resource development for export as well as an increase of population, search of suitable land on which to base livelihood, causes resettlement of natural resource to ever more vulnerable and unproductive sites. Conflicts over natural resources have always played a role in human society, but recent conditions have led to an increase in their intensity, public profile, and complexity. Policies have paid so far relatively little attention to the broader perspective of natural resources conflict management. It is increasingly important to establish new mechanisms and institutions to manage these conflicts and resolve them productively in the interests of both long-term natural resource sustainability and short-term economic feasibility. This paper reviews the importance of forest and other public policies in support of conflict management.

Keywords: natural resource, forestry, public policies, forestry economics.

General considerations

In the past, policy, economy and environment were seen as separate concepts – both by institutions and in the mind of people and even professionals. They were treated separately when it came to the development of policy and science, and when decisions were made in everyday life. However, natural resources, especially forest resources, will be more valuable in the future. Statistics and detailed analyses show that economic growth does not have to be at the expense of nature and natural resources promotion and protection. The role of commerce, finance and business is crucial all the time. New technologies and well-designed policies have to work hand in hand, and the interests of government, companies and public auditorium lies in turning the challenge of synergy between natural resources and economy into an opportunity. The relation between globalization, natural resources and economy has to be properly defined. For example, as world trade in the mid-nineties was significantly uncoupled from growth trends in the world economy and has increased nearly three times faster than global GDP, one may also state that certain indicators of energy use and CO₂ emissions have not developed proportionately to world trade. Globalization evidently does not lead to a situation where pressures on the environment are increasing to the same extent worldwide. This de-linking may, however, result in different effects. For example, in the course of globalization the countries of the EU have increasingly shifted environment burdens to the countries of the South, especially in the form of ecological rucksacks of imported raw

* Institute of Forestry, Kneza Viselava 3, Belgrade, Serbia (SCG), Phone: +381 64 12 90 933, Email: nevenic@eunet.yu

materials, while at the same time reducing the pressure on their own domestic environment by extracting fewer material resources. Furthermore, goods the production of which places intensive pressure on environment (industrial emissions into the atmosphere and water, heavy metal emissions, etc.) have been increasingly imported from newly industrializing or developing countries. The increasing covering of material requirements from foreign resources has served not so much the EU's internal consumption as its own production of export goods. This shows that the EU has an increasing share in resource requirements from other economies (Schutz et al. 2004).

Natural resources – facts of governance

Brown et al. (2003) describe relations among natural resources, governance and community: After the Earth Summit at Rio (1992), interest broadened to incorporate concerns for biodiversity and forest environmental services as well as sustainable forest management. Finally, in the last 2-3 years, the focus has shifted to forest issues as one dimension of the management of global and national public goods, and the theme of forest governance has come to the fore.

Forests have a number of characteristics, which make them problematic from a governance perspective:

The nature of the resource

- Trees, particularly the highest value hardwoods, are slow growing;
- Forests offer multiple benefits which are not necessarily compatible and may accrue to different people;
- Forest resources provide a long-term repository of value, but they are easily liquidated.

The nature of the rights

- Forest resources are subject to competing claims of ownership;
- Rights of access to forest resources are often unclear or insecure, particularly for the poor, for whom they are most critical.

The value of forest resources

- Forests offer both market and non-market benefits, which concern subsistence needs, commercial production, and environmental services;
- These benefits are enjoyed by users at local, national, international and global levels;
- While forests have important global public goods values, they are managed as sovereign territories;
- By and large, public goods values from forests are uncompensated; this creates a disequilibrium between the costs and benefits of their management;
- Forest resources may have very high market values, and engage the interests of powerful stakeholders; in such cases, there are likely to be strong pressures for governments to centralize their control and to manage them non-transparently, in alliance with industrial interests;
- Forests are open to abuse and may be a focus for illegality - experience shows forest exploitation may be a means of sustaining illegality and lawlessness in states in transition.
- In spite of these challenges, the forest sector provides examples of improved governance at three distinct levels: the local, the national and the global.

Achieving participation at the local level: A key element of good governance is the concept of subsidiarity, meaning that decisions should be taken at the most appropriate level. This is closely linked to the idea of ensuring ‘participation’ of all relevant stakeholders in decision-making. In practice this means that many decisions about the management of specific forests should be taken by the people living in and around them and is one of the key arguments underlying the advance of community forestry. Subsidiarity is also important within government, supporting the decentralization of many powers (and the resources to go with them) from central to local government.

More transparent government at the national level: At the national level, perhaps the single most important governance issue is the need for transparent government decision-making. This is evident in countries which have forests with high commercial value. On the one hand, the state agencies for forest management are often alleged to be in an alliance with the forest industry. On the other side, forest-dependent people are typically widely dispersed and not well organized. The political and civil society tends to be weak and divided, and highly dependent on the patronage of either the state or the donor community.

Roles and responsibilities at international level: It is perhaps at the global level that the governance problems of forest management are greatest. This is because although the global goods aspects of forests (such as climate and hydrology; climate change mitigation, biodiversity conservation; watershed management; etc.) are increasingly recognized and valued, almost all forests are managed within sovereign territories. Bringing forests under the control of multilateral environmental agreements (MEAs) has proven particularly difficult. Brown et al. (2003) noticed that improved governance of a crucial global resource demands responsible governance practices at least as much from the international community as it does of those who live in their closest proximity.

Natural resources and conflicts

Information and knowledge have a great influence in the context of natural resources conflict management. For example, the process of exposing, validating, and sharing information about the resource base and its use is, in all cases, a crucial first step in the process. Typically, the various parties in conflict do not share a common set of data. Although information alone is insufficient to lead to a resolution of resource conflicts, it is a prerequisite in building consensus-based plans. Information collection improves the understanding of all parties and engages the attention of those at the periphery of the issues. It also requires the engagement of all parties in providing, often contradictory, information. Because the offended parties in a conflict are unlikely to share information openly, they have to be treated with respect and dignity to gain their participation. Meeting this requirement is an excellent way to start any consensus-based conflict management process. Participatory research methods that give a large degree of control and initiative to the groups and individuals, who provide information in the first place can be useful tools in helping information collection institutions to change their own attitudes toward the various parties involved in the conflict. Research can also provide a method for politically weaker stakeholders to elucidate their needs and validate assumptions about the conflict situation, as well as to identify potential solutions, thereby providing a more robust basis for an eventual resolution.

In complex natural resource disputes, it is usually neither feasible nor economically attractive for the parties directly involved to organize conflict resolution efforts. Transaction costs are high and many of the benefits do not accrue to the participants themselves, so government involvement is justified on a “public-good” basis. Governments also typically have

constitutional and legal authority in the specific field of natural resource management and may, therefore, be legally obliged to intervene in cases of conflict. However, precisely because the state is not a disinterested party, its role in resolving natural resource conflicts can be limited. The parties in conflict may not perceive the state to be a legitimate arbitrator. But the state may be a crucial stakeholder because of its statutory responsibilities for natural resource management. Regardless of its role in the conflict, the support of the state may be essential to successful outcomes because of its powers of enforcement and support for collateral implementation efforts (for example, investment, training, technical advice).

This dilemma has several important policy implications. First, the role of the state and its agents in natural resource management is likely to have to change to respond to the need for better conflict management. Second, innovative mechanisms to resolve natural resource conflicts are likely to lead to policy support for new institutions and processes outside the formal realm of state authority and to the emergence of new actors and skills to manage conflict situations. Third, the importance of procedural transparency and access to information in resolving conflicts begins to define how these roles, players, and processes are likely to have to interact, and how policies can foster or impede such interaction. Sweeping guidelines which policymakers can apply across the board when confronted with volatile local natural resource conflicts are unlikely to emerge. There are few general rules for the kind of interventions that might be appropriate, although useful diagnostic tools are available for evaluating the nature of the conflict and the potential for facilitating various kinds of solutions. Policy responses should recognize and empower local stakeholders to become more effective in assessing their own needs, negotiating with other resource users, understanding and interpreting technical assessments of resource quality, and implementing consensus solutions. In short, much progress can be made in conflict management through policy responses that improve governance at the local level (Tyler 2004a).

Research and education

The emerging interest in natural resource science-policy issues spanning boundaries, such as global change, air pollution, and desertification, is mirrored in the forest science policy arena (Guldin, 2003). The importance of shared information between stakeholders and institutions are significant, for example, sharing of information can result from better administrative coordination by sectoral agencies, when these groups actually have data to share. Or it may result from specific research, undertaken by credible independent parties. Information-sharing can increase transparency, build trust, resolve issues of fact and process, and facilitate the development of specialized tools for coordinating spatial and resource data (databases, geographic information systems, expert systems). Depending on the depth and severity of the conflict it may not be possible to begin interaction on any of the specifics. Building trust and shared understanding can start with peripheral, less controversial issues. Interaction may take a variety of forms, depending on the context and the actors involved, from multi-stakeholder consultations (roundtables) to formal negotiations or mediation. These interactions are best built on traditional practices or dispute resolution mechanisms when vestigial traditional institutions exist and can be modified to include the parties and context of a contemporary problem (Tyler 2004).

Joyce (2003) noticed that calls for the increased use of scientific information in policy-making have often led to scientific assessments where scientists synthesize a wealth of information on particular resource issues. These assessments can be viewed as a process of communication between science and policy communities where communication can vary

from occasional to regular interaction. Specialized scientific knowledge of the natural environment as well as an understanding of its linkages with the social-economic one would be required (Pachova et al.).

Conclusion

The review of some relations between natural resources, environment, state, stakeholders and forest governance shows the significance of common forest policy and economics capacity needs, research and education. Globalization, connected with new trends, evidently does not lead to a situation where pressures on the environment are increasing to the same extent worldwide. The interests of government, companies and societies are in turning the challenge of interaction between natural resources, economy, research and education into prosperity.

Forests have number of characteristics with regard to policy and governance approaches, for example, in considering the nature of the resource, the nature of ownership rights, and the value of resources. These issues can be of relevance at local, national and international levels. Bringing forests under the control of multilateral environment agreements (MEA's) has proven particularly difficult. The process of exposing, validating, and sharing information about the resource base and its use is, in many cases, a first step in finding solutions for natural resource interest conflicts.

In complex natural resource disputes, it is usually neither feasible nor economically attractive for the parties directly involved to organize conflict resolution efforts. Transaction costs are usually high for the government as the institutional and legal authority in specific fields of natural resource management. This means that the state, acting in natural resource management, has to change the response to the need for conflict solving. Innovative mechanisms to resolve natural resource conflicts are likely to lead to policy support for new institutions and processes outside the formal realm of state authority, and favour the emergence of new actors and skills to manage conflict situations, and require foremost transparency of political processes. Specialized scientific knowledge of the natural environment linked with socio-economic analysis, adequate research and education facilities, functioning and developed public networks, and shared information among stakeholders should be in interaction.

References

- Brown, D., Schreckenberg, K., Wells, S., Wells, A., and Luttrell, C., Bird, N., 2003. Good governance: What we can learn from forest sector. *Forest Policy and Environment Group, Overseas Development Institute*, London, UK.
- Guldin, W.R., 2003. Forest science and forest policy in Americas: building bridges to a sustainable future. *Forest Policy and Economics Volume 5. Elsevier*. p. 331.
- Joyce, A. L., 2003. Improving the flow of scientific information across the interface of forest science and policy. *Forest Policy and Economics Vol. 5, Elsevier*. In: VanDeveer, A.F., Jager, S.D., (Eds.), Environmental assessments: four under – appreciated elements of design Global Environmental Change 11, pp. 311-333.

Pachova, N., Tikkanen, I., Pajari, B. and Nevenic, R. 2004. Introduction: Capacity needs for forest policy development in countries with economies in transition. Challenges in Strengthening of Capacities for Forest Policy Development in Countries with Economies in Transition. Forest in Transition II. Tokyo, 15 p.

Schutz, H., Moll, S., Bringezu, S., 2004. Globalization and the Shifting Environment Burden. *Wuppertal Paper, Wuppertal Institute on Globalization*.

Tyler, R.S., 2004. Concept Policy – Chapter 14: Policy Implications on Natural Resource Conflict Management. The International Development Research Centre. Canada (Edition), In: Cernea, M. Involuntary resettlement in development projects: policy guidelines for World Bank projects. *World Bank, Washington, DC, USA. Technical Paper 80*.

Tyler, R.S., 2004a. Concept Policy – Chapter 14: Policy Implications on Natural Resource Conflict Management. The International Development Research Centre. Canada (Edition), In: Lindsay, J. 1998. Law in community-based natural resource management. *Paper presented at the International Workshop on Community-based Natural Resource Management*, 10–14 May, Washington, DC, USA. Economic Development Institute of the World Bank, Washington, DC, USA

Organization of private forest owners in Serbia compared to Austria, Slovenia and other Central European countries

Dragan Nonic, Natasa Tomic, Jelena Markovic, Peter Herbst,** Darij Krajcic ****

1 Introduction

The last decade of the 20th century brought for almost all Central and Eastern European countries with economies in transition new political concepts and structures. Private property has continuously expanded and become stronger. At the same time state influence has been reduced, state subsidies and support systems have been introduced, the formation of free market prices was stimulated and exports totally liberated. In terms of independent market structures the stabilization of the economy had had priority.

With respect to state influence on the forest sector, there were considerable changes, especially in terms of relations towards the private forest sector. The core issue is the high rate of fragmentation and consequently the small units of private forest property. Now, after privatization and following decentralization, it has turned out to be very arduous to safeguard modern sustainable management of forests. Such highly fragmented structures of rural regions with respect to agriculture and forestry are typical for states of the former socialist block; the related problems were multiplied during the recent transition processes. These problems have been identified in Serbia where specialized state agencies with the clear task of solving the problems of private forest owners have not yet been established. So far any organized state approach towards the private forest sector or within its framework is absent. As the Serbian forest legal and policy framework does not yet sufficiently cover the private forest sector; clear and comprehensive regulations could considerably contribute to improvements between the relations of the state forest administration and private forest owners.

The Serbian state forest sector is well developed and thus open to adapt to market influences and economic rules which normally would be typical features of the private sector. However, the development of the private forest sector compared to the public sector still falls far behind. Though the total forest areas in both sectors are more or less equal, the socio-economic basis of private forestry is ages behind that of state forest management. Considering the fact, that management of state forests is within the responsibility of state institutions, but also considering that Serbia develops towards an economic system based on market economy principles, the question arises whether there are any obligatory reasons why the state has to hold a dominating position in forestry. One may also ask why private owners cannot be encouraged to use sustainably their forests, how they can achieve relative independence from state control, and in which way it would be possible to speed up private initiatives in the forest sector.

The subject of this paper is therefore to identify possibilities and strategies of a methodical cooperation between the Serbian state forest administration and private forests owners which

* Dragan Nonic, DSc., Natasa Tomic, MSc., Jelena Markovic, BSc. - University of Belgrade, Serbia;

** Peter Herbst, MSc. LL.M., - IUFRO RG 6.13.00, Austria;

*** Darij Krajcic, DSc. - Institute for Nature Conservation, Slovenia.

is based on the development of an organizational system of support to the private sector. It sets out some of the research results with regard to the effort of solving one of the most impending problems of forestry in Serbia which is the urgent need for re-organization of the private forest sector.

Because of some similarities of their natural, economic and social characteristics of the past the paper also considers comparable findings from Slovenia and Austria. During the last century, the political as well as socio-economic relations in these three countries changed significantly, and so did the structures and forms of forest ownership. Until the end of World War I, Slovenia and Austria both were parts of the same state, the Austrian-Hungarian Empire, whereas Serbia was an independent state. During the subsequent period up to World War II, when Serbia and Slovenia were both part of the same state (Kingdom of Serbia, Croatia and Slovenia in the period between 1918-1929, and Kingdom of Yugoslavia 1929-1941), there were six different categories of property: *state, private, community, rural, church and cloister forest*. After World War II Serbia and Slovenia were parts of the Socialist Federal Republic of Yugoslavia. Now a reverse process started leading back to public property and society's main interests focused on state issues. Austria, on the other hand, from the end of World War I onwards, had a chance to develop more or less independently.

2 Organization of the private forest sector in Serbia

In former Yugoslavia during the entire period after World War II, in contrast to most communist European "East-Block" countries, private forest property existed as an individual category of ownership. After the disintegration of former Yugoslavia the private sector could not keep up in parallel with the rapid development of Serbian society and the current unfavorable situation in the forest sector is a direct result. There are no specific provisions in forest legislation or policy for different categories of ownership. In spite of a policy declaration towards equal treatment of forestry within both – state and private - sectors, the main preconditions are still absent. This includes a) clear definitions, b) a long term policy and strategy of the state forest administration with respect to the private forest sector, as well as c) the absence of an organized and effective system of state support for private forests management.

It is typical (not only) for the Serbian forest sector that state forest enterprises regularly manage consolidated areas of forests, mostly located in large complexes with relative adequate property structures. Private forest estates, on the other hand, usually only own small forest areas, scattered in smaller complexes and highly fragmented in numerous small parcels. This unfavorable development had been fostered by the 1953 *Law about Land Maximum*, and by the *Law on Inheritance* providing for division of forest land into smaller parcels without any limitations in minimum areas. In Serbia today, the estimated total number of parcels of private forests amounts to an estimated number of more than 3.1 million. 51% are smaller than 0, 30 *ha* (in the categories "10-20 are" and "20-30 are", respectively), 77% are smaller than 0, 50 *ha*, and not more than 0, 4% of all private forest parcels in Serbia are bigger than 1 *ha*. This development happened in spite of the traditional approach followed in Serbia as well as in Slovenia and Austria in sharing and inheriting forests in private ownership. In order to preserve the integrity of forests and agricultural land of one estate land is inherited by one heir who engaged in agriculture while co-heirs are financially compensated.

Besides a limited number of large forest estates, private forest properties in Austria and Slovenia are mainly being operated by mixed farming and forestry systems which are characterized by a large number of forest owners, small-sized forests and consequently small-

scale forestry operations, small marketing volumes per forest owner and discontinuous utilization. The most eminent problems of these enterprises are that income from forest management often only amounts to a small percentage of total income, increasing numbers of private forest estates which are not economically viable, their low level of mechanization, poor forest access, owners' lack of time and manpower for logging, and their underestimation of specific potential for operational utilization. There is, however, a traditional high level of identification with private forest property.

Similar to these countries, the private forest sector in Serbia is characterized by high fragmentation of properties, large numbers of parcels and owners, general low quality and insufficient organization of forest management, lack of state structures to direct policy development and implementation. It is also characterized by private forest owners, who get essentially influenced by that prevalent way of forest management thus inadequately contributing to public production mainly due to the prevailing insufficient system of forest policy and support towards their sector. Private forests therefore not only represent an important forest-economic problem and even more a general common social problem.

The *Constitution of the Republic of Serbia* provides for the possibility to regulate private forestry in the necessary way based on a plain legal act. In Serbia, right now, the political process to amend the Constitution is going on; provisions of the amended new Constitution will be the basis for all future regulations. As we can see according to the Law on the bases of ownership relations it requires legal regulations to transfer state property into ownership of natural and legal persons. This principle should be included in the text of the new Law. The *Law on Resources Owned by the Republic of Serbia* provides for disposal of state property, which also includes their forests and forest land. In order to avoid undesirable developments and to provide for sustainable forest management, it will be necessary to clearly set the legal conditions for future owners of forests which now are in state property.

Property legislation of the three countries under consideration provides for expropriation of immovable property in the general interest. In Serbia, this requires usually a decision of the Government of the Republic of Serbia. When it comes to expropriation of agricultural or building land, there are clear mechanisms of compensation to be made in cash based on the market prices of the land. When it comes to expropriation of forests or forest land, compensation for the expropriation of a young forest shall be calculated according to the expenditures for raising such a forest, increased by the factor of value growth matching the value of a mature forest.

The state has the authority to limit the owners' rights of disposal or even to expropriate forests or forest land whenever this is required in the general interest. The question to be raised in this context is, whether this would also be the case if forests are not managed properly. If so, what would be the possibilities to have the rights of previous owners over the confiscated land restored in case they are credibly planning to deal properly with forest management activities in the future? Would their future status be that of co-proprietors?

Organization of forestry in Serbia during the last 15 years has been built on a firm and centralized institutional framework, as set out in the 1991 *Law of Forests*. However, in the context of important political and economic changes after October 2000, as well as due to reform processes within the public administration, significant changes in field of forestry have followed, especially with respect to stakeholder relations and forestry-linked sectors. The forest administration has been installed as independent institution (Directorate of Forests) under the *Ministry for Protection of Natural Resources and Environment*, established under the 2002 *Law on Ministries*. That way of strengthening the state administration clearly

pointed towards a new orientation of forest policy, reflecting enhanced influence and connection with all stakeholders in the Serbian forest sector.

Besides the state institutions in the field of forestry and environment, in Serbia in the period of transition, also non-governmental organizations were installed and developed progressively whose work and efforts have affirmed their influence on the private forest sector and significantly contributed to the promotion of its organization. Activities of these NGOs represent one of the basic differences with respect to the organization of the forest sector during the previous period, and at the same time confirm the necessity of continuous support and strengthening of the non-state sector.

By restructuring the state forest administration, the general position of the forest sector within the state administration has been consolidated to a point where promotion of relations with the private forest owners would be possible. However, adequate strengthening of capacities in this sector, as by installation of new services which would support private forest owners are still absent.

The present model of conveying services to private forest owners through public enterprises has not proven to be effective under Serbian conditions, just like the previous one, which was operated within the frame of community services. Public enterprises lack the necessary specialists and organizational-technical capacities for extension services and have little interest in covering important activities in private forests. Especially the forest experts from state enterprises do not have the capacity and training to accomplish activities and develop skills to communicate with the private forest owners. Positive exceptions within that department showing the capacity of support for expansion of such services and for creating an environment of mutual confidence and cooperation with private forest owners depend strictly on personal capability and interest of the involved forest personnel.

In a general way one may say that progress of enhanced management of private forests, through consultation with the owners has so far been completely neglected. Advisory services have not been established and organized consultation and training of forest owners are non-existent. Consequently, private forest owners lack the necessary information and that is why most of them are not aware of their rights derived from the law. They do not understand the fact that the state department engages and pays employees for provisioning exactly those technical expert services in exactly those forests. And, in case that forest owners get into contact with such personnel in the field, the contacts are usually highly disappointing because of the experts' low level of motivation and pedagogical qualification.

On the one hand, the Serbian forest educational system puts its main emphasis on the necessities and peculiarities of large systems and on the state sector, whereas the sector of private entrepreneurs and forest-owners is widely neglected. On the other hand, private forest owners lack even basic knowledge on specialized management of their forests and consequently have little motivation for investments in appropriate measures towards enhanced management of their properties. Beside that, amongst them the necessary mutual understanding and cooperation, and therefore any type of organizations are absent.

In that way, in the Serbian private forest sector, many organizational questions are unsolved (such as technical expert support, state subsidies and support, formation of organization of private forest owners), although specialized work in private forests has been handed over to the state forest administration. There is an evident need to change the existing system for support to the private sector, because of the ineffectiveness of the service providers and the significant changes due to the ongoing process of transition, in the state department as well as the environment.

3 Organization of private forest owners in Central Europe

In various European countries different traditions exist with respect to private forests. Approximately half of Europe's forests are in private property. In most countries, an immense share of the forest areas is smaller than 10 ha, while in Nordic countries the approximate size of forests is around 30 ha or more. This category of ownership shows a high variability, going from only few properties with thousands hectares of forests, to millions of lots with less than 5 ha. As functional forms of cooperation between forest owners National Owners' Associations and Chambers of Forestry and Agriculture stand out (FAO, 2000).

In most countries of the European Union, owners of non-state forests are organized within the frame of different unions and associations, established as partners and counterweights to the state forest sector. Regarding their territorial organization, representation and association of private forest owners are present at all levels, from local and regional to national, and with a global-European linkage. Obvious differences between political decisions emphasized at the national level and the economic activities and practical management decisions at the local level determine the establishment and the different organizational structures of forest owner's organizations.

3.1 Organization at national and sub-national levels

For comparative analysis Austria and Slovenia were chosen, as these two countries have large portions of private forests and well organized support towards private forest owners within the Central European region. In Austria private forest owners are organized in a *National Federation of Agricultural and Forest Enterprises*. The private forest sector is also part of *Chambers of Agriculture*. There are legally obligatory associations as well as parallel to them privately organized associations of forest owners that operate on a voluntary basis. In Slovenia the private forest sector is part of the *Chamber of Agriculture and Forestry*.

Pursuant to the Austrian Constitution – Austria is a federal state - Chambers of Agriculture are regulated on the provincial level. There are nine Provincial Chambers of Agriculture governed by the related provincial legislation. This results in differences in their organizational structures and the most important ones concern their membership domain. Whereas they all share the common feature that membership is obligatory for landowners and self-employed persons working in agriculture and forestry (including assisting family members) and for co-operatives in this sector, there are differences as regards employees: in the Tirol and Vorarlberg, all employees in agriculture and forestry are also members of the Chamber, whereas in the other seven provinces, agricultural employees have their own Labourers' Chambers. In Slovenia, there is one Chamber of Agriculture and Forestry for the whole state; its members are landowners, leaseholders and to some extent also companies. Besides obligatory membership, also voluntary membership is possible.

In Austria, the financial budget of the Provincial Chambers is fed from various sources. In the Austrian province of Salzburg, for example, in 2002 (LHR Salzburg, 2003), only 20% of the Chamber's annual budget came from membership dues, 36% from public subsidies, and in addition to that, 90% of the total costs of more than half of their employees were directly covered from the provincial agricultural budget. The Chambers also generate income from provision of special services and management of their own estates. The same applies to Slovenia, where the share of membership fees, compared to the total budget, is relatively small.

In Austria, there is no federal body representing the nine Provincial Chambers, but a Conference of Presidents of the Chambers of Agriculture which is their voluntary *de facto* representative in all matters undertaken at the national level. Austria's entry into the EU has brought about a decline in the Conference of Presidents' importance in the social partnership system, since the shift of powers and responsibilities on agricultural policy to Brussels has also separated the sector's problems from the other areas of economic and social policy. In general, the tasks of the Austrian Chambers of Agriculture include the representation of agriculture and forestry interests, the provision of advisory services for their members and collaboration in sectoral regulatory measures (e.g. the implementation of public promotional programmes for agriculture and forestry). In Slovenia, the entry into the EU increased the importance of the Chamber of Agriculture and Forests, because the subsidisation system is handled through that institution. In the forest sector, however, a major part of that job is accomplished by the Forest Service, the state forest administration. In general, the tasks of the Slovenian and Austrian Chambers of Agriculture are similar; the advisory service, however, in Slovenia and partially also in Austria, in the meanwhile is mainly provided by the State Forest Service.

The Chambers system in Austria has turned out to be not satisfactory in handling the numerous specific problems in the context of management of the many small-scale private forest estates in Austria. For that special purpose and as a result of the need for action, forestry alliances (forestry associations and forestry cooperatives) have been created in all provinces – though with the active support (consulting) of the Chambers of Agriculture. The forestry associations present themselves today as expert organizations belonging to the agricultural chambers or the Federal Silvicultural Association. These alliances are the reaction to changes in the form of the opportunity for structural and factual codetermination of processes. In this sense, it is furthermore necessary to continually adapt to the changing demands (Höbarth, 2002).

The Austrian forestry associations are strong marketing and contact partners in business and politics. They have the competency to optimally deal with their members' coordination tasks in the chain of value-added business activities. Their primary goal is to make the most efficient use of the already low manpower capacity towards improving the financial success of the forest owners, thus optimizing forestry management (Höbarth, 2002). In Slovenia, that process has only been started; so far, five associations with similar tasks as in Austria have been established.

With regard to other Central European countries, national associations of forest owners were established, so far, in a few countries with economies in transition, mostly with the goal to represent owners' interest during the process of restitutions. Membership is voluntary and the associations often do not have many members and no strong links with local and regional organizations (weak contacts with small private forest owners). It is clear from experiences from the agriculture and forestry sector of countries from Central and Northern Europe that those types of interest-representation institutions on a voluntary basis function only, if they originate from local and regional organizations and have a strong organizational background.

If decision makers harmonize the needs for interest-representative organization, and lower organizational forms on the local or regional level are absent, the most appropriate system would be that of a Chamber with obligatory membership. Especially in the context of small-scale private forestry, such Chambers would often be serving as a kind of basic structures only. Wherever appropriate or necessary, Chambers together with or through their subordinate units on provincial and regional level, could help establish and consequently

logistically and technically support voluntary local and economic oriented institutions (cf. the Austrian example, above). In Slovenia such assistance comes mainly from the Forest Service - all forest owners associations were established with their support.

Beside that, additional activities, especially in fields of financial support and subsidies, could increase the force of attraction of that type of organization, this in spite of the compulsory membership, not necessarily favored by the compulsory members. Membership in these organizations also provides various additional possibilities to the private forest owners to participate in national and EU projects. In case, however, state institutions do not see the necessity to take over initiative, and even better, certain lower forms of private forest owners' organization already exist, establishment of owners' own "roof" associations with voluntary membership, on a regional and local level, would be the favorable approach.

Altogether, there are considerable differences between the two systems, the obligatory Chambers and voluntary Owners' Associations, not only with reference to the way of initiative for establishment (governmental or independent) and legal form (corporation under public law, or association under private law), but also with respect to their general acceptance and effectiveness in the field. While the Chamber system is organized from top to down, the Owners' Associations arise from the bottom, from members' real interests. In addition, there is also a voluntary association for specific representation of the interests of agriculture and forestry co-operatives, the Austrian Association of Agricultural Co-operatives.

3.2 Organizations at regional and local levels

Because of logistic problems like coordination and appropriate representation of local common economic interest, independent formation of forest owners associations is more likely to take place in the communities on the local or regional level. The core tasks these associations focus on is channeling the of forest-political interests of owners of small properties, and provision of immediate specialized assistance from the union as well as various specialized advisory services for their members, as well as their representation in country unions and protection of their interests on an authorized level toward governments, other organizations and also the general public.

In the three countries under consideration, forest association engage in alleviating structure deficiencies originating from small areas of forest estates (expressly fragmentation of properties, unfavorable stand structures, insufficient network of forest roads, strong dispersion of the wood supply), which call, in most cases, for appropriate forms of cooperative management. In Serbia, however, the effects of structure improvement so far have related exclusively to economic results, thus on forest management and disposal of wood; there seems to be no intention to base management on a common property law.

When it comes to common management of forests in Central Europe, on the local or regional level, there are two prevalent systems: One is that of the forestry associations, the other one that of Agrarian communities. Associations of private forest owners today are the dominating voluntary organization form, based mainly on providing considerable economic advantages of their members. Cooperation of private forest owners, without legally joining their properties, is practically focused on timber marketing, joint use of technical equipment and involvement in specific forest management activities. That type of cooperation greatly increases reliability towards the wood-processing industry by creating speedy individual delivery capacities (Höbarth, 2002).

The forestry associations are therefore open to all forest ownership categories, independent of the expanse of forests belonging to each individual operation. Such forms of associations exist in Austria (*producers/marketing cooperatives*) as well as Slovenia (*160 marketing cooperatives*). In Slovenia, private forest owners sometimes are linked in interest groups (clubs) of land owners, originally for some other purposes than forestry. Most of these clubs were established with direct support from forest service experts.

Community forestry (*Gemeinschaftswald*) originates from the mountainous parts of the countries of the former Austrian Empire. Historically, rural common property in Austria can be traced back to either a settlement-related origin (*Allmende*, common property in Germanic times) or an easement-related origin (liberation of farmers in bondage). Administration of these joint ownership structures has been institutionalised in 1853 already, and since 1950 their legal status has been that of corporations under public law (*Agrargemeinschaften*, rural common property) (Herbst, 2004).

Even today, in the mountain valleys of Austria, that type of common property is one of the prevalent categories of rural land ownership and therefore a major factor in land use planning and policy. There is a high percent of forest owners which are not farmers anymore; *Agrargemeinschaften* turned out to be a proper approach for successful management of such forests, too. The legal structure of the *Agrargemeinschaften* has proven to be adaptive to numerous new challenges during the last 140 years when the same regulatory and institutional regime has been applied, based however on a continuously adapted legislation. *Agrargemeinschaften* are legally obliged to sustainably manage their commonly owned lands. It is because of such proper management, based on clear and consequently enforceable regulations that today rural commons in Southern Austria are in better ecological and economic conditions as they have been ever in historical times before (Herbst, 2004).

Comparable structures are also found outside the borders of the former Austrian-Hungarian Empire, as for instance, the *Waldgenossenschaften* in Thüringen (Germany). The internal structure of these communities might be different, but they have common ideal social contribution, responsibility and capability of management on one large joined area. (Illyés and Nießlein, 1997).

Nowadays, considerable and even increasing interest for that form of forest management exists. It is especially in regions where the areas of individual forest properties are very small (or will be small after restitution) that possibilities for the foundation of such Agrarian communities should be examined. As management of individual, small lots is complicated and ineffective, common management, based on clear and enforceable internal as well as external regulations, would help to avoid related problems. Internal regulations would include guaranteed shares of all co-owners and would be based on a clear structure of decision-making, administration and management through elected executive bodies (Plenary Assembly, Management Committee, and Headman).

Such common forest management structures would be established on a voluntary basis, or obligatorily through state. State support in most cases would be targeted towards support during foundation of such organizations and promotion of specific activities. With regards to Austrian *Agrargemeinschaften* (which are decentralized corporations under public law and thus self-governing) a special supervising authority (*Agrarbehörde*) has been installed as early as 1883, to safeguard sustainable management of their common property (Herbst, 2004).

In conclusion one has to state that there is no blue-print solution which would be applicable everywhere. The decision on the type of economic association or cooperation that is most favorable in a certain region has to be taken on the local level, because such decisions depend

on numerous individual factors. One thing, however, seems to be clear: Joint timber marketing and use of logistics alone will not count for the necessary level of integration, in times, when modern chains of wood production demand for intensive horizontal and vertical cooperation.

4 Preconditions for realization of new organizations

Private forests are an important natural renewable resource in Serbia, for the economy, as well as from the aspect of public functions of forests. These forests are valuable resources of biodiversity, eco-tourism and secondary forest products, and on the long-term they are potentially valuable sources for wood supply of the domestic industry. It is the clear interest of the state and the forest owners alike to improve the presently unsatisfactory situation in order to improve their functions, be it wood production or other functions relating to protection of the environment. To achieve an improved forest cover will depend mainly on the good will and means of the owners, but also on measures that stimulate the owners to use their forests in the best possible way.

The primary goals of forest policy, with regard to private forests, in Serbia, will be to establish all relevant facts about the private forests, stimulate interest of the owners in associations, upgrade and spread knowledge of modern forest management, and, where possible, offer financial support. In order to accomplish this policy, the necessary preconditions include an appropriate Law on Forests, an efficient forest authority and an excellent extension service, which is able to carry out the necessary advisory and information activities.

In the environment of transformation relations between the state forest administration and private forest owners, it is necessary to advance such relationships, towards cooperation and development of partnership. It is necessary that the state forest administration becomes qualified for the realization of its new tasks as a competent partner and service provider for non-state forest owners. In modern market terms, direct state influence, with regard to the private forest sector, needs to be replaced with non-binding state advisory activities that strengthen individual forest management and economic activities of private land owners. In that way, a primary organizational action to be realized by the Serbian state forest administration is the organization of a system of support and association of private forest owners.

4.1 Organization of support system

The primary goal for establishment of a support system in the Serbian private forest sector would be to enhance, with the help of the state forest administration and their specialized services, the forest owners' qualifications for sustainable and effective management of their forests, in accordance with their personal interest, current regulations and demands of modern forestry. Such a support system for private forest owners would be organized through

- Direct measures for all activities in private forests which the forest owners cannot finance or is not interested in to do so;
- Indirect measures which include advisory, technical and expert assistance, education and training, and support to private forest owners associations.

Developed systems of forestry organizations in the private forest sector include two mutually connected sub-systems: advisory services for forest owners (forestry consultation service), and support in organizing private forest owners organization at local and central level including the formation of effective forestry extension services and developing appropriate

institutional forms of associations. In order to make such systems of private forest management functional, a comprehensive and long-term systematic support from the state, in organizing and activating the private forest owners, will be necessary.

State support to promote the foundation and membership in private forest organizations is especially important during the initial phase of new organizations when the benefit from membership is not yet obvious to the land owners. Self-responsibility is an important issue in that context and includes responsibility of representatives of the organizations in decision-making processes. The state, however, needs to provide the legal framework as well as the advisory, financial and technical support for an active membership which gives the owners the possibility to choose, regarding their specific interests, from several organizational options. The essential condition for the realization of any kind of private forest owners association is in fact that it can fulfill individual and the communal interests alike.

Successful progress of private forest owners organizations is impossible without the active and positive involvement of the state, as the state creates the political and legal framing conditions, sets all basic organizational standards (for example, existence of a forest office) and gives support to organized owners. Through cooperation with authorized governmental institutions and by organized consultations, a complex network for cooperation needs to be built which supports fruitful development of new or already existing associations.

4.2 Organization of private forest owners

There are three internationally recognized preconditions to foster the organization of private forest owners: a functioning model for an organized system of consultations, a good forest extension service and funds to finance support measures. Measures of state policy should stimulate private forest owners, so they can assemble in local associations pursuing common goals such as promotion of their market position, achievement of better prices and selling conditions, and carrying out support measures. At the same time, a national association is necessary, to act as a strong partner on the higher political level, to facilitate cooperation among the local and regional associations, to express opinions on legislative and forest policy processes, and support the work of its member associations.

Forest management associations, working on an economical basis, can be formed according to various models: as model (1) “*community forest*”, because of the necessity for common management, or as (2a) some other way of economy-based cooperation of private forest owners, or (2b) “*contract cooperation*” meaning cooperation with forest organizations for implementation of mutual economic and public interests. The first model aims towards such owners of forests and forest land, who do not have enough interest for managing their forests, or simply are not able to do that because of high costs involved or physical distance from their forests. To join and merge such forests into a community would provide a chance for better management and income. For owners directly linked with their forests and forest land, having the possibility of getting actively involved in management, the other two options to achieve economic benefits (joint purchase of equipment, joint nursery plants, construction of the road, etc.) may be more appropriate.

Beside the formation of economy-based associations, policy associations of private forest owners are necessary, which represent the rights and interest of private forest owners at the national level in influencing the decision-making of state-political institutions. Such kinds of “roof” associations can considerably contribute to a more equal position of the private forests sector in relation to the state. It can contribute to safeguard adequate forest policy and

legislation and assume as well activities in support of private forest owners through consultations on expert-technical and entrepreneurial questions.

Professional and personnel organization of private forest owners in Serbia could be accomplished following well-established models of Central and Western Europe, e.g. by connection with the Chamber of Economy, which would allow for various forms of state subsidies for private forest owners (and similarly, for owners of small and middle private companies in forestry) and development of lower forms of organization. As a special form of organization representing their interests, an independent association of private forest owners could be formed, with adequate regional structures which would be made of representatives from regional, and/ or local associations.

5 Conclusions

If Serbia wants to have a stronger and better organized private forestry sector, the private forest owners have to get the possibility to associate freely and voluntarily and to establish functioning associations according to their interests and needs. There exists an environment for the foundation of cooperatives as independent self-managing organizations of the working people and citizens that can pool their labor and resources, also for performing advanced production in the forest sector. The provisions of the *Law on the Association of Citizens in Companies, Social Organizations and Political Organizations* adopted for the territory of the Socialist Federal Republic of Yugoslavia as well as the *Law on Cooperatives*, and the *Law on Social Organizations and Associations of Citizens* create possibilities and the legal basis for the establishment of social organizations and associations of citizens.

Proposals for action of the Intergovernmental Forum on Forests include the encouragement of private investments in sustainable forest management by providing a stable and transparent investment environment within an adequate regulatory framework that also encourages the reinvestment of forest revenues into sustainable forest management. It is thus necessary to provide for permanent financial resources, subsidies, credits and tax reductions in order to improve the state of forest resources in the private property. The *Law on the Property Tax* predicts that the property tax is not imposed on rights on immovable properties, including agricultural and forest land which is being converted to the original purpose, for five years.

The role of the state in private forestry should focus on coordination, support and supervision. With regard to private property and development the built-up of a system of management planning for private forests is essential.

We should stress the necessity to establish a special sector for private forests as an organizational unit within Serbia. In this way, we would provide for a relevant level of autonomy and also try to achieve more precise records of income and expenses, i.e. on the financial situation in private forests in general. The organizational and financial division of private and state forests sectors seems to be crucial at the stage of forest development Serbia has reached so far. Efforts need to be made to know more about private forest owners in order to better support efficiently.

Literature

- Abetz, K. (1955): *Bäuerliche Waldwirtschaft*. Paul Parey, Hamburg und Berlin. (348 pg.)
- Csóka, P. (1998): *Forest Policy Activities in the Countries in Transition in their Preparation for the EU*. Forest Policy in the Countries with Economies in Transition - Ready for the European Union, EFI Proceedings Nr 21, Joensuu. (9-20)
- FAO (1997): *Issues and Opportunities in the Evolution of Private Forestry and Forestry Extension in Several Countries with Economies in Transition in Central and Eastern Europe*. FAO, Rome. (113 pg.)
- FAO (2000): *Options for the Organization of Small Forest Owners in Central and Eastern Europe for Sustainable Forest Management*. FAO, Rome. (47 pg.)
- Herbst, P. (2004): *Rural Common Property in Austria*. International Association for the Study of Common Property (IASCP) Tenth Biennial Conference. Oaxaca, Mexico.
<http://www.iascp2004.org.mx>
- Höbarth, M. (2002): Partnerships in the mobilisation and use of timber: Strategic Positioning of Forestry Alliances in Austria. Federal Silvicultural Association, Vienna.
- Illyés, B.; Niesslein, E. (1997): *Új erdészeti politika piacgazdasági alapjai Magyarországon = Neue Forstpolitik in Ungarn auf marktwirtschaftlicher Grundlage*. Kiadványai/Erdészeti Tudományos Intézet 6, Hillebrand Nyomda Kft, Sopron. (368 pg.)
- Krajčič, D. (1997): *Forest Policy and Related Research in Slovenia*. Review on Forest Policy Issues and Policy Processes. EFI Proceedings № 12. (43-49)
- Krott, M.; Marosi, G.; Gólya, J. (eds.) (1996): *Beziehungen der Staatsforstverwaltung zu privaten Waldeigentümern und deren Verbänden - Praxisvergleich in Europa*. Europaforum Forstverwaltung 6, Mátrafüred. (236 pg.)
- LRH Salzburg (2003): *Bericht des Landesrechnungshofes: Gebarung der Salzburger Landwirtschaftskammer*; März 2003, LRH – 3-71/13 - 2003
- Nonic, D (2003): *Institutional Organisation of Forestry and Environment in Serbia*. Technical Cooperation Programme - TCP/YUG/2902: "Institutional Development and Capacity Building for the National Forest Programme", Report, FAO, Rome.
<http://www.forestserbia-fao.sr.gov.yu>
- Nonic, D. (2004): *Organisation of Forestry in the Transition Process: Relation of Public Forest Administration and Private Forest Owners*. Doctorate. Faculty of Forestry, University of Belgrade, Beograd. (232)
- Nonic, D.; Herbst P. (2005): *Fragen des Privatwaldsektors in Serbien*. Forstzeitung 7/05, Österreichischer Agrarverlag, Wien. (32-33)
- Schmithüsen, F.; Herbst, P.; Le Master, D.C. (Eds.) (2000): Forging a new framework for sustainable forestry: recent developments in European forest law. IUFRO World Series Volume 10; IUFRO Secretariat, Vienna.

Economical tools for regulating sustainable forest management

Lyubov Polyakova and Mikhail Popkov***

Abstract

Despite of long production cycles forestry is or may become an economically profitable type of activity. First of all its efficiency is affected by restrictions imposed on forest management by the state and the public which are imposed for different reasons. It is interesting to state that there is a paradox – the more advanced society is in its development, the greater are the restrictions but at the same time there are more corresponding levers of the state in subsidizing the expenses caused by such restrictions. The analysis of the role of the state in economical stimulation of forest management activities is based on examples from a number of European countries – Czech Republic, Slovakia, Estonia, Latvia, Lithuania, Hungary and Poland, usually as of 2004. Main legal acts of the countries in question, relevant EU directives and other materials available in the Internet were used for reference.

Keywords: Economic instruments, public incentives and compensations, taxes, sustainable forestry, public law

Review of financial incentive instruments in forestry

The effect of the state on efficiency of forest management activities results from a general legal stimulation of the activities and from the use of financial incentive instruments. As a rule, the most essential state incentives are determined by legal acts, which deal not only with the forest sector (Forest Code or Act, by-laws) but also with the whole economy of the state, as for example tax exemptions. Financial state support may be classified as direct and indirect. Direct state support includes subsidies, compensations, technical assistance and tax exemptions. Indirect support includes full or partial financing of forest management planning, information support to private owners, financial support to the creation of their associations as well as full or partial financing of forest research activities. Financial support of the forest sector may be implemented either directly from the state budget through a line ministry or through special funds. Mixed financing is also possible.

State support is mainly directed to private owners. In Latvia, Czech Republic and Estonia the law provides special mechanisms for financial support of their activities. In Hungary state forest enterprises and private owners have equal rights in getting state subsidies. Direct compensations exist in Lithuania and Estonia. Forest lands with high protection significance are not subject to restitution in these countries, and the state offers direct compensation to their owners. In Estonia the state compensates the protection of the key biotopes.

Budget subsidies for state forest companies account generally speaking only to 1-2% of the total expenses for forest management with a tendency of an annual decrease. As a rule subsidies are given to state forest companies for the following activities:

* Ukraine, 20 Sholom-Aleyhema str., fl.200, Kiev, 02156, tel.+38050 6983543 , +38044 5442348, lpolyakova@ukr.net, www.fmssc.com.ua

** Ukraine, 22 proletarskaya str., Irpin, 08200, tel:+38050 9142904, office@fmssc.com.ua

- Implementation of the tasks set by parliament and government
- Support of actions conditioned by the forest code
- Forest regeneration and forestation
- Environmental protection
- Development of forest management plans
- Consulting to private forest owners

In Latvia funding activities exist for the state forest service and for some other state forest enterprises outside the state forest company. In Lithuania budget financing is implemented through the Special General Needs financing program whereby a forest company transfers money in form of taxes to its special account in the state budget. In Slovakia the state assists the forest sector through the implementation of specialized programs (public services in the agrarian sector and improvement of forest land resources). Before 2002 there was support through a specialized fund. Special forest funds exist in Hungary and Poland for different purposes. In Hungary the forest companies do not have access to the forest fund. Means to the forest regeneration fund come in the form of a tax and partially cover forest regeneration expenses. In Poland the General Directorate of the Forest Holding disposes of a fund, which is created for equalizing financial possibilities of forest enterprises with unfavorable natural and economic conditions. The volume of deductions to the fund is determined by the line ministry on the basis of the Company's report. Means of the fund can also be used for administration and research purposes, for the creation of the forest infrastructure, and for forest management planning. Annual deductions from the fund exceed 150 million \$. Private forest owners may receive assistance from the environmental protection and water economy fund.

Financial support to the forest sector may be provided in the form of grants from international organizations. During the period 2000-2006 the financial assistance from the European Union to candidate countries of Central and Eastern Europe are provided through three instruments: the Phare, ISPA and Sapard programmes. Because of its nature the significance of ISPA for the forestry sector is limited, but SAPARD has potential to provide support to forestry sector development, especially for afforestation of former agricultural land. As for EU members it is possible to get financing for forest related activities as a part of rural development under the European Agricultural Guidance and Guarantee Fund (EAGGF). The scheme provides support to afforestation, various measures to improve ecological and environmental stability of forests, silvicultural and infrastructural improvements, and to the development of forest management associations.

On the whole the state tax policy with its flexible system of exemptions is one of the most powerful economical stimulations of entrepreneurship. It is noteworthy that there is no single approach in the world with regard to the applicable taxation systems. In line with the "EU Taxation System Structure", published in Eurostat in 1998, all annually payable taxes and duties may be classified according to three different systems:

1. Classical scheme: direct taxes (income tax and tax on capital), indirect taxes (tax on produced or imported commodities) and social taxes;
2. Classification depending on the tax recipient: state budget, local budgets, social funds (pension, employment, insurance etc), EU funds; It is noteworthy that about 50-60% of taxes go to the state budget, 8-15% to the local budgets and about 30% to special funds.

3. Classification on the basis of economic indices: taxes related to consumption of goods and services; taxes related to production of goods and services as well as to the use of the capital; and taxes related to the salaries of the employees.

Let us come back to taxation of the forest sector. It is remarkable that the tax policy of the EU countries is much affected by the requirements and guidelines of the European Union. Basically there are no specific differences in taxation of different subjects of the forest sector (state enterprises, private owners and forest companies). So, the forest enterprises pay the following main taxes: income or corporate tax; tax on goods and services (VAT); social insurance tax as a percentage from salaries; and other taxes including land tax and special forest taxes.

Income Tax

As it is evident from the table 1, the highest income tax is levied in the Czech Republic – 26% (2005) and the lowest is in Latvia – 12.5% (since July, 2004). It is worth mentioning that there is an annual trend in decreasing this tax. Since 2003 the tax rate decreased by 5-6% for all countries. The state budget is, as a rule, the recipient of this tax. This tax is applicable for proceeds from wood sales and payments for standing volume prescribed for final felling. Poland is an exception – income from forest management is not taxed there at all. There is no income tax for legal persons in Estonia, however enterprises and forest owners deduct to the budget 26% of proceeds from standing volume and round wood sales.

Table 1. Corporate tax

	Czech R.	Hungary	Slovakia	Lithuania	Estonia	Latvia	Poland
Tax rate	28%	16%	19%	15%	26%	12,5%	19%
Peculiarities for forest sector	Legal entities may create “reserve fund for silvicultural operation” from their income. In this case, financial means are taxed in the respective years their employment for silvicultural operation	Non-taxable sum for private owners	No data	For private forest owners – 10% from timber sales	Deductions from sales of forest and round wood. Private companies also -26/74 of dividends paid to shareholders. Income tax not levied if income is reinvested or kept within the company	For private owners tax chargeable income amount can be reduced by 25% if artificial afforestation is planned or 5% - if natural	Is not levied on income from forestry economy. Forest enterprises pay corporate tax only from their additional activities

In Czech Republic legal entities can create a so called “reserve fund for silvicultural operations” (future costs) from their incomes. In this case, financial means are taxed in the respective years of their employment for silvicultural operations. In Baltic countries there are certain differences in the calculation of income tax regarding in various forest management activities. In Lithuania, for example, private owners pay only 10% of proceeds from wood sales. In Latvia private owners (physical persons) have a tax exemption of 25% if artificial regeneration is planned and of 5% if natural regeneration is used. Forests must be regenerated

within a 3-year period; otherwise the owner must pay the full amount of tax. In Hungary the taxed profit does not include means invested into reforestation and environmental protection.

Tax on goods and services (VAT)

The EU 6 VAT directive (77/388EEC), as well as other directives of 1992-1996 essentially, affects the tax on goods and services policy in the countries. Its objective is to harmonize the system of tax collection. In compliance with the EU directives the country members apply standard tax rates (at least 15%) and may have one or two reduced tax rates (which must not be below 5%) for certain goods or services of a cultural or social nature. Zero tax rates and tax rates below 5% may be considered on a temporary basis only. The 6 VAT directive with recent amendments provides in certain conditions for forest enterprises the possibility to return the VAT for buying commodities or services. Besides, the EU country members may have reduced VAT rates for fire wood and supply of plants. This provision (reduced tax rate for fire wood) is applied in Germany, France, Austria, Poland, the Czech Republic and Hungary, and in Lithuania and Estonia for private persons only.

The highest standard tax rate is in Hungary (25%). In this country the rate of 12% was increased to 15% since January 2004 and the zero rate was moved to 5%. The Baltic countries have the lowest standard rates – 18%. When enterprises register as VAT payer the annual turnover should exceed a certain amount. The highest limit of the annual turnover, for which VAT is not collected, is in the Czech Republic, Hungary and Slovakia and the lowest in Poland.

Table 2. Tax on goods and services (VAT)

	Czech R.	Hungary	Slovakia	Lithuania	Estonia	Latvia	Poland
Standard tax rate	19%	25%	19%	18%	18%	18%	22%
Reduce tax rate	5%	15%, 5%	-	9%, 5%	5%	5%	7%, 3%
Turnover for registration as taxpayer	35 thou EUR	35 thou EUR	35 thou EUR	29 thou EUR	16 thou EUR	17,8 thou EUR	10 thou EUR
Peculiarities for forest sector	0% on export, 5% on services and work in forests (felling, skidding, wood transport, forest regeneration etc) purchase and sale of plants and seedl., and fuel wood	0% on export, 15% on some forestry services (SZJ code 01.41-42.1, 01.50.1, 02.02.) forestry planning, consulting services, purchase of fuel wood (till 31.12.2007)	0% on export	0% on export, on sale of fuel wood by natural person	0% on export, 5% on sale of fuel wood to natural person	-	3% on forestry services (PK WIU 01.41.12, 02.02.10, 01.4) till 30.04.2008 (after that will be rate 7%). 0% on export, 7% on sale of fuel wood

Poland has introduced new taxation rules since 2001. Before that time the products of forest and hunting were not taxed at all. Now the services related to forestry and wood harvesting are taxed with the rate of 3%. After April 30, 2008 a tax rate of 7% will be introduced for forest enterprises. The standard VAT rate of 22% is applied to processed wood commodities.

The Czech Republic and Hungary also have considerable VAT exemptions in forestry. In the Czech Republic a rate of 5% applies to services and work in the forest (e. g. felling, skidding, wood transport, forest regeneration, silvicultural operation), to the purchase and sale of plants and seedlings of forest tree species, and to fuel wood. In Hungary a rate of 15% is applicable for certain types of management services and the sale fire wood. In Slovakia, before the reform, forest enterprises used to have tax exemptions but now the standard tax rate of 19% is applied to all enterprises in the country. Zero tax rates under export operations are typical for the Czech Republic, Slovakia, Estonia, Lithuania, Hungary and Poland.

Social Tax

This tax has two components. It comprises means paid by the employers as a percentage of salary funds, and means paid by the employees. In table 3 one can see the distribution of general percentages of social payment components. Social funds of different orientations are, as a rule, the recipients of these means.

Table 3. Social contributions

	Czech R.	Hungary	Slovakia	Lithuania	Estonia	Latvia	Poland
Are paid by employer	35%	33,5%	35,2%	31%	33%	24,09%	19,83
Tax by item	<ul style="list-style-type: none"> •Health insurance 9% •Sickness benefit - 3,3% •Pension 19,5% •Employment policy 3,2% 	<ul style="list-style-type: none"> •Health insurance- 11% •Pension insurance – 18% •Unemployment contribution 3% •Contribution to technical evaluation 1,5% 	<ul style="list-style-type: none"> •Health insurance 10% •Pension insurance- 16% •Sickness insurance – 1,4% •Unemployment fund 1% •Reserve fund 2,75% •Invalidity insurance 3% •Guarantee fund 0,25% •Accident insurance - 0,8% 	<ul style="list-style-type: none"> •Labor accident -1% •Medical insurance- 3% •Pension insurance – 22,5% •Sickness and maternity - 3% •Unemployment insurance 1,5% 	<ul style="list-style-type: none"> •State health insurance – 20% •State pension insurance 13% 	No data	<ul style="list-style-type: none"> •Disability insurance - 6,5% •Health insurance- 3% •Pension insurance – 9,76% •Unemployment fund 2,45% •Guarantee fund 0,25%
Are paid by employee	12,5%	13,5%	13,4%	3%	No data	9%	26,96

Other taxes

Land tax: Land taxes may exist as a separate tax (Estonia) or as part of the real estate tax (Czech Republic, Slovakia, Latvia, Hungary). This tax is paid to the local budget. Standard rates of this tax are shown in table 4. As a rule, they are calculated as a percentage of land values and tax rates may vary depending on location, productivity and soil types. In Slovakia and Estonia local public bodies make a decision on the tax percentage and there are considerable tax exemptions for the forest sector. In Estonia and Latvia this is true for forest stands with certain restrictions in forest management. In Latvia the land tax, in compliance with the Cabinet of Ministers procedure, is not to be paid for young growth. The land tax in the Czech Republic and Slovakia is applied only to commercial forests. In Slovakia commercial forests subject to the tax should have reached the age of first thinning. In the

Czech Republic the tax is not paid during 25 years if the land has returned to forest management and for land plots returned to new ownership tax deferment for up to 10 years may be granted. Besides, the land tax is substantially reduced or abolished in forests affected by emission.

A tax for withdrawal of lands from forestry production is payable in the Czech Republic and Slovakia. In Czech Republic 40% of the tax goes into the local budget and 60% to the local fund for environmental protection. A hectare of the area withdrawn from forestry production is taxed by a formula that considers average growth, wood price and an environmental factor.

Forest tax: As In Hungary this tax is deducted from every cubic meter of harvested wood under final felling or from commercial thinning depending on the region and type of forest stand. The tax is paid to the forest regeneration fund. Eventually the resources of this fund may partially cover forest regeneration expenses. Besides, the payment for forest resources of state forest enterprises is indirectly linked to the land tax and determined when concluding the contract. The value of payment depends on the region, species and age of forest stands. On sn average about 0.5\$ is paid per ha, however, if only production forests are under consideration the payment is about 13\$.

Table 4. Tax on land

	Czech R.	Slovakia	Lithuania	Estonia	Latvia
Name of tax	Property tax	Property tax	Land tax	Land tax	Property tax
Standard rate	3,8 CZK/m ² or 0,25-0,75% its value	Determined by a local authorities depending on the budget needs	1,5%	0,5-2%	1%
Tax depend on	Location, type of land	Location, soil types	Ownership (are paid by private owners)	Location (all used land is classified into 11 different zones)	-
Peculiarities for forest sector	Impose on commercial forests excluding forests affected by air-pollution ranking in the two highest danger zones. Tax rate – 0.25%.	Impose on commercial forests (older than 40 years). Tax rate – 0.25%.	Not imposed on forest land	For forest land in average 1,6% Land tax is not imposed on land where economic activities are prohibited. 20, 50 or 70 per cent of the rate of land tax is paid on land where economic activities are restricted by law	Not imposed on land where economic activities are prohibited. Tax amount shall be reduced by 50-80% for specially protected nature territory or lands where are restriction of economic activity Are not paid in reforested or afforested areas in first two age classes to some tree species

The forest tax for *Poland* combines the land tax and payments for forest resources. For the last 10 years the approach for calculating this tax has changed several times. Before 2000, in compliance with the Forest Code and the Forest Law, tax exemptions existed for forests under 40 years age, forests registered as monuments of nature, reserves and national parks as well as for forests performing special ecological functions. In 2001 it was decided to tax forests older than 40 years in national parks and reserves, as well as forests performing ecological functions. However, the Polish Parliament established for them the soft taxation while for forests owned by communities the tax rates were reduced.

Land tax is paid by forest owners, state enterprises or forest renters. Area, main forest forming species and site index are the basis for calculation of the tax. Information for tax calculation is taken from forest management plans as of the January 1 of the fiscal year. Table 5 indicates

the coefficients for calculating the forest tax. The cost of 0,22 m³ of coniferous saw logs calculated by average sale price for every enterprise is assumed as a unit of tax calculation for the first three quarters of the year preceding the tax year. It is noteworthy that tax rates grow together with equalizing the situation in the forest sector. For example, according to the Forest Code of 1991, the rate was 0,125 m³; after the amendments to the forest law 2000 the tax rate moved to 0,2 m³; according to the decision of Parliament in August 2002 it has been increased up to 0,22 m³ per 1 ha. The forest tax for reserves and national parks, forests performing ecological functions are now at 50% of the standard rate.

Table 5. Conversion indices of forest area for forest tax calculation

Main tree species in stands	Stand site classes for the main tree species					
	1 A	1	2	3	4	5
Fir, spruce		2,3	1,8	1,3	0,9	0,6
Oak, ash, maple, elm		2,0	1,6	1,3	0,8	
Beech		1,8	1,5	1,1	0,7	0,4
Pine, larch	1,4	1,2	1,0	0,8	0,6	0,3
Hornbeam		1,1	0,8	0,5	0,3	0,2
Birch		0,6	0,4	0,3	0,2	0,2
Aspen		0,6	0,4	0,2	0,2	0,2
Alder		0,5	0,3	0,3	0,3	0,3
Poplar		0,5	0,3	0,3	0,3	0,3

There are a number of taxes or better said tax deductions, which are typical for state forest companies and which are applicable to their payments for the use of state property. In Latvia this amount is fixed but corrected with inflation. The money paid by the company covers budget expenses for financing the state forest service. A similar system exists in Lithuania. This amount together with the deduction of 5% of sales tax on round and standing wood from enterprises is ear-marked in the state budget for financing forest programs. In addition the Lithuanian enterprises transfer to the budget 0.5% of their income for the right to use state capital and 0.5% of income from the wood sales to the road fund. Hungarian enterprises and the Forests of the Czech Republic are obliged to transfer to the budget of their countries certain payments. However, the state did not use this right so far as of 2002. Hungarian law also provides payments on the value determined by the line ministry for activities of the forest administration.

Aside from the above-mentioned taxes there are other taxes applied in certain countries and paid to the local budgets, such as transport, road tax, ticket sale tax, recreation, tourist tax and others. They also may have some peculiarities for forest sector (as example drawn vehicles and tractors with trailers in forestry are not subject to road tax in Czech Republic) but amount of receipt from this tax is not big.

Conclusion

Altogether, it is remarkable that irrespectively of the relatively small role of the forest sectors in the economy of the countries under analysis the state supports in various ways the forest sector. In the same manner as there is no single European forest policy and forest law, neither is there a single strategy of assistance to the forest sector. Thus, in spite of the EU directives and regulations, the types and ways of this assistance greatly vary depending on the level of

development of the forest sector, on historical traditions, and on the extent of restrictions imposed on forest management by the state and the public.

Literature

General

Taxation and Customs Union http://europa.eu.int/comm/taxation_customs/publications

Tax and Accounting Sites Directory <http://www.taxesites.com/>

Trasberg V. Property taxation in the Baltic States. *Tax Policy in EU Candidate Countries 12-14 September 2003, Latvia*

VAT in the European Community. EUROPEAN COMMISSION. TAXUD/C/3/ID D (2003)

The Sixth VAT Directive [Directive 77/388/EEC](#)

Countries

Czech Republic

Ministry of Finance <http://cds.mfcr.cz/>

Act No. 338/1992 of the Collection of Laws concerning the real estate tax as amended

Act on Forests and Amendments to some Acts (the Forest Act) 3.11.1995

ŠIŠÁK L., CHYTRÝ M. 2004. Analysis of forestry financing in the Czech Republic in the period of transition to market economy. *Journal OF FOREST SCIENCE*, 50 (2), p.p. 78–85

Slovakia

Ministry of Finance of the Slovak Republic www.finance.gov.sk

Act No. 222/2004 Coll. ON VALUE ADDED TAX

Report on Forestry in Slovak republic 2003 (Green report). Bratislava, November 2003

Poland

The Act concerning Forest, Warsaw 1991

USTAWA z dnia 11 marca 2004 r. o podatku od towarów i usług

Ministry of Finance www.mf.gov.pl

Podatek leśny Dz. U. Nr 200, poz. 1682 z 30 października 2002 roku i weszła w życie 1 stycznia 2003 roku

Tax Administration and Tax System in Poland. Tax information bulletin/2004

Hungary

System of Taxation in Hungary www.afeh.hu

Act LXXXI of 1996 on Corporate Tax and Dividend Tax

Act LXXIV of 1992 on Value Added Tax Hungary

National report of Hungary for the Joint EFC/Timber Committee Session 9-13 October 2000

Lithuania

Ministry of Finance www.finmin.lt

Parliament of the Republic of Lithuania www3.lrs.lt

Law on taxes on profits of legal persons 31 July 1990, No. I-442 (As amended by 11 July 2000 No. VIII-1818)

Law on Value Added Tax No. IX-751 of 5 March 2002 (Zin., 2002, No. 35-1271)

The Lithuanian tax system <http://www.vmi.lt/English/main.htm>

The Law on the amendment of the Forest Law of the Republic of Lithuania April 10, 2001, NR. IX-240

Some basic laws of Republic of Lithuania – Laws www.litlex.lt

National report to the Third Session of the United Nations Forum on Forests 30-12-2002 Lithuania

Latvia

Tax administration in Latvia www.mindlink.lv

Law on Value Added Tax

Law on Immovable Property Tax. Translation © 2000 Tulkosanas un terminoloģijas centrs (Translation and Terminology Centre)

Estonia

Ministry of Finance www.fin.ee

Estonian National Land Board www.maaamet.ee

Income Tax Act (RT I 1999, 101, 903; consolidated text RT I 2001, 11, 49)

Land Tax Act (RT I 1993, 24, 428; consolidated text RT I 1996, 41, 797)

Social Tax Act (RT I 2000, 102, 675)

Value Added Tax Act (RT I 2001, 64, 368)

Forest Act (RT I 1998, 113/114, 1872)

Coordination of policies related to forest management

Volker Sasse, Constanze Schaaff and Franz Schmithüsen

Introduction

The subject of lacking coordination between the various forest management policies was perceived as an issue from a range of international meetings in Europe, namely from the Joint Session of the FAO European Forestry Commission and Timber Committee in Geneva October 2004 (UNECE/FAO, 2004). Also the EU forestry strategy addresses the matter explicitly (EC, 2005). An initial brainstorming meeting on the subject in February 2005 was held at FAO SEUR in Budapest. The meeting recognized that the lack of coordination between policies addressing forest management in Europe may lead to contradictions and conflicts between the respective policy instruments and hinder an adequate comprehensive respond of policies to societal demands (FAO SEUR, 2005). The paper identifies different aspects to be considered in this context as a basis for further discussion among stakeholders.

Changing societal demands influencing forest management

The demands of society towards the use of forests have changed during last decades significantly. Apart from the economic function, forests play an increasingly important role in the provision of ecological and socio-cultural externalities such as recreation, carbon sequestration, and protection against risks from natural hazards as well as water filtration, biodiversity and landscape conservation. O' Leary and Elands (2002) conducted a survey on expectations of local communities and forest owners towards forest functions and revealed that environmental benefits (the protection of air, water and soil, nature conservation) and socio-cultural functions (providing landscape conservation and recreation opportunities) are evaluated at least as high and under certain conditions even higher than economic functions (business activities including creation of jobs) in all studied groups and countries (Austria, Denmark, Germany, Hungary, Ireland, Netherlands and Spain).

The structure of societal demands on forestry land use varies between European countries and sub-regions, as well as among stakeholders (Elands and Wiersum, 2002). Even though sufficient data on Central and Eastern European countries (CEEC) are yet missing, a general shift away from solely economic functions towards a high acceptance of the multifunctional role of forests can be observed (Rametsteiner and Kraxner, 2003). The latter study clearly states that environmental benefits from forests such as preservation of natural environment and biodiversity are widely recognized valued roles of European forests. In terms of provision of environmental values, CEEC countries play a comparatively important role as a considerable proportion of the still existing natural and semi-natural forest areas are located here (UNECE/FAO, 2003). The Central and Eastern European are at the same time of great importance for the preservation of wildlife (in particular large carnivores) and biodiversity conservation (IUCN, 2004).

Economically, forestry provides employment in rural areas, wood for industrial processing, and as an energy source, non-wood forest products, and marketable services. The forestry's sector contribution to GDP is typically more than 10 % in some Scandinavian and Baltic

countries, in the EU/EFTA sub-region its share of GDP turns around 1%, whereas in CEEC and CIS countries it amounts to 3-4% (EEA, 2003). Considering the market developments the share of roundwood removals has so far generally shown a decreasing trend in a number of European countries including Scandinavia (EC, 2003, Saastamoinen, 2002). However, the economic growth in CIS countries and partly in CEEC is expected to be much higher than in Western Europe. In light of this the use of timber resources can play in Eastern Europe, at least temporarily and mainly in rural areas, an important role for economic recovery during the transition process towards a market economy. To look into the future of the forest sector in the EU/EFTA region removals are expected to grow steadily but become less important, in comparison to social and environmental benefits from forests. Outcomes of the European Forest Sector Outlook Study (UNECE/FAO 2005), forecast a significant increase of roundwood production and net-exports of CIS countries. In Western Europe (EU/EFTA region), the production of roundwood but also of forest products in general competes increasingly with imports mainly from the East, and net-imports are expected to increase over the decades (UNECE/FAO, 2005). Partly in CEEC there are economic potentials to be recognized and a shift from net-exports of roundwood to net-imports is expected to take place here.

Blombäck et al. (2003) studied the development of employment within the forest sector in Europe. Considering the higher growth of productivity in comparison to roundwood production volumes the outlook on employment in forestry is rather gloomy, though there are regional differences. Whereas in the Western European and CEEC countries employment is expected to decrease in the forestry sector, the situation is thought to stabilize in CIS countries. The described increase of demand in social and environmental benefits together with the economic potential in the East puts the question about the future of forestry in Europe on the agenda and leads to the need of a careful analysis of how the policy framework is in a condition to balance the various interests of stakeholder groups.

Sustainable development and forest management

This term has been introduced onto the international agenda with the Brundtland report (WCDE, 1987) defining sustainable development as “development which meets the needs of the present without compromising the ability of future generations to meet their own needs”. The goal is to ensure long-term welfare of modern societies. With the introduction of the concept the framework of policy making on global, regional and national levels has been changed. At the UN Conference on Environment and Development (UNCED) in Rio the principle of sustainable development has been incorporated into the final declaration and its plan of action (AGENDA 21). The Rio Summit identified three Pillars of sustainable development (UNCED, 1992) to be addressed in a balanced manner:

- Social progress (Equity, Social cohesion, Social mobility, Participation, Cultural identity),
- Economic growth (Growth, Efficiency, Stability),
- Environmental protection (Healthy environment for humans, Rational use of renewable natural resources, Conservation of non-renewable natural resources, Participation, Cultural identity).

This approach was designed as a global and regional approach and does not ask for a balanced input from particular sectors, such as forestry or forest management in general.

The Forest Principles adopted at the Rio Summit have defined the measures to be taken in order to sustainably manage all types of forests: Referring to the goals of sustainable

development, forests should meet the social, economic, ecological, cultural and spiritual needs of present and future generations (UNCED, 1992). Consequently, the principle of sustainable forest management was established, defining new modes of management of the forest resources (MCPFE, 1993). This approach, as widely promoted to the public as a “balanced” one, frequently neglects, however, the specific structure and the existing imbalances between different societal demands. Society does, in fact, not request a balanced input from particular sector, but specific economic, environmental and social goods and services respectively benefits. It has been stated that the community has to decide what at what levels and what kind of mix between environmental, social and economic values can provide an acceptable balance for sustainable forest management (Mc Donald and Lane, 2004).

Forest legislation has developed and expanded over recent years according to changes in societal demands, considering particularly the increasing multi-functionality of forests and forest land (Cirelli and Schmithüsen, 1999; Schmithüsen et al., 2000; Schmithüsen 2003a and 2003b). Moreover, the diversification and accentuation of societal demands towards different kinds of uses and management has lead to an increasing number of public policy domains addressing directly or indirectly forest production and forest preservation. This is well reflected in the diverse policy instruments and institutions dealing with forest land at various political levels (Figure 1). Agriculture, energy, water management policies, for instance, do not only influence forest land through the market framework but have as well direct impacts in changing its use (Thoroe et al., 2004). The traditional forestry institutions risk to become marginalized if they are not able to satisfactorily respond to market as well as policy changes following changes in societal demands.

At the pan-European level the intergovernmental Ministerial Conference on the Protection of Forests in Europe (MCPFE) elaborated the concept of Sustainable Forest Management for the European region, using the “balanced” approach, and defined its goal as using forest in such a way that they maintain their capacity to “... fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels...” (MCPFE, 1993). To evaluate progress in sustainable forest management and to inform the public adequately about the contribution of land management to overall welfare, the forestry community has identified six pan-European criteria (carbon cycles, health and vitality, production, biodiversity, protective function (soil and water), socio-economic functions), and a range of roughly 60 quantitative and qualitative indicators reflecting the actual situation in each country (Glück and Voitleitner, 2000). The European Union’s legislative and institutional framework appears to be split up into a range of policy areas respectively such as environment, agriculture, rural development and energy, all simultaneously dealing with certain forestry aspects (EC, 2005). The European Commission’s Forestry strategy (1999) clearly states that forestry policy is primarily within the competences of the member states. On an EU level there are, however, legally binding instruments which refer to the environmental function of forests, e.g. measures to maintain biodiversity of forests and to preserve habitats for endangered species (NATURA 2000). Specific forestry measures are foreseen in the framework of the Common Agriculture Policy.

Despite the split up of policies there exist common approaches in legislation throughout Europe. Bauer et al. (2004) have analyzed similarities and common approaches in European national forest legislation. The following three legal issues have been examined in 23 countries: (1) reforestation obligations after logging through final cutting or loss of forest cover due to fire and natural calamities, (2) regulations concerning public access to forests and (3) public use of non-wood forest products occurring on forest land. It turned out that all

three legal issues are addressed by the studied national legislation. In most countries legislation includes regulations for obligatory reforestation. Public access to forests is allowed in most of the analyzed countries, although, forest owners have specific rights to limit such access. Limitations exist mainly with regard to nature protection in order to protect replanted or naturally regenerated forest stands. In most of the examined countries the public has usage rights to collect some non-wood forest products.

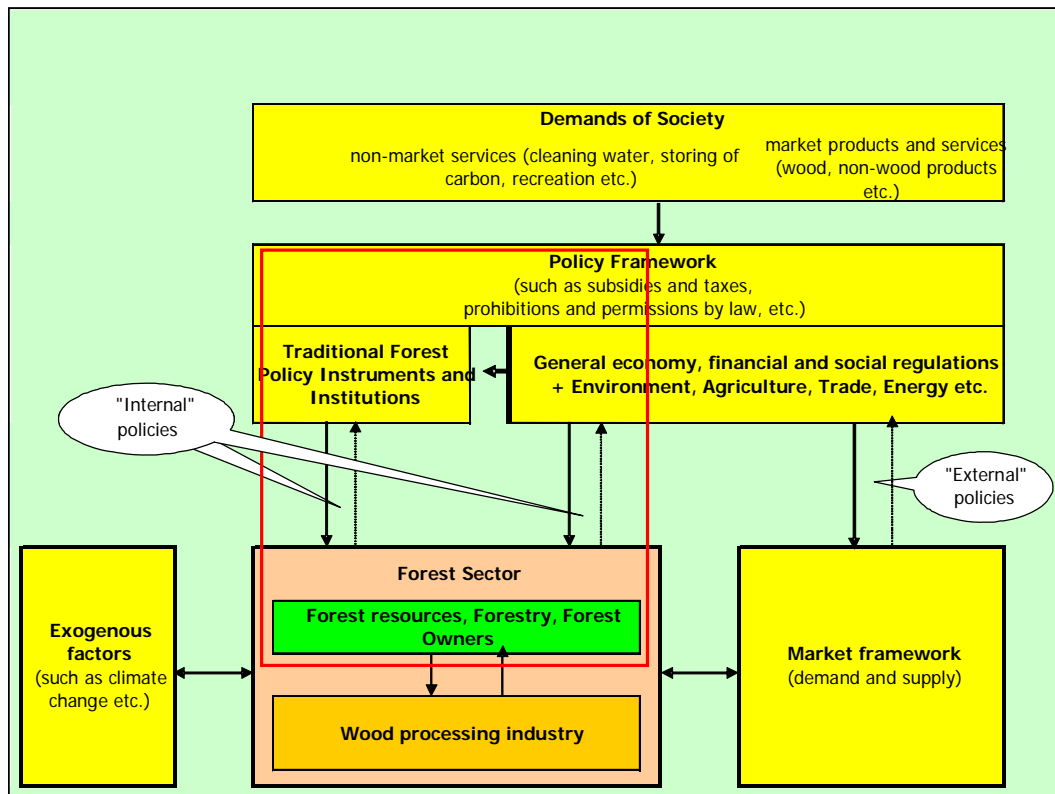


Figure 1: Policy framework of forest management as determined by internally and externally factors (Thoroe et al. 2004, modified)

At the national level there are examples, where state forest management and state administration are strictly separated. But in many countries the state has a double function: On the one hand being a significant forest owner and manager the state aims for incomes from forestry. In comparison to the private forest owners state forest institutions may be big players on the market and have potentials to influence forest management significantly. On the other hand being responsible for governance of forest land in general the state acts actively according to the public demand toward social and environmental benefits. Since state has to take care of multiple functions of forest land, its policy instruments are often residing in different policy institutions. It seems to be difficult to create distinct policy responds to societal demands thus resulting in overlapping interests and conflicts between society in general and different forest managers and stakeholders in particular.

With regard to private owners, many of them hold only a few hectares of forest land and their profits, coming from forestry represent a minor share of their overall income. Larger private forest owners, whose number is limited, refer frequently to other interests from their forest ownership, such as traditions, hunting etc. They often criticize that they are forced by law to adapt their forestry management to the social and environmental requirements without

adequate compensation. Some conflicts may also result from contradictory perceptions on forestry operations by different stakeholder groups. Young and Wesner (2003) measured the effects of forestry land use against public expectations in aesthetic values of forests. The study shows that there are potentials for better education and information of the public on the background of forestry measures.

National Forest Programs (NFPs) have been developed during the last years (Humphreys, 2004a). NFPs have been introduced to put sustainable forest management into implementation. NFPs are also planned to ensure an effective policy framework through integrated and participatory approaches and policy strategies (UN, 1997). Through its principle of subsidiarity, EU is encouraging NFP processes in the member countries (EC, 2005). At the same time it should be noted that NFPs are limited to the national level and are in many European countries yet in the initial state of implementation (Humphreys, 2004a). Looking at the legal framework at country level it appears that forest management is again split up in several policy areas e.g. environmental policy and forestry policy.

Options for improved coordination

Following the above mentioned observations, it can be concluded that the future development of forest management in Europe in terms of wood production is mainly dominated by the natural resources and economic potentials in Eastern Europe, mainly in CIS. In light of this, the policy framework in CEEC and CIS should enlarge its focus towards social and environmental benefits, especially given the chance to adapt to changing demands within the transition process and its consecutive institutional reforms. Particularly in CIS countries, implementing a broader concept of forest management (adapted to changing societal demands) into the strongly traditional forestry structures may prevent the countries to go through the fragmentation process as observed for Western Europe.

In order to better coordinate the relevant policy fields at national level, an institutional bundling of the various forest management related instruments in the responsibility of one comprehensive state institution might be on the political agenda to assure the optimal provision of economic, social and environmental benefits and to avoid partly controversial decision making in various state structures. This could happen under the lead of one ministry such as Environment, Rural Development, Agriculture etc. NFPs might be an appropriate tool to improve coordination (Humphreys, 2004b). In some countries, e.g. in Czech Republic concrete steps in this direction have been undertaken combining for example forestry and environmental issues under one ministry, in this case the Ministry of Environment. Also further steps towards a separation of state forest management and state governance of the sector seem to be a relevant policy objective. With this regard, there are positive experiences and attempts in many European countries to be acknowledged (World Bank, 2005).

On an EU level, it is also recommended by the communication on the implementation of the EU forestry strategy to advance coordination activities of different policy areas in one common direction (EC, 2005). Hence, the EU Commission will further analyze over-lapping and possible contradictions between the various Directorate-General's dealing with forest sector related issues (mainly Directorate-General for Environment, Enterprise, Trade, Research, General Development, Rural development and Agriculture respectively (Puelzl, 2005)) and move ahead towards a more coordinated approach, possibly using the Standing Committee on Forestry or the Inter-Service Group of the Commission as a vehicle. Such changes could be a major input for the global dialogue on a forest management convention as well as on national coordination of forest management policies.

Another option to further coordination could be a regional forest management instrument. Such an instrument (e.g. European forest management convention) represents a tool to comprise different policy areas, mitigating overlaps and discrepancies of European policies. In order to put up a more coordinated policy framework, the existing common aspects in national forestry related legislation could be used as a base for such a venture. A bottom up approach would be a prerequisite for an agreement and can ensure that a new instrument is widely accepted by the European governments.

A regional instrument could also be initiated on a sub-regional level, for instance, as a forest management Convention (e.g. Balkan countries, the Caucasus or the Baltic States). This would have several advantages to make an implementation easier: already existing common initiatives could be used as vehicles and the instrument could be based on a common denominator between countries with quite similar natural conditions. To combine governments' forest policies on a sub-regional level would have vertical impact, providing a raw model for a European initiative and contributing horizontally in coordinating policies on national levels.

Aiming for better cooperation and coordination among the countries in the Carpathian Region the Ministers of Environment of Czech Republic, Hungary, Poland, Romania, Serbia and Montenegro, Slovak Republic and Ukraine signed on May 2003 the "Framework Convention on the Protection and Sustainable Development of the Carpathians", also known as "Carpathian Convention", which entered into force on 4 January 2006 (www.carpathianconvention.org). The Convention addresses issues of forest land use in Article 4 "Conservation and sustainable use of biological and landscape diversity" as well as in Article 7 "Sustainable agriculture and forestry".

A meeting of the Heads of Forestry, which took place in Budapest in May 2005, addressed the issue of coordination of forest management related policies on the national and international level to ensure the appropriate contribution of forest management to sustainable development in Carpathian region. With the aim to harmonize forest policy approaches of the Carpathian region countries the meeting discussed various ground rules in the relationship between forest and society, identified common issues and formulated key items for a draft Protocol on forest management. The coordination between the two major policy areas "Forestry" and "Nature conservation" remains a reasonable objective to be addressed in future activities on the implementation of the Carpathian Convention.

Conclusions

- Public demands in social and environmental benefits of forests, in particular with regard to carbon storage, bio-energy, biodiversity and landscape protection are increasing. Forestry can make important contributions providing essential environmental and social services. In a number of regions and for certain groups of forest owners the production of roundwood is losing its relative importance as a source of income and inputs to employment are decreasing.
- Public demands for goods and services change differently in the various countries and sub-regions depending on national traditions and the overall policy framework. There is a high focus on forestry and wood production in Eastern Europe, in particular in the CIS countries, leading to significant net-exports of forest products. These exports will impact competitiveness of and income from roundwood production in Western Europe.

- Traditionally the principle of sustainability has focused on long-term income opportunities from wood production. During the 1990s the principle of sustainable development was introduced on the international political agenda with the goal to ensure long-term welfare of modern societies emphasizing a balanced development of economic, social and environmental values.
- Frequently traditional forestry institutions emphasize sustainable forest management as the main policy approach balancing a priori the economic values for society with the social and environmental benefits. However, society does not request a balanced input from a particular sector, but demands specific economic, environmental and social inputs depending on the prevailing concrete conditions.
- During recent decades a policy vacuum on social and environmental issues evolved which is increasingly filled by interventions from policy domains and stakeholder groups, beyond the traditional forestry community, claiming the governance over issues related to social and environmental aspects of forest management. Environmental institutions and instruments that have been considerably been empowered at the global level become an important cross-sector policy area with rising impact at the national level as well.
- International political instruments related directly to forestry are mainly based on non-legally binding commitments. Other policy areas developed strong international commitments and legally binding instruments dealing increasingly with forest and forestry related issues. The split-up of the policy framework for forestry development and the lack of coordination between the various policy approaches leads to an unsatisfactory contribution of forestry to overall sustainable development.
- National forest programs go in line with the general trend in environmental policy to reach more coordination through integrated approaches among stakeholders and policy strategies. A special focus has to be put on the development of a consistent forest management policy framework in CEEC and CIS countries in which the transition process gives the chance to adapt policies to changing demands in society.
- Besides structural differences in public demands there are common approaches in forest related legislation in Europe. This refers in particular to reforestation obligations assuring a permanent forest cover and productive forest stands; regulations concerning public access to forests, and rights of the public to use certain categories of non-wood forest products subject to certain conditions specified by the forest legislation.
- On the whole there is need to enlarge the focus in Eastern Europe towards social and environmental benefits, to bundle forest related public policies institutionally, to foster coordination of forest related regulations within EU institutions, and to explore the possibilities of arriving at a Pan-European forest management instrument.

References

Bauer J., Kniivilae M., Schmithüsen F. (2004): Forest legislation in Europe: How 23 countries approach the obligation to reforest, public access and use of non-wood forest products. Geneva Timber and Forest Discussion Paper 37. ECE/TIM/DP/37. UNECE/FAO, United Nations, Geneva.

Blombäck P., Poschen P., Lövgren M. (2003): Employment Trends and Prospects in the European Forest Sector. Geneva Timber and Forest Discussion Paper 29. ECE/TIM/DP/29. UNECE/FAO, United Nations, Geneva.

EC (2003): Forestry Statistics. Employment in the Forest Sector. EUROSTAT/Cronos. Office for Official Publications of the European Communities, Luxembourg.

EU Council (1999): Council Resolution of 15 December 1998 on a forestry strategy for the European Union. OJ C56, 26.2. 1999.

EEA (2003): Europe's Environment: the third assessment report. Publications of the Office for Official Publications of the European Communities, Luxembourg.

EC (2005): Communication from the commission to the council and the European Parliament. Reporting on the implementation of the EU forestry strategy. Brussels. European Communities, Luxembourg.

FAO (2001): Global Forest Resource Assessment 2000-main report. FAO Forestry Paper No. 140. Forestry Department, FAO, Rome.

FAO (2005): FAO in Europe-Assisting the rural sector. Forestry fact sheet: Shift of timber towards the East. FAO Regional Office for Europe, Rome and FAO Subregional office for Central and Eastern Europe, Budapest.

FAO SEUR (2005): Proceedings of the brainstorming meeting on "A coordinated forest management policy in Europe". 28 February 2005, FAO SEUR, Budapest. Internal report, FAO SEUR, Budapest.

Glück P., Voitleithner J. (2000): Operational definitions of sustainable forest management. In: Glück P., Solano Lopez J.M., Rojas-Briales E., Schanz H., Zimmermann W.: International Seminar 'National Forest Programmes - Social and Political Context', 18-21 October 2000, Madrid, pp. 35-58.

Hogl, K. (2004): Patterns of multi-level co-ordination for NFP-processes: learning from problems and success stories of European policy-making. Forest Policy and Economics 4 (2004), pp. 301-312.

Humphreys D. (2004a): National Forest Programmes in Europe: Generating policy-relevant propositions for formulation and implementation. In: Humphreys D. (ed.) (2004): in Cost Action E19: Forests for the future. EUR 21364 Cost domain: Forests and forestry products. Publications of the European Communities, Luxembourg, pp. 13-43.

Humphreys D. (ed.) (2004b): Cost Action E19: Forests for the future. EUR 21364 Cost domain: Forests and forestry products. Publications of the European Communities, Luxembourg.

IUCN- The World conservation Union (2004): Countdown 2010- halt the loss of biodiversity. Information sheet. IUCN Programme office for South-Eastern Europe, Belgrade.

MCPFE (1993): Helsinki Resolution H_1, General Guidelines for the Sustainable Management of Forests in Europe. Second Ministerial Conference on the Protection of Forests in Europe, 16-17 June 1993, Helsinki.

O'Leary and Elands (2002): Anyone for more forests? Current perspectives and future expectations on afforestation and forest functions across Europe. In: Wiersum, K.F. and Elands, B.H.M. (2002) (eds.). The changing role of forestry in Europe: perspectives for rural development. Proceedings of the Symposium "The Changing Roles of forestry in Europe:

between urbanisation and rural development', Wageningen, the Netherlands, November 11-14, 2001. Forest and Nature Conservation Policy Group, Wageningen University, Wageningen.

Pülzl H. (2002): Der Diskurs um eine Kovention fuer Waelder. Schriftenreihe des Instituts fuer Soziooekonomik der Forst- und Holzwirtschaft, Band 42. Eigenverlag des Instituts fuer Soziooekonomik der Forst- und Holzwirtschaft, Wien.

Pülzl H. (2005): Evaluation of European community Regulations and Policies Relevant to Forest Policy. The Federal Ministry of Agriculture, Forestry, Environment and water management of Austria, Vienna.

Rametsteiner E. and Kraxner F. (2003): Europeans and their Forests- What Do Europeans Think About Forests and Sustainable Forest Management? A Review of Representative Public Opinion Surveys in Europe. MCPFE, Warsaw.

Saastamoinen, O. (2002): Legal and Political Aspects of Forest Programmes in Finland: In: Zimmermann, W. and Schmithüsen, F.: Forest Science Contributions, 25: "Legal Aspects of National Forest Programmes", ETH, Zurich.

Cirelli M-T.; Schmithüsen F. (2000): Trends in Forestry Legislation: Western Europe, in Working Papers International Series, 00/1, Zurich.

Schmithüsen, F., Herbst P., Le Master D. C. (2000): Forging a New Framework for Sustainable Forestry: Recent Developments in European Forest Law, in: IUFRO World Series Volume 10, ETH, Zurich.

Schmithüsen F. (2003a): Forest Policy Developments in Changing Societies: Political Trends and Challenges to Research, ENFORS – COST Action 25.

Schmithüsen F. (2003b): Understanding Cross-sectoral policy impacts-Need for cross-sectoral policy coordination. pp. 5-42. In: FAO (2003): Cross-sectoral policy impacts between forestry and other sectors. FAO Forestry Paper 142. Forestry Department, FAO, Rome.

Throe C., Guarin H. C., Peck T. and Schmithüsen F. (2004): The Policy context of the European forest sector. A study prepared for the European Forest Sector Outlook Study (EFSOS). Geneva timber and forest discussion paper 34. ECE/TIM/DP/34. UNECE/FAO Timber Branch. United Nations publications, Geneva.

United Nations (1997): Report of the Ad-Hoc Intergovernmental Panel on Forests on its fourth session, New York, 11-21 February 1997, UN document E/CN.17/1997/12, New York.

UNCED (1992): Rio declaration. Rio Conference, 1992. United Nations Conference on Environment and Development, Conches, Switzerland.

UNECE/FAO (2004): Meeting Report. UNECE, Geneva.

http://www.unece.org/trade/timber/docs/tc-sessions/tc-62/english/TIM_2004_4.pdf

UNECE/FAO (2005): European forest sector outlook study. Main report. ECE/TIM/SP/20. United Nations publications, Geneva.

UNEP (2003): Framework Convention on the Protection and Sustainable Development of the Carpathians, Kiev.

WCDE – The World Commission on Environment and Development (1987): Our common future (Brundtland Report). Oxford University Press.

Wiersum, K.F. and Elands, B.H.M. 2002 (eds.). The changing role of forestry in Europe: perspectives for rural development. Proceedings of the Symposium "The Changing Roles of forestry in Europe: Between urbanisation and rural development", Wageningen, the Netherlands, November 11-14, 2001. Forest and Nature Conservation Policy Group, Wageningen University, Wageningen.

World Bank (2005): Forest Institutions in Transition. Europe and Central Asia Region. ECSSD, World Bank, Washington D.C.

Young C. and Wesner M. (2003): Aesthetic values of forests: measuring the visual impact of forestry operations. *Unasylva* 213, Vol. 54, 2003, pp. 23-28.

Useful Links

Carpathian Convention

http://www.ceeweb.org/workingareas/conventions/carpathian/docs/carpathian_conv.pdf

UN Convention to Combat Desertification (UNCCD)

<http://www.unccd.int/main.php>

United Nations Forum on Forests (UNFF)

<http://www.un.org/esa/forests>

NATURA 2000

<http://europa.eu.int/comm/environment/nature/home.htm>

Common Agricultural Policy

http://europa.eu.int/comm/agriculture/lisbon/index_en.htm

UN Framework Convention on Climate Change (UNFCCC)

<http://unfccc.int/2860.php>

United Nations Convention on Biological Diversity

<http://www.biodiv.org/default.shtml>

Sustainability in forest and environmental law

*Willi Zimmermann and Claudia Zingerli**

Abstract

Sustainability respectively sustainable development is on the one hand a globally accepted principle, on the other hand a rather vague or sometimes even ambiguous concept both in theory and practice. In law fundamental questions have not yet been answered and a generally accepted definition or concept is still lacking. A variety of concepts can be observed such as a three pillars-model focusing on environmental, economic and social aspects; a two pillars model focusing on environment and social concerns, as well as an approach discussing weak versus strong sustainability.

Sustainability and the global environmental law have been strongly connected with the processes of the World Commission on Environment and Development and with the Rio Process in particular. Within the frame of these processes many definitions, explanations, interpretations, and declarations have been provided. At the pan-European level two developments occur: The first one comprises the follow-up process of Rio 92, represented especially by Ministerial Conferences. The second development is represented by the work of the Council of Europe and its legislation, especially in the field of nature and landscape conservation. Sustainability is a top issue of the new European Landscape Convention. Sustainability is also anchored in the EU environmental law. Of special interest are the EC treaty and the draft of the new EU Constitution: However, in both legal acts only fragments of sustainability do appear.

At regional and national levels sustainability is for many European countries an important issue, for example in the context of the development of the mountainous regions. Sustainability therefore appears prominently in the international Alpine Convention and the relevant protocols. In Switzerland a new Constitution at federal level and about 20 constitutions at cantonal level have been adopted within the last 10 years. In all these constitutional acts as well as in their legislation we find different approaches of sustainability. A uniform practice is not the norm. Altogether one may conclude that international and national environmental law embraces many concepts of sustainability, and that a universal concept does not exist. Rather, there is a trend towards a multi-functional understanding, which is in line with European forest and environmental laws.

Introduction

Sustainability and sustainable development are in both theory and practice globally accepted principles as well as rather vague and even ambiguous concepts, although the literature and documentation on sustainability and sustainable development is overabundant. Searching for these two important terms with the internet search machine Google, for example, generates over 18 million hits! This amplex does not necessarily contribute to the clarification of the concepts of sustainability and sustainable development. Important questions concerning the

* Institute for Human-Environment Systems, Chair Forest Policy and Forest Economics, Swiss Federal Institute of Technology, ETH, CH-8092 Zurich, Switzerland,. Corresponding author: willi.zimmermann@env.ethz.ch

interface of sustainability and law are, for example: Is the principle of sustainability already anchored in written or unwritten law? If yes: where do we find aspects of sustainability in the existing law? In what legislation(s) and on which hierarchical level rules on sustainability are set? Do legal definitions of the term sustainability or sustainable development exist? Are courts and/or administrations dealing with the implementation and interpretation of the sustainability law? And what is the importance of such decisions?

If the principle of sustainability has not yet found its way into the enforced law relevant questions are: Why has the principle of sustainability not yet succeeded to advance from a political commitment to a legally binding norm? Are there any legislation attempts in this direction? If yes: On which level, in what context, with what content and expectations activities are undertaken? Of course, this catalogue of legal questions concerning the principle of sustainability is by far not exhaustive. However, the type of questions shows that there are still fundamental questions which are to be tackled at the interface between sustainability and law. It is the aim of this paper to shed light on this interface and to bring some order into the diversity of understandings and uses of the terms sustainability and sustainable development in the legal realm.

This paper concentrates on legal sustainability aspects in forest and environmental law. It starts with a general overview of the concept of sustainability and introduces four models of sustainability found in the literature. The paper then provides insights into the application of models of sustainability at different hierarchical institutional and legal levels and gives explanation of their legal meaning in the global, European, regional, national, and sub-national contexts. Finally, the paper draws conclusions on the normative aspects of sustainability in international and national forest and environmental legislation and points out the difficulties to concretise a politically accepted concept in the relevant rules and laws.

Concepts of Sustainability

The body of literature and documentation on sustainability and sustainable development has grown rapidly in the course of the last twenty years. Despite the many insights and experiences gained in research and political practice, a generally accepted definition or concept of sustainability and sustainable development does not exist in political and legal theory. There is the preference, however, for an early definition of the principle of sustainability provided by the so-called Brundtland Report (World Commission on Environment and Development, 1987). It states: *"Humanity has the ability to make development sustainable – to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs."* (World Commission on Environment and Development, 1987: 9) This definition is so general that it is well accepted by almost everybody, leaving enough room for interpretation to use the term according to a wide spectrum of understandings. However, the Brundtland Report already made early attempts to counteract the arbitrariness of the sustainability concept. It states: *"Sustainable development is (...) a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs."* (World Commission on Environment and Development, 1987: 9)

Even if both definitions are quite open they put forward key conditions of sustainability in policy and politics today, such as international, inter- and intra-generational equity, and environment protection. They point out the ongoing processes of change as well as the need for holistic economic, social, technical and institutional approaches. Apart from these

conditions, different understandings of sustainability and sustainable development have also contributed to the emergence of at least four basic concepts of sustainability that are relevant for shedding light on the interface of sustainability and law. They vary in focus and complexity and are identified as follows (cp. Bückmann, et al., 2003):

- environmental sustainability (one pillar model)
- socio-ecological sustainability (two pillars model)
- economic, environmental and social sustainability (three pillars model)
- weak and strong sustainability

The one pillar model highlights environmental aspects of sustainability in political planning and decision making. Proponents of this concept argue that an intact environment is the basis of sustainable economic and social development. The two pillars model focuses on the intergenerational equity and stresses the social and environmental aspects of sustainability. Especially in developing countries there is a strong interface or mutual interdependence between social needs and environmental behaviour. Thus both aspects must be integrated in any concept of sustainability.

The widely known concept of the three pillars of sustainability, building simultaneously on environmental, social and economic foundations of sustainable development is an attempt to consider environmental, social and economic aspects in a balanced way in political decision making. This integrative concept treats all three dimensions equally. In cases of conflicts or contradictions decision makers are obliged to find a balance between the environmental, social and economic aspects. In most cases, the process of improvement or optimisation ends in compromising one of the agendas in favour of one or two other agendas or vice versa. The three pillars model of sustainability is characterised by high complexity.

A fourth concept is the so-called strong and weak sustainability model, often used by economists. It deals with questions of substituting aspects of the environmental, economic and social realms. According to the strong sustainability model the stock and quality of each individual realm is at least to be preserved, while the weak view would permit a compensation of one area (e.g. natural resources) by another (e.g. economic growth) (Swiss Federal Council, 2002).

These four models have proponents and opponents. From a normative point of view none of them is right or wrong. From a political and legal point of view, however, it is decisive to know which of the four models meets the acceptance of policy and law makers at which institutional level and in which context. The following sections identify the preferences for one or several of the four models at different institutional and legal levels, starting with sustainability in global environmental law.

Sustainability in global environmental law

The term sustainability in its common use today dates back to the first conferences on population and environment in the 1970s and the Brundtland Report of 1987. It was substantially strengthened in the follow-up process of the United Nations Conference on Environment and Development (UNCED) at Rio de Janeiro in 1992 and at Johannesburg 2002. A glance at the various outputs of these Earth Summits reveals that the principle of sustainability was incorporated in international law at around that time, although an important distinction needs to be made between the so-called soft law and the legally binding treaties or conventions. The difference between soft law and legally binding law is that soft law regulations are still in the process of development and can merely cause an effect similar to a

legal obligation, i.e. to rely on the principle of good faith. Legally binding treaties and conventions, on the other hand, are internationally and nationally ratified rules to be implemented at the respective institutional and legal levels.

Soft laws that emerged from the Earth Summit at Rio are Agenda 21 (UNCED, 1992a), the Rio Declaration on Environment and Development (UNCED, 1992b), and the Statement of Principles for the Sustainable Management of Forests (UNCED, 1992c). None of these documents gives a legal definition of sustainability or sustainable development. They rather provide broad circumscriptions of the term sustainable development. Given this rather vague common understanding of sustainability, it is not surprising that the documents seem to prefer the most complex conceptualisation of sustainability, i.e. the three pillars model.

Evidence for this is found in the general structure of Agenda 21 and more specifically in paragraph 8.4 of chapter 8, which states: “*Countries will develop their own priorities in accordance with their national plans, policies and programmes for the following activities: a) ensuring the integration of economic, social and environmental considerations in decision-making at all levels and in all ministries.*” (UNCED, 1992a: n.p.) Of the same spirit is, for example, principle 25 of the Rio Declaration: “*Peace, development and environmental protection are interdependent and indivisible.*” (UNCED, 1992b: n.p) In these soft law documents, that are politically important but legally non-committing, there is unfortunately little indication on how to come to terms with the crucial aspect of balancing the three dimensions of environment, society and economy.

However, also among the legally binding conventions of the Rio process, such as the Convention on Biological Diversity (CBD)(UNCED, 1992d), Convention to Combat Desertification (UNCED, 1992e), and Convention on Climate Change (UNCED, 1992f), a legal definition of sustainable development or of sustainability is missing. Again, there are rather circumscriptions and approximations that underline aspects such as the intergenerational importance of sustainability. Article 2 of the CBD, for example, states: “*Sustainable use means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.*” (UNCED, 1992d: n.p.) This definition is closer to the one pillar model of environmental sustainability than to the three pillars model of sustainability. It is enlarged by article 10 towards the two pillars model, as article 10 contains a strong commitment for respecting traditional and cultural values of local populations.

Overall, in the relevant documents referring to sustainability and sustainable development that emerged from the Earth Summit of 1992, a clear legal definition of the two terms is missing. The discourse at the global level operates rather with indirect descriptions of sustainability and sustainable development as outlined in the various soft law agreements and legally binding conventions.

Sustainability in European law

Similar to the global level, also at the level of European law diverse models of sustainability apply. This section focuses on three different institutional levels of the European legal system. These are the Pan-European processes, the legislation of the EU, and regional cooperation. With respect to the legislation on sustainability in the field of environmental policy two institutions are of special interest: The Council of Europe and the two Pan-European

processes of the Ministerial Conference on the Protection of Forests in Europe (MCPFE) and the Ministerial Conference “Environment for Europe” (EfE).

Pan-European level

The Council of Europe has the ability to set out not only political recommendations to the involved governments but also to decide on treaties which are legally binding for all or part of the 46 member states. Among the existing Pan-European documents that deal sustainability and the concept of sustainable development, the European Landscape Convention is of special meaning (Council of Europe, 2000a). It was opened for signature in 2000 and provides ample direct and indirect links to sustainability. The preamble outlines, for example, that it is the desire of Council of Europe member states to “achieve sustainable development based on a balanced and harmonious relationship between social needs, economic activity and the environment.” Sustainable development is explicitly mentioned in article 1. Art.1, letter e outlines: “*‘Landscape management’ means action, from a perspective of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonise changes which are brought about by social, economic and environmental processes*”. (Council of Europe, 2000a: n.p.)

Paragraph 24 of the explanatory report (Council of Europe, 2000b) specifies that if people are given an active role in decision making on landscape, they are more likely to identify with the areas and towns where they spend their working and leisure time. If they have more influence on their surroundings, they will be able to reinforce local and regional identity and distinctiveness and this will bring rewards in terms of individual, social and cultural fulfilment. This in turn may help to promote the sustainable development of the area concerned, as the quality of landscape has an important bearing on the success of economic and social initiatives, whether public or private.

These selected provisions as well as the general aim and the scope of the European Landscape Convention indicate a commitment to the three pillars model of sustainability. It is underlined by the commentary (paragraph 36) to the European Landscape Convention that explicitly refers to the meaning of “sustainable development expressed at the Rio de Janeiro conference” (Council of Europe, 2000b).

Similar to the global level, also in the Pan-European context soft laws gain more importance for promoting sustainability. With respect to forest, landscape and sustainability the Ministerial Conference on the Protection of Forests in Europe (MCPFE) is among the leading institutions at the Pan-European level. The following declarations and resolutions (instruments of the Conference) contain political commitments concerning sustainability:

- Helsinki Resolution 1 (H1), especially letter D (MCPFE, 1993);
- Lisbon General Declaration and Resolution 2 (L2) (MCPFE, 1998);
- Vienna Declaration, especially chapter 2 in combination with Resolutions 1 to 4 (MCPFE, 2003).

These documents demonstrate that a common European Forest Policy is emerging that tends to move towards the three pillars model of sustainability. The Vienna Declaration leaves no doubt about this trend when stating in paragraph 2: “*We, as policy makers, are responsible for achieving, in the forest sector and pro-actively with other sectors, a balance between the economic, ecological, social and cultural roles of forests in the context of sustainable development.*” (MCPFE, 2003: 7) The political statement contains for the first time not only the explicit acceptance of the three pillars model of sustainability but also the commitment for a balance of the three pillars.

There are other key Pan-European documents dealing with sustainability and sustainable development in the context of forest and landscape, like the Pan-European Biological and Landscape Diversity Strategy (PEBLDS)(ECCHM, 2000). It was approved by the Ministerial Conference “Environment for Europe” (EfE) and is being implemented in close collaboration with the Council of Europe. However, it is not yet as explicit in its preference for a sustainability model as the MCPFE process.

European Union

At the level of the member states of the European Union, the general law does not contain many provisions on sustainability. However, the term sustainability appears in article 130u, paragraph 1 of the Treaty on European Union of Maastricht (European Union, 1992), linked to cooperation with developing countries. The Treaty of Amsterdam (European Union, 1997) furthermore seeks to provide stronger guarantees than given by the Single Act. The subsequently amended and consolidated Treaty on the European Union (European Union, 2002) includes the concept of sustainable development plus a new article in the Treaty establishing the European Community. The principle of sustainable development is now incorporated into the preamble (“determined to promote economic and social progress ...”) and the objectives (article 2) of the EU Treaty. It also features in article 2 and 3 of the EC Treaty, which lay down the tasks of the Community (European Union, 2002).

But the strongest argument for sustainability is found in article 6 of the EC Treaty. It outlines that “environmental protection requirements must be integrated into the definition and implementation of other Community policies and activities referred to in article 3, in particular with a view to promoting sustainable development” (European Union, 2002: 42). Together with a large list of the Community’s activities, article 6 assumes a predominant role in the context of sustainability. The requirement of the integration of environmental aspects into other policies of the Community may be seen as a commitment of the three pillars model of sustainability with an emphasis on intergenerational aspects. Bückmann et al. (2003) argue that article 6 of the EC Treaty leads to an all-embracing integration of the principle of sustainability into the European law altogether.

Also the draft of the Constitution for Europe contains provisions on sustainable development. The principle of sustainability is mentioned in article 1 to 3, especially under chapter 3, paragraph 1. It states: “*The Union shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance.*” (European Union, n.d.) In this formulation the three dimensions or pillars of sustainability, i.e. economic growth, social progress, protection of the environment are mentioned. However, it is still critical whether finding a balance between the three dimensions will be an objective of the future EU policy. The text of the Constitution rather reveals that the economic growth will dominate the other two dimensions. This contradicts, to some extent, the current European Union Strategy for Sustainable Development that stresses the aspect of balance rather than the constitutional norm. In this strategy, the EU recognises that “in the long term economic growth, social cohesion and environmental protection must go hand in hand” (Commission of the European Communities, 2001: 2).

Overall, the law of the European Union shows the preference for the complex three pillars model of sustainability. It faces the common struggle, however, to find a balance between the three dimensions and to consider the social and the environment equal to the economic imperatives.

Regional level

A next lower level for policy and legislation in the EU on sustainability and sustainable development is the regional level, where a number of regional treaties and conventions do exist. In the context of the development of the mountainous regions in Europe, for example, sustainability is an important issue. It stands at the core of the international Alpine Convention of 1991 and the relevant protocols. But again, neither in the legally binding convention nor in the protocols the terms sustainability or sustainable development are well defined or do appear prominently. Similar to the European Landscape Convention the document is full, however, with links to all kinds of aspects of sustainability.

We find such elements in the preamble (last paragraph), in article 2 paragraph 1 (sustainable use of the natural resources), and in a more explicit way in the various protocols (Alpenkonvention, 1991). The preambles of each protocol start with the commitment for a sustainable development of the mountainous regions including socio-cultural, economic and ecological aspects, revealing a preference for the three pillars model of sustainability. But there is no explicit statement that the balance between the three dimensions is a predominant objective of the convention. Looking at its specific focus on environmental protection and socio-economic development, the Alpine Convention rather reflects the two pillars model (socio-cultural and ecological aspects) than the three pillars model of sustainability.

In sum, the European law generally shows various approaches and models of sustainability. Although sustainability is a top theme at all levels and in a great number of institutions, an unanimous definition of sustainability does not exist. However, a common preference for the three pillars model of sustainability appears both in soft law declarations and resolutions as well as in legally binding treaties and conventions. Differences at various levels and in different kinds of legal rules exist in weighting the three dimensions. It is broadly accepted that an integration of the three aspects should take place in all policies. A clear commitment for aiming at a balance of the economic, social and ecological aspects of development is still lacking however. How or to what extent the principle of integration should be implemented largely remains an open question. It might be answered by looking at the next lower level of the national law.

Sustainability in national law: The Swiss Case

This section deals with sustainability in national law in the case of Switzerland, a country situated in the middle of Europe but not a member of the European Union. Since the Earth Summit at Rio of 1992, Switzerland has undergone a revision of its Federal Constitution and more than two thirds of the 26 cantonal Constitutions were subsequently amended. Herewith the possibility was given to introduce the principle of sustainability into the texts of the federal and cantonal constitutions, which both Confederation and cantons complied with.

Federal level: The new Federal Constitution

At the federal level, the principle of sustainability is first mentioned in the preamble as well as in three different articles of the Federal Constitution that entered into force in 2000 (Federal Constitution, 1999).

The preamble picks up the intergenerational aspect of sustainability by pointing out “our responsibility towards future generations”. In a broader and more prominent way the principle of sustainability appears in article 2 of the new Constitution, outlining the purpose of the Confederation. It states:

Art. 2 Purpose

1 The Swiss Confederation shall protect the liberty and the rights of the people and ensure the independence and security of the country.

2 It shall promote the common welfare, the sustainable development, the inner cohesion, and the cultural diversity of the country.

3 It shall ensure equal opportunities for all citizens to the extent possible.

4 It shall strive to secure the long-term preservation of natural resources, and to promote a just and peaceful international order. (Federal Constitution, 1999)

This article refers specifically to a certain notion of sustainable development and uses central claims attributed to sustainability in the literature and in political documents (e.g. common welfare, liberty and rights of the people, cultural diversity, equity and security, preservation of natural resources and sustainable development). Despite the given details for sustainable development, the term remains rather vague in the context of article 2 of the Federal Constitution. It gives room for interpretation, ranging from a one pillar to the three pillars model of sustainability. Due to this openness article 2 of the Federal Constitution has no justifiable force and only a limited value for political orientation.

Aware of this relatively weak significance of sustainability in article 2 the Constitution maker created a more specific constitutional base of the principle of sustainability with article 73. It is the first article in section “environment and zoning” and indicates the aim of the relevant policies and legislations. The article outlines the provisions for environmental and spatial planning:

Art. 73 Sustainable Development

The Confederation and the Cantons shall strive to establish a durable equilibrium between nature in particular its capacity to renew itself, and its use by man. (Federal Constitution, 1999)

The principle of sustainability is systematically placed in the section environment and spatial planning of the Constitution and does only apply to these activities of the Confederation and the cantons. These regards primarily the formulation and implementation of policies or legislations in the fields of protection of the environment, spatial development and planning (zoning), water, forests, nature and cultural heritage, fishery and hunting, and protection of animals.

Based on the wording of article 73, both Confederation and cantons are committed to establish in all their activities (legislation, planning, implementation, public works etc.) an equilibrium between the use of nature by humans and nature’s capacity to renew itself. That means that not only the legislations and policies stated in articles 74 to 80 of the Federal Constitution, but also those with impacts on the natural environment (e.g. energy, traffic, transport, economic development, national and civil defence, foreign relations etc) have to respect the principle of sustainability in an ecological sense. The wording as well as the systematic and historical process of article 73, tends to confine the meaning of sustainable development to the classical one pillar model of sustainability, highlighting primarily the environmental dimension. It would require an extended interpretation of this article to include also components of social equity and solidarity as well as economic growth and efficiency. De facto, neither the wording nor the function of article 73 prohibits such a broadened interpretation towards the balance suggested by three pillars model of sustainability.

Apart from article 73, the term sustainable development also appears implicitly in article 54 and explicitly in article 104 of the Federal Constitution. Article 54 outlines key elements of sustainability to be included in foreign policy goals. Article 104 imposes a binding

requirement for the Confederation to “*ensure that agriculture contributes substantially [to the secure provision of the population; to the conservation of national resources and the upkeep of rural scenery; and to a decentralised inhabitation of the country] by way of a sustainable and market-oriented production*” (Federal Constitution, 1999).

Despite the numerous references to sustainability and sustainable development the Swiss Federal Constitution does not provide clear concepts of these terms. The new Federal Constitution tends to falter between the one pillar and the three pillars model of sustainability (Rausch, et al., 2004). This vagueness may result in a certain degree of arbitrariness as it leaves a lot of room for interpretation of sustainability and sustainable development in the respective laws. The revised article 1 of the Swiss Environmental Law of 2003, for example, provides a clear statement on sustainable preservation of natural resources in the sense of the one pillar model of sustainability.

On the other hand, the Swiss government in its Sustainable Development Strategy explicitly argues for a holistic approach of sustainability (Swiss Federal Council, 2002). The Swiss Federal Council states: “*When specific policies are defined, due consideration must be given to all three aspects of sustainability. Sustainable development should not be equated – as is sometimes the case – with environmental protection, but be perceived as a political agenda which is concerned with guaranteeing that development is viable in the long term, addressing environmental, economic and social challenges equally. The aim of according equal status to the three dimensions of sustainability is also reflected in the measures proposed by the 2002 strategy.*” (Swiss Federal Council, 2002: 10)

Overall, the Swiss Federal Constitution tends to show a preference for the one pillar model of sustainability, particularly due to the specified links to environment-relevant policy sectors and activities. Also at the level of specific laws the legislator has not yet decided whether to adhere more to the one pillar or the three pillars model of sustainability. However, there is a clear statement formulated at the governmental level. The Swiss Federal Council shows a clear and strong commitment for the three pillars model addressing environmental, economic and social challenges equally. This aim should be achieved by integrating sustainable development in its holistic sense into all sectoral policies. “*The aim is therefore that policies oriented largely towards economic aspects should increasingly fulfil their social and environmental responsibilities, that policies falling within the social sphere should take undesirable economic and environmental repercussions into account, and that policies in the environmental area should also consider economic and social requirements.*” (Swiss Federal Council 2002, p. 11)

Cantonal level: Sustainability in cantonal constitutions

The inclusion of the principle of sustainability in the Rio 92 documents and in the revised Swiss Federal Constitution has had an effect on the constitutions at the sub-national level of the Swiss cantons. In the course of the last 20 years approximately two thirds of the 26 Swiss cantons amended their constitutions, not least than 10 did so since the Rio Conference 1992. Similar to the Federal Constitution all cantonal constitutions introduced at least the term sustainable or sustainable development into the respective texts. How and in which context the principle of sustainability appears, however, is very heterogeneous, revealing also the subsidiary power of each canton according to the principle of federalism (von Arb and Zimmermann, 2004). The spectrum of referring to sustainability ranges from barely mentioned to perfectly defined according to a holistic understanding.

The cantons Ticino and Appenzell are two examples that do not give much attention to the principle of sustainability. They mention aspects of sustainability only in the preamble,

emphasising the duty of the canton and the communes to secure the long-term preservation of natural resources in favour of future generations. The focus on intergenerational responsibility and commitment to the protection of nature and natural resources points to the one or two pillars model of sustainability. On the other end of the spectrum there are cantons with an almost perfect definition of the three pillars model of sustainability. A good example represents the Canton of Schaffhausen. It adopted the following explicit provision of sustainability in the Constitution:

Art. 9 Sustainability

The state's (canton and communes) activities shall be aimed at an ecological, economic and social development, which takes into account the needs of the present and future generations. (Canton of Schaffhausen, 2002)

Articles on sustainability with similar wordings are included, for example, in the Constitutions of the Cantons of Waadt and Zurich (Canton of Waadt, 2003; Constitutional Council of Canton Zurich, 2004). The relevant articles appear under the chapter “principles of State's activities”. They commit all public bodies, especially cantons and communes, and embrace all activities, especially legislation, implementation and real acts in all policy fields and sectors. With respect to the justiciability, the legal commitment is still rather low, however, and the transformation into laws depends exclusively on the legislator. This means that the implementation of the constitutional principle of sustainability cannot be enforced by courts' decisions or administrations. Thus the principle of sustainability written down under the general principles of the State's activities in few cantonal constitutions tends to be more a political commitment than a legally binding task.

More specific notions on sustainability and sustainable development in the cantonal constitutions are expressed in combination either with environmental and nature protection policy or forest and landscape policy. A typical example in this respect is the Canton of Zurich with a general commitment for a holistic sustainability under the State's activities and a special reference to the principle in the article concerning forestry and agriculture. Article 108 on Agriculture and Forestry states:

Article 108 Agriculture and Forestry

The Canton shall ensure that agriculture and forestry are managed in a sustainable way and may fulfil their multiple tasks. (Constitutional Council of Canton Zurich, 2004)

These provisions in recently amended cantonal constitutions are younger than the cantonal laws on forests. It is still too early to analyse if and how the cantonal legislators have implemented these new constitutional norms on law level.

In summary, the principle of sustainability has expanded into all new cantonal constitutions, but in very different ways. The common denominator is the explicit political commitment to take responsibility towards the future generations and to secure the long-term preservation of natural resources. A clear commitment for the three pillars concept of sustainability with an equal status of the three dimensions environment, economy and society is still the exception and the transformation of the constitutional norms on sustainability into laws or ordinances needs to be awaited.

Conclusions and outlook

The principle of sustainability, described and further conceptualised during and after the Rio Conference 1992, has left its footprint both in political documents and in legal regulations. Today, the terms sustainability and sustainable development appear frequently in national and international law but a clear definition or unanimously accepted concept of the principle does not yet exist. This paper tried to bring some order into the many different uses of sustainability in legal documents by distinguishing between the one, two and three pillars model of sustainability. Overall, it finds that the three pillars model of sustainability seems to become the leading concept for state activities, especially with regard to international soft law. Despite its relatively wide acceptance by political bodies, the claim for balancing the environmental, economic and social concerns has not yet found an adequate expression in the legally binding international law and in the national legislation – some exceptions provided. In general, the transformation process to convey the principle of sustainability in its holistic sense from a political declaration to a legally binding rule is only at the beginning. Attempts to make the principle of sustainability judiciable both for the legislators on different levels and the addressees tend to take even more time.

This paper shows that until today the literature still lacks of a clear concept and definition of the principle of sustainability, leaving room for a certain degree of vagueness and even arbitrariness. This problem could be eased with a) an explicit political statement for recognising the principle, and b) a legal definition of the content of the principle of sustainability. Having provided proof of relevant documents, such as declarations and resolutions signed during and after the Rio Conference 1992 by most of the states, this paper argues that the first requirement is already widely fulfilled, even if these regulatory rules are not legally binding. The signatory states have politically and morally committed themselves to implement the principle of sustainability by "ensuring the integration of economic, social and environmental considerations in decision making at all levels and in all ministries" (paragraph 8.4 of Agenda 21)(UNCED, 1992a). This widely accepted soft law obliges them to integrate the three pillars of sustainability in legislation, planning, individual decisions and real acts of every institutional level.

Different general principles of the international law such as *pacta sunt servanda* or *bona fides* etc. and the wide acceptance of the principle of sustainability by the international community require adapted activities of the signatory states (cf. Beyerlin, 2000). Such adapted activities may result in clearer legal definitions of the content of the principle of sustainability to reduce the vagueness and arbitrariness of the sustainability concept. Still, the states have a large room for interpretation and implementation of the principle of sustainability in their policies and legislations, given by the international provisions. However, the wording of the same paragraph 8.4 of Agenda 21 suggests that sustainability should not be an issue of the administration but of all public institutions. This gives the principle of sustainability a high political and moral function that should preferably be situated also on a high institutional level.

The case of Switzerland has been chosen to demonstrate that today the Constitution of a country or a federal state could be the appropriated level for anchoring the principle of sustainability in the hierarchical law system of a country. However, only in some cantonal constitutions, such as the ones endorsed in the Cantons of Schaffhausen, Waadt and Zurich, the concept of sustainability gains more clarity in a legal sense. They explicitly refer to the descriptions of sustainability and sustainable development outlined in Agenda 21. Thus it is

important not only to anchor the principle of sustainability at an influential institutional level but to put it in the right place and to use it in the best context. “Good places” are, for example, the preamble of a constitution, the principles or general provisions for state activities (e.g. EU documents) and the parts dealing with shared competences concerning tasks with direct or indirect reference to natural resources (e.g. cantonal Constitutions). Positioning a legal provision on sustainability in a Constitution at the beginning of the catalogue of a state’s tasks seems to be much more appropriate to clarify the concept of sustainability for legal purposes than in the context of environmental policy or agriculture and forest policy only.

In conclusion, the interface between sustainability and law is marked by challenges of conceptual clarification, including a coherent use of a one to three pillars model of sustainability, and time-consuming legislative processes at a number of different hierarchical levels. Regarding the preference of the three pillars model of sustainability and its claim for integration this means that public policy or legislation on economic issues respect also environmental and social issues and vice versa. The consequence of such a policy is a stronger coordination, harmonisation and integration of the mostly separated policies and laws. In this respect, cross-sectoral policies and laws like laws on spatial or regional planning, on landscape development, on rural development and on environment need to gain more importance, as they are used to cover various and sometimes even conflicting issues at the same time and to balance different interests. The integration of economic, social and environmental aspects in cross-sectoral policies and laws is a possible if not indispensable approach to make the principle of sustainability more viable and concrete. Another approach would consist of consequently integrating the three pillars into all sectoral laws that deal with the use and management of natural resources, such as the laws on forest, agriculture or water. The final results of such processes are complex sectoral laws, balanced cross-sectoral laws and an adaptation of laws on different levels (multi-level legislation).

The processes of adaptation need considerable efforts in the legislative realm. States that have anchored the principle of sustainability in their constitutions need to adapt and substantiate their legislation in the described sense in order to make the step from a constitutional principle to a legally binding commitment in a formal law. This could be done in two ways: Either by creating a general law on sustainability or by introducing a clearly defined principle of sustainability into all laws dealing with the use and management of natural resources. The overarching idea of the principle of sustainability in the sense of the three pillars model then calls again more for integration in different laws than for a separated solution.

This integrative approach seems to constructively tackle the duality of (economic) development and environmental protection, that existed before the Earth Summit of 1992 by consequently respecting also socio-cultural needs (cf. Decleris, 2000). Implemented according to commonly accepted procedural and substantive rules of sustainability, different administrative units could formulate and implement policies that take both into account specific circumstances of the policy fields and are coherent with the principle of sustainability. Such an approach facilitates a common language, a common understanding and a common use of the principle of sustainability in the political and legal realm. This will not happen today or tomorrow but is subject to long term processes at the interface of sustainability and law that require time and patience in order to bridge the gap between political and constitutional commitment and judicial decisions from highest institutional to the individual’s level.

References

- Alpenkonvention. 1991. "Übereinkommen zum Schutz der Alpen". Salzburg.
- Beyerlin, Ulrich. 2000. *Umweltvölkerrecht*. München: C.H. Beck.
- Bückmann, Walter, Yeong Heui Lee and Udo E. Simonis. 2003. "Nachhaltigkeit und das Recht". *Politik und Zeitgeschichte*, vol. 27, 27-32.
- Canton of Schaffhausen. 2002. "Constitution of the Canton of Schaffhausen of 17.6.2002 (131.223)". Schaffhausen.
- Canton of Waadt. 2003. "Constitution of the Canton of Waadt of 14.4.2003 (131.232)". Lausanne.
- Commission of the European Communities. 2001. *A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development*. Brussels: European Commission.
- Constitutional Council of Canton Zurich. 2004. "The New Constitution of Zurich. Draft of October 28, 2004 prepared for the Referendum of February 27, 2005". Constitutional Council, Zurich.
- Council of Europe. 2000a. "European Landscape Convention (ETS no. 176)". Council of Europe, Florence.
- Council of Europe. 2000b. "Explanatory Report: European Landscape Convention (ETS no. 176)". Council of Europe, Florence.
- Decleris, Michael. 2000. *The Law of Sustainable Development. General principles*. Luxembourg: Office for Official Publications of the European Communities.
- ECCHM. 2000. "Pan-European Biological and Landscape Diversity Strategy - PEBLDS under the Convention on Biological Diversity". European Community Biodiversity Clearing-House Mechanism, Brussels.
- European Union. 1992. "Treaty on European Union (C191/01)". EU, Maastricht.
- European Union. 1997. "Treaty of Amsterdam". EU, Amsterdam.
- European Union. 2002. "Consolidated Versions of the Treaty on European Union and of the Treaty Establishing the European Community (2002/C325/01)". EU, Nice.
- European Union. n.d. "A Constitution for Europe. Draft". EU, Brussels.
- Federal Constitution. 1999. "Federal Constitution of the Swiss Confederation". CH, Berne.
- MCPFE. 1993. *General Guidelines for the Sustainable Management of Forests in Europe. Resolution H1*. Second Ministerial Conference in Helsinki in 1993. Helsinki: Ministerial Conferences on the Protection of Forests in Europe.
- MCPFE. 1998. *Pan-European Criteria, Indicators and Operational Level Guidelines for Sustainable Forest Management. Resolution L2*. Third Ministerial Conference in Lisbon in 1998. Lisbon: Ministerial Conferences on the Protection of Forests in Europe.
- MCPFE. 2003. "Vienna Declaration and Vienna Resolutions. Adopted at the Fourth Ministerial Conference on the Protection of Forests in Europe, 28-30 April 2003". Liaison Unit MCPFE, Vienna.

- Rausch, Heribert, Marti ,Arnold and Griffel, Alain. 2004. *Umweltrecht. Ein Lehrbuch*. Zürich: Schulthess.
- Swiss Federal Council. 2002. *Sustainable Development Strategy 2002*. Berne: IDARio.
- UNCED. 1992a. *Agenda 21: Programme of Action for Sustainable Development*. New York: United Nations.
- UNCED. 1992b. "Annex I: Rio Declaration on Environment and Development". UNCED, Rio de Janeiro.
- UNCED. 1992c. "Annex III: Non-legally binding authoritative statement of principles for a global consensus on the management, conservation and sustainable development of all types of forests". UNCED, Rio de Janeiro.
- UNCED. 1992d. "Convention on Biological Diversity". UNCED, Rio de Janeiro.
- UNCED. 1992e. "Convention to Combat Desertification". UNCED, Rio de Janeiro.
- UNCED. 1992f. "United Nations Framework Convention on Climate Change". UNCED, Rio de Janeiro.
- von Arb, Christine and Zimmermann, Willi. 2004. *Federalism - A Characteristic Element of Swiss Forest Policy*. Zurich: Chair of Forest Policy and Forest Economics, ETH Zurich.
- World Commission on Environment and Development. 1987. *Our Common Future*. Oxford: Oxford University Press.

IUFRO's regional Latin American research group on forest law and environmental legislation - Development, achievements and working-plan

*Heinrich Schmutzenhofer**

Abstract

At the IV Ibero-American Congress on Forest Law and Environmental Legislation, in Santiago de Chile, November 2003 and co-sponsored by IUFRO, a special unit inside the IUFRO Research Group 6.13.00, dedicating itself to research on forest and environmental legislation in the American Subcontinent, was established. The new IUFRO Working Party (WP) 6.13.01, Ibero-American Forest and Environmental Law, under the Coordinator, Enrique Gallardo, CONAF, Chile and supported by Deputy Coordinators from defined sub-regions such as Southern Cone countries, Andean Countries, Central America and Caribbean countries, and Mexico started immediately to elaborate a working programme and to organize joint activities.

The forest and environmental legislation was considered as a fundamental instrument for the conservation and a sustainable development of forests. An appropriate legal framework for forest and environmental conservation, corresponding to the conditions and needs of individual countries is to be developed, a difficult task to be achieved. A number of national and sub-regional conferences have been organized or are at present in preparation in order to find common conclusions and recommendations. Following the IV Congress in Chile in 2003 another Ibero-American Congress took place in 2005 in Mexico, and the VI Congress will be organized end of August 2007, in Quito, Ecuador.

Keywords: Forest law, environmental law, legislation, Ibero-America, Latin-America

General Aspects

Many countries in Latin America show a relative high deforestation rate. According to the State of the World's Forests, FAO (2003), Brazil is leader with an average of an annual deforestation rate of 2, 3 million ha, or – 0,4% annual loss of forest area. In North and Central America leads Mexico the list with an average annual loss of forest area of 0,63 million ha that corresponds annually to a loss of 1,1% of the total forest area. The other Latin American countries contribute also negatively to this statistic, some of them even with losses of up to 5,0 % of the forest area, but if such rate is higher than 1,1% then the forest cover in that country is relatively small in hectares. South America looses according to FAO (2003), in the average annually 3, 7 million hectare of forest land or 0, 4% of the total forest cover. Land use policy on national and regional level, transfer from forest land into agricultural land (for crops or grazing), illegal felling and failing of implementation of forest law and environmental law are main reasons for such development of change in land use.

* Deputy Coordinator IUFRO WP 6.03.04 Latin American Forest Research Network, Vienna, Austria; Tel: +43 - 1-8892066; e-mail: fam.schmutzenhofer@chello.at

In view of this situation the national forest and administrative sectors try to enhance the national forest and environmental legislation as international pressure gets more and more notable. This pressure on governments comes from International processes, like “Montreal Process”, or the United Nations Forum on Forests (UNFF), the international and intergovernmental donor agencies, like the World Bank, and other sources. On national level the growth of resistance through Non Governmental Organizations (NGO’s) helps additionally the forest sector to have its problems officially reconsidered and made visible to local politics and parliaments.

The here described background provoked the National Forest Corporation of Chile (CONAF) to revitalize the already 1979 in Buenos Aires, Argentina, introduced series of Latin-American congresses on forest legislation, which had follow ups in Brazil, 1981 and in Chile, 1982. After a pause of 21 years CONAF started again with the 4th Ibero-American Congress on forest and environmental law, Santiago de Chile, November, 2003. At that 4th Congress a follow up with biannual Ibero-American Congresses was agreed and in continuation the 5th Congress is already under preparation and scheduled for June 28 -30, 2005, in Aguascalientes, Mexico. Thereafter in 2007, presumably in Ecuador and thereafter for Central America in 2009, Congresses are planned.

The Congress conclusions of Buenos Aires, 1979, according to GALLARDO (1991), informed on the competence and content of that Congress and it declared as follows (translation from the Spanish origin into English by the author): *Forest legislation shall be presided by public interest, the importance of the state in its administration, review and control, the need of protection of ecological balance, the implementation of measures of support to forestry, the management of native forests in sustainable production, the preoccupation about the contamination of forest activities and about restrictions of the right of property, and by the recognition of juridical autonomy of the forest law, as among other laws a substantial and individual branch of law.* This declaration had been carried on as conclusions into the second Congress and was amended with forest policy measures.

The third Congress, Chile, 1982, concluded to understand forest legislation inside the frame of public law and referring to an interdisciplinary activity, it understands it support to certain fundamental principles based on enlargement (acrecentamiento), administrative support, renovation, protection and conservation. Finally it has been stated that there was a need to enhance, the exchange of mutual experiences and international cooperation. Deforestation and improper management pushes the lawyers with their declarations and conclusions to establish the legal background for a future oriented forestry in Latin America taking the environment into consideration.

In November 2003, the IV Ibero-American Congress on Forest Law and Environmental Legislation, in Santiago de Chile has chosen the overall theme “*The Contribution of the Law to Management and Sustainable Forest Development*”. Congress contributions have been published in the IUFRO World Series (Gallardo Gallardo and Schmithüsen, 2005) and an overview on the present role of forest and environmental law in the region is available in the FAO Law Series online (Schmithüsen, 2005). The most important result of the Congress was that the international delegates felt it necessary to establish a Unit under the umbrella of IUFRO’s research group 6.13.00, dedicating itself systematically to forest and environmental legislation in the Latin-American Continent. With a IUFRO agreement concluded thereafter the Working Party (WP) 6.13.01 Iberoamerican forest and environmental law was established and got a Latin-American coordination team under the guidance of Enrique Gallardo, forest lawyer at CONAF, Chile.

Development of the IUFRO Latin-American Working Party on Forest Law and Environmental Legislation

The Unit 6.13.01 understands that forest- and environmental legislation is a significant instrument for the conservation and sustainable development of forests in Latin-America. In this sense the Unit dedicates efforts to structure an integrative forest legislation framework with vision for countries and for time at large, favouring incentives above sanctions and including environmental and social services of all kind of forests. In the long run a difficult task shall be achieved. The establishment of the Unit 6.13.01 pointed also to the fact to improve the present situation of the forests and plantations, by support of investigation work, events, the exchange of information, of publications, etc. and to enhance activities preferable in developing countries.

The target in the work of the Working Party is obviously sub-region oriented, where common conditions urge common efforts for making visible the existing problems at local conferences. Also the elaboration of recommendations and conclusions are in focus. In this sense the Unit dedicates efforts to structure an integrative forest legislation framework with vision for countries and for time at large, favouring incentives above sanctions and including environmental and social services of all kind of forests. The Unit 6.13.01, is therefore organized in 4 geographic areas, covering regions, like Mexico and Central America; the Caribbean; the Andean states from Venezuela towards Bolivia; and finally the southern cone of South America from Brazil and Chile to the south. Every sub-region has a deputy coordinator in the Unit and he/she is responsible for organizing local activities and summarizing sub-regional recommendations for the above mentioned biennial Ibero-American Congresses on Forest and Environmental Legislation.

Therefore national and sub-regional conferences were already started or are in planning to find common conclusions and recommendations in support of a sequence of biennial Ibero-American Congresses, continuing the IVth Chilean Congress with the Vth Ibero-American Congress in Mexico in 2005, and thereafter with the VIth Congress in 2007. These Ibero-American Congresses are co-sponsored by the IUFRO Working Party and the Research Group 6.13.00, Forest Law and Environmental Legislation. The next one, the “*V Congreso Iberoamericano de Derecho Forestal-Ambiental*”, entitled *El Marco Juridico del Desarrollo Forestal Sustentable* (Legal Framework for Sustainable Forest Development), will be held as already mentioned in Mexico, June 2005, in the city of Aguascalientes, thereafter for 2007, exists an invitation from Ecuador for the Congress, this would ensure a regional distribution of congress venues in Latin America.

The members of the Unit are administrated by means of a database and e-mail directory, which contains more than 350 names representing all countries in Latin America and the Caribbean. This high amount of participation resulted from the interest of the participants at the IVth Ibero-American Congress in Chile, where the Unit was created, and to the strong contribution of the Coordinator and Deputy Coordinators of the Unit, who have introduced many participants to the WP in their regions and home countries.

Achievements

Conferences: In the first year of existence the WP had already 3 national and one regional-Conference on the topic to discuss problems related to national forest laws and environmental legislations and to define themes for the “V Congress” in Aguascalientes later this year. In

Mexico two events took place: first on July 1 and 2, 2004, in Guadalajara, Jalisco, the “First National Meeting on Forest- and Environmental Law”; and later in Mexico, D.F., July 12 and 13, 2004, the “Symposium on Forest- and Environmental Law”.

Both events had more than 100 participants each, representing the lawyers, private and state forest sector, environmental organizations and universities. Among those were high rank representatives of the federal and state governments and the forest administration. The main focus was to define problems, improve awareness of uncontrolled processes and to contribute to the scientific programme development for the Vth Ibero-American Congress in 2005. The presentations gave an insight in main problems as: traditional forms of timber harvesting which do not match with the new forest law, illegal felling, certification, management planning, control of supply of sawmills, implementation of laws and deficits in administration. The Meetings were excellently organized by Deputy Coordinator Fernando Montes de Oca, a lawyer and director of the Mexican Institute for Forest and Environment Law AS, (IMDEFAC), and achieved a high rate of public interest and a high visibility in the country through the media.

In Chile, Concepción, November 15 – 17, 2004, the Chilean 2004 Congress of Forest and Environment Law, with the title, "The Contribution of Law to Management and Sustainable Forest Development" was organized by the Units Coordinator Enrique Gallardo, lawyer at CONAF. Approximately 150 participants from Chile attended and represented the governmental and private forest sector, forest industries, land owners and universities and forestry research institutions. This congress had several keynote addresses and then in details three themes: forest policy, forest legislation and institutional forestry. Every theme was elaborated in 12 presentations, including titles as biotechnology, indigenous people's rights, certification, sustainable forest management, natural forests, aspects on forest laws and missing legalization, evaluation and control, support of forestry in Europe, etc. The Congress closed with a presentation of a communiqué, conclusions and recommendations of the 3 themes elaborated. The full text is presented on the IUFRO WebPages of the Unit.

The Regional Conference in Quito, Ecuador, took place in October 13 – 15, 2004 and had the title “*First Andean Meeting on Environment and Forest Law focussing on Communities*”. The Deputy Coordinator Carl Cárdenas, lawyer at the Ecuadorian Centre for Environment Law, (CEDA), Quito, organized the Meeting and had an audience of 250 participants coming from 14 countries and representing indigenous communities, private and state forests, universities, governmental authorities and lawyers. The meeting focused on the demands of urban areas and of indigenous communities to environmental legislation and protection of environment in the Andean countries, but the presentations referred in majority to forest legislation and forest problems related issues. The Proceedings with 27 full text papers and a CD-ROM with more contributions were handed out to participants and were made available also to public, (CÁRDENAS, 2004). The Proceedings have as an Appendix the Forest laws of the 5 Andean countries Ecuador, Peru, Colombia, Venezuela and Bolivia, which belong to the sub-region of the Unit.

Cooperation: Cooperation with the Instituto de Derecho Ambiental de la República Dominicana (IDARD) was established and mutual participation between the IUFRO WP and the Institute which has a strong course programme was practiced. A programme exchange is published on the Units Website. Contacts were established and mutual participation in events was done between the IUFRO Unit and the Federal Environmental Organization of Mexico, “Instituto Nacional de Ecología” (INE). This Institute organizes also Congresses and is in

close cooperation with the Spanish Environment Law Association which acts as a sponsor for congresses focussing on environment law.

Website: The Unit maintains a Website which can be reached via the IUFRO Webpage <http://www.iufro.org> and http://iufro-archive.boku.ac.at/iufro/iufronet/d6/hp61301_span.htm

It is in Spanish only and informs about the officeholders, and the usual pages as, about, events, publications, and links. The webpage is linked to the page of 6.13.00 and offers all papers and abstracts of the Conferences and Congresses, also resolutions can be downloaded from these pages. Be aware that all texts is original in Spanish. In order to make the local legal conditions country wise visible, a database on the Units Web page has been established to publicise the forest laws of the Latin American countries. By now forest legislation of 15 Latin American countries and those of Spain and Portugal are already on the Web.

Working Programme

By means of regional and national conferences the Coordinator and his Deputy Coordinators elaborate the background and themes for the biennial Ibero-American Congresses. Based on the results of the last 4 conferences which were presented under Achievements, the Vth Ibero-American Congress will be celebrated in Aguascalientes, Mexico, June 28 – 30, 2005. The Congress title is “*Legal Framework for Sustainable Forest Development*” Congress language is Spanish. There are 5 themes under consideration each of these has 10 sub-themes, which reaches in totally to 50 sessions at the congress:

- A, General Aspects of Forest and Environment Law,
- B, Management, Inspection, Monitoring and Judiciary Power,
- C, Soil, Forest, Water and Wilderness,
- D, Commercial Forest Plantations, production Chain and Industrial Sector,
- E, Environmental services, Funds, Education, Capacitating, Investigation, Economy, Communication and Culture.

Literature

Cárdenas, C., 2004. Memorias del I Encuentro Andino de derecho Ambiental forestal con Enfoque Comunitario. Centro Ecuatoriano de Derecho Ambiental, CEDA, Eloy Alfaro 1770 y Rusia, Quito-Ecuador, 181p.

FAO, 2003. State of the World's Forests p 134-135. Food and Agriculture Organization of the United Nations, Rome.

Gallardo, E., 1991. In: IV Congreso Iberoamericano de Derecho Forestal-Ambiental, Libro de Resúmenes, p 9, CONAF, Santiago de Chile, 2003, 154p.

Gallardo Gallardo, E.; Schmithüsen, F. (Eds.), 2005: La Contribución del Derecho Forestal– Ambiental al Desarrollo Sustentable en América Latina. *IUFRO World Series No 16*, IUFRO Secretariat, Viena. 381 pp.

Schmithüsen, F., 2005: El Papel de la Legislación Forestal y Ambiental en Países de América Latina para la Conservación y Gestión de los Recursos Naturales Renovables. *Estudio Legislativo de la FAO en Línea, No 49*, FAO, Roma. 23 p.

Recent developments in Albanian forest policy

Vasillaq Mine and Leonidha Peri***

Abstract

The paper describes the new development strategy aiming at multifunctional uses of forest and pasture resources, on socio-economic progress within the country, and on essential changes concerning the demographic movements that have taken place during the last 15 years. Important objectives of the strategy are the reduction of poverty in rural areas and the sustainable resources management in accordance with the principles of international conventions signed by Albania. The new strategy determines directions for the activities of the next 25 years for a national program for forests and pastures determining a number of actions to be carried out during the next 10 years.

Keywords: Forest sector strategy, multifunctional use, poverty reduction, usufruct rights transfer, commercial logging ban

Introduction

The re-examination of the development strategy for the forest and pastures sector is conditioned by the difficult situation created after the 90's. This has been a period of over-harvesting, overgrazing and mismanagement of forestry and pasture resources due to political and socio-economic motives and reasons. The recent decisions of the Albanian government on functioning and strengthening of the public benefits from forests and pastures (April 2003), and on a temporary ban of commercial logging (November 2002), made it necessary to re-examine the development strategy for the forest and pasture sectors and to draw up a new strategy clearly distinct from a long transition period. In the ministerial declaration for the Review of the Strategy of Forestry and Pastures sector two main goals became apparent:

- Ensuring the restoration and further protection of the integrity of forest and pasture resources
- Increasing the contribution of forestry to poverty reduction in rural areas

In this declaration, particular directives/guidelines were offered to support the development and reformation of the forest sector:

- Encouragement of the forest and pasture management towards natural conservation, biodiversity maintaining and eco-tourism development
- Rehabilitation of degraded forests, bringing them to optimal growth conditions of the respective forest site
- Providing a National Program on forests and pastures (10 years program)

* General Directorate of Forestry and Pastures, Rruga Sami Frasheri No.4, Tirana, Albania, Tel: +355 4 256786, Fax: +355 4 256784, E-mail: vasillaq_mine@yahoo.com

** Faculty of Forestry Sciences, Koder-Kamez, Tirana, Albania, Tel: +355 4 353872, Fax: +355 4 353874, E-mail: lperi@gmx.de

- Continuing of the process of forest and pasture area transfer to local governmental units, a process which will increase the role of the local governments/communities in planning and managing the natural resources
- Enhancing the managing capacities at the level of local government units and private partners through the development of an effective forest extension service
- Enhancing the technical and financial collaboration with international agencies concerning the forest and pasture sector in order to secure investment resources
- Promotion of creating revenues through the development of recreation and eco-tourism possibilities
- Redefining the roles and functions of all actors in the forestry and pasture sector and identification of the critical linkages among them
- Improvement of the legal structure of forestry and pasture sector and drafting a new law for forests and pastures
- Accomplishment of the reformation process until 2012.

Priorities of the new strategy for the forest and pasture sector

The new strategy for the development of the forestry and pasture sector is prepared based on necessity for a multifunctional use of forest and pasture resources, on the socio-economic development of the country and essential changes concerning the demographic movements, that have taken place in Albania during the last 15 years. It aims at ensuring the sustainable management and multifunctional development of forest and pasture resources, in accordance with the governmental policies in this sector, and at a reduction of poverty in rural areas. It needs to be coordinated with global and regional strategies which are linked to and conditioned by protection and sustainable management of natural resources. In order to secure sustainable management of forest and pasture resources, in the present situation, it is required:

- Ban of commercial logging activities for a period of at least 10 years
- Protection and rehabilitation of forests and pastures through the increase of investments and incentive of private and collective initiatives
- Restoration and improvement of the protective functions of forest and pasture management
- Continuing the process of transferring the usufruct rights and later on full property rights on forests and pastures resources to local communities
- Incentives for individual or collective initiatives for reforestation of abandoned land
- Attention to other socio-economic function and services and multiple uses of forest and pasture by society for the present and future generations
- Further continuity and deepening of reformation and completion of the sector's legal and regulatory framework.

Institutional Partners

The institutions below were partners in the reviewing/reassessing process of the existing Strategy of Forestry and Pastures sector and will be partners in implementing the new Forest and Pasture Sector Strategy. Taking into account the mission of each institution, specific roles of the institutions need to be agreed upon in relation to the strategic objectives.

National Partners

- Ministry of Agriculture and Food, Ministry of Environment

- Ministry of Local Government and Decentralization
- Ministry of Territory Regulation and Tourism
- Ministry of Economy, Ministry of Finance
- Stakeholders interested in the use and protection/conservation of forests (public and private)
- Non-governmental organization/NGO-s
- Faculty of Forestry Sciences – UBT, Forest and Pasture Research Institute
- Technical Forestry Training School – Shkodra.

International Partners

- World Bank (WB)
- The Governments of Italy and Switzerland
- United States Agency for International Development (USAID)
- Food and Agriculture Organization (FAO)
- Other institutions which may contribute to the achievement of the strategy goals.

Strategic principles on the basis of the new strategy

The new strategy of the sector is based on the following strategic principles:

→ Sustainable management of forestry and pastoral resources requiring:

- A better evaluation, in a multiple use aspect, of forest and pasture resources
- Enhancement of local communities participation in the management process of forest and pasture resources
- Measures of erosion control
- Efforts for an efficient use of water resources

→ Reestablishment of the environmental and ecological integrity of forests and pastures in the country implying:

- The necessity to support the protection and the conservation of national nature resources in conformity with the commitments taken in international level, especially through Ministerial Conference on the Protection of Forests in Europe, without underestimating other international conventions relevant for the forest sector

→ The right/equal distribution of profits/benefits which derive from the use of the forest and pasture resources implying:

- The necessity to increase the number of families that benefit from the use of forest and pastures in order to decrease the level of poverty in rural areas
- The necessity for decentralization of the control on forests and pastures to the local community level
- The necessity to reactivate former traditional and cultural good practices relating to the administration of forest and pasture resources
- The necessity for changes in the forestry and pasture ownership structure, making it comparable to that of the developed countries.

Strategic/policy goals, strategic lines and objectives

Strategic/policy goals	Strategic lines	Objectives
Security of territorial, ecological integrity and of forests and pasture biodiversity.	Protection of forests by banning the forest harvesting operations, combining it with measures for the restoration, protection and improvement of biodiversity (restoration of forests and forestry land, improvement of the functions in the protection of soil (from erosion) and water and pasture improvement, as well).	Conservation of forests through prohibition of commercial logging (which have a profit aim) and illegal cuttings, allowing only the cultural cutting of all kinds.
		Restoration and rehabilitation of degraded forestry and pastoral ecosystems
		Establishment of state forest economies with oak regular coppice forests and their conversion in to high forest stand.
	Organization of a modern forestry cadastre as a base for restoration of the forestry stock	A successful implementation of the data of the new National Forest Inventory
		Organization of a modern forestry cadastre
	Improvement of Management of Protected Areas	The effective management of the existing P.A-s and preparation of circumstances for their gradual extension according to the suggestions of the Strategy and Biodiversity Action Plan
		Establishment of the protected areas administration and their training, giving priority to the national parks and to the protected landscape areas
	Nature protection and eco – tourism promotion	National plan preparation for the tourism development in forest and pastures and in some PA-s categories and its implementation
		Government participation in the support and development of infrastructures, lending and private tourism
Encouragement of sustainable management of forest and pasture resources	Organization improvement of forestry production process in high forests	Establishment of new production units in high productive forests
		Establishment of FRD (Forest Regional Directorates)
	Changes in the administrative and legal framework for the management of productive forests	Establishment of a national unit for forestry management and projections depending directly on DGFP
	Support of scientific	Review of guidelines and regulations

	research in the function of forest management	Completion of the range of dendrometric tables and improvement of calculating technique level in management
		Enhancement of scientific level in forestry
	Encouragement of multifunctional use of the forest and pasture resources	Promotion of socio – protective functions of forests
		Promotion of the productive potential for non – wood productions
	Sustainable use of state pasture stock	Study and determination of the condition, utilization systems for the integrated, multifunctional and sustainable management of pastures
		Work organization for administration and rational evaluation of pastures
Perfecting and strengthening of linkages with the market economy	Encouragement of private activities in forestry	Carrying out operation and services in state forests and pastures.
		Establishment of production units (500 – 1000 ha) in low forests areas or shrubs, with a good biomass production by giving in long – term use according to the market- demand.
		Prospective development of wood industry in Albania
		Hand over of degraded forests for long–term period (e g 30 years) aiming at establishment of hunting reserves, center of breeding wild animals/beasts or their combination
		The hand over of areas, for afforestation, long term (e g 50 years) ownership (with modest prices)
Involvement of local actors and users in maintenance and development of forestry	Continuity of usufruct rights or ownership transfer of forests and pastures to the local government for meeting firewood and pasture needs.	Continuity of usufruct rights or ownership transfer of forests and pastures to the local government, by growing the number of families that benefit from the forest productions.
		Meeting the rural population needs for firewood and timber construction
		Designations of carrying capacities of communal forests concerning animal husbandry and forestry organization for grazing and fodder
	Organization of advisory forestry service and forestry administration of commune.	Development of forestry advisory programs for local communities and actors as well as the strengthening of local governmental capacities in the forestry and pasture management.
		Establishment of communal forestry administration

Institutional and Legal Reform of the Albanian Forest Service at national and local level.	Continuing of institutional reform in order to establish more effective and adequate structures in center and base.	Strengthening of state and responsible institutions in the forestry section
		Separation of regulatory functions from managerial ones in forests and pastures
		Increasing the effectiveness of forestry police service.
		Improvement of the forestry administration structure
	Further continuity and deepening of reformation and completion of legal and regulatory framework in accordance with the dynamism and challenges of free market – economy	Drafting of a new law on forests

Forestry versus nature protection as an important issue of the new strategy

One of the main objectives of the strategy is the effective management of the existing protected areas (PAs) and the preparation of conditions for their gradual extension according to the suggestions of the Biodiversity Strategy and the Action Plan for the establishment of ECONET. The first action will be the approval of the respective network of protected areas which covers now approximately 14% of the Albanian territory. This will be followed by the preparation of a project - plan, including budget scenarios for the effective management and development of the protected areas system, and the identification of the areas of higher priorities and criteria for their classification by importance in order to focus attention on their situation as well as define next steps and deadlines for implementation. The second step, is the establishment of bio-corridors in order to connect the PAs among them. Such a process would demand that until the year 2020 the PA-s network will cover about 25% of the Albanian territory.

The action plan for implementing these objectives foresees the following steps:

- Preparation and implementation of management plans for the most important protected areas (e.g. the main national parks)
- Assessment of the impacts of management plan implementation
- Reassessment / re-evaluation of the enter permit and fee system for national parks
- Implementing a vast program on protection and improvement of biological and scenery/landscape diversity, assigning the local government responsibilities
- Development of a national plan for the establishment of ecological network, bio-centres, bio-corridors, and rehabilitation areas and buffer zones.

Establishment of a protected areas administration and staff training is the other important objective. The action plan for this objective foresees the following important activities:

- Preparing and implementing a national program on public awareness of the benefits and importance of the protected areas, particularly in the districts where protected areas exist
- Planning and implementing in continuity specialized training courses for the staff involved

- Efforts to resolve ownership conflicts regarding protected areas on a case-to-case basis with the involvement of local authorities/communities and stakeholders
- Enlisting the support of those NGO interested in protected areas and defining appropriate working relations with them with regard to raising public awareness and promoting environmental education.

Institutional and legal reform of the Albanian Forest Service at national and local level

The new strategy emphasizes the importance of continuity of the institutional reform in order to establish more effective and adequate structures at all organisation levels. Reforms and institutional strengthening are essential factors in guaranteeing the implementation of the strategy. We can be optimistic for the future only by improving and completing the legal framework, by reforming and establishing institutions capable of managing resources and able to ensure law enforcement. The main objectives in this direction are:

Separation of regulatory/controlling functions from managerial ones: The organization of the General Directorate of Forestry and Pastures (GDFF) as a forestry policy has not given till now its proper/expected results. Its reorganization into a forestry inspectorate in order to carry out forestry public service functions, including extension service functions and encouraging partnership with all stakeholders, would affect positively the improvement, protection and management of the forestry and pasture resources. The law enforcement functions of the Forest Police will be completely (after 2008) separated from the managerial functions of other structures of GDFF. Forest Police will have a similar status as that of the homologous police in other European countries.

Improvement of the existing organisation structure of GDFF, making it more effective and more flexible: The action plan for accomplishing this objective foresees the following steps:

- Establishment of the Regional Directorates of Forestry and Pastures as a structure which is already operational as pilot project basis
- Establishment of 6-7 national forestry enterprises for the management of high forests areas directly depending on GDFF.

Another strategic line of the institutional and legal reform of the sector is the continuation and deepening of reformation and completion of the legal and regulatory framework of the sector in accordance with the dynamism and challenges of the transition period. Appropriate legislation for the sector implies a complete, harmonized and coherent manner accompanied with economic facilities are the main ways that guarantee success. Harmonization of the legislation on forests and pastures with the environment related legislation is the main objective of this strategic line. It will make the achievement of the other strategy objectives easier.

An important objective is the elaboration of a new Law on Forests as a synthesis of the changes resulting from the decentralization process of state forest ownership by emphasizing the supervising role of the forest public service over all ownership categories of forest and pastures. Other important legislation improvements require:

- Developing a legal draft framework which will regulate/resolve issues regarding the administration of forest and pasture areas transferred to local communities
- Ensuring legislation support for the work of the extension service, by determining its status and assigning tasks and responsibilities to this service
- Improvement of other legal acts relevant to the forest and pasture sector.

Framework Law on Sustainable Forestry in Bosnia and Herzegovina

*Mersudin Avdibegović**

Abstract

As a country in transition, Bosnia and Herzegovina (hereinafter: B&H) faces a number of political, social and economical challenges. Unlike other countries in transition, B&H emerged from the war with destroyed infrastructure and ruined industry. Currently, natural resources are the base for the most important branches of the national economy. On the other hand, complicated regulation of the State, inefficient organisation of the forestry sector as well as inexistence of a common forest legislative framework on the State level, significantly jeopardized sustainability of forest management. Recognizing these weaknesses, the Office of the High Representative (hereinafter OHR) initiated drafting of a Framework Law on Sustainable Forestry in B&H. As the main tool for achieving sustainable forest management, this Law proposed development of forest certification system at the national level. This initiative has lead to numerous reactions from forestry professionals but also from other stakeholders. This paper deals with the main stipulations of the Law as well as proposed improvements; special attention will be given to the role of the international community in creating of national forest policy in B&H.

Keywords: B&H, sustainable forestry, forest legislation, certification.

Introduction

In terms of political structure, B&H is probably among the most complicated countries worldwide. The Dayton Peace Agreement (the General Framework Agreement for Peace, signed on December 14, 1995) established B&H as a state comprising two entities, each with a high degree of autonomy. The Agreement includes the State Constitution (Annex 4.) and other provisions designed to build a peaceful, stable country. The half of the country is organised as highly centralised, ethnically homogenized entity called Republic of Srpska (hereinafter RS). The other half is the highly decentralised Federation of B&H (hereinafter: FBH) consisting of 10 cantons. The mandate of the OHR is set out in Annex 10 of the Agreement. It declares the High Representative the final authority to interpret the Agreement on the civilian implementation of the peace settlement. There are a number of opinions, originating from both, the international community and B&H, according to which the current constitution's solutions are the biggest obstacle for further economical developments of the State.

Such a political and constitutional environment directly influences many aspects of the social reality in B&H, including the forestry sector. There is no doubt that the forestry sector in B&H is in its critical phase. The rehabilitation of the national economy and devastated infrastructure heavily depends on natural resources exploitation. The growing private sector in

* Tel: + 387 61 16 77 20, Fax: + 387 33 61 13 49, E-mail: mavdibegovic@hotmail.com, University of Sarajevo, Faculty of Forestry, Chair of Forest Economics and Organisation, Zagrebačka 20, Sarajevo 71000, Bosnia and Herzegovina

the wood-processing industry, based on entrepreneur spirit and very often supported by different lobbies, demands continuous supply with the raw material. Besides, public (state) property is the predominant type of forest ownership, so economical pressures towards forest resources; associated with some social problems (poverty and high rate of unemployment) are very pronounced. In addition, forest road density is very low and a significant percentage of forestland is still under mines. As a consequence, harvesting activities are not equally distributed and exploitation is limited to easy accessible areas.

Considering such an economic, social and political environment one can conclude that sustainability of forest management can be achieved only by consistent forest policy and sound organisation of the forestry sector. Nevertheless, B&H reality is completely different. The organisation of the forestry sector is much influenced by the constitutional framework. There is no a single document at the State level that could define forest policy or a long-term strategy of the sector. The common state-level legislation, as the basic instrument for further development of the forestry sector, simply does not exist while the forest legislation in two Entities is not harmonised. As the consequence of the Constitution, the role of the State is almost symbolic and all forestry responsibilities are concentrated at lower levels of the State structure (Entities and Cantons). Only during the first half of 2005 (10 years after the end of the war), the body responsible for forestry issues at the State level has been established within the Ministry of Foreign Trade and Economic Relations (hereinafter MOFTER). Besides, the cyclic changes of opposite political concepts in B&H (from pure national parties, over social-democratic, to right oriented parties) during the last ten years could not ensure neither continuous development of the machinery of Government nor establishment of state-level institutions responsible for the forestry sector. Due to lack of both, political willingness and national institutions, all these problems, obviously cannot be solved without some external support.

The OHR's involvement in B&H political and economical reality has changed and developed according to its mandate and requirements of B&H society. The role of the OHR changed gradually, from the establishment of entities and state-level institutions, over infrastructure rehabilitation (financed mainly by the World Bank and European Commission program), to the support on revitalising and stabilisation the national economy. The OHR has also focussed on the establishment of the rule of law, which is an essential requirement, for progress in all the other areas of reform. Within its mandate the OHR has the right to remove those public officials who violate legal commitments and the Dayton Peace Agreement, but also to impose laws as he sees fit if B&H legislative bodies failing to do so. Recently the OHR's activities focused on strengthening the capacity of B&H governing institutions, especially at the State level (establishing a state-level High Judicial and Prosecutorial Council, creating a common Ministry of defence etc).

The OHR recognised forests as the country's greatest natural resources but also the fact that the absence of adequate supervision by the relevant authorities has created a significant space for smuggling and illegal logging (Hays 2005). The OHR encouraged the relevant authorities to establish an effective mechanism to end illegal logging and create the preconditions for sustainable development in the forestry sector, consistent with international standards. In the previous context and according to its mandate, the OHR launched the initiative for preparing a forest law that will among other things, introduce a framework for the state-level standardization, accreditation and certification of forestry products. Recognizing the importance of forestry resources for B&H's society as well as the obvious legislative gap at the State level, the OHR drafted a Framework Law on Sustainable Forestry in B&H that will be discussed.

Materials and methods

The material that will be analysed here is the first draft of the Framework Law on Sustainable Forestry in B&H. The draft has been prepared exclusively by the OHR experts and made accessible to the responsible ministries in both entities as well as the professional public. The reactions of professional foresters provoked improvements of the draft that have been done by the team, consisting of representatives of the MOFTER, the OHR staff and forest legislation experts from both entities. Methods are mainly based on comparison between the first draft and improvement version of the Law as well as analysis of their differences. This Law proposed development of forest certification system at the national level. As introducing of marketing based instruments of forest policy into the forest legislation is a new approach in the forestry sector of B&H, the results of some empirical research concerning implementation of the forest certification concept in B&H will be presented.

Results

The purpose of the Framework Law on Sustainable Forestry in B&H is as follows:

1. Establish a mandatory framework of national standards governing the marketing and sale for export of harvested timber and wood products;
2. Improve the sustainable performance of forestry organisations in B&H in order to enter new markets that demand certification of sustainability;
3. Assure export buyers and consumers in third countries that harvested timber and wood products from B&H meet a consistent standard;
4. Facilitate interstate commerce in wood and wood products that are produced in a sustainable manner.

The objective of this Law is to promote sustainable forestry in B&H by providing overseas customers with an independent assessment of claims about the sustainability of forest management in B&H. This will assist suppliers of wood from B&H forests, assessed as being sustainable managed based on auditable forest management performance requirements, to maintain access to traditional export markets and enter new markets that demand certification of sustainability. The system of regulation set out by the Law (Sustainable Forestry System) is intended to fulfil the prerequisite conditions for international endorsement and mutual recognition which may lead to membership in internationally recognised sustainable forest programs, such as the Pan European Forest Certification Council (PEFC). The objectives of the Law shall be accomplished through a mandatory system of third-party certification within B&H. The Law sets out the basis with which an organisation must comply in order to receive Sustainable Forest Management or Chain of Custody certification.

No person may sell or label any harvested timber, wood, or wood products for export from B&H unless it is produced and handled in accordance with this Law. No person may mill any indigenous harvested timber or wood at a sawmill within B&H unless is intended for sale or marketing exclusively within the territory of B&H. The Sustainable Forestry System shall be open to voluntary participation of any organisation dedicated to improving its overall sustainable forestry performance for purposes of sale or marketing exclusively on the domestic market within B&H.

The public authority responsible for promoting this Law is the MOFTER. It shall exercise overall management of a certification program for producers and handlers of timber and wood

products that have been produced using sustainable methods as provided for in this Law. The MOFTER shall coordinate its work with the Institute for Accreditation of B&H and the Institute for Standards, Metrology and Intellectual Property of B&H. However, the elaboration and implementation of accreditation requirements shall be independent from the standards-setting and certification processes. The development of standards under this Law shall be independent from the certification or accreditation processes. Within B&H, the Institute for Accreditation of B&H shall establish and implement a program to accredit a body for the purpose of certifying organizations that meet the requirements of this Law. The Institute for Accreditation of B&H shall ensure the independence and neutrality of verifiers in the execution of their tasks and establish and maintain a list of accredited sustainable forestry verifiers.

The Institute for Standards, Metrology and Intellectual Property of B&H shall develop and elaborate the group of inter-related normative standards having applicability throughout B&H. These standards shall include:

- Standard for Sustainable Forest Management Certification
- Standard for Chain of Custody Certification
- Standard for Accrediting Certification Bodies
- Standard for B&H Sustainable Forest Management Symbol

The Institute shall ensure that all relevant interested parties representing the different aspects of sustainable forest management are invited to participate in the standard-setting process. The Institute for Standards, Metrology and Intellectual Property of B&H shall send out final draft standards for formal consultation process to all interested parties. Consultation shall ensure that the views of interested parties throughout B&H are discussed. Changes made, as the result of a consultation process, shall be communicated to the public.

The Sustainable Forestry System set out by this Law and the standards developed hereunder, shall conform to requirements set out by the Pan European Forest Certification Council (PEFC). Standards developed and adopted under this Law shall be based on the Pan-European Operational Level Guidelines (PEOLG) adopted as Annex 1, and the Pan-European Criteria and Indicators (C&I), adopted as Annex 2 to the Resolution L2 of the Ministerial Conference on the Protection of Forests in Europe (MCPFE) held in Lisbon in 1998. The Institute for Standards, Metrology and Intellectual Property of B&H may take no action under this Law, either during the preparation of a standard or after its approval, which could prejudice the harmonisation intended with the PEOLG and Pan European C&I. The draft version of the Law proposed further responsibilities of the MOFTER and other institutions, concerning the procedure related to mark of origin, selection of an institution to act as program manager, license issuance procedures, public information, prohibited acts etc.

Discussion

Regular order of the steps when defining any legal framework implies understanding the principle “from general to individual”. However, the fact that one law on state-level is being passed several years after adoption of legislation on lower levels (in this case entity levels) requires to understand all aspects of the political reality in B&H. The logical question is being raised on how to harmonise two entity Laws on Forests with the Framework Law on Sustainable Forestry in B&H when they mutually differ to the extreme that even the definition of forests in RS and FBH is not the same. Considering non existence of state-level forest legislation, the initiative for drafting the Framework Law on Sustainable Forestry in B&H has

been supported by both, formal and informal groups of foresters. Comparing the ambitious title with the content of the Law, many of them have been confused, even disappointed. Instead of a Law that would define a common framework for sustainable forest management, they have been faced with a paper dealing with only one concept – forest certification. As sustainable forest management is possible without certification, while successful certification requests sustainable forest management, B&H foresters insisted to call things with their real name, more precisely to name that paper as the Law on Forest Certification.

Considering the issues treated in this Law, the key question is on legal regulation of one marketing based instrument of forest policy. In the forest practice of neighbouring European countries there is not any example where forest certification was prescribed by national legislation. This approach clarifies the specific situation of B&H and its forestry sector. Opponents to this approach claim that forest certification has appeared and is maintained exclusively thanks to changes in the system of consumer priorities in ecologically sensitive markets. Defenders of legal regulation of forest certification protect their attitude with the fact that classic forest policy instruments in B&H are undeveloped and therefore insufficiently effective. The question whether the regulation of this Law should be obligatory or voluntary resulted many discussions. It is clear that the obligatory principle should be understood as Law application to all enterprises (not only on export-oriented ones). If the Law's regulations would not be obligatory, then there is no reason to treat it as legislation but as a kind of “non-committal statement”.

Besides, it is hard to believe that the expected goals could be accomplished on a voluntary basis. Considering that drafting the Law was initiated by the OHR, the whole initiative has a specific weight. There is no doubt that the present organisation of the forestry sector in B&H and the absence of consistent forestry policy cannot guarantee sustainable management of forest resources. Therefore, the introduction of the forestry certification concept as a modern instrument for promoting multifunctional forestry and a participatory approach in forest management has its justification. The fact that there are attempts to define forest certification in the frame of national forestry legislation, underlines that the B&H forestry sector is not organised properly, rather than it concerns the forest certification concept as such.

The establishment of a framework of national standards concerning marketing and sale for exporting harvested timber and wood products is mentioned as one of the purposes of the Law. Insisting on the terms such as marketing and export does not have its justification, as the main goal of any certification programme is promoting sustainable forest management. Different expectations, such as better competitive advantages, increase of market shares and obtaining premium prices are less universal effects of forest certification. Besides, forest certification is foreseen only for export-oriented products. Thus, the issue of applicability of the Law for forestry enterprises oriented to domestic market needs to be raised. None of the forestry enterprises exports timber from B&H and that is because of a simple reason - they are not officially registered for such a kind of activities. Practically, they only sell wood to trade companies and to the wood-processing industry. Considering that the demand on local forestry products market is higher than the offer, one can conclude that the forestry sector is not directly interested in export activities. Export is much more important for the companies of the wood processing sector and indirectly it is important to foresters also because they would have reliable partners in strong export-oriented companies. But considering the nature of B&H forestry (integral ecological-economical activity) and the undeveloped practice of chain of custody, the different treatment of raw material intended for export and domestic markets is at least questionable.

The way that Law regulates timber and timber products sale intended for export deserves a special attention. Again, the key word here is “export”. It would be useful to analyse harmonisation of these legal solutions with the rules of World Trade Organisation (WTO), especially considering the present position of B&H on its way towards European integrations. Having in mind that it is about establishment of sustainable forest management standards and not on legal export restriction, there are probably no significant obstacles in this sense. The regulation that prescribes a special treatment for “export-oriented” producers can have significant impact on the forest management activities that traditionally offer products for local markets, for example fuel wood for local communities. The goal of the Law should not be promoting special regime in pursuing ambitious management standards for forests that offer products for export only. This means that other forests can be managed in a less strict way. Without further analysis in justification the legal definition of the forest certification concept, it is obvious that such a Law could be meaningful only if it treats all forestry business subjects equally. In this sense, the part on voluntary taking these regulations does not have its place.

As concerns the institutions in charge for implementation of this Law, a lack of human resources limits them in the fulfilment of such complex assignments, for example with regard to state-level SFM standards. In all those institutions (the MOFTER, the Institute for Accreditation of B&H and the Institute for Standards, Metrology and Intellectual Property of B&H) there is no forestry expert employed. Considering that international financial institutions (the International Monetary Fund, the World Bank) insist, as a precondition for further credit arrangements with B&H, on decreasing the number of state administration staff, it is unlikely to believe that this situation will soon be changed.

Finally, the forest certification concept defined by this Law presumes adopting standards of the Pan European Forest Certification Council (PEFC). Selection of an appropriate forest certification scheme defines also other activities such as: development of standards, accreditation process, selection of certification body etc. Naturally, the selection of forest certification scheme and certification standards should be subject of a study that includes the opinion of national experts. In drafting this law, the OHR did not consult any national experts. Even the study on development of national SFM standards within the Forestry Development and Conservation Project financed by the World Bank was completely neglected. This study is in its initial phase and it would have been necessary to establish a rational schedule on preparing this Law in order to take advantage of synergies between the activities of the World Bank and the OHR. Obviously, the harmonisation of activities launched by international institutions that are present in B&H could be significantly improved. One cannot escape from the impression that they (in this case OHR and WB) are literally competing in some areas, neglecting the fact that they have the same mission in B&H. In any case, being in favour of any forest certification scheme, without appropriate studies conducted either by competent institution or a team of experts is unacceptable.

In trying to avoid a bit exhausting discussion on competition between the Forestry Stewardship Council (FSC) and the Pan European Forest Certification Council (PEFC), here are results of some research related to the implementation of a forest certification concept in B&H. As the FSC provides for a completely international forest certification scheme, there are no market limitations for forestry and wood processing industry products originating from forests certified by this programme. This fact is important for export-oriented wood processing companies in B&H that are traditionally oriented on European markets but also toward on non-European countries (the USA, Arabic countries etc.). Forest management in B&H is being conducted on forest management areas having approximately the size of 30.000

– 40.000 hectares. Only about 20% of forests and forestland in B&H is privately owned and the average size of private estates is often smaller than 1 hectare and usually very fragmented. Some ongoing processes such as privatisation, denationalisation and restitution will not significantly change the forest ownership pattern in B&H (Šaković et al 2002). The FSC scheme was primarily designed for certification on large forest areas and imposes as the most appropriate certification programme in B&H. This especially concerns the most valuable and mostly state owned high forests. Some other countries with economy in transition and with similar ownership structure (Croatia, Poland) chose to implement the FSC scheme as well.

Based on the research conducted for the forestry and wood processing sector, all demands towards certified forestry products from B&H come solely from foreign business partners (Avdibegović 2004). In all cases, these demands referred to products certified by the FSC scheme showing that B&H export companies mostly appear at market niches that require this type of certification. The research related to attitudes of the most important B&H stakeholders towards the FSC principles shows that this certification programme represent a very acceptable framework for development of national forest certification standards and implementation of forest certification in B&H (Avdibegović et al. 2003).

Finally, the lack of a well-organised forestry sector and efficient state institutions might cause many difficulties in implementation the process of the PEFC. In order to put the PEFC into motion it is necessary to have a number of internal (national) preconditions, while the FSC scheme requires stronger involvement of external factors and institutions. Considering B&H reality, the only certification scheme that can be implemented is the FSC. Of course, it does not mean that when all necessary conditions are fulfilled (sound forestry sector, development and implementation of suitable forestry legislation on the state level, etc.) certification programmes that have characteristics of a pure national initiative should not be developed.

Conclusion

On its own way to become a modern and prosper European country, B&H is faced with a triple requirement. First, it has to repair material and mental damages caused by the war destructions. Second, it has to pass through the transition process from a socialist economy to a market oriented economy. Third, and probably the hardest, B&H society must evolve from ethno-nationalism to modern European patriotism. Accomplishment of these three tasks means radical changes in all aspects of B&H society, also in forestry sector. First it assumes sustainable management of forest resources in order to ensure economic preconditions for the wood-processing industry and rural area development. Second it means application of market economy mechanisms, restitution and denationalisation, privatisation of non-strategic forestry activities, reduction of the dominance of technical authorities, and development of a cross-sectoral dialogue in forest management. In fulfilling the third goal it is necessary to create a common, state-level forest legislation and policy. Undoubtedly, the introduction of a certification concept can promote sustainable forest management in B&H. Considering the inefficiency of classical instruments of forest policy in B&H a legal definition of a forest certification program might be justified. Implementation of the Law could face many difficulties as neither national forestry experts nor professionals were included in its preparation. In order that this Law reaches its overall objective, promoting sustainable forest management, the forest certification program must consider the specific situation of the forestry sector in B&H, as well as the forest ownership pattern, the real market demands and the attitudes of relevant stakeholders. On the contrary, it might be one more on the long list of passed but not implemented laws in B&H.

Literature Cited:

1. Avdibegović, M. 2004: The Analyse of International Certification Schemes and their Applying in B&H Forestry, Naše Šume, UŠIT, 3/2004, Sarajevo, pp. 9-12.
2. Avdibegović, M., Šaković, Š., Koričić, Š., 2003: Cross-sectoral Dialogue as a Base for Setting of Internal Forest Certification Standards in B&H, Proceedings from the First Symposium of Veterinary, Agriculture and Forestry in F B&H, Faculty of Forestry University of Sarajevo, Sarajevo, pp. 257-267.
3. Donald Hays, 2005: Saving B&H's forests before it is too late, Glas Srpski, February 28th, 2005.
4. Šaković, Š., Serdarević, F., Delić, S., Avdibegović, M. 2002: Privatisation in Forestry - Country Report for B&H, Proceedings of the International Conference: Privatisation in Forestry, Faculty of Forestry University of Belgrade, Institute for Forest Economics of the Albert-Ludwigs-University Freiburg, Belgrade, pp. 81-95.

The institutional and legal framework in the forest sector of Republic of Srpska

B.Sc. Doni Blagojević, PhD Milan Mataruga, M.Sc. Pero Balotić

Abstract

This paper presents the institutional and legal framework as instruments of forest policy considering the specific socio economic conditions in Republic of Srpska. It provides an insight into the organizational structure of the forestry sector and reviews the development of laws on forests and protection of environment. The significance of participation of international experts and organization in creating the forest policy is discussed.

Keywords: forest policy, institution framework, forest legislation, environment, protection

Introduction

In the Republic of Srpska the forestry sector is very important for the national economy. Forests and forest lands cover approximately 50% of the territory and represent one of the most important natural resources. Approximately 80% of forests and forest lands are owned by state and 20% are privately owned.

Forests and forest lands - with the exception of forests with special purpose, forests that are not managed by state (Army and National parks), industrial plantations and private forests - are managed by the Public Enterprise «Srpske Šume» on basis of the Law on Forests ("Službeni Glasnik" RS no.13/94; 8/96, 10/97, 23/98, 18/99 and 43/02). Managing of state forests and forest lands in Forest Management regions of the Public Enterprise «Srpske Šume» is realized through its "daughter companies" (FMCs) which are legal subjects with their own bank accounts. Their rights and responsibilities are established according to the bylaws of the Public Company «Srpske Šume». The Public Company «Srpske Šume» was founded by Law based on modifications and amendments of the Law on Forests SR BiH ("Službeni Glasnik", no.8/92), and by the decision of Government of Republic of Srpska ("Službeni Glasnik RS", no.9/92) (www.srpskesume.com).

The jurisdiction for the forestry sector in general is in the hands of the Ministry of Agriculture, Forestry and Water Management. The forestry sector of this ministry performs administrative and other expertise business regarding: production and turnover of seeds and seed material; improvement of forestry production; growing, protection, arrangement and improvement of forests; state of wood resources; exploitation of forests; forestation of degraded and sprout forests, bare mountainous terrains and karsts; communication in forests; hunting and hunting economy; and inspection supervision in forestry and hunting sectors. It provides information via the medias and other ways of presenting information of its activities, and performs other duties according to the laws and regulations of Republic of Srpska and Bosnia and Herzegovina (www.vladars.net).

In the Republic of Srpska protection of nature and environment is under the jurisdiction of the Ministry of Space Planning, Civil Works and Ecology. Main activities of the ecology department of this Ministry are: integral protection of environment and its improvement

through research; planning of management and protection measures; protection of goods of general interest; natural resources; natural and cultural heritage; inspection supervision; communal works and protection of environment; accomplishing of cooperation with relevant Ministries and institutions from the Federation of Bosnia and Herzegovina; provision of information via media and other ways of informing on its work, and performance of other tasks in accordance with the Laws and regulations of the Republic of Srpska and Bosnia and Herzegovina (www.vladars.net).

Materials and methods

The paper describes the legal and institutional framework related to forestry and environment by reviewing laws and regulations, and the institutional structure of forestry and the environmental sector. In presenting the legal framework special attention is given to the following areas:

- Money flow;
- Financing of protection of environment;
- Protective and forests with special purpose;
- Possible collisions between specific Laws;
- Ongoing processes related to the legal framework.

The Laws analyzed in this paper are:

- Law on Forests;
- Law on Protection of Environment;
- Law on Protection of Nature;
- Law on National Parks
- Law on Enterprises;
- Law on Public Enterprises;
- Law on Fund for Protection of Environment.

The description of the institutional framework presents the organizational structure of the Public Forest Enterprise (PFE) «Srpske Šume», with special attention to private forests and the current reorganization of PFE.

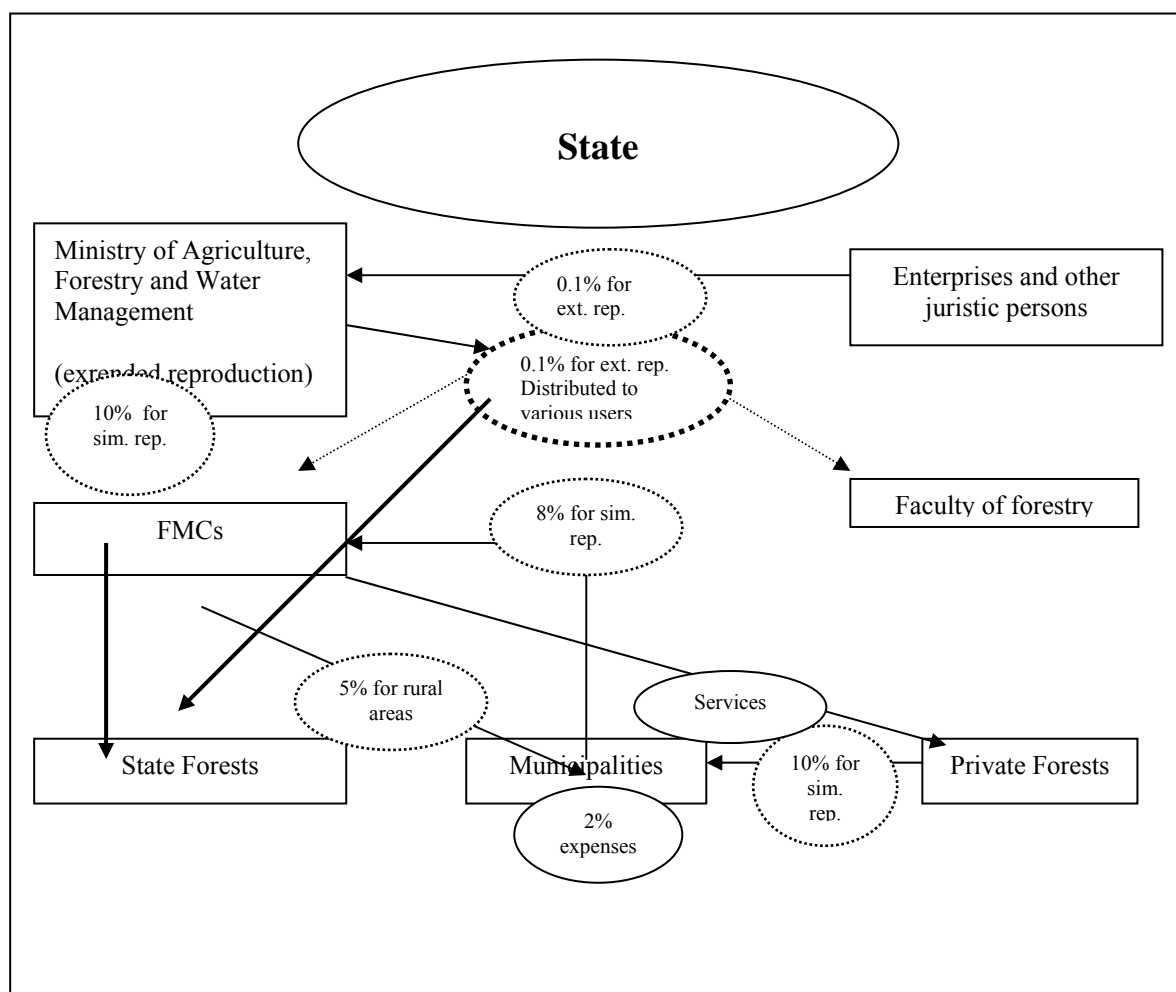
Results

According to the Forest Law Forest Management Companies (FMCs) and private forest owners are obligated to provide a certain amount of money for the reproduction of forests. FMCs are obligated to provide funds from their realized total income which amount at least to 10% of the value of timber in the current year at the market prices of timber sold at on forest roadside. Similarly private owners pay to the municipalities 10% of the value of timber sold at roadside at current prices. Funds for the reproduction of forests can be used only in an area of the Forest Management Region from which the funds have been collected. Funds that are not spent for simple reproduction of forests are used for extended reproduction in the area of that Forest Management Region. The Law on Forests thus regulates all obligations regarding the simple and extended reproduction, and municipalities.

All enterprises and other juristic persons that performing activities in Republic of Srpska are obligated to pay 0.1% of their business income for using the Public Goods of Forests (PGFs) on a special account of the Ministry of Agriculture, Forestry and Water Management. Collected funds are used for extended reproduction of forests. Distribution of funds is

regulated by criteria according to the special rulebook provided by the Ministry of Agriculture, Forestry and Water Management. FMCs are obliged to pay 5% of value of sold timber to the special account of the municipalities. Those funds are used for development of the rural areas of those municipalities from where the timber comes from. Potential users of funds for extended reproduction are defined in the Law on Forests. Those funds can use all subjects that manage forest and hunting ground, and scientific organizations. Funds are the subject of contest. The contest proclaims Ministry for Agriculture, Forestry and Water Management. The money flow in the forestry sector is shown on *Figure 1*.

Figure 1: Money flow in the forestry sector

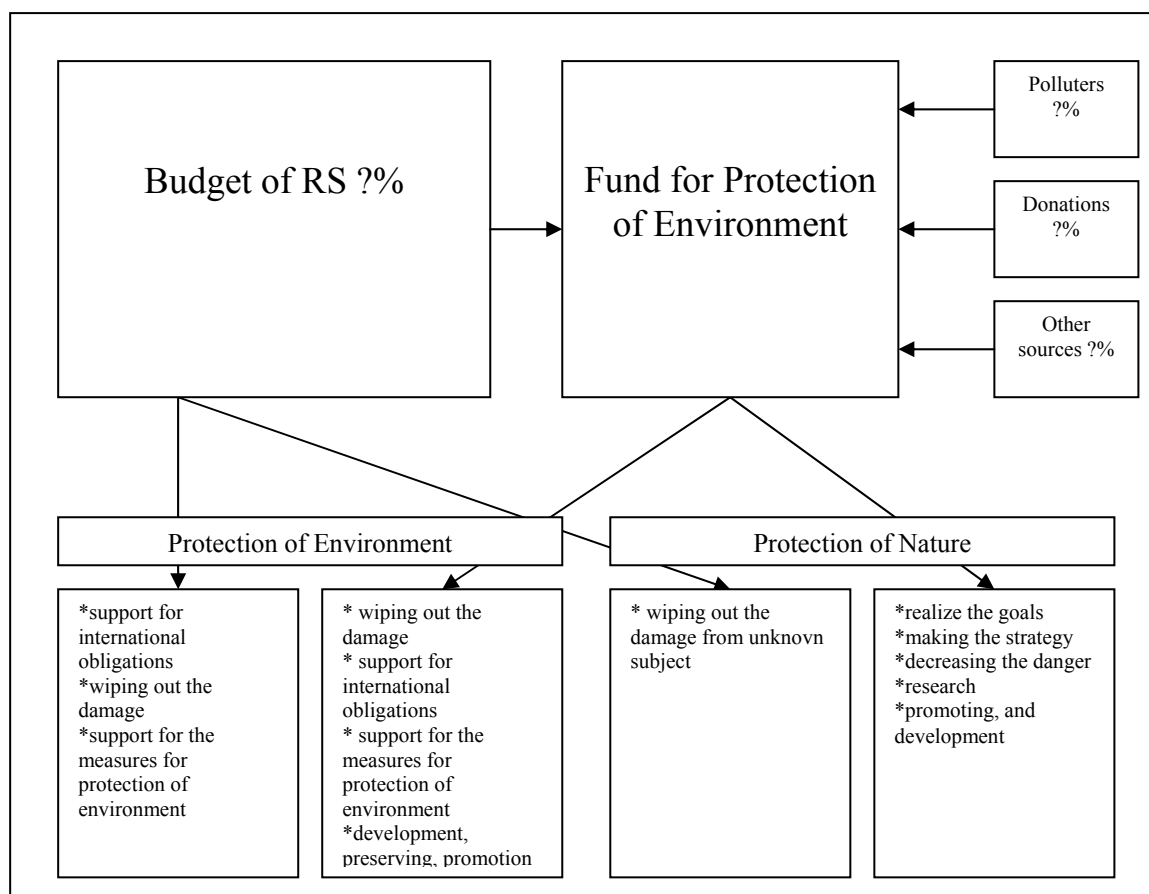


According to the Law on Protection of Environment, Law on Protection of Nature and Law on National Parks protection of Nature and Environment are financed from the budget of RS, and Fund for Protection of Environment. Fund for Protection of Environment are provided from: budget of RS, fees from the polluters, donations and other sources according to the Law on Fund for Protection of Environment. Proposal for proclaiming the protected areas gives the Ministry responsible for protection of environment. Money float in sector of environment is shown on *Figure 2*.

Procedures regarding definition, marking and proclaiming protective forests and forests with special purpose are clearly defined in the Law on Forests. Protective forests are those serving to protect soil, water currents, and settlements; forests which are raised as protective belts;

and forests on upper vegetation limits. Forests with special purpose are those representing natural rarity or having special significance for science, culture, religion, history, national parks, parks of nature, forests for camping, sports, recreation, education, research, climate and other health sanatoriums, hunting grounds, and forests for national defence, production of seeds, and drinking water sources. Protective forests and forests with a special purpose are proclaimed by the Government of the Republic Srpska following a report reports prepared by the manager of those forests. All protective forests or forests with special purpose must be clearly marked and managed in a way that will provide their special or protective function.

Figure 2: Money flow in the sector of environment



It is important to mention that the Law on Forests isn't harmonized with the Law on Public Enterprises adopted in 2004. Provisions of the Law on Forests that are in collision with provisions of the Law on Public Enterprises relate to the legal status of the FMCs, management boards, and the board of the enterprise. On RS assembly, on two occasions, there was a discussion on changes and supplements to the Law on Forests in order to harmonize it with the Law on Public Enterprises, and at both times the changes and supplements were rejected.

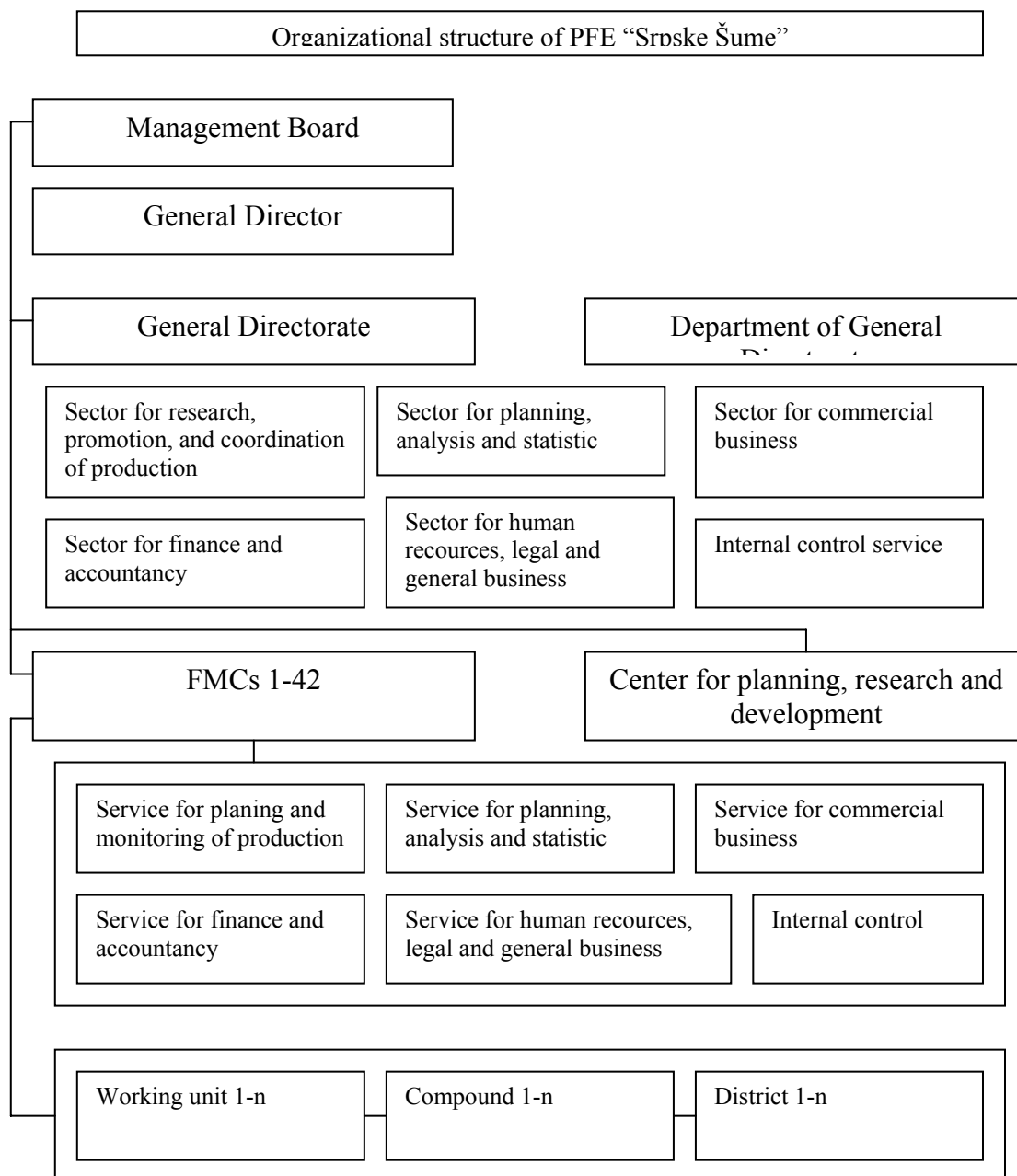
The Law on Protection of Nature avoids the possibility of collision with other Laws by saying that all provisions of the Law on Protection of Nature which are in collision with another Laws are considered as invalid.

There are several processes that could have influence on current legislation in the Republic of Srpska. I can especially mention the process of reorganization of PFE, the process of

introducing certification, the unfinished process of privatization and several other projects. The approaching forest inventory will although influence the current legislative basis.

PFE “Srpske Šume” is organized as a Public enterprise and is 100% state property. This enterprise is classified as a strategic enterprise. The reorganization process is mostly focused on the status of FMCs and on forming Forest Management Regions. At present there are 42 FMC in PFE, and each FMC manages the forests on one Forest Management Region. The legal status of Organizational structure of PFE is shown in *Figure 3*.

Figure 3: Organizational structure of PFE “Srpske Šume”



PFE performs professional and management services in private forests according to a contract signed between municipalities and FMCs. Private forests in RS may be characterized in the following manner:

- Small properties,
- Unclear borders between state and private forests,
- Ineffective structures and low stocks,
- Lack of quality documentation,
- Incomplete or missing management plans,
- Low or inexistent investment and usually conflicts among forest owners.

There are no special laws and/or regulations for private forests, instead of that the legislative framework for state forests is applicable.

Discussion

The money flow in the forestry sectors shows the following:

- There is annual funding for the simple and extended reproduction of forests.
- There is no income for the state budget.
- There is no funding for private forests.

The money flow in the sector of environment shows the following:

- No correct data regarding the funding of the protection of environment (impossible to plan activities),
- There are differences on issues regarding financing the sectors of environmental protection and protection of nature from the state budget.

In Republic of Srpska only a small part of the area is defined as protected. On the level of the PFE, and municipalities many more surfaces are identified as potential protective areas and areas with a special purpose. The ongoing processes, the organizational structures, and the collisions between legal acts are connected among each other and this should be considered as one of the major problems.

Remarks

In the year 2005 the law on forests of Republika Srpska has been changed (“Službeni Glasnik” Republike Srpske, 53/05). Those changes have significant an impact on the organizational structure of the public forest enterprise, and also on money flow in the forestry sector. The most important changes are:

- The organizational structure of the company was changed to a Joint Stock Company, and the name was changed to Javno preduzeće šumarstva “Šume Republike Srpske” a.d. – Sokolac (Public forest enterprise).
- Forests and forest land owned by the Republika Srpska are administered and managed by the JPŠ “Šume Republike Srpske” a.d. – Sokolac.
- Forests and forest land are not the property of JPŠ “Šume Republike Srpske” a.d. – Sokolac and can not be privatized.
- The managers of the state forests are obligated to allocate 10% from the value of sold wood according to the standing price from the pricelist of the JPŠ fund for development of the municipality from which that wood comes from.

Impact: The most significant impact on the forestry was the obligatory provision for allocation of 10% from the value of sold wood. This provision puts heavy burden on state forestry. Consequences are still not visible but it can be expected that this will influence on level of investments for forest protection and tending.

In the year 2006 the law on forests of Republika Srpska has been changed again (“Službeni Glasnik” Republike Srpske, 91/06) Those changes have a significant impact on duties and responsibilities of the policy makers. These are the most important changes:

- Forests and forest land owned by the Republika Srpska are administered and managed by the Ministry of Agriculture, Forestry and Water Management negotiating a contract with the public forest enterprise regarding the transfer of the management rights and rights to use forest granted from the ministry to the enterprise.

Impact: This change is still in the process of implementation. The main problem in implementation of these changes is an understaffed ministry. The new responsibility requires more forestry experts in the ministry and the establishment of a state forestry service as a part of the ministry that will be mediator between the owner and the user of the state forests.

Conclusion

The legal and institutional framework in the sectors of forestry and environment in the Republic of Srpska is in the process of transition. Activities of forest policy makers should be planned and harmonized. An inter-sectoral approach has to be promoted in order to harmonize changes, especially those that have chain effects. Bureaucratic problems must be solved and problems due to lack of funds need to be noted in order to reveal the real cause of failure in implementing certain legal provisions.

Literature

“Službeni Glasnik” Republike Srpske, 1994-2006, various numbers

2005. www.srpskesume.com

2005. www.vladars.net

Forest and Nature Protection legislation and related issues in the Czech Republic

*Karel Vančura**

Abstract

The Czech Forest Act is based on a rich tradition of forestry on the territory of what is called the Czech Republic now. The principle of sustainability is included in it already for more than 200 years. However, it is not enough to declare forests as a national wealth in the preamble. Because of new information and experiences gained during the transformation period there it was decided at the end of nineties that there was need to reflect the new situation and outcomes as well as possible amendments of the forest legislation approximately in 2004 – 2005. The process started with several open discussions fora and seminars in the beginning of the last year but organizational changes in the Ministry of Agriculture, diminishing i. a. the Forestry Department, stopped the whole process. The latest information says that probably quite a new legislative design will be prepared instead of amending the currently valid Forest Act. If the main reason of the Forest Act opening and postponement in 2000 was i. a. the fact that various stakeholders were not able to find any consensus on the changes needed, it seems that the situation has not changed too much. The paper also includes a brief survey of ideas related to possible Forest Act changes given by respondents of various groups involved in forestry.

Keywords: Forest Act amendment, forest reproductive material, financial support to forest, owners, strictness of forest law, problems of forestry

Czech forest and environmental legislation

As in other countries of Central and Eastern Europe the Czech Republic went through a profound transformation and transition, in order to pass from central planning to a market economy. New forestry legislation had to be adopted to reflect political and economical changes, particularly the creation of a private forest owners section. Consequently a new system of maintenance and subsidies for private forest owners had to be put in place to promote sustainable forest management and to anticipate afforestation of marginal agricultural lands. Another important change results from the fact that the country became a member state of the European Union. Those were and are reasons of necessity to adapt and improve various laws and legislative rules.

The conception of forestry in the Czech Republic proceeds from the so-called Pan-European process which includes the principle of sustainable forest management. Another source for the legislative concept is the governmental document "The Basic Principles of the State Forest Policy", as approved in May 1994, and the "National Forest Programme" adopted in 2003. The Forest Act, in force since 1 January 1996, determines the conditions for the preservation, tending and regeneration of forests as part of the national wealth forming an essential part of the environment. A sustainable, sound forestry is mentioned in many documents and of

* Forest Management Institute, Brandýs n. L., Czech Republic

course in the New Forest Act as well. It was prepared as a compromise to such items as: property rights versus public goods. The Act on Nature and Landscape Protection characterises forests as a significant element of the landscape.

Of course, national laws were and are gradually being harmonised with EU legislation and since the May 1, 2004 the whole mass of the *acquis communautaire* has become part of our legislation. As regards of forestry there are three fields mainly connected with the four basic “freedoms” – movement of goods, persons, services and capital: - plant protection, timber in rough and reproductive material. Therefore the following legislative instruments were adopted and amended:

- Act No. 147/1996 Coll., on plant protection care;
- Decree 89/2002 Coll., on protection against invasive plant species;
- Decree 90/2002 Coll., on provisions of protection of bees, game and fishes in connection with usage of plant protective means;
- Decree 92/2002 Coll., on expert knowledge in private activities in the field of plant protection.
- Amendment to the Forest Act No. 289/1995 Coll., and Decree 391/2003 Coll. on details of labelling, measuring and classification of timber;
- Act No. 149/2003 Coll., on marketing of forest reproductive material of timber tree species;
- Decree 29/2004 Coll., on marketing of forest reproductive material.

The second attempt to amend the Act 114/1992 Coll. on Nature and Landscape Protection has been accepted by the Parliament including one very important change. The amendment 218/2004 Coll. includes § 58 which represents a break in philosophy approaching landowners. This paragraph of the sixth part of the law (“Some limitations of proprietary laws, financial compensation at nature conservation, access to the landscape, public participation and right on information in nature protection”) deals with a “Compensation for aggravating of agriculture or forestry management”. Before the law said, “Everybody is obliged....” but did not offer anything for covering of possible losses of forest owner.

§ 58 in brief:

(1) Conservation of nature and landscape is a public interest. Everybody is obliged to suffer limitation of using nature and landscape as required by law.

(2) As far as proprietor of agriculture or forest land or a pond with fish husbandry or water fowls, or renter using these lots rightly, has to accept limitations due to legal provision he is entitled to financial compensations.

The financial compensation cannot be given at the same time to the owner and renter of the same lot. If the compensation is requested by both at the same time, the grant of financial compensation will go only to the holder.

The entitlement to financial compensations pertains to the proprietor of agriculture or forest land who uses these lots in an appropriate way, in the case that he suffers greatly as consequence of limitation following decision, binding standpoint or agreement published under this code.

(3) Financial compensations according to paragraph 2 are granted from the state budget by the respective nature conservation body pursuant to written request of the proprietor if it is title to financial compensations and its total height is documented and supported by documentation needed for appreciation of the title. The title to financial compensations is fading, as far as the claim wasn't delivered to the respective organ within three months following the end of the calendar year, where the detriment arises from. The „respective

organ “can be according to the local conditions: the administration of a national park, of a protected landscape region or the Ministry of Environment and / or its representatives in the counties.

Unfortunately the procedural regulations (joint responsibility of Ministry of Environment and Ministry of Agriculture) have not been prepared and adopted yet – but those concerned must (according the law) requested the financial contribution before the end of March 2005 if they want to receive compensation for 2004. Thus experiences with newly adopted laws confirm the statements from the last years: the newer law the worse one. And the average validity of current laws is approximately 7 years. In connection with forestry it is good to mention the Emperor’s Patent No. 250 of the Imperial Code, which has been (with some two basic amendments) valid in what was called Czechoslovakia, 108 years.

Expected development of forestry legislation

Firstly - there is a need to complete the restitution process in forestry. Return of forests to churches will mean that proper management practices will have to be carried out on about another 6 % of our forests. The church which is reported from the past as a very good forest manager could complete the spectrum of big, strong forest owners as it concerns about 170 000 ha of forest land. But no government since 1990 decided about this political issue – and it is probably not possible to expect it these days as well.

As mentioned already last year in Brasov there is an intention to amend the Forest Act – the Government also gives this task in its Decision referring the National Forest Programme. (January 2003). There has been held a seminar on forestry legislation in February 2004 where the Forestry Department introduced the basic ideas related to the forestry legislation improvement. The organizational changes done in the Ministry of Agriculture (including the abolition of “forestry branch” as a sector) only ten days later postponed the whole process and after the one year silence the new leadership of Forestry Department reported the new ideas only on March 22, 2005. It has been confirmed that Forestry Department prefers the preparation of new design of the Forest Act proposal rather than the 8th amendment of the current law.

Ongoing process and main problems

The Forestry Department requested all those involved to assist in the preparation of the Forest Act amendment in last July with the deadline of August 20, 2004. It has been expected that after the discussion the standard procedure will go through in 2005 in such way that the amendment of the Forest Act will be approved till the end of 2005. From the side of the state administration it was considered that the significant problems in the current Forest Act are as follows:

- The act is too complicated and in some parts it does not contain quite explicit provisions;
- It is possible to penalize only forest owners or entrepreneurs according this law – not other persons violating it.
- The part related to protection of forest land is not easily understandable.
- There are shortcomings in the part dealing with prohibited activities and also with forest management.

There are two governmental decisions dealing with this topic: i/ No. 53 on National Forest Programme (January 13, 2003), and ii/ No. 9 on Report on Results of the Supreme State Supervision in Forests (January 7, 2004). The Ministry of Agriculture and the Ministry of Environment are committed to prepare the amendment of the Forest Act before the end of 2005. Because of the consideration that 75 % (!) of the act is necessary to be improved, the Forestry Department proposed to prepare quite a new legislative design (intention) of the act instead of amending the valid act No. 289/1995 Coll. This decision is supported by the joint letter of “forestry public” (Czech Forestry Society, National Forestry Committee, Association of Municipal and Private Forest Owners and both forestry faculties) addressed to the minister of agriculture.

The preparation of a new act is probably better due to the fact that current act was adopted before the realization of the public administration reform and does not fit with many new laws that have been adopted in the meantime. There are a lot of new responsibilities of the counties (instead of the central bodies – ministries – as it was before) and the ongoing reform of public finances is a crucial issue, too. 5 working groups (together with 19 people from both ministries) have been created which have to cover the following items:

- Categorization of forests, forest management, forest protection, fellings, forest production record keeping;
- Protection of forest land (forest stands with its environment and land designated for the fulfilment of forest functions);
- Forest manager;
- Subsidies in forestry, offences and fines;
- Common usage of forests, licenses, supervision in forestry activities.

The forestry public hope is that the law will not be prepared like the 1st proposal of the Nature and Landscape Protection Act (only by ministerial officials and not accepted in the first round) and that there will be time and space for discussion on the Forest Act draft. But the deadline day of this paper was also mentioned as a date for the very first § version of the draft – and it does not work. There is a decision on the preparation of a new system of forest categorization (based on the study including the analysis of economical impact and possible compensations). The Ministry of Environment recommended completing some working groups with representatives of Municipal and Private Forest Owners Association; some people from the Forest Management Institute and from Forests of the Czech Republic, S. E. are supposed to participate as advisors.

Has the Czech Republic the strictest forest law in Europe?

Almost from the beginning of the 2nd millennium endeavour exists about delimitation of rules for man’s behaviour in the forest. Their publication was always guided by serious contention between the proprietor and the forest users. The famous example in our area: the code *Maiestas Carolina* did not succeed to be put into force nor did our most important emperor Charles IV in spite of having authority to its codification from the provincial assembly. Also “Emperor’s Laws on Forests for Bohemia and Moravia (1754), Silesia (1756)” had been re-edited several times, because the law had not been respected. Forest owners in Bohemia prove to defend duties to have the forest manager, according the Patent No. 250 (1852) for about 56 years. And finally the valid act was discussed at for about four years for the same reasons. The Constitution allows the limitation of proprietary laws only in the case of indispensable necessity. Forest management is limited mostly in the case of so-called public interest. However, this matter has two principle problems. Sometimes the public

interest can be called the interest nearly private or power. And the second problem is to find an answer to the question of the “must measurement” definition. Based on opinion inquiries it is surprising how different standpoints we meet, particularly in the case of professional forestry community opinions.

The former director general of state forests compared the limitations which are established by forest act in ten European, forestry advanced countries according to a uniform methodology and detailed analysis of forest laws. He wanted to find out whether our forest act is comparable with countries of the European Community and what position Czech forest owners will have comparing to their colleagues’ abroad. The analysis and evaluation of the forest acts was done for all countries adjacent to our country (Poland, Slovakia, Austria, Bavaria, Saxony and Federal Republic of Germany) which mostly have the same historical and cultural development of forests. Some countries with other historical experiences were added (Switzerland, Scandinavia). For purposes of his study it was stated that sound forest management is such management following principles that lead to implementation of all SFM indicators adopted by MCPFE. The assessment method was based on the following classification:

- The forest law does not deal with the given criterion at all.
- The law deals with the given criterion partly or marginally.
- The law deals with the given criterion optionally.
- The law considers the given criterion as a binding item.
- The law considers the given criterion as binding and in addition the criterion is quantified

Of course, it was found that the comparison of the European legal rules according to particular criteria produced a variety of different results. The most important criteria that could be identified were the following: legislative solving of non-productive functions, solving of state supervision on forests, and support of various types of ownership, protection of forestland. On the other hand the lowest weight surprisingly achieves: obligation of forest stands tending, preservation of forest stands biodiversity, and assignment of maximum felling volumes. On the whole one may say that in European forestry legislation attention paid mainly to non-wood-functions (NWF), to support of forest owners and indeed to protection of forestland. Further conditions can be determined by the state administration in emergency and urgent cases. The result of the comparative assessment was that the Czech Republic has the strictest law! All monitored criteria are stipulated by the Forest Act No. 289/1995 Coll. as binding, many of them are quantified, and all of them are related to the sanction possibility from the side of the state administration. Some criteria stipulated with utmost liabilities are in the laws of some other country only mentioned marginally or not at all.

In closing

There is a need to repeat that the solutions of many forest-related problems in the Czech Republic lie outside the forestry sector. Consequently there is the need to stress the cross-sectoral responsibility for our forests and forestry issues. We regard as crucial the necessity of participating in international processes dealing with forests and declare that our country is going to fulfil its commitments. However, such participation would have the desired effect only if there is a political will to solve related problems and respects all other related agreement. It means i. a. that convenient conditions need to be created for e. g.:

- overcoming of gaps in collaboration between and among those involved in forestry science, research and practice and improvement of communication at various political levels;
- overcoming the lack of general public involvement in forestry issues and efforts to increase awareness on forestry as such;
- improvement in overall education and public relations;
- institution building and capacity strengthening in spite of existing budget cuts;
- responsible and respectable behaviour of all stakeholders concerned

The National Forestry Programme which has been adopted seemed to be a good tool for solving important current tasks. But some foresters found that the NFP contradicts other governmental decision (No. 9 on Report on Results of the Supreme State Supervision in Forests).

References

Dvorak, P., ed. (2005): Proceedings of the national seminar “Forestry legislation”; Czech Forestry Society, Praha, 22 March 2004;

Oliva, J. (2004): Česká republika má nejprísnejší lesní právo v Evropě (Czech Republic has the strictest forest law in Europe); In.: Lesnická práce, 83, 10/2004

Proceedings of the national seminar “Forest legislation – history, present time and future”, Czech Forestry Society, Hradec Králové, 12 February 2004;

Schmithüsen, F., Trejbalova, K., Vancura, K., Eds. (2004): Legal aspects of European Forest Sustainable Development; Proceedings of the 5th Intl. Symposium, Zidlochovice, May 2003; ISBN 80-86461-39-4;

Vančura, K., Pesl, J., Eds. (2004): Proceedings of the national seminar “Forestry in the time of EU accession and international forestry activities”; Czech Forestry Society, Praha, 24 June 2004;

Vančura, K. (2004): Status of the Czech Forestry Legislation prior to the Accession of the Country to the EU

Some measures taken for the conservation of nature and their consequences for forest management in the Czech Republic

Jiří Staněk

The Czech Republic is an advanced Central European country which is a member of the European Union since 2004. The Czech Republic's entry into the European Union was preceded by many years of preparations of which the implementation of legal regulations was an important part. In some areas the legal regulations in the Czech Republic have been compatible with European Union law since long before 2004. This applies, for instance, to regulations regarding the conservation of nature and the environment. The modern general act for protection of the environment was accepted in 1992 (act no. 17/1992 Coll.). The conservation of nature and the environment act was accepted in the same year (act no. 114/1992 Coll.).

The conservation of nature and the environment act (further referred to as» “the act”) establishes the basic conditions for maintaining particularly protected species of plants and animals. The actual list of particularly protected plant and animal species is not determined by the act, but by regulations issued for implementation (decree of the Ministry for Environment no. 395/1992 Coll.). Depending on their abundance and to how endangered they are, the particularly protected plant and animal species are divided into three categories, these being:

- a) Critically endangered species,
- b) Significantly endangered species,
- c) Endangered species.

The levels of protection correspond to how endangered the species are and on the possibilities and conditions for making exceptions for intervention in the natural development of particularly protected animals.

The European beaver (*Castor fiber*), which had been nearly exterminated on the territory of the present day Czech Republic, has gradually started to return to the open countryside since the middle of the 1970s. This has occurred due to through targeted re-introductions, performed in suitable locations by nature conservationists, and also by the beaver penetrating along water courses from neighbouring countries, particularly along the River Dyje from Austria. Since the time the new nature conservation act was accepted in 1992 until now, the beaver has been classified in Europe among the critically endangered animal species. This classification has not corresponded to the actual occurrence and numbers of the European beaver population throughout Czech Republic territory for a long time.

The classification of the European beaver among the critically endangered animal species means that, according to the law, intervention in the natural development of the beaver population, catching them, keeping them in captivity and injuring or killing beavers is prohibited. Beavers are protected at all their stages of development the same as their natural habitats and their biotope. The European beaver is a very vital animal, which regularly breeds under good conditions. It is resistant to diseases and it has no natural predator in the Czech Republic that can reduce its numbers. At the present time the European beaver has spread over a third of the Czech Republic and the area it occurs in is quickly expanding thanks to its continuing protection. Some localities have become overpopulated by the European beaver,

which causes significant economic damage. One of these localities is the confluence of the Morava and Dyje rivers, where a very good quality state owned flood-plain forest is located on 10 thousand hectares. At the present time approximately 1200 beavers live on the territory of four forest administration authorities.

Overpopulation of the European beaver causes significant damage in the flood-plain forests, strewn with small watercourses and a dense network of canals. It has been established that it damages or fells practically all species, both hardwood and softwood (with the exception of the black walnut – *Juglans nigra*). The fact that the European beaver damages or destroys deciduous trees of all ages in this area, from undergrowth to old growth, is very significant from the viewpoint of forest management. This is because the excessive local beaver population has gradually spread to all the watercourses and canals and is destroying forest growth on their banks regardless of its age. Beavers destroy young forest growth over large areas up to a distance of 50 meters from the banks of the watercourse.

Game management is very advanced in the Czech Republic. According to the game management act (act no. 449/2001 Coll.) European beavers are game. However because at the same time beavers are protected according to the nature conservation regulations, it is not possible to hunt them. In 2001 an act regarding compensation of damages caused by selected particularly protected animals (act no. 115/2000 Coll.) was accepted. According to this act damages incurred to the health and lives of people, to field crops, forest growth, pets, fish and bees is paid by the state, if these damages are caused by:

- European beavers (*Castor fiber*),
- River otters (*Lutra lutra*),
- Common cormorants (*Phalacrocorax carbo*),
- Moose (*Alces alces*),
- Brown bears (*Ursus arctos*),
- Lynx (*Lynx lynx*),
- Wolves (*Canis lupus*).

Until 2003 the state compensated all damages caused by the European beaver in the flood-plain forests in Southern Moravia. However damages are still caused and continue to increase, while the state is running out of financial means for their compensation. Until last year nature conservationists refused to discuss the reduction of the European beaver population, pointing out that the state will compensate all damages caused by European beavers. However beavers cause continually greater damages, not only to forest management, but also increasingly to water management particularly on the river Dyje forming the state border between the Czech Republic and Austria along 25 kilometres of its length.

The damage and destruction of young forest growth is a very significant factor from the viewpoint of forest management. Not even compensation of damages, if paid by the state, can justify toleration of forest destruction by the overpopulation of a protected animal. Compensation of damages in these cases is a waste of public (state) financial means and the work of foresters, who must renew destroyed young forest growth in short intervals of several years. Reducing the European beaver's protection and its numbers is in the hands of the Ministry of the Environment. However this refuses to change the protection regime and if it does allow an exception in the reduction of European beaver numbers in some localities, then only by catching a certain number of animals and releasing them elsewhere. It is very difficult to catch beavers and their subsequent release in other localities only leads to further expansion of the area they inhabit.

Damage caused on forest and bank growth increases along with the expansion of European beavers throughout the Czech Republic. Damage caused to water works to the extent of endangering the functionality of these water works has already been recorded. In spite of this the environmental protection bodies refuse to change the European beaver protection regime, even though it has not been a critically or significantly endangered animal on the territory of the Czech Republic for a long time. It is possible to assume that the standpoint of the nature conservation state administration bodies will only change when the state will be unable to compensate the continually increasing damages. Only then will the current disproportion between forest protection and protection of a particularly protected animal, which is not an endangered species any more, be rectified.

For completeness I must state that similar examples respectively problems, as a consequence of an increase in the numbers of a protected animals, can be found in the fishery area in the Czech Republic where the common cormorant (*Phalacrocorax carbo*) causes continually increasing damages.

Forest Legislation in Relation with Biodiversity Conservation in Georgia

*Mariam Kimeridze and Maia Akhalkatsi**

Georgia covers an area of 69 494 km². It presents a great variety of widely contrasting landscapes due to geological, geo-morphological, hydrological, climate and soil conditions, frequently alternating and ranging from subtropical forests to desert-steppes from Black Sea to the east. The western region-Kolkhis has a subtropical climate, with a warm winter. In sharp contrast to this region is eastern and southern Georgia with a nearly continental climate. The vegetation in Kolkhis is represented by wetlands, forests and even dense subtropical forests. In the high mountains (western and eastern Georgia) tree line ecotone and alpine meadows, followed by the nival ecotone, are representative. Southern Georgia is covered by secondary mountain steppes occupying areas of primary forests growing the past where as arid and semi-arid vegetation is widely spread in the eastern Georgia typically including semi-deserts (with desert spots), steppes, vegetation of dry canyons, hemixerophilic scrublands, foothill deserts, and dry open woodlands (Sakhokia, 1960; Dolukhanov, 1966, 1989; Nakhutsrishvili, 1999).

Forests occupy 32-35% of the territory of Georgia (Khvachakidze, 2001). The riparian and marsh forests occur in all regions of Georgia. Mountain forests are represented by lower, middle and upper belts. Oak, beech (*Fagus orientalis*) and beech-chestnut forests grow in the lower and middle belts changing higher in the mountains into the Caucasian fir (*Abies nordmanniana*) and Oriental spruce (*Picea orientalis*) forests. *Pinus kochiana*, *Acer trautvetteri* or *Quercus macranthera* grow at tree line ecotone in different regions. There are also well-developed crooked-stem birch forests (*Betula litwinowii*) at the tree line, usually occupying the steepest northern slopes. Dry open woodlands-relict forests are to be found in semi-arid regions of the eastern Georgia and are composed by *Pistacia mutica*, *Juniperus spp.*, *Pyrus spp.*, etc.

Forested land in Georgia occupies 2.773.400 ha. About 2.2 million ha are classified as state forest under the responsibility of the Department of Forest Management (DFM), and the remaining consists of former "Kolkhoz lands" part of which are now in the process of being transferred to the DFM. Forests in Georgia are mostly heavily damaged due to over cutting, forest fires, tree disease etc. The degradation of qualitative consistence and productivity of the forest fund lead to reduction and sometimes even loss in the functionality of forests. As a result, avalanches and landslides are happening quite often in the mountainous regions. Virgin forests occupy about 500.000 - 600.000 ha (Ketskhoveli, 1959). They are mainly located on steep slopes of the Great and Minor Caucasus where access is restricted. The loss of diversity and changes in species composition in forests is mainly a result of anthropogenic influence.

The last few years were characterized by the activation of natural disaster processes in certain mountainous areas of the country (Adjara, Svaneti, Racha) which also affected the state of natural forests. Recent intensive deforestation activities were unprecedented in the history of

* Institutional affiliation and address: Georgian Society of Nature Explorers "Orchis", Tbilisi State University, Department of Ecology, Kojori road 1, 380007, Tbilisi, Georgia; E-mail: kimeridze@hotmail.com, orchisge@yahoo.com

the country. This is mainly due to the almost complete reduction of timber imports from Russia after declaration of independence. Besides, uncontrolled illegal forest cutting have been initiated. Especially vulnerable to cutting activities are former kolkhoz owned forests: their structure is destroyed, the modification of species is speeded up, erosion processes are accelerating, the forest forming plant species are substituted by satellite plant species and scrubs. Or even worse the soil on slopes is simply washed away. Therefore in many places oak groves are replaced by oriental hornbeam, hornbeam, or evergreen scrubs, shiblyak. Much of the State Forest also could not escape.

The natural forest provides goods and services such as food, fiber, clean air, recreation and wildlife. Sustaining these lands and their ecological functions for future generations requires in-depth knowledge of vegetation ecology and management systems; the effects of disturbances such as fire, invasive species, insects and diseases; processes and production systems; and how forests interact with global environmental changes and social systems. One of the main issues is forest genetic resources management. Steps to conserve genetic resources are research on an improved genetic base of native tree species (together with increased economic utilization of its wood), evaluation of the gene base relict and endangered species, development of improved silvicultural techniques, and revised costing standards for plantation establishment. Conservation and sustainable use of forest resources in Georgia needs development of the following priority objectives: implementation of the Forest Code; reform of silviculture and forest management systems, restoration of tree nurseries, establishment of seed banks, inventory and conservation of forest genetic resources, maintenance of forest health and vitality, involvement of the public in forest resources conservation and sustainable use, research activation in the fields of genetic diversity studies and tree breeding.

The Caucasus is characterized by high endemism and considered to be one of the 25 hot spots of biodiversity worldwide. The scientific, material and cultural value of biological diversity for present and future generations is an important reason for its conservation today. It is important to preserve natural diversity by way of conservation of native species in every country of the world. While conservation has made great strides in some areas, there are entire regions where still a lot of efforts should be undertaken for fostering the conservation of endangered species. Among these countries is Georgia as well. Endangered species are described as “plant and animal species that are in danger of extinction, the dying off of all individual species” (IUCN, 2001). One out of the eight of the worlds’ plant species is threatened by extinction. Scientists put more than 34 000 plant species, out of an estimated total of 270 000 species, at a risk.

Maintaining biodiversity is a fundamental environmental planning objective as the loss of species has an immediate impact in terms of depletion of non-renewable resources. It also affects the balance of ecosystems producing secondary impacts in terms of proliferation or reduction of linked species. Strategic criteria for maintaining biodiversity include: protection of key habitat areas and protection of ecological links that will allow species to migrate as conditions change. It should be mentioned, that the occurrence of endangered species in the protected territory alone fails to ensure the maintenance of their population stability without applying appropriate management systems. Much more difficult will be the protection of rare species located outside the protected territories. Concrete recommendations should be given to various official bodies and organizations responsible for nature conservation in Georgia to introduce managed regime at sites where the populations of threatened species occur. Especially urgent is the protection of known localities of species classified as Critically

Endangered and Endangered. Special attention should be paid to protect the typical habitats of endangered species.

The Georgian legislation regulating tending, protection and use of the Georgian Forest Funds is based on the Constitution of Georgia and on some laws addressing environmental issues ratified by the Georgian Parliament. The main document is the "Forest Code of Georgia". In accordance with the Constitution, Georgia assumed quite serious commitments in the field of environmental protection and started the development of new environmental legislation in order to comply with the constitution, international agreements, laws and regulations (*Figure 1*).

Table 1: Georgian laws related to the environment

Legal Acts	Year
Law on Protection of Plants from Harmful Organisms	12.10.1994
The Constitution of Georgia	24.08.1995
Law on Protected Areas System	07.01.1996
Law on Normative Acts	29.10.1996
Law on Environmental Protection	10.12.1996
Law on Animal Wildlife	26.12.1996
Law on State Ecological Expertise	01.01.1997
Law on Environmental Permit	01.01.1997
Law on Water Resources	16.01.1997
Law on Creation and Management of the Kolkheti Protected Areas	09.12.1998
Law on Changes and Amendments into the Law on Protection of Plants from Harmful Organisms	16.04.1999
Forest Code	22.06.1999
Law on Special Preservation of State Forest Fund and the Plantations within the Tbilisi City and Neighboring Territories	10.11.2000
Law on Changes and Amendments to the Forest Code	10.11.2000
National Environmental Action Plan of Georgia	19.06.2000

Preparation of the first National Environmental Action Plan (NEAP) commenced in 1996 and was completed in 2000. At present, NEAP has the authority of a regulation. As regards the forest sector, NEAP is rather general. It is more a description of the existing situation of the country's forests rather than a program of activities. NEAP calls for reforms with the following priority objectives: preservation of the diversity of the forest ecosystems; stable regeneration of forest resources; improvement of the relevant legal base; training of personnel in sustainable management; improvement of social and economic conditions of the staff; reform of the forestry system by making it independent from entrepreneurial activity; establishment of conditions which attract private investments in the forestry sector.

The main document is the Forest Code of Georgia dealing with the following issues: Management of the State forest fund; Forest protection; Forest use; Forest restoration and tending; State monitoring, supervision of forest protection and enforcement of the forest legislation; Settlement of disputes on tending, protection, restoration, afforestation and forest use and liability for infringement of the forest legislation.

According to this law, forest can be in ownership of the State, the Patriarchy of Georgia, and physical or legal entities. This article will come into force only after the enactment of the Law on Privatization of Forests owned by the State. Legal and physical persons using forests and

forest resources or engaged in forestry activities, as well as the Patriarchy of Georgia are deemed to be subjects of relationships along with the State. Forests are divided into the following categories according their institutional management: a) protected areas of State forests covering territories specified by the Law on the Protected Area System; b) State forestry (managed by the Department of Forest Management) which includes local forests. Protected areas of State Forests are regulated by the Department of Protected Areas, Nature reserves and Hunting Farms; the State forestry, except local forests, by the DFM, and the local forests by local authorities through the relevant services.

Main goals of the "Forest Code of Georgia" are: protecting human rights and law enforcement in the field of forest relations; conducting forest tending, protection and restoration with the purpose of conserving and improving climate-regulating, and recreational, and other useful natural and cultural environment and its specific components - flora and fauna, biodiversity, landscape, cultural and natural monuments located in forests, rare and endangered plant species; regulating of harmonized interrelations between these components; setting rights and obligations of forest users in the field of forest relations, meeting environmental, economic, social, and cultural needs of population through providing access to forest resources as compatible with scientifically defined allowable norms principles of sustainable forest management.

Georgia accepts some international agreements and treaties concerning environmental protection. Among them is the Declaration on Forest Principles of Sustainable Development adopted at the United Nations Environmental Summit in Rio de Janeiro, 1992, which is supported by the Georgian Law on Environmental Protection. Other International Agreements related to environment are indicated in *Table 2*.

As stated in "Harmonization of the National Program of Georgian Legislation with EU Legislation" the Georgian legislation in environmental protection needs harmonization with international conventions and agreements. Georgia is a member of four conventions concerning Biodiversity and is in preparation to join the "Convention on the conservation of European wildlife and natural habitats". To assure conformity of Georgian environmental legislation with EU legislation this convention will allow an integrated approach on the regional level for biodiversity conservation. The EU directives mentioned in "Harmonization of National Program of Georgian Legislation with EU Legislation" will help us to solve the following problems in particular: fulfillment of conservation of wildlife and natural (floral) habitats, improvement of forest protection and conservation quality, propagation and restoration of endangered species. However, generally speaking, the legislative base for forest management and protection, as well as for biodiversity conservation is not yet sufficient in Georgia and needs further improvement.

Table 2: International Agreements related to the Environment

International Agreements	Year
Convention on Wetlands of International Importance Especially as Waterfall Habitat (Ramsar Convention)	1971
Protocol and Amendment to the convention	1982
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	1973
Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention), (acceded but not yet ratified)	1979
Convention on Biodiversity	1992
United Nations Framework Convention on Climate change	1992
Convention on Combating Desertification	1994

References

- Akhalkatsi, M. 2002. Country report on national activities on gene conservation of Conifers Network. Conifers Network 3. EUFORGEN.
- Dolukhanov, A.G. 1966. Rastitelnost (Vegetation). In: Gerasimov, I.P. (Ed.) Kavkaz (Caucasus).-Nauka, Moskow.
- Dolukhanov, A.G. 1989. Rastitelnost Gruzii (Vegetation of Georgia).-Metsniereba, Tbilisi.
- Environmental Legislation of Georgia. 2000. Tbilisi, Georgia.
- IUCN (2001). 2001 Categories &Criteria (Version 3.1).-http://www.iucn.org/.
- Ketskhoveli, N. 1959. Sakartvelos mtsenareuli sapari (Vegetation of Georgia). Publ. Georg. Acad. Sci., Tbilisi, Georgia
- Kvachakidze, R. 2001. Sakartvelos tkeebi (Forests of Georgia).-Tbilisi.
- Nakhutsrishvili, G. 1999. The vegetation of Georgia (Caucasus).-Braun-Blanquetia 15:1-74.
- Sakhokia, M.F. 1960. Kratkij ocherk rastitelnosti i skhema geobotanicheskogo raionirovania Gruzinskoi SSR (Short survey and schema for determination of geobotanical regions in Georgian SSR.) In: Razmeshchenie selskokhoziajstvennogo proizvodstva (Lay out of Agricultural products), v. 1.-Tbilisi.

Legal framework of management in Greek forests

*Christos Goupos**

General Aspects

Forestry aims at the achievement of the pursued forestry and cultural goals for the benefit of forest owners, along with the national demands concerning the increase of forest production and benefits as well as a fair distribution of forest goods amongst the growers and the consumers. Regarding the forests or solitary trees that have been marked out for the embellishment or protection of religious, historic and cultural spaces, forest administration is acting without being pre-judicial to the purpose destined for. The practice of limited exploitation rights or third party use (resin collection, grazing, logging etc.) should not restrain management and wood harvesting and take care of the necessary measures for forest regeneration. All forest products that can be cut, collected or manufactured within a public or private forest, having been attained by right, rent or tax free, are subject to auditing and surveying. All timber except firewood is sealed. No auditing protocol is required for fuel intended for kilns, lime-kilns, potteries, threshing machines and factories, but permits are needed for collection and use. Forests can be classified as high-forests, coppice forests and coppice forest with standards. Logging that is meant to transform a high-forest into coppice or coppice with standard stands is not permitted.

According to the state forest policy surveillance on private forests control and supervision of private forests management cannot be expanded to matters of disposition of permanent products as not being related to the forest preservation. In public forests the administration attempts to apply high-forest management patterns to the extent of:

- At least 2/3 of each public forest
- At least 1/2 of municipal, communal, monastery areas
- At least 1/2 of the land belonging to village communities with forests belonging to part-owners having a percentage of 50% or above, living in the same village or with families exceeding half of the total number of the families living there
- At least 1/2 of forests belonging to public welfare individuals
- At least 1/4 of each private owner's forest and of each part-owner (private-public) if it is below half per cent.

Forest management is based on forest management plans and studies. These are approved, revised or altered by the Minister of Agriculture in conjunction with the technical forest council. They are only administrative executives and cannot include terms that aim at the modification of the forest land's form, i.e. to include arboriculture. All permanent management plans and studies are compiled for forests that have been marked out and measured, and they are valid for a 10 year period. They can be reviewed or altered only upon unpredictable factors such as rain caused disasters, fire, and part or total desiccation.

* Forester- Jurist, Assistant Professor, School of Forestry and Natural Environment, Aristotle University of Thessaloniki

Temporary management plans and studies valid for 5-10 years, are prepared for forests that have not been marked out for which, however, maps exist of sufficient accuracy on a scale of at least 1 / 20 000. Logging tables for forests are issued for one to nine years, when formed according to a forestry plan or study, otherwise for a year and have to be submitted the latest by the 15th of April of the previous year. When these logging tables are set for a period of more than one year, there can not be a withdrawal of an amount larger than the equivalent corresponding to that year.

Police provisions on forests are issued by the Chief Forester with the Prefect's approval and in accordance with the Regional Director for forestry, protective, tourist, aesthetic and overall common wealth, to regulate, restrict or even prohibit by space, time or way and by villages, towns and cities so that a) any logging, collection or construction of forest products without permit (in tax- free cases, permit free logging and local deficiencies), b) logging, pruning or extirpation of trees, shrubs, brushwood and greens that grow in agricultural or arboricultural areas, grasslands as well as partly woody areas and other forests, public or not or even trees and rows of trees, c) the prohibition of resin-tapping for a definite or indefinite time in protective forests, parks, forests around historic or national spaces, health resorts, roadside forests up to 50 meters from the road especially the tourist ones, or in forests that have been intensely resin-tapped or for other forestry or administrative reasons.

Decrees set the police provisions in demand for the regulation of logging, collection or manufacturing of forest products and forest exploitation, for the deadlines and other details mentioned on the logging boards, the loggers' installation protocols, the terms of the logging contractor's obligations within the public forests, auditing protocols on forest products and every other detail. Police provisions on forests are valid only after they have been issued and announced in the municipal communal office on behalf of the Chief Forester. If there is an approved management plan or study or logging board or a forest plan on torrent regulation, or a pasture management and improvement plan defining grazing limitations or restrictions, the relative police provisions are issued instantly after the beginning of works. Moreover, the Chief Forester may issue relative police provisions compiled in case of a fire.

Property divisions on forests and forest lands

Regarding ownership, forests and forest lands are separated in public and private entities. The 1975 Constitution, article 117, section 4, follows the division of article 2 of the forest code on public and private property (Decision of the State Council. 3754/1981, Decision of the State Council. 4884/1987). Thus, all forests and forest lands belonging to the state are denoted public. Private are the forests and forest lands belonging to individual owners or legal entities of public or private law (Presidential Decree. 126/1986) with provisions on "the assignment of exploitation, conservation and improvement of a forest belonging to the state and the legal entities of the public sector on forest cooperatives" (Journal of the government No 44/17-4-1986, volume, A) dealing with the assignment of exploitation or conservation work and improvement of public forests belonging to legal entities of the public sector.

Following Law 248/1976, only such areas belonging to the state or legal entities under public law are named public forest lands (forest lands are the lands according to article 3 §§ 1, 2,3,4,5 and 6 of the Law 998/1979). Private lands are those belonging to individual owners. In Greece there are also forests in possession (Papastavrou and Makris, 1986). The term "possession" refers to a law in 1836, in which article 3 specifies that after the judicial reference of applications and until a final court decision, the claimant keeps the forest in his/her possession. "Possession" is different from "ownership" and it is not protected by the

Constitution (Opinion of the Legal Council of the State 542/1977). The charge of possessed and claimed forests was created temporarily with “provision 7” of N.699/28-2-1915 “on organizing of the forest authority”, (Journal of the government No 404/28-2-1915, volume A) and repeated by article 6§3 of the Law 2036/1920 “on the authentication and correction of the legislative provision from 28th September 1919” (Journal of the government No 48/27-2-1920, volume A’) specifying that until there is a final property settlement in new countries the claimant or possessor can practice logging on the undecided forest with a tax payment as in private forests. In recent days, a “possessed forest” is known as a forest that is possessed by an individual claiming its ownership or any other title. The state has the full ownership of that forest and the possessor has only limited profit rights that can be used for forest exploitation purposes and not for land reclamation, partition etc. (Giannakouros, 1970. 1982, 1988 and Papastavrou and Makris, 1986).

Possessed forests and forest lands are temporarily measured in relation to public ones, without affecting public rights. Possession rights on public forests and forest lands that have been appointed to third parties after irreversible judicial decisions or official administrative acts, and all forests that have been managed as possessed in the past on behalf of the claimant, according to an administrative report or logging board that has been approved by the qualified forest authority, are regarded as singular actual references, they can be abolished on behalf of the state for forest policy reasons or protection of archaeological spaces and monuments against compensation. Compensation is set to ½ of the forest land’s value. On calculating the value, any housing or other use not related to the natural purpose of the forest land is not taken into account. After the possessors have applied the State may compensate the existent possession. The possessors can apply to the state for forest’s or forest land’s transfers to them at a price set at ½ of the possessed forest’s value. Following the same procedure, possessed forests that have been legally partitioned with permission of the Minister of Agriculture, and devolved to possession for legal reasons, can be transferred to the applicants and their general or particular successors. Forest lands that have been transferred this way are considered independent. Logging and exploitation of forest land of debatable ownership is acted by the possessor. The loggers’ appointment is set by the Forest Authority with the possessor’s written permission.

There are also co-owned forests. These are forests the ownership of which belongs to two or more physical or legal entities jointly. Civil provisions on co-ownership of Law 86/1969 predominate over the Civil Code on Society, as specific ones and according to article 56 of the introductory law of Civil Code (Supreme Court 323/1960). Society exists on meaning parts when more than one individual share the same right according to the law. In any case of doubt the parts are considered as equal. Every participant has:

- A share of the profit of the article and no reduction can occur without his consent
- The right to use the common article as long as it does not obstruct the other participants’ use
- The right to leave his share
- Involvement with the other participants according to his share for the settlement of expenses on the conservation and management of public use
- The right to demand the society’s annulment as long as this right is not barred by a legal act or by a long term purpose of the common article. A legal act can bar the annulment of the society for up to ten years. If there is an important reason, an

annulment can be asked before the end of this period. The restrictive agreement on this right is not valid.

- The right to require a judicial distribution according to civil law procedure.

All participants have equal rights on management of joint ownership. In case of danger, each of the participants has the right, even without the others' consent, to take the necessary measures for the article's conservation. On agreement of the majority of participants, a way of regular management and exploitation can be set according to the common object (article). Calculation of the majority is based upon the amount of shares. If management and exploitation has not been set by common agreement or majority, each of the participants has the right to ask the court to settle the issue at the most profitable manner and in the best interest of the participants. If necessary, the court can appoint an administrator. At termination of society there is a distribution which leaves the article identical if it can be distributed in equal parts according to the participants' shares without reducing its value. If the court orders an auction, the participants share the auction proceeds. In case that the article's sale is prohibited, an auction takes place among the participants. Third party titles on the common article are not prejudiced from this distribution, whether it was shared unaltered, voluntarily or sold by auction.

Co-owned management between the State and individual owners

The differences that arise from the co-owned management between individual owners and the state are brought under the civil court's responsibility (Decision of the State Council 2144/1960, Decision of the State Council 1140/1966). The legislator aimed to clear the forest situation where the State is a co-owner, making it easier for the State to give away or separate its meaning share. Forests where the state is a co-owner are divided in two categories, whether the co-ownership percentage is less or more than 50%. Therefore different provisions exist on the management, dissociation etc.

If the State owns less than 50%: In this case, according to article 3 of the Law 998/1979 and to Presidential Decree 467/1981 "on the assignment of the state's meaning share of forests and forest lands and their voluntary distribution by the state" (Journal of the government No 130/15-5-1981, volume .A'), the state can give out this share to the co-owners, preferring forest co-operatives or local authority organizations. The giving out procedure is as follows. The co-owners, excluding possessors, send an application to the qualified forest inspection or to the forest administration which should include certain elements mentioned in article 1§2 of the Presidential Decree 467/1981. So the Chief Forester or the qualified forester after checking the supporting documents and titles, outlines a review and gives an expert opinion on whether the application is valid or not. The value of the area is calculated according to article 6 of Law 998/1979. If the application is not successful the Prefect is bound to issue a rejection decision and to notify the applicants. If the application is successful it is submitted to the Committees of Resolution of Forest Contestations to set the agreed value. The Committee of Resolution of Forest Contestations is formed at the headquarters of each prefecture, upon the region's Secretary General's decision, and consists of:

- the Head of the Court of the first instance
- an administration forester, and in lack of one, a forester from the forest inspection at the forest administration headquarters
- an agriculturalist

- a representative of the prefecture's Forest Co-operative
- a representative of the Agricultural Association
- a representative of the National Union of Forest Civil Servants.

The committee, after studying the file and carrying out an inspection of the area, gives an expert opinion on its value and sends the file and its consultative response to the forest administration which along with its own positive suggestion sends them to the Prefect. The Prefect values the file evidence and if positive on the concession notifies the applicants to produce a receipt of paying the full amount or the first installment and a signed consent for the remaining installments within 30 days. The state registers a precept for the owed installments on the private individual's expenses. If the last installment is not paid on time, there is a retraction of the concession. The forest authority and the applicant are notified about the concession and if positive the arrangement becomes effective.

Two categories are distinguished i.e. a) the individual co-owners are up to three or b) the individual co-owners are more than three. In the case where there are up to three individual co-owners, the State and the individuals manage separately. The State can assign the management of its share to any of the individual co-owners, especially to the one owning the biggest share and preferably to the one managing it independently. If the individual co-owners are more than three, the State manages its share, and the co-owners' share is managed by a committee or by a proxy elected by the co-owners. The committee consists of three members chosen by absolute or relative majority of the co-owners' percentages. In case that the co-owners exploit their shares with tenants (tenants are elected unanimously or by full majority of percentages) the management of the State's share can be assigned to these tenants. Nevertheless, after the co-owners' or the committee's application, the State can undertake management of their shares and attribute yearly or half-yearly the corresponding revenue. When the State undertakes management, the rent cannot be smaller than the fixed on assessed yield according to the relevant table for forest products.

If the state owns 50% or more: In this case the State manages the forest according to the provisions on management of public forests. Upon action of the Minister of Agriculture the co-owners are given yearly or half-yearly the income that corresponds to their parts. When there are no prerequisites for obligatory expropriation of the individual's share, the distribution is on similar shares, voluntarily or by judicial action, and the State's share is separated. The notary act and any report of judicial distribution are registered. The individuals' co-ownership remains and their relation is set by the provisions of Civil Code "on society". A distribution of equal parts takes place in cases where: 1) the State's percentage is more than 50%, 2) the State's share assignment has not been achieved and 3) even if the State's share is less than 50% but it is of a forest or forest land next to another forest or forest land to which the State's share can be added. In this third case, if the addition of the separated part cannot be achieved, and the part or the adjoining parts do not exceed 100×1000m², then the share can be assigned and the State has to legally pursue an auction of the co-owner's share and distribute the auction proceeds.

Management of private forests

The exploitation of forests belonging by ownership, possession or limited rights to forest owners' co-operatives (owners, possessors or limited rights individuals) is acted upon a forestry plan or study or logging table and the products can be sold with or without auctioning. The workers are chosen mainly from the members of the forest owners' co-

operative. There can be exploitation without an auction, when this is by a group of forest owners working there or by the workers co-operative of forest owners. The price of cast, configuration and shifting of the forest production is set by a committee (constituted by the Chief Forester or his representative, the Chairman of the local co-operative and the qualified supervisor of co-operative) or by the Pan-Hellenic Confederation of Union of Agricultural Cooperatives in case of disagreement.

In the case of a multi-storey forests of coastal pine-trees, that are under joint ownership, possession or limited rights, of more than 7 individuals and with an extension of at least 100 hectares, and following a decision by the cooperative's general meeting, the exploitation of the joint forest to be undertaken separately by each partner for the forest part where there is resin culture. Logging is undertaken by the co-operative's Administrative Council, if the co-owners refrain from paying their annual contribution or do not proceed with the logging operation. Joint owners, possessors and limited rights exploiters of forests extending to more than 100 hectares, if more than 7, must upon the local Chief Forester's opinion establish an ownership co-operative (full ownership or possession or limited rights exploitation of a forest according to the provisions of the Obligatory Law 1627/1939). If the co-owners or possessors are less than 7 and do not agree on a joint exploitation, the qualified state authority issues a logging permit to each of them which is valid as long as logging does not damage the forest.

Exploitation and management of forests within communal areas that have been definitely attributed belongs to the local cooperative. When these are assigned to a local society, exploitation and management of these areas can only be practiced by this society. Exploitation and management of forest lands within individual holdings belong to the individual entitled to these holdings.

Forests in a joint undertaking or co-ownership in which the State is one of the co-owners, the management and exploitation of which have ceased for more than 20 years and which are now abandoned, are managed by the forest authority in order to protect the environment and promote the national heritage according to the operative provisions on management and exploitation of public forests. A precondition of the forest authority on the above is that it should be confirmed that the co-owners appear to be unable to manage or exploit their forests, or because the expected ownership co-operative has not been formed by Obligatory Law 1627/1939, or the co-operative members due to lack of interest have flagged or ceased to operate. The exploitation income of the above forest, after deducting the expenses and rights of the state, are given by the State to those entitled to receive it.

Extension of time of operating in public forests can be granted by the qualified authority, after the forest owner's application, provided that work has not yet begun. If work has begun, an extension of time beyond the first year can be granted following and appropriate application. In the case of unexpected incidents such as fires, windstorms, snowstorms, desiccations and similar disasters or illegal logging, changing the forest's constitution, no extension is granted until the permanent management plan has been reviewed or changed. For forests belonging to municipalities or communities and to co-operatives (ownership co-operative) a time extension of more than one year is granted, after the qualified municipal community council's proposal, approved from the Prefect or after application of the administrative council of co-operatives. For profit realized in one administrative year, the extension of time cannot be more a year. For work realized in more than one year, this can be extended for up to two years. The extension is granted according to the prevailing legal requirements.

Instead of a conclusion

Forest utilization is based on forest management plans and studies. These are approved, revised or altered by the Minister of Agriculture in conjunction with the technical forest council. Regarding ownership, forests and forest lands are classified in public, private and co-owned. In Greece there are also forests in possession. Nowadays, such a forest is known as an area that is possessed by an individual owner claiming its ownership or any other title. Co-owned forests are forests which belong to two or more physical or legal entities jointly. Civil provisions on co-ownership established by Law 86/1969 predominate over the Civil Code on society. Forests where the state is a co-owner are divided in two categories depending on the co-ownership percentage of less or more than 50%. Different provisions exist on the management, dissociation etc. These forests are managed by a committee or by the forest service and logging is undertaken by the co-operative's Administrative Council.

Bibliography

- Giannakouros, P. E. (1970). Forest Legislation. Publications "Afoi Sakkoula".Athens.
- Giannakouros, P. E. (1982). Forest Legislation. Publications "Afoi Sakkoula".Athens.
- Giannakouros, P. E. (1988). Forest Legislation. Publications "Afoi Sakkoula".Athens.
- Giannakouros, P. E. (2005). Forest Legislation. Publications "Afoi Sakkoula".Athens.
- Goupos Ch. and A. Papastvrou (2 000). Allowable Interventions in Forests and Forest lands in Greece. IUFRO World Series Volume 10, IUFRO Secretariat, Vienna.
- Goupos Ch. and A. Papastvrou (2 000). Legal Restrictions on Forest Ownership in Greece. IUFRO World Series Volume 10, IUFRO Secretariat, Vienna.
- Papastavrou , A.K and K.I. Makris (1985). Forest Policy.Vol. A'. Thessaloniki.
- Papastavrou , A.K and K.I. Makris (1986). Forest Policy.Vol. B'. Thessaloniki.

The meaning of areas regulated by Greek forest legislation

*Christos Goupos**

Meaning of the forest and of the forest land

In Greece the importance of the forest's social function is on one hand enhanced due to a decrease of forest areas, and on the other hand due to such factors as increase of population, extends of industrial growth and raising living standards (Papastavrou and Makris, 1985, 1986). The forest, as a wealth-producing source of profound social importance, is subject to numerous provisions which in relation to general legislative provisions constitute an exceptional and obligatory right (Papastavrou, 1987). The meaning of the forest was expressed legally for the first time by the Law XN/1888 "on distinction and demarcation of forests" (Journal of the government No 20/21-1-1888 Volume A). It states that a "forest is any ground area, fully or partly covered with wild wooded plants of any size and age, intended for the production of timber or other products". Later on, the law 4173/1929 "on forest code" (Journal of the government No 205/19-6-1929, Volume A') as amended by the obligatory law of 3/6/1935 "on modifications of the forest laws" (Journal of the government No 278/22-6-1935, Volume A') and by the obligatory law 857/1937 "on allotment of public and communal forest lands for agriculture and arboriculture exploitation purposes" (Journal of the government No 367/21-9-1937, Volume A') it was determined as forest "any area fully or partly covered with wild wooded plants of any size or age and if exploited able to produce forest products listed in the assessment table for forest products". This definition was included in the legislative decree 86/1969 "on forest code" (Journal of the government No 7/18-1-1969, Volume A') and was valid until 1979, when the law 998/1979 was voted with the Constitution's injunction "article 24 section 1". The terms used until 1979 considered the forest as a wealth producing resource emphasizing on plant coverage

The law 998/1979 describes forests and forest lands as a national asset and social wealth and it limits the practice of private rights at the individuals' in favour of forests' and forest lands' protection. The forest is a precious good of inestimable value to our lives (Parliamentary proceedings, 1979). As forest was determined "any area of the ground surface covered fully or partly with wild wooded plants of any size and age, which constitute an organic whole due to the distance and interaction between them which is able to offer products coming from the plants mentioned above, or contribute to the conservation of the biological balance, or help the living conditions in the natural environment". Under the term forests and forest lands are included: a) any uncovered areas within forests and forest lands, b) the uncovered mountain peaks or alpine mountain areas and their inaccessible slopes if they are located above forests or forest lands. So the entity of the forest space has been established. The meaning of unified forest property cannot be discredited by the existence of technical works interrupting it (Decision of the State Council 1877/1985).

Today the meaning of forest and forest land is determined by an additional explanatory statement in article 24 of the 1975 Constitution, as revised in 1986 and 2001. The explanatory statement determines: "a forest or forest ecosystem is the organic whole of wild plants with

* Forester- Jurist. Assistant Professor, School of Forestry and Natural Environment, Aristotle University of Thessaloniki

wood trunks on the necessary ground surface which, with the existent flora and fauna, constitute through their interdependence and interaction a special bio-community (forest bio-community) and a special natural environment (forest generated). A forest land exists when in the whole above, the wild wooded vegetation, high or frutescent, is rare”.

Resulting from the term above, the determinative elements of the meaning of forest and forest land are:

- the necessary area
- the organic whole of wild wooded plants with wood trunks
- flora and fauna
- system's dynamics i.e. the continuous interaction and interdependence, and the formation of a special natural environment (forest generated environment).

For the definition of the forest land as opposed to the forest definition, the term “the wild wooded vegetation, high or frutescent, is still rare” is significant. All other terms set by law in defining the meaning of forest land are not in accordance with the Constitution. Recently at several occasions, provisions that restrict the meaning of the forest in various ways were considered unconstitutional.

The law 3208/2003 for the “protection of forest ecosystems, formation of a forest registry, regulation of real rights for forests and forest lands and other provisions” (Journal of the government No 303/2003, Volume .A) follows the definition of forest and forest land mentioned in the explanatory statement, article 24 of the Constitution, and clarifies the decisive elements of the required characteristics of surface and harvesting of existing forest bio-community and a forest generated environment. In the law mentioned before, it is determined that the required surface has to be bigger or equal to 3 000 m² either in a rounded off geometrical form or in lane not smaller than 30 meters in width. Such an area is described as a forest ecosystem if it close to other neighbouring forests with interdependence and interaction between them. Harvesting of at least 20% is required for an area so that it can be considered as forest ecosystem and it also should meet all other requirements. When the wooded vegetation consists of forestry forms of evergreen or deciduous broad-leaved trees which appear to have a frutescent form, the area is considered to be forest. If there is a lack of lower level, the harvesting of the upper level can be equal or more than 25%. If there is a lower level then the harvesting of the upper level can be equal or more than 15% and the lower level should be equal or more than 15% i.e. the total harvesting of 30% is to be considered as characteristic for a forest. In my opinion, these provisions are of debatable constitutional legality and should be disputed at justice court. Forests and forest lands located in declared archaeological spaces enacted protected areas, other archaeological spaces, monuments and historic spaces are conditioned by archaeological legislation.

As forests and forest lands are considered the public settling areas, which in 26-10-1987 were covered exclusively by forestry kinds of trees such as fir, beech, pine and oak (except holm-oak), plane-tree and chestnut tree. Moreover, forests and forest lands are the areas which have been described by the Expropriation Committees as forests and forest lands or fallow meadows, but they should meet the requirements mentioned above on coverage with the specified forest kinds. The areas which appear in the aerial photographs taken in 1945 and 1960 in an agricultural aspect and which later took a forest aspect are managed as forest lands. Forests or forest lands are the parks or groves within inhabited areas. According to the law, as parks or groves are considered with the relative species designated as communal by the town plan for building blocks. Therefore they are not included in building plots apart from the expected ones where there is forest vegetation (Decision of the State Council 281/90).

Groves, gardens, parks and tree ranks managed by the Ministry of Agriculture or by the local District, and are located or set in approved town plans and within the limits of built-up areas existing since before 1923, can be allotted for use to local government organisations or to entities of the public law or other carriers of the Public Sector following their application. The granting is to be taken by decision of the Secretary General of the local district, which is issued after having heard the opinion of the General management of Forests and Natural Environment of Ministry of Agriculture. Those accepting the allotment have the responsibility and, at their own expenses, shall preserve and improve the vegetation, and manage, exploit guard and protect the allotted areas. These areas keep fully and forever their forest identity, and keep on being conditioned by the forest legislation. The building of any installation in the allotted area is prohibited, except for those for which the General management of Forests and Natural Environment of Ministry of Agriculture decides that they are essential for public health or public service.

Forest plantations created in agricultural areas are not regarded as forests. According to the forest legislation a tax free permit is issued for logging these plantations and for distribution and trading of the products. Poplar-tree cultivation is not considered to be a forest or forest plantation.

Other areas regarded as forests or forest lands

The meaning of forest lands includes any kind of uncovered areas (woody bush or grasslands, rock elevations and any uncovered spaces surrounded by forests or forest lands). Additionally, forest lands are denoted as uncovered declivable or alpine mountain areas which are located above forests or forest lands. Areas proclaimed to be forested or reforested constitute forest lands. They can be proclaimed to be reforested if this is imposed: a) for sanitary reasons or landscape embellishment, b) for completion and integration of forests and forest lands, and c) to create forest plantations. Public, municipal or communal forest lands (non protective and not described as national parks, aesthetic forests, water biotopes, preserved natural monuments) can be proclaimed to be reforested and may be given or leased to individuals to create forest plantations for exclusive forestry exploitation. Reforestation is at the individual's responsibility and expenses. Lease cannot exceed the period of 50 years and is attributed by auction. After the end or early release of the agreement, the forest plantations pass to the State and are managed as public forests.

Areas in which forest plantations have been destroyed for any reason, but have not been allotted for other use, are declared to have an obligatory reforestation status. The 1975 Constitution, as modified, described the natural and cultural environment as a matter of great interest and special regulation. Articles 24 § 1 and 117 §§ 3, 4" read as follows: "The modification of the purpose of forests and forest lands is prohibited, except for agricultural exploitation or any other use imposed by public interest and national economy". () "Public or private forests or forest lands which have been destroyed or deforested never lose their status and are instantly proclaimed to be deforested and cannot be used for any other purpose". Forest lands that have been destroyed or deforested before 1975 are under the above provisions, if they haven't been used in any other way i.e. for bread-winning, agricultural or arboriculture cultivation, or for expensive installations especially building constructions, so as to appear inclement, unprofitable or opposed to the sense of justice ((Opinion of Plenary of the Legal Council of the State 589/1979) until that date.

Modification for other use of forests and forest lands is allowed if the public interest is satisfied and if it cannot be attained otherwise, or in case that agricultural exploitation comes

first for reasons of the national economy. Section 3 of article 117 of the 1975 Constitution, is a complete provision and doesn't allow the common legislator to set time or other restrictions or exemptions to compulsory reforestation. Areas proclaimed to be reforested are considered according to 117 § 3 (legal fiction) to maintain the character they had before the fire or deforestation and are to be protected in the same way as before and with the additional term not to prejudice the area's reforestation by use (Ανδρουτσόπουλος, 1981). The use of reforested areas for other purposes is possible if the reforestation status is previously lifted (Supreme Court 490/1989).

Constitutional protection doesn't extend to areas not covered with forest plantations, but described in the town plans as vegetation or communal spaces (Decision of the State Council 89/1981). Proclaiming an area to be reforested does not let upon the discrete power of management, but is compulsory regardless of the owners' responsibility, and concerns forests as well as: a) partly covered or bare areas if their form is a result of excess grazing, illegal logging, fire in the past etc.(Decision of the State Council 1621/1927), b) settling areas and any areas allotted by the stock-raising code and only if before the fire they had the form of a forest or forest land (Opinion of the Legal Council of the State 990, 991/1978) and c) areas allotted as agricultural shares if they were forests or forest lands during the allotment or took that form later on (Decision of the State Council 2848/1979). Furthermore, areas proclaimed to be obligatorily reforested are those areas that lack forest vegetation or where the forest vegetation has been destroyed or thinned out or downgraded. Included are areas:

- located in the drainage basins of torrents and in which the existence of forest vegetation is essential for protective or financial reasons,
- having a protective character for cities, villages, settlements, archaeological spaces, natural or cultural monuments or important technical works,
- having an inclination of more than 30% and being in danger of being rinsed out,
- lacking or with a decreasing forest vegetation creating the danger of soil erosion and of an imbalance of the natural environment.

Reforestation is the creation of vegetation that has been destroyed, thinned out or downgraded in any way. It can be done by planting, sowing or accommodating natural regeneration. Forestation is a term included in the meaning of reforestation i.e. sowing and planting of forest plants in uncovered areas which did not have a forest character in the past. Reforestation by sowing or planting of the destroyed forests or forest lands, if no natural regeneration is expected to be executed within 3 months from when the area was proclaimed to be reforested. The reforestation plan is organized every 5 years by the Forest Authority and is being approved by the Prefect, according to the various regulations of the forest legislation. Reforestation of public areas is done, based on the study organized by the forest authority and which sets: a) the kind of forest vegetation, b) the planting works, c) the action for accommodating regeneration and d) the necessary protection measures (fencing, restrictions etc.). Reforestation of private or possessed forest areas is done according to the study approved by the forest authority and under its supervision at the owners or possessor care and expense.

Public grasslands areas once proclaimed to be reforested can be allotted for possession to municipalities or communes for the development of parks, groves and recreation forests or protective forests. Municipalities, communes or other legal entities of the public law can allot to the State as areas for reforestation and forest exploitation. The possession right remains with the legal entities. Cancellation of reforestation is performed: a) compulsory expropriation of a private area that has been proclaimed to be reforested and which constituted a forest or forest land before a decision was taken, b) after the expiration of 5 years since the public area

was proclaimed to be reforested, c) in every case, cancellation of the reforestation is performed according to the procedure, and the prerequisite that the modification of the forest's purpose can be altered.

Other non forest areas regulated by the forest legislation

Public non settling areas i.e. a) grasslands located in a plain or uneven land or hill, as long as they do not constitute forest lands or in spite of their protective nature have not been proclaimed to be reforested, b) the rocky or stony areas which are located on the above plain or uneven or inclined lands and c) public areas which do not constitute forests or forest lands but are located on mountain slopes. Such areas, since they are not managed by the agricultural authorities continue to be directed and managed by the Forest Authority after mapping and land registry and are used for various purposes according to the legislation in effect. Additionally, they may be used as pastures and for creation of new forests. In these areas, the administrative acknowledgement of possession or other real rights are decided by the Council of ownership of forest and the Revising Council of ownership of forest. These areas do not come under the temporary procedure of characterization, according to article 14 of the law 998, but the forest mapping procedure is applicable.

3. Conclusion

The Constitution protects forests to a large extend and allows the modification of their purpose under certain prerequisites. Protection extends to other areas too, such as parks etc. All legislative provisions must be adopted according to the Constitution. Areas regulated by the legislation are the forests and forest lands, as well as areas considered by the law (legal fiction) as forests or forest lands without having a forest form. Also various other categories, for a transitional period, that do not have a forest form and not considered by law (legal fiction) are regulated similarly to forests or forest lands. In my opinion, the provisions of law 3208/2003 are debatable with regard to their constitutional legitimacy; one may expect that they will be appealed against in court of justice. In case that the provisions are considered as unconstitutional the reversal of a formatted situation will be difficult and painful. For this reason the enforcement of these provisions should be suspended until that they been subject to appeal in court.

Bibliography

- Apatsidis, L.D. (1983). Interpretation of the Definition of Forest Forest Land of The Law N. 993/1973 and Implementation. Institute of Forest Reserch. Vol. IV. Athens.
- Goupos, Ch. and A. Papastvrou (2000). Allowable Interventions in Forests and on Forest Lands in Greece. IUFRO World Series. Vol. 10. Vienna.
- Goupos, Ch. and A. Papastvrou (2000). Legal Restrictions on Forest Ownership in Greece. IUFRO World Series. Vol. 10. Vienna.
- Ntafis, S.A. (1986). Forest Ecology. Thessaloniki.
- Papastavrou , A.K and K.I. Makris (1985). Forest Policy.Vol. A'. Thessaloniki.
- Papastavrou , A.K and K.I. Makris (1986). Forest Policy.Vol. B'. Thessaloniki.
- Papastavrou , A.K (1987). Legal Frameworks of Forestry in Greece. Thessaloniki.

Making a balance between European and Iranian forest legislation despite of differences

Mohammad M. Ghelichkhani and Afshin Ahmadipour***

Introduction

Iran adopted a comprehensive forest law in 1962 to the preparation of which several forest scientist and stakeholders familiar with forest law aspects in Europe had contributed. Although the forest legislation emerged somehow from European forest experiences it was revised and adapted to some extent in accordance with the socio-economic situation of forests in Iran. In fact, such adoption process was the starting point for the differences that emerged between Iranian and European forest and environmental legislation. In the course of time the differences have become more and more developed with regard to their socio-economic character as the two regions have been continuing their own development path. Differences exist, for instance, with regard to forest ownership, wood industry, financial instruments, and management and utilization conditions. In this ground, as an example, from the political, social and economical point of view even it is important to note that the Iran constitution over property ownership rights (art.47) rejects privatization of forest and forest land.

From that time until now, some serious problems accrued to forest management and environment protection. Authorities and the administration have become interested to take advantages from international especially from European forest law advancements. To reach this target one has to acknowledge three categories namely: 1- Iranian forest law from its start until now, 2- today's forest situation in Iran as a result of acting under the forest law 3- and the last to be familiar with European legislation and its programs as a base of enterprise. This approach allows to make a comparison of deficits, differences and similarities, and to identify issues to be amended, removed, reduced or strengthened in order to bring the two legislations closer together.

General aspects of forest matters in Iran

1. Iran in general is a dry country with low forest cover.
2. Iran is a developing country with economy in transition.
3. Industrial forest restricted just in a limited area of the country.
4. Deep differences between the urban and the rural population from a cultural and socio-economic point of view.
5. Traditional earn leaving amongst woodsmen.
6. Iranian forests are mostly with old, non-even aged and various species (more than 90species)
7. No long experience with forest management (just about 40 years).

* Ministry of Environment Dept. of Forestry

** Tarbiat Modarres University, Natural Resources Faculty

8. Governmental supervision on forest matters exclusively like most of affairs in country economy.
9. There is no private ownership over forest and forestland in Iran.
10. Compensation system is so insufficient.

During the last three decades more than 22% (590.000 ha) of the Caspian forest was reduced. Between 1974 and 1975 nearly 2.640.000ha forest existed in the Caspian Region. After that, until 1989 the area was reduced to 2.480.000 ha and by 2002 the area was 2.050.000 ha. Accordingly during the recent 3 decades 22% of the reduction happened and in the same way 17% of the forest cover decreased during the last 20 years (Ghanbari, 2005). Forest scientists say that three main reasons can be mentioned to explain this tragedy: 1) wood smuggling, 2) animal husbandry in the forest, and 3) bad forest management.

The shortage of forest material besides high demand due to a low ratio of forest cover in relation to population causes high price for wood, so wood smuggling is a very profitable deal. On the other hand, traditional earnings for living in forests are still a main basis for woodsmen career. Moreover; there is no private sector to manage and supervise forest matters mainly due to the lack of private ownership over forests and forestland. Iran has made government as an exclusive supervisor and non-competitive manager (article.2 of Iranian forest Act). Hence people around and in forests know government against their benefit especially when utilization and protection affairs. Whenever government decides to protect some forest in danger woodsmen misunderstand that this as a new step opposite of their life. So there is least cooperation between the two sides. Evidently, governmental supervision because of salary system that is stable in any kind of management thus wouldn't lead to a desired target. Private forest and forestland ownership despite constitutional right of private property in Iran (guaranteed under articles 44: economic system of Iran bases on three sectors; governmental, cooperative & private whose provisions, conditions & jurisdiction are specified by law. And 47: personal ownership if obtained from lawful way is respected of course law specify its provisions) was rejected (article.1) and so far privatization laws

Relevant points of European forest sector development

The following points have been presented by Schmithüsen 2004 as significant for European forest sector development and policy making:

- Modern forest policies and laws are instrumental in generating a combination means in fact to find realistic to balance between private and public investors in forest management practices. The goals of new forest laws are today more diversified and comprehensive. They refer to a wide range and public goods and values and acknowledge the equal importance of production and conversation.
- Close to nature forestry is an important land management strategy that is consistent with the principle of sustainable development and contributes to maintain biodiversity, variety of ecosystems and diversified landscaped. In relying on natural site factors, close to nature forestry combines more consistently than other management practices economic necessities with multiple social and environmental requirements. In a general way, the overall target of new forest policies and legislation is to protect forest as a renewable resource base by taking into account their full economic, social and environmental values.

- In most of the Western European countries private & public forest tenure coexist leading to varying combinations of private forest, communal forest and state forest. Approximately 50% of forests in Western Europe are privately owned, less than 30% are state forests and around 20% are communal forestland. In central and eastern Europe, the restitution of ownership rights leads to a considerable increase of private and communal forest holdings. In Russia forest are still exclusively classified as public lands. However, it remains open to what extent restitution and privatization decisions will further modify the presently existing official landowner classification.
- Issues regarding the ownership status of forest, the rights and responsibilities of forest owners, the provision of goods and services for the public and new forest management strategies must be considered. Private and public land owners are key actors in natural resources utilization. The owners have constitutively secured rights and are primarily responsible to make decision in land management. It is up to the private and public forest owners to determine which products and services are to be delivered to the existing markets and made available to the community as a whole.
- Based on the constitutional right of ownership it is thus primarily the responsibility of the landowners to decide to what extent they are able and willing to provide goods and services. They are not obliged to carry incremental costs without compensation for forestry benefits resulting from demands of user groups and the public, which have been incorporated into new forest legislation. Forest policy and legislation have to regulate the financial dimensions of costs and benefits in sustainable resources management.
- Strengthening of collaborative forest management systems as a land use strategy that is functioning among divergent social interests and local conditions is at present an important trend. This implies: 1- decision making processes involving forest owner, the principle users and environment groups on equal footing. 2- New balances between private and public demands. 3- A shift from governmental and hierarchical regulatory system to negotiation, public process steering and joint management responsibilities. 4- Realistic financial arrangements involving market proceeds, public funding and contributions from private user and interest groups to provide multiple forestry outputs.
- One has to keep in mind that public policies and legislation deal with the financial dimensions of supplying private and public goods in sustainable resources management. They have to facilitate the sharing of financial commitments consistent with the economic realities of multiple users. Instruments that favour an adequate transfer of resources commensurate with the tasks and responsibilities in land management are indispensable in order to generate an optimal combination of private and public benefits.

Discussion

Most important factors & issues necessity & precondition to make Iranian forest law with in balance and move along European Laws that ought to be executed during the appropriate proceeding as follows:

- Establishment of a legislative system including private forest ownership in accordance with international treaties and with European and global standards that would ensure

permanent, systematic and effective environment protection and condition for sustainable development.

- Decentralization of decision-making system and harmonization of forest activities of public and private sector are the desirable direction of Iranian forest policy today. It is important to look at ownership rights and at the possibilities of landowners to respond to public demands in forest management.
- Forest management plans for private forests can be prepared by legal persons who employ forest engineers with adequate experience.
- Investors such as private forest owners and the wood processing industry would form the back-bone of the Iranian forest sector as remain for European one
- The shift from state control to voluntary initiatives favours new forms of joint management responsibilities involving forest owners, the private sector, NGO, and public authorities.
- Allocate addition of tools to the grant system of forest management which motivate forest owners for a continuous and long term improvement of forestry assets with due regard to public interest in the development of beneficial function of the forest.
- Draft a forestry policy and revise current forest legislation, ensuring their consistency and harmonizing them with EU resolutions, standards and regulations relevant to forestry.
- -Promote the updating, upgrading and strengthening of existing forestry education and training institutions at professional, technical and vocational levels in terms of facilities, curricula, staff and equipment to meet the requirements of private forestry and a free market-oriented economy.

As regards harmonization of Iranian forest law with European some points are remarkable to be considered more:

Privatization and related compensation are of main deficits in Iran forest law that must be included in Iranian forest legislation in accordance with its special character. Promote education and socio-economic status among woodsmen is a necessity to be successful over achieving the program of the harmonization. Modernizing information system & facilities and keeping in touch with European forest administration as well as forest scientists & stakeholders are main tools to raise forest & environment culture all over the country and woodsmen as well.

Such educational & civil program would solve wood smuggling and animal husbandry matters as a result. Establish a suitable management over forests & forestland besides efficient wood proceeding is to be another desired result. Other forest issues such as: forest material marketing, financial instruments, facilities & means would be influenced more or less.

Existence of differences from political, social, ecological and economical point of view between two regions as we can see that even between two communities even in Europe is a natural subject because climate, tree species, people culture and vegetation are different. But the important and considerable point consist in making harmony with advantageous progress in other community and region by means of strengthen similar points and reduce opposite points.

Conclusion

- The need for a new forest law for Iran is urgent in order to integrate Iranian forestry in the modern process of European and world's forestry.
- The national legislation will be amended so that it could be harmonized with the current provisions of EU.
- -With regard to sustainable management, it should be emphasized that IUCN and national criteria have to be harmonized. In fact Iran is now in the process of revision and harmonization of national criteria with EU as well as IUCN criteria.
- A good mixture of private & public property is the prime precondition for adaptability between the public and private interests as well forest issues.
- A forest owner is obliged to endure restrictions of his management in the public interest and has a right to compensation for lost profit and increased costs. Public enterprises are also involved in taking care of private forest management.
- There should be educational work about the importance of the nature protection and really practicable compensation mechanism.
- During the last few years, international cooperation has been intensified through various projects and aids from European countries and international organization nevertheless it should be further in coming years.

Literature cited

Civil & Inspection Office of Forest & Range Organization, 1995. Iranian Forest Code. Publication of Forest and Range Organization. 230p.

Civil & Inspection Office of Forest & Range Organization, 2002. Comprehensive Plan to Protect Caspian Forest, Publication of Forest and Range Organization. pp 3-11

Ghanbari, L., 2005. Caspian Forest Situation in 200. Iran Newspaper, No: 3211, 7-9 pp.

Jahanghir Mansor., 2004. Iran Constitution. Agah Publication. 109 p.

IUFRO Research Group 6.13.00, 2003. Proceedings of the 4th International Symposium on Legal Aspect of European Forest Sustainable Development, Jaunmokas, Latvia. Forest Science Contributions Forest Policy and Forest Economics, ETH Zurich. 187 p.

IUFRO Research Group 6.13.00., 2004. Proceedings of the 5th International Symposium on Legal Aspect of European Forest Sustainable Development, Zidlochovice, Czech Republic. Forestry and Game Management Research Institute, Jiloviste-Strnady 2004. 252 p.

IUFRO Research Group 6.13.00., 2005. Proceedings of the 6th International Symposium on Legal Aspect of European Forest Sustainable Development. Transilvania University, Brasov, Romania. 180 p.

Schmithüsen, F., 2004: Role of Land Owners in New Forest Legislation. In: Legal Aspects of European Sustainable Development. Proceedings of the 5th International Symposium Zidlochovice, Czech Republic, pp. 46-56. Forestry and Game Management Research Institute Jiloviste – Strnady.

Progress in environmental legislation in Japan

*Ikuo Ota**

Abstract

Environmental legislation in Japan has evolved since the late 19th century. There are two main streams of environmental legislation. One is the legislation about pollution control, and the other is about nature conservation. Hundreds of laws and ordinances have been developed during the last century, while the effort to put them together has only been done in very recent years. The Basic Environment Law in 1993 is the one that became the central body of environmental legislations in Japan. This was a total revision of the Basic Environmental Pollution Control Law with absorbing some part of the Conservation of Natural Environment Law. The Basic Environment Law provided principles of Japanese environment policy. In addition, the Environment Agency, established in 1971, was upgraded to become the Ministry of Environment in 2001 and all governmental works related to environmental issues have been assembled within this ministry so far. The paper aims to analyze historical progress of environmental legislation in Japan and explains the principles of Japanese environmental legislation today.

Keywords: Basic Environment Law, Basic Environmental Pollution Control Law, Conservation of Natural Environment Law, Forestry Law, Natural Parks Law

Introduction

Environmental legislation covers a variety of matters related to governmental policy. Historically, there are two main streams of environmental legislations in Japan: pollution control and nature conservation. These two streams coincide with the citizen's movement for nature conservation and against environmental pollution. As the two movements had been merging into one big stream of environmentalism in recent years, legislation about environmental issues was expected to be unified in one contemporary and fundamental law.

Japan was famous for its tremendous human damages caused by many different kinds of industrial pollutions during the 1950s, 1960s and 1970s. Minamata disease caused by organic mercury poisoning, Itai-itai disease caused by cadmium pollution, and Yokkaichi Asthma caused by air pollution mainly from sulfur oxide were typical examples. Countermeasures for such environmental pollutions were always one or two step behind, but legislative progress had been going on slowly but steadily since the 1960s. The natural park scheme was established a little earlier than pollution control laws. Because our land was composed of many islands with high mountains, scenic beauty was in everywhere. There existed numerous cultural properties, and a system to keep this valuable nature and cultural heritage was urgently needed. The first law designating national parks was established in 1931 and the Natural Parks Law that created the system of nature parks was established in 1957.

* University Forest, Ehime University, Japan

In December 1993, the Basic Environment Law was promulgated. This law was a combination of the Basic Environmental Pollution Control Law of 1967 and of the Conservation of Natural Environment Law of 1972 with new principles for national environment policy. The Basic Environmental Pollution Control Law used to be a fundamental legislation against environmental pollution, and the Conservation of Natural Environment Law was one the fundamental legislation for nature conservation together with the Natural Parks Law. This paper describes the historical progress in environmental legislation and explains a couple of important laws related to environmental protection and nature conservation in Japan.

History of legislation in nature conservation

By the Meiji Restoration in 1868, hundreds years of feudal era had come to the end and Japan started to be a modern nation state. The Meiji Constitution, established in 1889, was provided under the thorough investigation of those in European countries such as England, France and Germany. Rapid industrialization caused by large-scale devastation of the natural environment here and there, but regulatory legislation was not imposed for decades. However, as serious flood and other natural disasters began to happen frequently in the late 19th century, the central government finally made up to undertake the job.

The Forest Law in 1897 was one of the first regulatory legislations against overuse of nature. Establishment of rules and penalties for forest utilization, and creation of protected forests were the major subjects of this law. The River Law of 1896 and the Erosion Control Law of 1897 were other examples of such regulatory legislations. The former designated the role of the state and municipal governments regarding flood control measures. The latter was to designate the area and counter measures against soil erosion. These three laws were famous under the name of “water control trio”. In 1918, the Wildlife Protection and Hunting Law was adopted. This law primarily aimed to conserve wild game animals for hunting or trapping purposes.

In 1919, the Historical Sites, Scenic Beauty, and National Treasury Law was promulgated. This law was to preserve culturally and naturally important monuments and places. While, there had been some laws and ordinances that aimed to preserve historical temples and shrines beforehand, this law was the first major legal basis to preserve important the cultural heritage in Japan. The National Park Law was established in 1931. The idea of national parks was introduced from the United States in early 20th century, and Japanese people started to realize the importance of preserving natural beauty not at the spot of the place but to a large extent of the area. However, land ownership in Japan was not so simple like it was in the “new world”, so national parks were designated as the area regardless of ownership. This is why private lands as well as municipal or national lands are composing the national parks in Japan.

Until 1945, Japan was a nation of imperialism. Sovereignty of the nation was on the emperor, and democracy among the people was limited. After World War II, however, Japan had experienced tremendous changes in all the aspects of society under the strong influence of the US occupation army. The new constitution created in 1947 was totally different from the old one, especially its Article 9, renunciation of war, was very unique. Many laws were amended or newly created under the new constitution. For example, the Forest Law was amended in 1951 and the River Law in 1964. On the other hand, the National Park Law was absorbed by the Natural Parks Law in 1957. The Natural Parks Law designated three classifications of parks: National Parks, Quasi-National Parks, and Municipal Nature Parks. As shown later, there are 28 National Parks, 55 Quasi-National Parks, and 308 Municipal Nature Parks today.

The network of the nature park scheme is contributing largely to conservation of nature and people's recreation activities.

The Conservation of Natural Environment Law of 1972 was another leading legislation for nature conservation. It designated Wilderness Area, Natural Environment Conservation Area, and Municipal Natural Environment Conservation Area. The purpose of these conservation areas was to substitute the nature park scheme. Total land surface of these conservation areas was limited, but more strict preservation measures than in natural parks were applied. There are 5 Wilderness Areas, 10 Natural Environment Conservation Areas, and 530 Municipal Natural Environment Conservation Areas. Total area of three classifications of conservation areas is about 100 thousand ha. In 1992, the Protection of Endangered Wild Species Law was created. This law aimed to protect rare, threatened, and endangered wild species living in the country, and also to regulate the trade of internationally designated endangered species such as those on the lists of CITES.

Table 1 List of major legislations related to nature conservation in Japan

Year	Name
1889	Meiji Constitution
1896	River Law
1897	Forest Law
1897	Erosion Control Law
1918	Wildlife Protection and Hunting Law
1919	Historical Sites, Scenic Beauty, and National Treasury Law
1931	National Park Law
1947	New Constitution
1951	Forest Law (amended)
1957	Natural Parks Law
1964	River Law (amended)
1972	Conservation of Natural Environment Law
1992	Protection of Endangered Wild Species Law
1993	Basic Environment Law

Source: Ministry of Environment Web Site (www.env.go.jp)

History of legislation on pollution control

The first notorious environmental pollution problem in modern Japan was Ashio mining pollution appearing in 1880s. Ashio was the biggest copper mine in Japan, and copper production was one of the key elements for industrialization and militarization of the country at that time. Victims of mining pollution were estimated at more than 1,000, but mining and smelting at Ashio continued for decades after the affair was found out. The idea of making legislation in pollution control had not been taken into consideration by the imperial government. Problems of water pollution and air pollution occurred in many places with the rapid economic growth after World War II. Minamata disease caused by organic mercury poisoning, was an example of this tragedy. Thousands of people were killed or suffered heavily by eating polluted fish. The same disease happened in Niigata, and other kinds of pollution caused diseases happened one after another in the 1960s. Protest movement against such pollutions grew bigger and bigger. Pollution control became a nationwide big social

issue in late 1960s, and the Basic Pollution Control Law was established in 1967. In other words, there were no effective measures to control industrial pollution at the state level until 1967, except some specific ordinances in municipalities.

The Basic Pollution Control Law declared the principles of pollution control policy and measures, and many individual pollution control laws were made following this legislation. Air Pollution Control law of 1968, Noise Regulation Law of 1968, Water Pollution Control Law of 1970, Soil Pollution Control Law of 1970, and Odour Control Law in 1971 are prominent examples. The Environment Agency was created as an independent governmental organization to fight against pollution problems in 1971. Nature conservation issues were also covered by this agency. Legislations in pollution control have been amended frequently under the supervision of the Environment Agency since then. Thirty years later, in 2001, the Environment Agency became the Ministry of Environment.

In 1993, the Basic Environment Law was established. This law was a synthetic law of pollution control and nature conservation. The Basic Pollution Control Law and a part of the Conservation of Natural Environment Law were unified into this new law. The Environment Impact Assessment Law was created in 1997. The idea of having such a law had been argued for many years in the state government, but opposition from industry and ministries such as transportation and construction was big. Therefore the creation of this law was an epoch-making event in Japan.

Table 2 List of major legislations related to pollution control in Japan

Year	Name
1948	Agricultural Chemicals Regulation Law
1956	Industrial Water Law
1967	Basic Pollution Control Law
1968	Air Pollution Control Law
1968	Noise Regulation Law
1970	Water Pollution Control Law
1970	Law for Prevention of Marine Pollution and Maritime Disasters
1970	Soil Pollution Control Law
1971	Odour Control Law
1976	Vibration Regulation Law
1993	Basic Environment Law
1997	Environment Impact Assessment Law
1998	Law Concerning the Promotion of the Measures to Cope with Global Warming

Source: Ministry of Environment Web Site (www.env.go.jp)

Major environmental legislations today

Natural Parks Law of 1957: The purpose of Natural Parks Law is written in Article 1 as follows: *This law is intended to protect excellent natural beauty and enhance utilization of the place, in order to contribute to health, recreation, and education of the people.* The Natural Parks Law designates three classifications of natural parks as follows: (1) A National Park is a distinguished scenery that can represent the beauty of Japan; (2) A Quasi-National Park is an excellent scenery that is in the second position after the national parks; and (3) A Municipal Nature Park is a place of natural beauty other than National Parks and Quasi-National Parks. As shown in Table-3, there are 391 Nature Parks in Japan today, and the total area is 5.37 million ha, that is about 14.2% of land surface of the whole country. The authority to

designate parks belongs to the Minister of Environment for National and Quasi-National Parks, and to the municipalities for Municipal Nature Parks.

Table 3 Area of Nature Parks in Japan (as of March 2004)

Classification	National Park	Quasi-National Park	Municipal Natural Park	Total
Number	28	55	308	391
Area (ha)	2,061,040	1,343,882	1,962,220	5,367,142
% in Land Surface	5.5	3.6	5.2	14.2

Source: Ministry of Environment Web Site (www.env.go.jp)

Management of National Parks and Quasi-National Parks determined by the Park Plan which has to be made by the Minister of Environment with the assistance of committees of experts and stakeholders. Parks are usually including not only national forests but also other public and private lands. Therefore, considering the protection and utilization of the whole area of the park, land and water surfaces are to be classified by several different zones. Table-4 shows the classification of zoning and the regulation of harvesting trees in each zone.

Table 4 Classification of zoning in National and Quasi-National Parks

Classification	Specification	Regulation of harvesting
Special Protection Zone	Excellent natural scenery or wild area	Forbidden
Marine Park Zone	Surface with excellent undersea scenery	Forbidden
Class 1 Special Zone	Scenic beauty with needing protection, and rank is next to Special Protection Zone	Selective cutting with less than 10% volume
Class 2 Special Zone	Special Zone other than Class 1 and 3	Selective cutting with less than 30% for timber, less than 60% for fuel wood smaller than 2ha with 30% of crown closure required
Class 3 Special Area	Rather lower importance of protection with small risk of damage by agriculture, forestry, and fishery activities	No regulation
Normal Zone	Areas without classified above	Reporting is required

Source: Ministry of Environment Web Site (www.env.go.jp)

There is a compensation rule for disadvantages caused by the regulations under Natural Parks Law (Article 35). It provides the same amount of economic compensation in case of suspension of applied activities such as harvesting trees or building houses to landowners. However, it is very rare for private landowners to be monetarily compensated, because such activities would be permitted in most of the cases. Not many of private lands are classified as Special Protection Zone or Class 1 Special Zone and the regulations are not very strict for the majority of private lands out of these limited preservation zones. For example, clear cutting is permitted in Class 3 Special Zone and Normal Zone.

Activities of primary industry and tourism are largely admitted in parks. In that sense, the Natural Parks Law is somewhat development oriented instead of protection oriented. This is why the Conservation of Natural Environment Law of 1972 was desired, and very strictly preserved areas like Wilderness Areas were designated outside of Nature Parks. However, it is also understandable that the conservation areas under this strict law are limited.

Basic Environment Law of 1993: The Basic Environment Law is the principal law among hundreds of environmental regulations in Japan. Before this law was enacted the Basic Pollution Control Law and the Conservation of Natural Environment Law had been the two

main instruments for promoting environmental policy. As shown before, these two laws played an important role in tackling industrial pollution problems and conservation of valuable nature. However, they became outdated in dealing with newly appearing problems such as global warming and unsustainable life style of urban society.

The Basic Environment Law of 1993 replaced Basic Pollution Control Law and a part of the Conservation of Natural Environment Law, adding many new ideas for fundamental environmental policy of the nation. It was created in consideration of the results of UNCED (Earth Summit) at Rio de Janeiro in 1992. The purpose of Basic Environment Law is declared in Article 1 as follows: *“The purpose of this law is to comprehensively and systematically promote policies for environmental conservation, to ensure healthy and cultured living for both the present and future generations of the nation as well as to contribute to the welfare of mankind, through articulating the basic principles, clarifying the responsibilities of the State, local governments, corporations and citizens, and prescribing the basic policy considerations for environmental conservation.”*

The law provides for three basic principles of environmental policy: (1) Enjoyment and future succession of environmental blessings, (2) Creation of a society ensuring sustainable development load, and (3) Active promotion of global environmental conservation through international cooperation. It is useful to show the text of the relevant articles:

Article 3: Enjoyment and Future Success of Environmental Blessings.

Environmental conservation shall be conducted appropriately to ensure that the present and future generations of human beings can enjoy the blessings of a healthy and productive environment and that the environment as the foundation of human survival can be preserved into the future, in consideration that preserving the healthy and productive environment is indispensable for healthy and cultured living for the people, and that the environment is maintained by a delicate balance of the ecosystem and forms the foundation of human survival, which is finite in its carrying capacity and presently at risk of being damaged by the environmental load generated by human activities.

Article 4: Creation of a Society Ensuring Sustainable Development with Reduced Environmental Load.

Environmental conservation shall be promoted so that a society can be formulated where the healthy and productive environment is conserved and sustainable development is ensured by fostering sound economic development with reduced environmental load, through practices on environmental conservation such as reducing as much as possible the environmental load generated by socio-economic and other activities, which are voluntarily and positively pursued by all the people sharing fair burden; and so that interference with environmental conservation can be anticipatively prevented through enhancing scientific knowledge.

Article 5: Active Promotion of Global Environmental Conservation through International Cooperation.

Global environmental conservation shall be actively promoted in cooperation with other countries, utilizing Japan's capacities and resources, and in accordance with Japan's standing in the international community, in consideration of the fact that global environmental conservation is a common concern of mankind as well as a requirement in ensuring healthy and cultured living of the people into the future, and that the Japanese economy and society is closely interdependent with the international community.

In short, these three basic principles are focusing on the environmental right of the people (Article 3), creating sustainable development in harmony with good environment (Article 4),

and promoting international cooperation (Article 5). They are the fundamental policy directions of Japanese environmental policy today.

From Articles 6 to 9, the law designates the responsibilities of the state government, local governments, corporations, and citizens. In Article 14, the law mentions guidelines for policy formulation, and in the following articles describes a variety of subjects such as implementation of policies for environmental conservation. For example, Article 20 mentions the promotion of environmental impact assessment. This article became the basis for the Environment Impact Assessment Law of 1997. International cooperation measures are mentioned in Articles 32 to 35. Global climate change and monitoring related issues are the major concern in these articles. Such issues were very new for Japanese legislation.

Discussions and Conclusion

It is worth mentioning that there is criticism of the environmental legislation in Japan. Generally speaking, the Ministry of Environment is a small ministry in terms of its human resources and budget. Environment protection and nature conservation are not in a position of first priority within the governmental policy arena. Development with high economic returns is still regarded as a favourable measure for welfare and happiness of people. This is the reason why we have many golf courses and ski resorts in National Parks and Quasi-National Parks all over the country. On the other hand, Wilderness Areas, in which no human activity is allowed, amount only to 5,631 ha in total and are not expanding since 1980. Human use is more important than setting aside the nature, basically. In addition, most of the special protection zones and Class 1 special zones in National Parks and Quasi-National Parks are designated on public land. The reason of less private land in such strict protection zones is avoiding monetary compensation of regulatory measures on such land.

The Basic Environment Law is also not sufficient for creating and protecting good environment for the people. One example is that the environmental right mentioned in Article 3 is vague and weak. It is said that this article would surely not designate the environmental right as one of the rights to life declared in the constitution. The meaning of sustainable development is also unclear in the law. Although, introducing the idea of sustainable development into the Basic Law can be appreciated, a clear definition of the words would be necessary.

The Environment Impact Assessment Law is also regarded as a law with full of loopholes. According to the law, the size of targeted public works is relatively big, so that many of small and medium sized works are not required for EIA. In addition, if the EIA process would be sufficient and the report is submitted properly, it is hard to re-consider the ongoing public works. This means that the contents of the report, or the accuracy of the anticipated impact analysis, are not examined in a strict manner by any of the governmental organizations with enough responsibility.

Protection of Endangered Wild Species Law also has many weaknesses. Penalty of violation of the law is not severe, and the inspection system related to this law is not sufficient. This is why Japan has been one of the worst countries of violating CITES in the world for many years.

Industrial pollution has been decreased since 1970s, and the general environmental conditions have become better in Japan. Levels of pollution in the air and water are surely improving during the last 30 years. It clearly shows that human efforts for pursuing good environment can make fruitful results. Environmental legislations have been making great contributions for

that. The Ministry of Environment has been getting more and more political power in recent years. The present situation of environmental legislation in Japan is not sufficient, but it means there are huge spaces for improvement in the future.

References

Gyousei Publishing (2002) Compendium of Environment Laws.

Hatakeyama, Takemichi (2001) Lectures of Nature Conservation Legislation, Hokkaido University Press.

Ministry of Environment (2004) Environment White Paper.

Ota, Ikuo (2004) Conservation and Preservation of Natural Environment in Forest Policy (Sakai, Masahiro ed.), Japan Forestry Investigation Committee.

From Union to Union: The evolutionary path of the Lithuanian forest sector

*Imantas Lazdinis**, *Andrew D. Carver***, *Marius Lazdinis**** and *Vygandas K. Paulikas****

Abstract

In the light of theoretical trajectories of governance, ranging from the strong state model to the “governance without government”, this paper analyses institutional developments in Lithuanian forestry during the period of 1990-2005. Lithuania has re-gained independence in 1990, after the collapse of the Soviet Union. In 2004, Lithuania has become a NATO member and joined the European Union. The transition from the state dominated centrally planned economy to the market economy ruled by the democratic principles has had important implications to the forest sector. Lithuanian forestry had to accommodate all the factors related to this transition, privatization being the main impetus for change. It has transcended from being completely “state business” to a sector with a large private segment, with a large share of private forest ownership and provision of services by private companies in the management of state forests.

Introduction

“Governance” has become a buzzword commonly mentioned in political statements, declarations, visions and strategies. All governments, be it national, regional or local, have an idea of how to best govern. The sets of instruments and institutions involved in governance vary greatly and depend on the economic and social context of the object and area under consideration. “Good governance” has also been used in discussions on the administration and management of forest resources. In this area, the types of governance applied, next to the economic and social context, largely depend on the environmental conditions. The variety of approaches to “good governance” of forest resources are probably fewer and lesser understood if compared to that of national and regional governance in general. However, examples of different uses of instruments and institutions are available (e.g. Merlo and Paveri 1997; Le Master et al. 2002; Edmunds and Wollenberg 2003; Mayers and Bass 2004; Lazdinis et al. 2005a).

Pierre and Peters (2005, p. 6) argue that “understanding governance is basically a matter of understanding the nature of state-society relationships in the pursuit of collective interests”. This “pursuit of collective interests” generally involves four main components or activities: (1) articulating a common set of priorities for society; (2) creating coherence; (3) steering; and (4) accountability (Pierre and Peters, 2005). Therefore, to understand governance, it would be

* Faculty of Strategic Management and Policy, Mykolas Romeris University of Lithuania, Ateities 20, Vilnius, LT-08303, Lithuania.

** Department of Forestry, Southern Illinois University, Carbondale, IL 62901-4411, USA

*** Regional Development and Environmental Protection Group, A. Vivulskio 10a, Vilnius, Lithuania

*** Faculty of Strategic Management and Policy, Mykolas Romeris University of Lithuania, Ateities 20, Vilnius, LT-08303, Lithuania.

necessary to know about the state-society interactions at each of the four main governance components. We assume in this paper that governance or “good governance” of forest resources deserves no different approach. Pierre and Peters (2005) discuss different trajectories of governance and present five conceptual models of governance ranging from an extreme state interventionist model on the one end to “governance without government” on the other end.

Bearing the above approach in mind, it must be noted that with the fall of the Soviet Union, some countries in the Eastern and Central Europe in our close memories have transcended at least a few of these models of governance. Lithuania, being one of those countries, has proceeded from the solely state (or Communist party) dominated autocratic central planning political system of the Soviet Union into being a part of the European Union - widely recognised one of the most mature democracies in the world. This transition from union to union has also meant rapid changes in the state-society relationships. These changes are well reflected in developments of the models of governance of forest resources.

The main objective of this article is to explore the state-society relationships in pursuit of national interests in governance of forest resources and to share with the other countries or regions under similar circumstances the experiences in application of the main components of forest governance in Lithuania. Different models of governance require the application of different sets of instruments and institutions. Here we present the main developments in the Lithuanian forest sector from the institutional point-of-view which took place over the period of recent independence (from 1990 to 2005).

Broader context for the governance of forest resources in Lithuania

Lithuania is one of the Baltic States (Estonia and Latvia are the other two) located on the eastern coast of the Baltic Sea, to the south of Latvia and to the north of Poland and to the west of Byelorussia. The land area of Lithuania is 65.3 thousand km². The highest point in the country is 285 meters.

Natural conditions: Climate of Lithuania is transitional between maritime and continental (The Baltic States 1991). Average temperature in January ranges from (-) 2.8 °C in the western part to (-) 6.2 °C in the eastern part. Average temperature in June, the hottest month is +17-18 °C (Cherdanceva et al. 1957). The vegetation period is over six months (from 169 to 202 days) (Grigoriev 1961). Precipitation ranges from 550 to 700 mm and more over the year (Cherdanceva et al. 1957). There are about 4,000 lakes, which in total occupy 1.5% of national territory. Lithuania has a dense network of rivers. In all, there are more than 29,000 watercourses over 250 m long, with a total length of 63,700 km. There are 758 rivers more than 10 km long, 18 of which are longer than 100 km (The Baltic States 1991).

Forests of Lithuania contain elements of both the temperate (nemoral) vegetation zone and the hemi-boreal zone. Forest cover in Lithuania comprises 31.7 % of national area (Table 1). The total area covered by forest stands is around 2 million ha. Scots pine (*Pinus sylvestris*) stands occupy 36.4 % of national forest cover, Norway spruce (*Picea abies*) – 22.4 %, birch (*Betula pendula*) – 20.2 % (Lithuanian statistical yearbook of forestry 2004).

Social and economic environment: Over the last century, Lithuania along with the other two Baltic States has experienced major changes in its national political system. Earlier in the last century Lithuania re-gained independence shortly after the World War I. All three Baltic economies recovered quickly from the ruins of war and, by the time World War II began, had achieved a development stage comparable with their neighbours to the north and northwest

(Shen 1994). After World War II, Lithuania was annexed to the Soviet Union and remained part of the soviet political system until 1990, when independence was re-gained for the second time in the last century. By the year 2005, Lithuania had already finalised the transition from centralized to market economy and had joined both the European Union and the NATO.

Table 1. *Forest resources in Lithuania*

National forest cover	31.7 %
Total forest area	2069.1 thousand hectares
Total growing stock volume	387.9 million m ³
Mean volume per ha	197 m ³ /ha
Gross annual increment	12.5 million m ³
Annual current increment per ha	6.4 m ³

Source: Lithuanian statistical yearbook of forestry (2004).

However, significant efforts remain in order for Lithuania to catch up with the old members of the EU and the rest of the world's developed economies. The transition from a planned to a market economy provoked a steep decline in the overall economy during the first years of independence (Directorate for Agriculture (DGVI) 1998). The economic recovery started in 1994. In 2005, Lithuanian GDP per capita (in 2004 in PPS, EU25 = 100) was around half of the EU average (Eurostat 2005a). The unemployment level in Lithuania was 5.9% in 1997, increased to 11.5% in 2000 and in July 2005 was 7.8% (Starkeviciute 2001; Eurostat 2005c). Advertisement oriented (such as food, tobacco, leather, footwear, publishing) and capital intensive (oil refining, chemicals) branches dominate the Lithuanian industry (Starkeviciute 2001). The growth of economy over the last few years demonstrates a potential for convergence with well developed economies. The overall economy, in the fourth quarter of 2004, compared to the same quarter of the previous year, grew by 6.3%; in the second quarter of 2005, compared to the same quarter of the previous year – by 6.7% (Eurostat 2005b).

Evolution of Lithuanian forestry during the period 1990-2005

A new start and old habits: After re-gaining the independence in 1990, Lithuanian forestry was up for a new start. However, most of the institutional structures, traditions and habits do not change overnight (North 1990), which in this particular case makes it important to know what has been inherited from the soviet system. The majority of the old features of this system were abolished during the first several years after re-gaining independence. However, it is likely that some remain present (Lazdinis et al. 2004).

As in the Soviet Union, for nearly 50 years forests in Lithuania were the exclusive property of the State (Gardner 1997). Forest users in the Soviet Republics and the USSR in general were only the state cooperatives and state enterprises, mass organizations and other public institutions (Ziegler 1990). The Soviet constitution, which applied to Lithuania as well, provided the state with an exclusive right to ownership of land, forests, minerals and water resources. The state also owned industries, public utilities, media, facilities for transportation, communication, health, education and culture, and most agricultural equipment and urban housing (Gardner 1997). Neither private forest land ownership nor private forestry did exist.

Due to the centralization of decision-making and dominance of the communist party in all levels of society, the role of the state in selection of forest policy instruments and policy implementation was overwhelming. Forest resources were to be used only according to the guidelines set down by the state and only on the basis of state authorization (Ziegler 1990; Kallas 2002). Because the central plan specified all macroeconomic and microeconomic flows of goods, services, and money in the economy, macroeconomic instruments commonly used in western capitalist economies were neglected in the Soviet Union (Millar 1990). State forestry was lacking incentives for economically efficient timber harvesting and forest management in general.

Privatization as the main impetus for change: Begun in the context of *perestroika*, after restoring independence in March 1990 and the elections in 1993 of the first freely elected president, Lithuania launched a major programme of economic reforms for market liberalisation (Directorate for Agriculture (DGVI) 1998, Valetta 2000). In Lithuania, two dimensions of privatization applied in forestry. First, the process took form of privatization (restitution) of forest land to the former (i.e., prior to World War II) forest owners. Second, many forestry activities carried out by the state forest enterprises were privatized and even more so, the enterprises started providing commercial services for the private forest owners.

Land reform: In 1991, after re-gaining the independence, Lithuania superseded the *perestroika* reform efforts by declaring the revival of its 1930-era Constitution and civil law (Valetta 2000). Within a few months after the referendum on independence, Lithuanian parliament adopted two laws: On the Procedure and Conditions for Restitution of Rights of Ownership to Existing Real Property (of July 16, 1991) and On the Land Reform (of July 25, 1991) (Valetta 2000). Two fundamental principles were embodied in these laws: (1) farmland, urban land and real estate, which had been nationalised during the period of 1940-1945, had to be restituted to its former owners (and their descendants); (2) other land needed for productive activities, housing and services, would also be transferred into the private ownership and the leasehold.

The processes of considering citizen claims for land, delineating land parcels and transferring them into private ownership began in 1993 (Valetta 2000). By mid-1997, the restitution process had resulted in ownership of less than 50% of agricultural land and 19% of total forested area (Directorate for Agriculture (DGVI)... 1998). Presently, state forests in Lithuania occupy 50 % of national forest cover, 31 % of forests are under private ownership and 19 % remain reserved for restitution (Lithuanian statistical yearbook of forestry 2004). Private forests in Lithuania are managed by roughly 232 thousand private forest owners; the average private forest holding is 4.5 ha. Change in the area of private forests and the number of private forest owners in Lithuania during the period of 1993-2004 may be observed from the Figure 1.

The emergence of private forest sector and a relatively large number of private forest owners with a limited experience in managing forest holdings (Pivoriūnas and Lazdinis 2004) had triggered further restructuring and adjustments in the forest sector, which in the light of the post-soviet system was largely state dominated.

Reform of the state forestry: Restructuring of the state forest enterprises (SFEs) was a second important dimension of economic reforms for market liberalisation in forestry, though inseparable from the consequences of land restitution. SFEs, most of which have been established in the beginning of the last century and remained as such throughout the soviet period, had to accommodate a range of trends in overall political and economic reforms (Table 2).

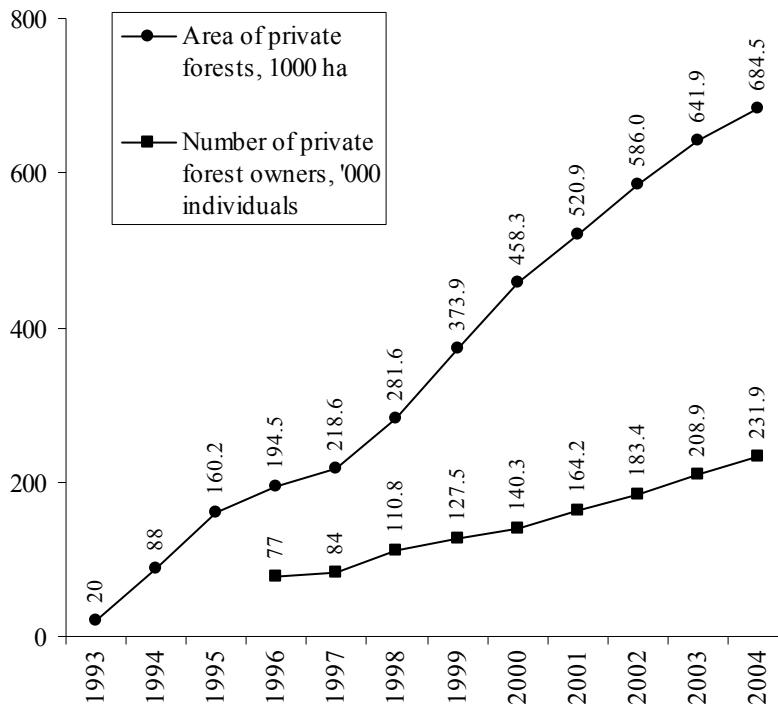


Figure 1. Change in the area of private forests and the number of private forest owners in Lithuania during the period of 1993-2004 (Kupstaitis 2005).

To address all factors identified in Table 2 and other change in the political and economic system in general, SFEs were reorganised to function as state companies, driven by commercial objectives and a high degree of freedom. The effects of the individual factors on SFEs sometimes are difficult to differentiate from the cumulative effect of overall market change. It might have been expected that with the decreasing forest area under management by SFEs and an increasing efficiency and transfer of some functions to the private sector, the number of staff had to be sharply reduced. Yet, on the other hand the demand for new functions, such as the need for pro-active timber marketing and sales, communicating with the general society and individual stakeholders, has demanded new knowledge and skills. The effects of these factors differ between individual SFEs since the extent of forestland and its restitution varied between the regions of the country.

As a result of economic reforms for market liberalisation, such functions of SFEs as logging, reforestation and particularly sawmilling were turned over to the private sector. Presently almost all timber harvesting in state forests is done by contractors, which are typically small firms. Most commonly timber extraction is also subcontracted to the private enterprises. Very often, the private logging contractor in a particular cutting site is also responsible for timber forwarding. The timber delivery from the forest to the client is still commonly performed by the SFE itself, using its own machinery. Sawmilling was completely separated from the state forestry several years ago, when all sawmills of SFEs were privatized. Reforestation, again, is subcontracted to private firms, commonly the same as those contracted for harvesting, or in some cases - directly to local individuals.

Table 2. *Main factors of change in state forestry in Lithuania.*

<u>Factor</u>	<u>Rationale</u>
<u>Land Restitution</u>	As a result of land restitution, large forest areas were transferred from the management of the SFEs to the private ownership.
<u>Privatization of Activities</u>	As a result of economic reforms for market liberalisation, several functions of the SFEs were turned over to the private sector. These largely include: logging, reforestation, and, particularly, sawmilling.
<u>Financially Self-Sustaining SFEs</u>	Following the principle of liberalization of economy and privatization of state agricultural and industrial activities, SFEs, even though remaining state companies, were turned into self-sustaining entities, operating on the revenue collected from the goods and services provided.
<u>Demand for Knowledge and Skills</u>	Privatization in timber processing industry, loss of economic ties with the former Soviet Union and emergence of private timber suppliers have created a free market for timber trade, which demanded from the state forestry employees knowledge and skills in timber trade and marketing.
<u>Increasing Scale and Nature of Problems</u>	The emergence of large number of private forest owners, a new player in the forest sector, required from the state forestry employees new skills and capacities to address the problems related to the private forestry (consultation, fire prevention, control of harvesting and afforestation).
<u>Freedom of Expression</u>	The emergence of democratic principles in governance allowed a freedom of expression, which facilitated interest and participation of society in forest management. Communicating with general society and the individual stakeholders required additional skills and capacities from the state forestry.

In general, the functioning of SFEs has changed after becoming self-subsistent entities, operating on the revenue collected from the goods and services provided. The Forest Law was modified in 2001 transforming the SFEs from public institutions into state companies with all relevant consequences (e.g., functions such as consultation and advisory services to the private forest owners were discontinued). The SFEs are generally no longer funded from the state budget (with some exceptions concerning individual measures). On the contrary, SFEs are responsible for paying taxes on the revenue collected from timber sales and services. Recently, the trend is for the SFEs to diversify their income sources by providing a variety of services to private forest owners and managers, such as land preparation, timber harvesting (organization of work) and transportation, supply of seedlings. However, the income from these activities still remains marginal.

Privatization in the timber processing industry, loss of economic ties with the former Soviet Union and emergence of private timber suppliers have also had a large impact on functioning of the state forestry. The creation of a free market for timber trade demanded that state forestry employees possess knowledge and skills in timber trade and marketing. Considering

the need for generating their own revenue, which largely comes from timber sales, as well as the duty of good management of the state resources, the function of timber trade and marketing in the current organizational arrangements of the SFEs is crucial.

It would be difficult to pinpoint the impacts of the emergence of a large number of private forest owners on the SFEs as these effects are interlinked with those of other factors. The relationship between the state and private sector to address this factor of change has been at flux in a course of the last ten years. At the beginning, state forestry was viewed as a source of expertise and pool of resources in private forest management. For a while, state forestry was empowered to control activities of private forest management by issuing licenses for harvesting, charging fines for mismanagement, etc. However, within few years it was realized that SFEs and private forestry interests are competitors in the wood market. After the new principles were outlined in the modified Forest Law in 2001, the function of control and extension in private forestry was discontinued in the SFEs, strictly separating the two sides of the sector. This trend softened a few years ago, and now SFEs seem to be encouraged to consult private forest owners (free of charge) and to provide paid services for private forestry. The freedom of expression and increased interest of society in forest management has also played an important role in restructuring of the SFEs. Communicating with the general society and the stakeholders requires new knowledge and skills from the state forestry. Increasing amounts of funds are allocated to interaction with general public – publications in press, establishment of educational paths, recreational sites, etc.

General institutional reforms: During the first years after re-gaining of independence in 1990, the Ministry of Forestry was awarded with all forest related functions: formulation of forest policy, policy implementation and control over the implementation. The “forest control inspection” was within the ministry and the SFEs reported to the ministry. With the increasing use of contractors in the SFEs and commercialization of activities, the need emerged to further separate forest policy formulation (the ministry) and implementation (SFEs). The General State Forest Directorate (GSFD) was established in 1996 with a main objective to coordinate the work of SFEs. GSFD reported directly to the ministry.

The Ministry of Forestry was discontinued since 1996. The Forestry Department was established in the reorganized Ministry of Agriculture and Forestry. GSFD was reporting to the Minister of Agriculture and Forestry. Forest Control Inspection became a separate body in the Ministry of Agriculture and Forestry. This arrangement did not meet the expectations of the government and was discontinued in 1998, when all forestry-related institutions were moved under the competence of the Ministry of Environment.

In 1998, all functions of supervision of forests and forest management were transmitted to the Ministry of Environment. The Department of Forests and Protected Areas was created under the Ministry of Environment, merging the Protected Areas Service (at the time in charge of national parks, which also were forest managers, regional parks and strict nature reserves) with the Forestry Department of the Ministry of Agriculture and Forestry. SFEs, after this reform, were reporting to the Department of Forests and Protected Areas, leaving the GSFD with a limited power and scope of activities.

These arrangements were changed again in 2001. Currently, forest policy implementation in Lithuania still falls under the responsibility of the Ministry of Environment. The ministry contains a Forest Department, responsible for forest policy formulation and supervision of policy implementation. State forests are managed by 42 state forest enterprises responsible for implementation of forest policy in the state forests. The average area of forests under the management of an individual SFE is about 23,500 ha. The GSFD is responsible for

supervision and coordination of activities carried out by the State Forest Enterprises and reports directly to the Minister of Environment. The Regional Environmental Protection Departments contain forestry officers responsible for the control of implementation of forest policies in all types of forest ownership as well as for forestry extension in private forestry. The most recent change is that state forests within the territories of the national parks were transferred under the management of the neighbouring SFEs.

Trajectories in governance of Lithuanian forests

In the course of the last 15 years, Lithuania has transitioned from an exclusively state (or Communist party) dominated autocratic central planning political system of the Soviet Union to a democratic state and member of the European Union – a widely recognised mature democracy. The emergence of a democratic state and the adherence to the main principles found in the EU member states has triggered rapid changes in the state-society relationships in Lithuania.

These changes were well reflected in the developments of the models of governance of forest resources. Firstly, the interests of society in forests and forestry have rapidly changed, developing from a limited interest in forest exploitation in the soviet system to an intensive strive for economic gain from forest management into, again, the state of reduced emphasis of wealthier and more urbanised society in exploitation of forest resources (Dudutis and Kupstaitis 2004, Pivoriūnas and Lazdinis 2004). Secondly, in addition to these changing societal perceptions, the nature and the means of pursuit of the national interests have significantly changed. The transition from union to union has had important implications for the models of governance of forest resources.

It may be argued, in the framework of governance models presented by Pierre and Peters (2005) that the Lithuanian forest sector in the course of 15 years has transcended from extreme state interventionist governance to a democratic governance model, yet with a relatively strong influence of the state being maintained. During this period, the Lithuanian forest sector had to accommodate the general national reforms towards market liberalisation and democratisation. The government and governance have become increasingly democratic and to some extent liberal, so too has the forest sector.

Four main components of governance were listed in the introductory section: (1) articulating a common set of priorities for society; (2) creating coherence; (3) steering; and (4) accountability. The overview of the reforms carried out in Lithuanian forestry demonstrates significant changes in state-society relationships in the context of these individual elements. If the overall soviet governance model largely neglected principles of democracy and forests were managed with no possibility for society to effect policy and decision making; in the current institutional context, common sets of priorities are formulated considering a variety of interests. Under the present institutional setting, national priorities in forest management were expressed in the Forest Law (Anonymous 2001), and in the Lithuanian Forestry Policy and its Implementation Strategy (Anonymous 2002). The Strategy was adopted after lengthy debates, which lasted for three years and involved a range of interested parties.

In the current model of governance of forest resources the coherence and effective steering are ensured by elimination of the overlapping functions between individual institutions, annual planning exercises and maintained leadership of the state in policy debates. Several advisory boards and committees are formed under the Ministry of Environment with the scope of improving communication and coherence. Steering in the private forest sector is

done using regulation and control mechanisms, as well as imposing fines for mismanagement. Significant human and financial resources are allocated for improving the coherence and effectiveness of steering in private forests by means of extension and advisory services. Accountability, at least in state forestry, has become an important issue. SFEs being state companies, annual reporting and auditing of the accounts became a norm. The aspects of accountability in governance of state forests have received a positive impetus with a recent FSC forest management certification "wave", when all SFEs were FSC certified. The FSC principles insisted on even more transparency and communication with the general public.

Of course, problems do exist. Private forestry is ranked among the most important problem areas in the Lithuanian forest sector (Lazdinis et al. 2005b). The lack of structures (e.g., lack of cooperation between private forest owners) to carry out forestry in private forest holdings, lack of information on legal requirements and recommended forestry activities, lack of information on forests and forest management, extensive bureaucracy, and a need for assistance in protecting forests from fires, diseases and timber thieves are all reported as the main issues of concern in this field (Pivoriūnas and Lazdinis 2004, Lazdinis et al. 2005b). But the tendency seems to be that these issues are increasingly addressed in a democratic way, reducing the burden of regulation and moving towards more liberalization.

Forestry reform in Lithuania can best be characterized as a gradual development instead of a revolutionary change. This evolutionary path may contain both advantages as well as potential threats. Due to the gradual reforms, the state forestry was not completely changed and preserved some institutional structures. State control over management of forest resources both in state and private forests remained relatively strong; silvicultural traditions and methods were maintained and enforced. However, maintenance of the components of the old institutional framework also means the presence of old structures, traditions and habits in management of forest resources. Despite the flux it has had to undergo, state forestry in some aspects remained resilient to change – inflexible and rigid. Some aspects of state forestry, e.g. such as the territory under management and number of SFEs, and even the staff in the top management positions, some of whom have maintained the power since the soviet times, are difficult to change. However, there is always a delicate balance between the “dictatorship” of the state and legitimate steering to attain a common set of priorities articulated by society for the management of national forest resources.

Conclusions

The transition of Lithuania from Union to Union over the last 15 years has had important implications to the governance of forest resources. The overview of the change in forest governance presented in this paper has demonstrated that Lithuanian forestry has transcended from hierarchical and extreme state interventionist governance to relatively transparent and accountable governance that is sensitive to the public needs and interests and sensitive to the demands and supplies in the market. The state-society relationships have gained a democratic impetus in the pursuit of national interests in governance of forest resources. The fifteen years of reforms have not been an easy path, yet the present system seems to function without the major problems. It is perceived that a critical aspect of different modes of governance is their ability to resolve conflict and generate consent among the key actors (Pierre and Peters, 2005).

Presently, the consent among the key actors in the forest sector of Lithuania seems to have been reached; on the other hand – “there is nothing constant but change”. And the change, of course, has been a fundamental element of development of forestry in Lithuania. It must be

admitted that the pace of change was not always as quick as some eager reformers would have wished for. Some claim that the results of change are not as obvious yet as it could have been after 15 years of transition to the liberal market economy. Some might expect the SFEs being connected into a single company, more state forestry functions or even state forests being privatised. However, Lithuanian forestry is witnessing an evolution and not a revolution; and the evolution takes time.

The fifteen years of Lithuanian reforms provide a rich selection of experiences to share with other countries or regions undergoing or planning to undergo reforms of a similar nature. We envisage that countries like Belarus, Bulgaria, Georgia, Ukraine, and others have similar paths waiting ahead. We hope that the examples of developments in the Lithuanian forest sector will assist our colleagues in other countries to tailor their own visions from which to choose modes of governance in their respective forest sectors.

Acknowledgements: We would like to thank Donatas Dudutis for his valuable comments on the draft manuscript.

References

- Anonymous. 2001. Law on Forests of the Republic of Lithuania.
- Anonymous. 2002. Lithuanian Forestry Policy and Its Implementation Strategy.
- Cherdanceva, G., N. Nikitina, and B. Tytichina, eds. 1957. Economic geography of the USSR (*in Russian*). Moscow: State scientific-educational publishing by Ministry of Education of RFSSR.
- Directorate for Agriculture (DGVI), European Commission. 1998. Agricultural situation and prospects in the Central and Eastern European Countries: Lithuania. European Communities, Working Document, May 1998.
- Dudutis, D. and Kupstaitis, N. (2004), Do Lithuanians need forests? (*In Lithuanian*). Baltic Forests and Timber, 3(5): 8-12.
- Edmunds, D. and Wollenberg, E. 2003. Local forest management: The impacts of devolution policies. Center for International Forestry Research (CIFOR), Earthscan: London, Sterling, VA.
- Eurostat. 2005a. GDP per capita varied by one to five across the EU25 Member States. News release No 75/2005 of 3 June 2005. Available at: <http://europa.eu.int/comm/eurostat/>.
- Eurostat. 2005b. Euro-zone and EU25 GDP up by 0.3%. News release No 106/2005 of 31 August 2005. Available at: <http://europa.eu.int/comm/eurostat/>.
- Eurostat. 2005c. Euro-zone and EU25 unemployment down to 8.6%. News release No 107/2005 of 1 September 2005. Available at: <http://europa.eu.int/comm/eurostat/>.
- Gardner, H.S. (1997), *Comparative economic systems*, 2 ed, The Dryden Press, Orlando.
- Grigoriev, A., (ed.) 1961. Short Geographic Encyclopedia (*in Russian*). Vol. 2. Moscow: State scientific publisher Soviet Encyclopedia.
- Kallas, Aigar. 2002. Public forest policy making in post-Communist Estonia. *Forest Policy and Economics* 4: 323-332.
- Kupstaitis, N. 2005. Personal communication. Head of Private Forestry Division, Forest Department, Lithuanian Ministry of Environment, 2 May 2005.
- Lazdinis, M., Carver, A., Tönisson, K., and Silamikele, I. 2005a. Innovative use of forest policy instruments in countries with economies in transition: experience of the Baltic States. *Forest Policy and Economics* 7: 527– 537.
- Lazdinis, M., Carver, A., Schmithüsen, F., Tönisson, K. and L. Vilkriste. 2005b. Forest sector concerns in the Baltic States: Implications for an Expanded European Union. *Society and Natural Resources*.

- Lazdinis, M., Carver, A., Carlsson, L., Tõnisson, K. and L. Vilkriste. 2004. Forest policy networks in changing political systems: Case study of the Baltic States. *Journal of Baltic Studies* 35 (4): 402-419.
- Le Master, D., Block, N.E., Owubah, C.E. 2002. Selection of Policy Tools in Multilevel International Networks. In: Schmithüsen, F., Iselin, G., Herbst, P. (eds.), 2002, *Forest Law and Environmental Legislation. Contributions of the IUFRO Research Group 6.13, Proceedings VII. Forest Science Contributions No 27, Forest Policy and Economics*; Swiss Federal Institute of Technology, Zurich.
- Lithuanian statistical yearbook of forestry. 2004. *Lietuvos mišku ūkio statistika 2004 (In Lithuanian)*. Aplinkos ministerija, Valstybinė miškotvarkos tarnyba, Kaunas.
- Mayers, J. and Baas, S. 2004. Policy that works for forests and people: Real prospects for governance and livelihoods. International Institute for Environment and Development, Earthscan: Sterling, Virginia, VA.
- Merlo, M. and Paveri, M. 1997. Formation and implementation of forest policies: A focus on the policy tools mix. In: *Policies, Institutions and Means for Sustainable Forestry Development. Proceedings of XI World Forestry Congress*. Antalya, Turkey.
- Millar, J.R. 1990. *The Soviet Economic Experiment*. Urbana and Chicago: University of Illinois Press.
- North, D.C. 1994. *Institutions, Institutional Change and Economic Performance*. Cambridge University Press.
- Pierre, J. and Peters, G. 2005. *Governing complex societies: Trajectories and scenarios*. Palgrave Macmillan.
- Pivoriūnas, A. and Lazdinis, M. 2004. Needs of private forest owners in the context of changing political systems: Lithuania as a case study. *Small-scale Forest Economics, Management and Policy*, 3(2): 191-202.
- Shen, R. 1994. *Restructuring the Baltic economies: disengaging fifty years of integration with the USSR*. London: Praeger.
- Starkeviciute, M. 2001. Economy. In: *Lithuanian Human Development Report 2001*, ed. J. Rimkute and I. Volosciuk. Vilnius: UNDP and Social Policy Unit.
- Valetta, W. 2000. Completing the transition: Lithuania nears the end of its land restitution and reform programme. *FAO Legal Papers Online* #11, September 2000.
- The Baltic States: A reference book*. 1991. Estonian Encyclopaedia Publishers, Latvian Encyclopaedia Publishers, Lithuanian Encyclopaedia Publishers. Printed in Tallinn Book Printers, Tallinn.
- Ziegler, C.E. 1990. *Environmental Policy in the USSR*. Amherst: The University of Massachusetts Press.

Forestry and nature conservation in the Republic of Macedonia – Legislative and policy framework

*Ivan Blinkov, Makedonka Stojanovska and Alexandar Trendafilov **

Abstract

This paper deals with legislative and policy issues in forestry and nature conservation. Although the Forest Act from 1997 was a new one, it did not and could not resolve basic problems in forestry associated with the transition to market economy. Forestry is still an economic activity which is facing serious problems. Especially during the last years when restrictive environmental regulations were proclaimed the problems in forestry have increased. The paper also deals with to a considerable extent with changes in nature conservation policy and legislation.

Keywords: forestry, nature conservation, policy, legislation

General information about the Republic of Macedonia

Physical geography: The Republic of Macedonia (RM) is located in the central part of the Balkan Peninsula. It is a landlocked country having an area of 25 713 km² with approximately 80% of the entire territory in hilly and mountainous regions. About 2% of the land area is covered by water comprising 35 large and small rivers, three natural lakes (Ohrid Lake, Prespa Lake, Dojran Lake), and 21 big and over 120 small artificial reservoirs. The population of the country is around 2 million people of which about 60% live in urban areas and the overall population density is 81 inhabitants per km². Industry is the dominant sector accounting for 35% of the Gross Social Product (GSP) and 39.9 % of employment. Agriculture combined with forestry and fishing and the service sector account for 22% and 30% of the GSP, respectively. Although the Republic of Macedonia is small in area, it shows a great diversity of relief forms, geological formations, climate, plants and soils. The difference in altitude ranges from 40 to 2764 m above sea level. Its territory belongs to three basins: Black Sea basin (44 km² or 0.17 %); Adriatic Sea basin (3 359 km² or 13.07 %), and Aegean Sea basin (22 310 km² or 86.76 %). As a result of the heterogeneity of natural conditions, the country can be divided into eight climate-soil-vegetation zones. About 56% of the territory belongs to two zones (continental submediterranean and warm continental). The average annual temperature is 10.5°C, with absolute extremes: + 44.3°C and -31.5°C. Average total annual precipitation is 660 mm. Drought index (De Martone) is $I_d = 34$.

Land use: About 1 244 00 ha (48.4%) of the total land area is agriculture. Arable land (including vineyards and orchards) cover 612 000 ha (23,8%). Fertile land is scarce, with 82% of arable land in fertility classes IV to VII. Because of recent declines in rural population and economic activity fallow and uncultivated land is increasing in area, comprising about 140 000 ha in 1993. About 70% of arable land is privately owned and plans are under way to privatize the remainder. The average value of agriculture land per citizen is 0, 3.

* Institute of Forestry, Faculty of Forestry, Skopje

Pastureland constitutes about 634 000 ha but yields are well below potential, averaging only about 270 kg ha⁻¹ (potential yields could be as high as 800 kg ha⁻¹). The low yields may also indicate that some of this land may be more appropriate as forest. In the past, much pastureland in Macedonia, as elsewhere in the Balkans, was previously forested. Pastureland is managed by the Public enterprise "Macedonian pastures". About 4, 5 % of the territory is unproductive land. In this group are classified: water bodies, settlements, roads etc. About 217 749 ha (8, 5% of the whole territory) are classified as bare land. The greater part of this bare land (129 000 ha) is suitable for afforestation.

Forest fund: According to data from Physical Plan of the Republic of Macedonia (PP of RM 2004), the forests cover amounts to about 38, 8% of the total state area, or to 0, 49 ha per inhabitant. According to unpublished data from the forestry sector and from personal analyzes (based on forest managing plans), forests (903 587 ha) and forest land (142 598 ha) together cover 1 046 185 ha or 40,7% of the whole territory. The official data (PP of RM) are based on cadastral data. There are ca. 195 000 ha abandon land part of which is covered with forest. Forest occupies pastures too. Data from cadastral plans or topographic maps, especially in the forest or pasture area, have not been updated yet because the greater part of this transition land is state owned. Data about private land especially on settled area and agriculture land which are subject to market transactions are almost fully updated. In the following text data from personnel analyzes will be presented.

About 50% of forests comprise pure and mixed oak stands (480 000 ha), 29% (285 000 ha) beech stands, 8% (80 000 ha) Black Pine and Scotch pine, and 15% other stands. About 68% of forests are coppices and degraded. Degraded forests and shrubs cover 262 000 ha (27%) of the forest land. According to data from managing plans the total wood mass is 87 000 000 m³, total annual yield – 1 940 000 m³, total annual allowed cut – 1 480 000 m³, average realized annual cut in last decade 67%. The average standing volume per hectare is 87 m³/ha. Of the total forest area 92% are economic forests; 1, 9% are protection and 6, 0% are forests with special purpose (national parks; park forests etc). A substantial proportion of the forest is located on steeply sloping land where forest cover is necessary for soil conservation and watershed protection purposes, and logging restricted. Although environmental aspects, especially the protective role, are a priority for a great part of the forest there are no specific regulations for managing this kind of protection forests.

Socioeconomic aspects of forestry: Like in other countries in transition, the Republic of Macedonia (RM) is suffering of a bad general economic condition. That condition is obvious at the entire economy, and of course, forestry can't be an exception. Although some changes in forest managing have been made we still can't say that we have improved our forests and put them at the right place in society, thanks to their multifunctionality. Forestry is still a branch which participates with only 0, 89% in GDP. Forestry is suffering of a bad road network, bad quality of wood mass and wood products, bad market orientation, old technology, illegal cuts etc. And unfortunately at the moment forestry realize the most of its profit (>90%) by harvesting and selling wood products.

2. Regulations in forestry and nature conservation

Forestry: The first Forest Law was proclaimed in 1974, when the Republic of Macedonia was a part of Socialistic Federative Republic of Yugoslavia. After independence, in the new transition period, there was need of a new Forest Law. In 1997, we got a new law based on the old one ("Official Gazette of RM" No. 47/97), with some changes according to the new economic and political system. The most important change was that forests under society

ownership became state owned. That change required to change the forest management system as well. From organizations of united labour, forestry organization moved to a public enterprise with headquarter in Skopje and 30 branches throughout the Republic operating according to the principle of self-financing and without any budgetary contribution. Every branch can not work for itself, but at the level of the public enterprise it has one bank account. That was a radical change and some of the branches which have positive financial results (which worked well) were against this change whereas those at the lowest level accepted this change as a favourable one. But, it was the new law regulation and the public enterprise started to work in 1998.

The following two articles from the Forest Law are quoted:

Article 2: Forests as a natural resource are goods of common interest for the state and are special protected.

Article 3: Forest is land covered with forest tree and shrub species, bare land and meadows within the forest, forest roads, forest nursery gardens, and other land strictly related to forest.

In this act forest do not encompass: avenues, plantations of speedy growth species, parks in the urban area, shelter belts in the agriculture area, protective vegetation along the rivers outside the forest zone, isolated groups of forest having an area less then 2 ar, and boundary trees on agriculture land.

The Law on Forests regulates forest growing, use and protection, where the protection of forests is an integrated and indispensable segment of the overall forest management. Protection of forests includes protection against: illegal acquisition and use, illegal cutting, fires, plant diseases and pests, cattle grazing, acorn collection, illegal collection of other forest products, and other forms of damaging forests. The entities in charge of forest management adopt separate forest management plans for a period of 10 years. The separate plans specify all forest activities in intensity, time and space.

The use of forests is carried out according to their purpose and in a manner providing for their lasting preservation and increasing forest value, constant increase of their growth and yield, as well as conservation and enhancement of their useful functions. Separate plans are approved by the Ministry of Agriculture, Forestry and Water Economy. According to the Law, the entities in charge of forest management are obliged to monitor the health status of forests, to undertake preventive measures against plant diseases, harmful insects and other pests, and to eradicate them in case of occurrence, as well as to undertake measures aimed at forests protection against forest fires and natural disasters. Amendments to the Forest Law adopted in 2000 and 2004 re-enforce forest protection regulations (Official Gazette of RM" Nos. 7/00, 89/04).

Part of the legal framework applicable to forestry is established by several other laws:

- Law on Hunting ("Official Gazette of RM" Nos. 20/96, 26/96, 34/97, 69/04),
- Law on Seeds, Seedlings and Propagating Material and Sort Recognition ("Official Gazette of RM" Nos. 41/00).
- Law on Fire Fighting Services ("Official Gazette of RM" No. 67/04),
- Law on Plant Protection ("Official Gazette of RM" Nos. 25/98, 6/00).
- Law on Nature Protection ("Official Gazette of RM" No.67/04),
- Law on Environment (in governmental procedure)

- Law on Agricultural Land ("Official Gazette of RM" Nos. 25/98,18/99,2/04),
- Law on Fisheries ("Official Gazette of RM" No.62/93),
- Law on Pastures ("Official Gazette of RM "No 3/98, 101/00), 36/90 and "Official Gazette of RM" No 12/93),
- Law on Waters ("Official Gazette of RM" No. 4/98).

There are also secondary regulations such as:

- Rulebook on Special Measures for Forest Protection against Fires ("Official Gazette of PM " No. 69/01)
- Rulebook on Operations of Forest Police ("Official Gazette of RM" No. 50/98, 10/02);
- Decision for Declaration of Rare Tree Species ("Official Gazette of RM" No. 23/98).

Nature conservation: The legislation preceding the new Law on Nature Protection ("Official Gazette of RM" No. 67/04) did not regulate the protection of nature in an integrated manner. The Law on Natural Rarities Protection ("Official Gazette of SFRY" No 41/73, 42/76, 10/90, and "Official Gazette of RM" 62/93) referred in grate deal to the protected areas, in terms of biological diversity protection.

For the purposes of integrated nature protection, ratified international agreements implementation, and transposition of relevant EU legislation in the area of nature protection the Assembly of the Republic of Macedonia adopted the new Law on Nature Protection ("Official Gazette of RM" No. 67/04). This Law has transposed the two key legal acts of the EU concerning nature protection which are the Council Directive 1992/43 on the conservation of natural habitats and of wild fauna and flora and the Council Directive 1979/409 on the conservation of wild birds. The Law has also taken into account Council Regulation 338/1997 on the protection of species of wild fauna and flora by regulating trade therein, establishing grounds for further legal regulation of the subject area. In addition, regulations concerning genetically modified organisms and their use have been taken into account.

The protection of nature is carried out through biological and landscape diversity protection and natural heritage protection, in and outside protected areas. With regard to species, the new national Law contains provisions regulating the introduction of non-indigenous species; reintroduction of extinct indigenous species; trade in endangered and protected wild species of plants, fungi and animals; protection of species enjoying protection under international agreements; keeping and breeding of wild animal species in captivity, as well as special protection of designated wild species included in the Red Book and Red Lists.

The Law regulates:

- The temporary protection of endangered wild species until their designation by the adoption of a separate regulation of the Ministry of Environment and Physical Planning;
- Specifies prohibited activities related to strictly protected wild species. The protected wild species include indigenous wild species that are endangered or rare but not threatened with extinction on the territory of the Republic of Macedonia; and wild species that are not endangered but could easily be disturbed; and wild species for which the relevant manner of protection is stipulated under international agreements. The use of protected wild species may be carried out in a manner and in quantities that will not put in danger the favourable status of their preservation.

- Protection of habitats and ecosystems, including provisions that provide for the favourable status of habitats preservation, habitats monitoring, preservation of environmentally important areas, and establishment of environmental networks. The protection of habitats and ecosystems is carried out through measures and activities for nature protection, sustainable use of natural resources and space planning and development. The protection of Environment ecosystems is provided through habitat type protection by determining the current status of preservation.

Nature protection is also regulated by the Law on Environment and Nature Protection and Promotion (“Official Gazette of RM” No. 13/03 consolidated text)), according to which the term *special natural wealth* is used for protected areas. Under this Law, all natural resources, items and parts of nature recognized through scientific and expert surveys as having particularly important natural values, enjoy special protection. A legal ground for nature protection is also provided by international agreements signed or ratified by the Republic of Macedonia in the area of nature protection. The Ministry of Agriculture, Forestry and Water Economy, in consent with the Ministry of Environment and Physical Planning, identifies the rare tree species in forests, by Decision thus placing them under special protection.

In addition to the laws, an expertise basis for nature protection is provided for by the Strategy for Biological Diversity Protection in the Republic of Macedonia and the Action Plan adopted by the Government of the Republic of Macedonia in January 2004. The Strategy defines an integrated approach towards protection and sustainable use of the components of biological diversity, while the Action Plan presents specific actions that need to be implemented for the purpose of achieving the goals set in the Strategy.

Generally speaking, there are no differences between the existing national legislation and the EC nature conservation Directives. Most of the relevant legal acts of the European Union concerning nature conservation have been transposed in the new Law on Nature Protection (“Official Gazette of RM” No.67/04), and the full transposition shall be achieved by the development and adoption of by-laws and other enforcement regulations required thereby.

3. Administration and responsibility

Administration in forestry: Several ministries in the Macedonian government are concerned with forestry matters. The Ministry of agriculture, forestry and water economy is the main ministry. In the organization scheme of this ministry there are the minister and deputy minister, the state secretary, several directorates (veterinary medicine, water management, hydro meteorological affairs, seed and plant material) and several departments (agriculture policy; forestry; forest police) with inspectorates.

In the Ministry of agriculture, forestry and water management (MAFWE), forestry is presented with the Department of forestry, the Department of forest police, the State inspectorate for forestry and hunting, and the State adviser for forestry. The Department of forestry consists of 4 units related to utilization and management, hunting, afforestation, and international cooperation. Professional staff of the department amounts to 1 head of the department, 5 advisors located in Skopje, and 17 regional advisors located in the province. The Department of forest police consist 1 head of department and 120 persons (forest engineers-commanders and forest policemen) located in the province. The State inspectorate of forestry and hunting consist 1 director of the inspectorate, 2 heads of units for forestry and hunting, and 14 regional inspectors located in province. Beside, there are a state advisor for forestry in the MAFWE and technical units common for all departments.

The number of professional staff in the forestry administration is not sufficient to respond to all demands. This is a common characteristic for all departments, especially for the department of forest police. One of the biggest problems is illegal cutting. The most affected region is the part of Macedonia in which the war activities of 2001 took place (western, northwestern and northern part of RM). No one can estimate the intensity of illegal cutting, because this region is fairly inaccessible. A big unaddressed issue is the habit of “retaliation” by the illegal cutters. Whenever they are caught in the act of illegal cutting they usually retaliate by starting forest fires or by intimidating or even by attacking the forest policemen. Another problem is the judiciary system which is very slow in dealing with this problem. So the main responsibility of the forestry sector in the MAFWE is to create national forest policy and to control forestry activities.

Systematic monitoring of the status of forests in the Republic of Macedonia concerning the effects of natural and anthropogenic factors has been in place since 1978. It was carried out by the Reporting, Diagnosis and Prognosis Service. The Reporting, Diagnosis and Prognosis Centre is located at the Faculty of Forestry. The Reporting, Diagnosis and Prognosis System comprises the Ministry of Agriculture, Forestry and Water Economy, as a competent state administrative body, and the PE "Macedonian forest" (PEMF). Each year, the Reporting, Diagnosis and Prognosis Service, in cooperation with the MAFWE and the PEMF, prepares a report on the status of forests in terms of the occurrence of pests, plant diseases and forests die-back, and proposes appropriate measures.

Administration in nature conservation: The main responsible governmental institution for conservation of nature is Ministry of environment and physical planning. The Ministry of environment and physical planning (MEPP) is responsible for the management and supervision in the field of protected areas and protected species. According to the Law on Nature Protection (“Official Gazette of RM” No.67/04), national parks will be transformed into National Park Institutions to be responsible for the management of such areas. The administrative supervision over their operations will be performed by the MEPP, while the Administration of Environment will perform professional supervision over their activities. Bodies within the Ministry of Agriculture, Forestry and Water Economy include the Plant Protection Directorate and the State Forestry and Hunting Inspectorate.

One of the fundamental values of the constitutional order of the Republic of Macedonia is the space humanization, and environment and nature protection and improvement. According to the Constitution of the Republic of Macedonia (“Official Gazette of RM” No. 52/91), everyone has the right to a healthy living environment and the duty to protect and improve the environment and nature. The Constitution determines that natural resources of the country, the flora and fauna, amenities in common use, as well as the objects and buildings of particular cultural and historical value determined by law, are goods of common interest enjoying specific protection. Separate terms as forest, flora, fauna etc. are not presented in the Constitution text.

According to the Law on Nature Protection (“Official Gazette of RM” No. 67/04) there are six categories of protected areas: strictly protected natural reserve - IUCN I ; - National Parks - IUCN II ; - Monuments of Nature - IUCN III; - Nature Parks - IUCN IV; - Protected Landscape- IUCN V ; Multipurpose Area - IUCN VI. The first three categories are designated as protected areas by the Assembly of the Republic of Macedonia by law, while other categories of protected areas are designates by the Government of the Republic of Macedonia.

According to the Spatial Plan of the Republic of Macedonia for the 2002-2020 period (“Official Gazette of RM” No. 39/04) the network of protected areas in the Republic of

Macedonia comprises 74 items of nature, covering a total area of 187.770 hectares or 7.3 % of the national territory. There are 3 national parks and 1 forest reserve. In the Spatial Plan of RM (2004) it is envisaged that 11.6 % of the national territory will be placed under protection. It stipulates the designation of two additional national parks. Protected areas of internationally recognized status include.

- Monument of nature “Ohrid Lake” – World natural heritage (UNESCO);
- Monument of nature “Prespa Lake” – Ramsar Site;
- Monument of nature “Markovi Kuli” (*King Marco’s Towers*) – World natural heritage (UNESCO’s Preliminary List); and
- Monument of nature “Slatinski Izvor” (*Slatino Springs*) - World natural heritage (UNESCO’s Preliminary List).

In 2002, the Republic of Macedonia initiated the establishment of the Emerald Network of areas of special conservation interest. In 2004, activities towards the development of an indicative map of the Pan-European Environmental Network for South Eastern Europe, involving the Republic of Macedonia, commenced. The Republic of Macedonia has expressed its interest in the establishment of transboundary protected areas with neighbouring countries. In 2000, the Prime Ministers of the Republic of Macedonia, the Republic of Greece and the Republic of Albania signed the Declaration on the establishment of the first transboundary protected area in South Eastern Europe – Prespa Park.

The Law on Nature Protection stipulates a transitional period of three years after its entry into force when the re-evaluation of protected areas designated prior to its adoption will be completed, and new legal acts for their proclamation will be adopted in line with the new Law, thus rounding off the system of protected areas. At present, the management of protected areas is partial, with the exception of National Parks, and is non-existent in certain cases.

4. Management in forestry and nature conservation

Management in forestry: PE “Macedonian forests” manages the state owned economic forests or the biggest part of the forest area in the Republic. It has been established in 1998, according to the new Forest Law, with 30 branches throughout Republic and about 190 forest management units. The main problem to be stressed is that in RM exists so called resource management but no spatial management. Forest management is in fact “tree management”. Actually PE “Macedonian forest” manages only land covered with forest trees, shrubs and part of grasslands (forest meadows). There are several enterprises who manage resources on the different territory: PE Macedonian Water management; PE Macedonian Pastures, Hunting associations etc. It is almost impossible to plan optimal forest road network, to plan optimal fire protection, optimal loading of wood products, etc., because some areas between the forest units are managed by PE Macedonian pastures, or Macedonian Water management.

PE “Macedonian forests” invest in road networks but PE Macedonian pastures, PE Macedonian water management, hunting association, or mining companies can use those roads without problems. There are about 250 hunting areas in RM located in forest and agriculture areas. Part of them are managed by PE Macedonian forests, but many of them without paying attention on trees, offspring etc. Only animals are under their jurisdiction.

PE “Macedonian forests” is state owned. So, maybe that is the main reason why it has a huge number of employed (4067 – 3124 permanent and 943 seasonal employed), and irregular distributed. The structure of employed, divided by the sectors is as follows: harvesting and

wood processing (70, 1%); silviculture; protection and ecology (11, 6%); hunting; farms and fisheries (1, 5%); commercial sector (0, 9%); planning, analyses and development (1, 2%); economic sector (5, 6%) and law sector (9, 0%). The biggest participation of the whole number of employed persons is in the harvesting and wood processing sector.

Forests in private ownership in RM cover 10%. Only in a part of Eastern Macedonia ratio between private and state owned forest is 50:50. In a greater part of RM, private forest amount to less then 5%. There are 220 000 private owners of forest. An average area of private forest is 0,4 ha. Because many private forests are in fact small parcels, i.e. enclaves in a state owned forest, a lot of land is almost abandoned. Most of the people haven't arranged their documentation (property list), so the official owners of the land (forest, pasture) are their ancestors who have died 50 years ago. During the 1960's and 1970's afforestation (according to the program for erosion control) has been undertaken on nationalized land and now, according to the act on denationalization, people want their land back.

Everyone cutting wood has to pay taxes: 15% of the value of the wood mass of which 10% are for simple reproduction, 3% for extended reproduction, and 2% for forest police. Payments go to the forestry sector in the Ministry of agriculture, forestry and water management and most of them go back to the PE "Macedonian forest" for silviculture activities. The MAFWE also provides free planting stock from nurseries to everyone taking an initiative for afforestation on bare land of V, VI or VII land class either private or state owned.

Nature conservation, management and instruments: According to current legislation the management of protected areas is carried out by the State exercising this task either through the establishment of specific institutions (Public National Parks Institutions) or through the delegation to certain legal entities such as local communities, public enterprises and non-governmental organization. For instance, the Monument of Nature "Prespa Lake" is managed by a public enterprise on the basis of Decisions taken by the Government of the Republic of Macedonia; two Strictly Protected Natural Reserves have been delegated for management to non-governmental organizations; and one Monument of Nature has been delegated for management to a non-governmental organization by a Decision taken by a local self government unit. In most cases, the act of designation regulates the issue of protected areas management.

Under the new Law on Nature Protection ("Official Gazette of RM" No. 67/04), the entities in charge of the management and protection activities have adopt management plans and annual programmes for nature protection. Such plans shall contain measures for biological diversity protection, natural habitats preservation and characteristic landscapes conservation. The control over the implementation of protected areas management plans is carried out by the Service for Environment, a body within the Ministry of Environment and Physical Planning. According to the Draft Law on Environment, the Service for Environment shall be transformed into the Directorate for Environment. The direct protection is performed by the ranger service established or appointed by the entities that manage the protected areas. The land use within protected areas is regulated by the relevant management plans.

The Law on Nature Protection stipulates as well that the use of nature outside protected areas is prohibited if it causes damage or destruction of biological and landscape diversity; degradation of soil and loss of fertility; damage or destruction of surface or ground geomorphological features, water pollution or change in water regime, and air pollution. According to the Law on Forests, forest protection and growing outside protected areas is carried out in accordance with specific plans for forest growing and protection. The control over the implementation of those plans is under the responsibility of the State Forestry and

Hunting Inspectorate within the Ministry of Agriculture, Forestry and Water Economy. According to the Law on Environment and Nature Protection and Promotion (“Official Gazette of RM” No. 13/03 consolidated text), the Ministry of Environment and Physical Planning carries out continuous measurement and monitoring of the state of the land within as well as outside protected areas. Inspection supervision over the implementation of the Law is performed by the State Environment Inspectorate as a body within the Ministry of Environment and Physical Planning.

Under the preceding legislation, the protection of species has been regulated in the following laws focusing mainly on the use of species: Law on Fisheries, Law on Hunting, Law on Forests, and Law on Pastures. The Law on Nature Protection now provides for integrated protection of species. Under the assumption that the use of plants, fungi and animals is carried out on the basis of the natural resources management plans, they shall contain measures for the conservation of ecosystem features, protection of bio-geographical characteristics of species and preservation of abundance and density of the population. The measures are intended to ensure the maintenance of a favourable preservation status of wild species. Extermination of indigenous wild species, introduction of wild species in nature and reintroduction of wild species are considered criminal acts against nature.

5. Sustainable development

In 2002, the Government of the Republic of Macedonia adopted the National Assessment Report on Sustainable Development intended for the World Summit on Sustainable Development (WSSD), held in Johannesburg, 2002 and submitted it to the CSD. The National Assessment Report on Sustainable Development follows the Guidelines for NCSD Rio + 10 Assessment, Earth Council and its preparation was coordinated by the Ministry of Environment and Physical Planning (MEPP) involving representatives of the Ministry of Agriculture, Forestry and Water Economy, the Ministry of Health, as well as of the Sector for Physical Planning of the Ministry of Environment and Physical Planning. The Report was elaborated in accordance with the Guidelines for National Reporting to CSD 12 available at www.un.org/esa/sustdev/natlinfo.htm. It should be noted that the Republic of Macedonia had submitted the data to before the 9 Session of the CSD, in the specified format - Country Profile, available at www.un.org/esa/agenda21/natlinfo/countr/macedonia/index.htm.

6. Education and international cooperation

Forestry education in RM started in the 1947, as a department of forestry on the Agriculture-Forestry faculty. In the 1971, this faculty becomes independent. In this period existed Institute of forestry (stopped its work in 1980). At the moment Faculty of forestry has two Institutes: the Institute for forestry, landscape designing and environment promotion (IFLDEP), and the Institute for wood industry and furniture and interior design which exist as a part of University St.Cyril and Methodius.

IFLDEP has just started with credit transfer system (CTS). There are 2 study groups on graduated studies: Forestry and Landscape designing and environment promotion. Duration of the studies is 4 years. The main aim of the studies is to educate students in forestry (silviculture, harvesting, management); park design; and environment promotion. Postgraduate studies haven't been adapted to CTS. It is on-going process. At the moment, there are 11 groups for studies with duration of 2 years. Soon, it will be changed (probably 1 year, but not more then 5 groups). The Faculty of natural sciences – Department of Biology

organizes education related to nature conservation (*study groups: biology; ecology*). University “St. Cyril and Methodius” organize Interdisciplinary Studies of Environmental Engineering, where students are involving in nature conservation.

One of the international cooperation projects in forestry “*Strategic plan for PE “Macedonian forest”*” has been undertaken during the year 2004 in collaboration between the Norway state company “Statskog” and PE Macedonian forest. The final result of the project is a document with directions for the revitalization and reconstruction of the PE Macedonian forest in order to achieve profitability. Another international cooperation project has just started. It is a FAO supported project with working title: “*Institutional development and capacity building in forestry sector and sub sector for wood industry*”. The goals of the projects relate to the harmonization and approximation of forestry institutions in RM with EU institutions, to the harmonization and approximation of forestry regulations to EU, and to recommendations for future development of some area in forestry in RM.

7. Final Remarks

The most important change that happened in the meantime (2005-2006) is related to the project financed by FAO: Institutional Development and Capacity Building in Forestry and Forest Industry Sub-sectors. This project² has been carried out by the Ministry of Agriculture, Forestry and Water Economy of the RM. It is interesting to mention a new SNV project giving logistic support of a private forest association. They succeed to gain about 500 active members in the association and they established regional and local headquarters.

Related to nature conservation in this period were established 3 public institutions: NP “Mavrovo, NP Pelister and NP Galicica. The management of national parks is under supervision of the state inspectorate for nature and environment (soon there will be assigned to a separate inspector for nature). Preparation of new management plans in accordance with the modern approach for nature protection is obligatory for institutions managing national parks. Till now only the management plan for NP Pelister has been finished.

All legislation related to nature and environment that was mentioned as in the process of preparation ha been adopted by now. At the moment we can not say that there are some essential changes of the tasks to be accomplished according to the Action Plan, except the idea of establishing the Directorate of Forestry within the Ministry with a separate gyro account.

Literature:

1. Blinkov I., (1999); *Forest, forestry and wood industry in RM and their impact to environment (script for US peace corp. in RM)*.
2. Blinkov I., Stojanovska M. (2002): *Difference between land management in RM and EU countries*, International Conference «Managing of forests as a natural resources» 18-21 June 2003, Ohrid/Macedonia
3. Stojanovska M. (2004): *Forests as a nature resources in Macedonia*, Forest in transition II, Challenges in strengthening of Capacities for forest Policy Development in Countries with Economies in Transition, UNU Tokio page 259-266
4. Trendafilov A., (2003): *Water Master Plan (ongoing project) – separate elaborate Forest and forestry in RM*

² All details about this project can be seen on web site: www.mnfps-fao.org.mk

5. MEPP&UNDP (2005): *Macedonia's National Capacity Needs Self Assessment For Global Environmental Management*, and separate studies for 3 conventions, available on www.ncsa.gov.mk
- Spatial plan of RM (2004)
- Regulative on and related to forestry and nature conservation
- Constitution of RM
- State documents related to forestry and environment

APPENDIX I: Forest Fund

Table 1 Forest fund, condition and changes

Year	Surface		Forest coverage %	Wood mass		Yield	
	All - km ²	Forest - ha		1000 m ³	m ³ /ha	1000 m ³	m ³ /ha
1	2	3	4	5	6	7	8
1961	25713	887517	34.5	62840	70.8	1203	1.36
1979	25713	905653	35.2	74343	82.1	1829	2.02
79/61	100.0	102.0	102.0	118.3	115.9	152.0	149.0

Table 2 Forest fund according to the ownership, 1979 year

Ownership	Surface		Wood mass		Yield	
	ha	%	m ³	m ³ /ha	m ³	m ³ /ha
1	2	3	4	5	6	7
State owned	816633	90.2	68592167	84.0	1675491	2.05
Private owned	89020	9.8	5750955	64.6	153539	1.72
TOTAL	905653	100.0	74343122	82.1	1829030	2.02

Table 3 Forest fund according to the purpose, 1979 year

Forests by their use	Surface		Wood mass		Yield	
	ha	%	m ³	m ³ /ha	m ³	m ³ /ha
1	2	3	4	5	6	7
Economic(wood production)	834347	92.1	68543375	82.2	1627903	1.95
Protection forests	17617	1.9	832148	47.2	25868	1.47
Special purpose	53689	5.9	4967599	92.5	175265	3.26
TOTAL	905653	100.0	74343122	82.1	1829036	2.02

Table 4 Forest fund by groups of tree species

Species	Surface		Wood mass		Yield	
	ha	%	m ³	m ³ /ha	m ³	m ³ /ha
1	2	3	4	5	6	7
PURE STANDS	581279	64.2	55520459	95.5	1332567	2.29
-broadleaves	546959	94.1	52215664	95.5	1249709	2.28
-conifers	34320	5.9	3304795	96.3	82858	2.41
MIXED STANDS	324374	35.8	18822663	58.0	496463	1.53
-broadleaves	277395	85.5	10407160	37.5	324533	1.17
-conifers	6024	1.9	951494	158.0	19165	3.18
-broad. and con.	40955	12.6	7464009	182.2	152765	3.73
TOTAL	905653	100.0	74343122	82.1	1829030	2.02

Table 5 Forest fund according to the forms of management

Forms of management	Surface		Wood mass		Yield	
	ha	%	m ³	m ³ /ha	m ³	m ³ /ha
1	2	3	4	5	6	7
HIGH	262790	29.0	46957822	178.7	906141	3.45
-uneven aged	166907	63.5	36943560	221.3	690977	4.14
-evenaged	95883	36.5	10014262	104.4	215164	2.24
COPICCIES	557592	61.6	26662551	47.8	888474	1.59
OTHERS	85271	9.4	722749	8.5	34415	0.4
TOTAL	905653	100.0	74343122	82.1	1829030	2.02

APPENDIX II: Ratified or Signed Convention, Protocols, Memorandums, Agreements, Programs

NATURE - Ratified:

- Convention on Biological Diversity (Rio)

The Convention was ratified by means of the Law on Ratification ("Official Gazette of RM" No. 54/97). The Convention entered into force in 1998.

- Convention on Wetlands of International Importance especially as Waterfowl Habitats (Ramsar)

The Convention has been ratified by means of the Decree on Ratification ("Official Gazette of the SFRY" No. 9/77).

- Convention on the Conservation of Migratory Species of Wild Animals (Bonn)

The Convention was ratified by means of the Law on Ratification ("Official Gazette of RM" No. 38/99). The Convention entered into force in November 1999.

- Convention on the Conservation of European Wildlife and Natural Habitats (Bern)

The Convention was ratified by means of the Law on Ratification ("Official Gazette of RM" No. 49/97). The Convention entered into force in April 1999.

- Convention for the protection of the World Cultural and Natural Heritage

The Convention was ratified by the Socialist Federal Republic of Yugoslavia in 1977, published in the "Official Gazette of SFRY" No. 56/74. The Republic of Macedonia has taken it over by means of succession and became Party to the Convention on 08.09.1991.

- Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington)

The Convention was ratified by means of the Law on Ratification ("Official Gazette of RM" No. 82/99). The Republic of Macedonia became Party to the Convention on 02.11.2000.

- European Convention for the Protection of Vertebrate Animals Used for Experimental and other Scientific Purposes

The Convention was ratified by means of the Law on Ratification ("Official Gazette of RM" No. 13/02).

- Protocol of Amendment to the European Convention for the Protection of Vertebrate Animals Used for Experimental and other Scientific Purposes

The Protocol was ratified by means of the Law on Ratification ("Official Gazette of RM" No. 13/02).

- European Landscape Convention (Firenza, 2000)

The Convention was ratified by means of the Law on Ratification ("Official Gazette of RM" No. 44/03).

- Agreement on the Conservation of Bats in Europe (London, 1991)

The Agreement was ratified by means of the Law on Ratification ("Official Gazette of RM" No. 38/99), and entered into force in the Republic of Macedonia on 10.09.1999.

- Amendment of the Agreement on the Conservation of Bats in Europe

The Amendment was ratified by means of the Law on Ratification ("Official Gazette of RM" No.13/02).

- Agreement on the Conservation of African-Eurasian Migratory Waterbirds (the Hague) The Agreement was ratified by means of the Law on Ratification ("Official Gazette of RM" No. 32/99), and entered into force in the Republic of Macedonia on 01.11.1999.

NATURE - Signed:

- Cartagena Protocol on Biosafety to the Convention on Biological Diversity (Cartagena Protocol)

The Republic of Macedonia signed the Protocol on 26.07.2000. The Protocol ratification procedure is in progress.

- Memorandum of Understanding on the Conservation and Management of the Middle-European Population of the Great Bustard (*Otis tarda*)

The Republic of Macedonia signed the Memorandum on 07.11.2000 in Amman, Jordan.

ATMOSPHERE - Ratified:

- Vienna Convention for the Protection of the Ozone Layer (Vienna, March 1985)

- Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal, September 1987)

- The Amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer – London, Copenhagen, Montreal, Beijing

- United Nations Framework Convention on Climate Change (New York, 1992)

The Convention was ratified by means of the Law on Ratification ("Official Gazette of RM" No. 61/97), and entered into force in the Republic of Macedonia on 28.04.1998.

- Kyoto Protocol to the United Nations Framework Convention on Climate Change The Protocol was ratified by means of the Law on Ratification ("Official Gazette of RM" No. 49/04).

- Convention on Long-Range Transboundary Air Pollution (Geneva, 1979)

- Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Long-Term Financing of the Co-operative Programme for Monitoring and Evaluation of the Long-Range Transmission of Air Pollutants in Europe (EMEP, Geneva 1984)

- Stockholm Convention on Persistent Organic Pollutants

ATMOSPHERE - Signed:

- Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants (POPs)

- Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Heavy Metals

WASTE - Ratified:

- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal

- Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Amendment to Annex I, Annex VIII and Annex IX (Kuala Lumpur, Malaysia, 23-27 February 1998)

LAND - Ratified:

- United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa

The Convention was ratified by means of the Law on Ratification ("Official Gazette of RM" No. 13/02), and entered into force in the Republic of Macedonia on 06.06.2002.

NUCLEAR SAFETY - Ratified:

- 1986 Convention on Early Notification of a Nuclear Accident
- 1979 Convention on the Physical Protection of Nuclear Material
- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency
- Vienna Convention on Civil Liability for Nuclear Damage

TRILATERAL AGREEMENTS

- Declaration on the creation of the Prespa Park and the Environmental Protection and Sustainable Development of the Prespa Lakes and their Surrounding
This Declaration was signed by the Prime Ministers of Macedonia, Greece and Albania, respectively, on 02.02.2000, in Germanos, Greece.

BILATERAL AGREEMENTS

- Agreement between the Government of the Republic of Macedonia and the Government of the Republic of Croatia on Cooperation in the Field of Environmental and Nature Protection (Zagreb, 2002)
- Agreement on Cooperation in the Field of Environmental and Nature Protection between the Government of the Republic of Macedonia and the Government of the Russian Federation (Moscow, 1998)
- Agreement between the Government of the Republic of Macedonia and the Government of the Federal Republic of Yugoslavia on Cooperation in the Field of Environment (Belgrade, 2002)
- Agreement between the Ministry of Environment of the Republic of Macedonia and the Ministry of the Environment and Waters of the Republic of Bulgaria on Cooperation in the Field of Environmental Protection (Sofia, 2000)
- Memorandum of understanding concerning Cooperation in the Field of Environmental Protection and Sustainable Development between the Macedonian Ministry of Environment and Physical Planning and the Albanian Environmental Agency (Pogradec, Albania, 2000)
- Memorandum of understanding and cooperation in sustainable development and the environment between Macedonia and Greece, i.e. Memorandum of understanding and cooperation in sustainable development and the environment between the Party of the Second Part to the New York Interim Accord, of September 13, 1995 and The Party of the First Part to the above Interim Accord (Skopje, 2000)
- Letter of Intent between Republic of Macedonia and Province of Low Austria on Establishment of Friendship and Cooperation in the Field of Environmental Protection (St. Pelten, 2000)
- Agreement between the Government of Switzerland represented by the Swiss Agency for Development and Cooperation and the Macedonian Government represented by the Ministry of Environment and Physical Planning concerning the River Monitoring System in Macedonia
- Agreement between the Government of the Republic of Macedonia and the Council of Ministers of the Republic of Albania for the Protection and Sustainable Development of Lake Ohrid and its Watershed
- Protocol on Cooperation in the field of Environmental Protection between the Ministry of Environment and Physical Planning of the Republic of Macedonia and Ministry of Environment of the Czech Republic

PROGRAMMES OF ENVIRONMENTAL REGIONAL CO-OPERATION

The Republic of Macedonia carries out regional cooperation as a key segment of its international political activity, through permanent strengthening of the cross-border cooperation and active participation in regional initiatives and activities under the Stability Pact.

The Republic of Macedonia is a member of:

- the South-East Europe Cooperation Process (SEECF);
- Central European Initiative (CEI);
- Stability Pact (SP) and
- South-Eastern Cooperative Initiative (SECI).

The procedure for full membership in the Black Sea Economic Initiative is underway, and in the Adriatic-Ionian Initiative and Segedin Process, the Republic of Macedonia has the status of observer.

New aspects concerning the adoption of the ‘*acquis communautaire*’ regarding forest reproductive materials in Romania

Gheorghe Parnuta and Ioan Vasile Abrudan

Abstract

Sustainable forest management requires the application of a complex of actions in order to amplify the forest multiple functions. Since 1981 Romania has been a member of the Organization for Economic Cooperation and Development (OECD) Scheme for control of the forest reproductive material (FRM) moving into the international trade. On the other hand, the adoption of the ‘*Acquis communautaire*’ regarding the FRM into Romanian legislation is currently ‘ongoing’ in the frame of the European Union accession process.

Council Directive (EEC) no.105/99 on the marketing of the FRM and Commission Regulations no. 2301/02, 1602/02, 1598/02, 1597/02 with detailed rules for application of this Directive were officially adopted via the Government Ordinance (GO) no.11/2004 (approved by Law no.161/2004) and several Ministerial Orders (MO).

According to the rules for forest tree and shrub seed testing developed by the International Seed Testing Association, two Romanian standards: SR no.1808/2004 –*Rules for sampling* and SR no.1908/2004 – *Methods of analysis* were elaborated and approved. Based on the provisions of the GO no.11/2004 and the OECD Scheme, the regions of provenance for basic material from the “Selected” category for all relevant native forest tree species, and from the “Source Identified” category in all stands with extreme conditions for the forest vegetation (at the upper and lower altitudinal levels (sub-alpine and grassland levels) on pseudo-gleyic and sandy soils) were identified, described and delineated on the map in 2004-2005. The regions of provenance were approved by MO no. 610/2005 for practical implementation.

Keywords: EU Regulations, OECD Scheme, regions of provenance, forest reproductive material, basic material

General information

The Forest Research and Management Planning Institute elaborated in 1976 a report regarding the “Collection Zones of Forest Seeds in Romania” based on the new principles of the ecological genetics, reflecting the progress at the national and international levels and determining an increased forest poly-functionality as well as a higher resistance to adversities. This report includes the map of collection zones and the description of site conditions in each zone, establishes rules for the use of FRM and mentions that the “golden law” of local provenance should be promoted.

During the period 1976-1978 seed source mapping was updated, and for each collection zone, areas of seed-stand sources delineated in order to supply enough seed from the respective collection zone needed for the afforestation program and export. All the criteria for the selection of seed-stand sources were in line with the appropriate requirements of the OECD Scheme for the control of FRM moving into the international trade. The Catalogue of Seed Stand in Romania was elaborated in 1979, updated in the period 1984-1986, translated into

English, and distributed to all countries interested in seed import from Romania. In 1977, the Ministerial Order no. 2163/1977 for Inspection and Certification of the FRM in Romania was approved and since 1981, Romania has been affiliated with the Organization for Economic Cooperation and Development (OECD) Scheme for control of FRM moving into the international trade.

Transposition of the *Aquis communautaire* regarding forest reproductive material into the national legislation and the implementation developments

The basic EC acts regulating the various aspects regarding the forest reproductive material are the *Council Directive (EEC) No 105/99* of December 1999 on the marketing of forest reproductive material with the following implementing regulations:

- *Commission Regulation (EC) No 2301/02* of December 2002 laying down detailed rules for the application of Council Directive 1999/105/EC as regards the definition of small quantities of seed;
- *Commission Regulation (EC) No 1602/02* of September 2002 laying down detailed rules for the application of Council Directive 1999/105/EC as regards the authorization of a Member State to prohibit the marketing of specified forest reproductive material to the end-user;
- *Commission Regulation (EC) No 1598/02* of 6 September 2002 laying down detailed rules for the application of Council Directive 1999/105/EC as regards the provision of mutual administrative assistance by official bodies;
- *Commission regulation (EC) No 1597/02* of 6 September 2002 laying down detailed rules for the application of Council Directive 1999/105/EC as regards the format of national lists of the basic material of forest reproductive material;
- *Council Decision (EEC) No 399/66* of 14 June 1966 setting up a Standing Committee on seeds and propagating material for Agriculture, Horticulture and Forestry.

For the transposition of the Council Directive No 105/1999 into Romanian legislation a legislative act was prepared and officially adopted by the Government *GO no. 11/2004 regarding the production, internal trade and use of the FRM (approved by Law no 161/2004)*. Other related regulations were adopted and implemented in the recent years:

- MO no. 269/2002 approving the National Catalogue of Sources for the Forest Reproductive Material in Romania. This Catalogue has been amended by Ministerial Order no. 481/2002;
- MO no. 311/2004, approving the Format of National List of Basic Material;
- MO no. 312/2004, approving the Model of analysis bulletin of the forest seed quality;
- MO no. 528/2004, authorizing the Designated Authorities - The staff of the Forest Regime Directorate from the Ministry of Agriculture, Forests and Rural Development and the Territorial Inspectorates for Forest Regime and Hunting was designated for the inspection of the production, use and internal trade of FRM, and the Forest Research and Management Planning Institute as the responsible authority for the certification of FRM used into international trade, as stipulated by the rules of the Organization for Economic Cooperation and Development (OECD) Scheme;
- MO no. 494/2004 approving the format of the label which accompanies the lot/ divided lot of forest reproductive material;

- Governmental Decision no 611/2005 approving the regulations regarding the inspection of the producers, traders and users of FRM.

Also, according to the ISTA rules for forest tree and shrub seed testing, two Romanian Standards were updated and approved:

- SR no.1808/2004 –Rules for sampling;
- SR no.1908/2004- Methods of analysis.

According to the GO no. 11/2004 and OECD Scheme, the new Regions of Provenance (R of P) were identified, described and delineated on the map, both by species and the two basic material categories:

- “Selected” - for all native species (phenotypically selected stands);
- “Source Identified” – in all stands with extreme site conditions (adapted stands).

The R of P for the “Selected” category have been established for all native forest species with relevance in the forest area structure:

- *Abies alba* Mill.,
- *Acer pseudoplatanus* L.,
- *Acer platanoides* L.,
- *Alnus glutinosa* Gaertn.,
- *Castanea sativa* Mill.,
- *Fagus sylvatica* L.,
- *Fraxinus excelsior* L.,
- *Fraxinus angustifolia* L.,
- *Larix decidua* Mill.,
- *Picea abies* Karst.,
- *Pinus cembra* L.,
- *Pinus nigra ssp banatica* (Borb) Novac,
- *Pinus sylvestris* L.,
- *Populus alba* L ,
- *Populus nigra* L.,
- *Quercus cerris* L.,
- *Quercus frainetto* Ten.,
- *Quercus pedunculiflora* K. Koch.,
- *Quercus petraea* Lieb.,
- *Quercus pubescens* Willd.,
- *Quercus robur* L.,
- *Tilia* sp.

The R of P for the “Source Identified” category have been established for the forest species/ stands adapted to extreme site conditions:

- Sub-alpine level (*Picea abies* Karst, *Fagus sylvatica* L.);
- Low-humic gley soil and humic gley soil (*Quercus robur* L., *Quercus petraea* Lieb, *Quercus cerris* L., *Quercus frainetto* Ten.);
- Swampy soil (*Picea abies* Karst, *Quercus robur* L.);
- Sandy soil (*Quercus pedunculiflora* K. Koch., *Quercus robur* L.);
- Forests in grassland conditions (*Quercus pubescens* Willd., *Quercus pedunculiflora* K. Koch.).

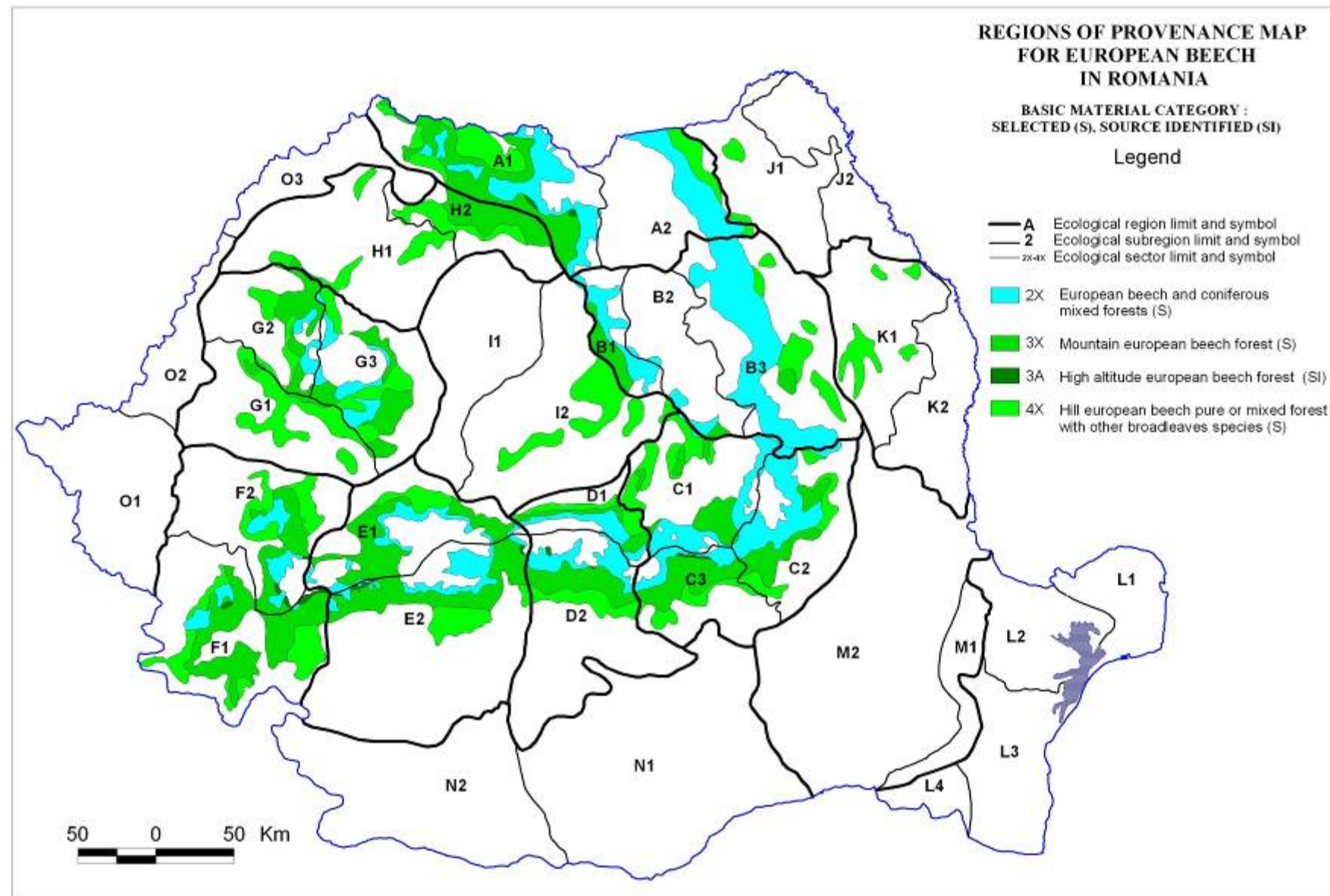


Figure 1. Regions of Provenance for *Fagus sylvatica* L. in Romania.

The R of P have been established and demarcated on the base of scientific knowledge and the accumulated information from genetics, ecology and connected fields, correlated with national and international requirements in this field (for example, Figure 1 shows the map of the R of P for *Fagus sylvatica* L.).

Each R of P for the “Selected “ and “Source Identified” categories has an unique code with symbols for: ecological region, subregion and sector, altitudinal level, site potential (for “Selected” category), or extreme site condition (for “Source Identified” category). The R of P have been approved by MO no 610/2005 for practical implementation.

References

1. Ordinul ministrului nr. 269/2001 pentru aprobarea Catalogului national al surselor pentru materiale forestiere de reproducere din Romania –2001. Monitorul Oficial, partea I nr. 439/06.08.2001.
2. Ordonanta Guvernului nr. 11/22.01.2004 privind producerea, comercializarea si utilizarea materialelor forestiere de reproducere. Monitorul Oficial nr. 85/30.01.2004.
3. Legea nr. 161/2004 pentru aprobarea Ordonantei Guvernului nr. 11/22.01.2004 privind producerea, comercializarea si utilizarea materialelor forestiere de reproducere. Monitorul Oficial, Partea I nr. 466/14.05.2004.
4. Ordinul ministrului nr. 311/14.05.2004 pentru aprobarea modelului filei Listei nationale a materialului de baza. Monitorul Oficial, partea I nr. 496/02.06.2004.
5. Ordinul ministrului nr. 312/14.05.2004 pentru aprobarea buletinului de analiza a calitatii semintelor forestiere. Monitorul Oficial, partea I, nr. 496/02.06.2004.
6. Ordinul ministrului nr. 494/12.07.2004 pentru aprobarea modelului de eticheta care insoteste lotul/ lotul divizat de material forestier de reproducere. Monitorul Oficial , partea I nr. 713/06.08.2004.
7. Ordinul ministrului nr. 528/27.07.2004 pentru imputernicirea personalului din aparatul propriu si structurile subordonate ca responsabil cu controlul producerii, comercializarii si utilizarii materialelor forestiere de reproducere si cu certificarea materialelor forestiere de reproducere.
8. Hotararea de Guvern nr. 611/2005 pentru aprobarea Regulamentului privind modul in care se realizeaza controlul producatorilor, comerciantilor si utilizatorilor materialelor forestiere de reproducere. Monitorul Oficial, partea I, Nr. 579/05.07.2005.
9. Ordinul ministrului nr. 610/11.07.2005 privind aprobarea delimitarii si descrierii regiunilor de provenienta pentru materialele de baza din care se obtin materialele forestiere de reproducere din categoriile “sursa identificata” si “selectionat” pentru speciile forestiere de interes forestiere din Romania. Monitorul Oficial, partea I nr. 849 bis/ 20.09.2005.

Legal regulations and the possibilities of sustainable forest management in Serbia

*Milan Medarević and Nenad Petrović **

Introduction

According to the internationally adopted definition: "Sustainable forest management involves management and use of forests and forest lands in a way and at a rate that maintains their biodiversity, and productivity, regeneration, vitality and potential to stay at the level to fulfil relevant ecological, economic and social functions, both of present and future generations, at local and at national level, and that does not cause damage to other ecosystems". This statement follows one of the first and very frequently cited definitions of sustainable development which is that in the World Commission on Environment and Development Report (WCED, the so called Brundtland Commission) published in 1987. It defines sustainable development as the "development which meets the needs of the present without compromising the ability of future generations to meet their own needs". Taking into account the basic characteristics of forest areas, modern management planning of such natural units should be based on the knowledge of the following initial elements:

- The complex nature of forests and their functions and in this context, the state and the potentials of a particular forest area; and the
- permanent and current social needs related to forest functions, as special requirements and potentials, in harmony with the characteristics and total natural potentials of the forest area.

Based on these initial elements, forest management helped by forest management planning should attempt to realise the following goal: *development and optimal utilisation of the total potential of a forest area in harmony with the needs and, in this framework, development and enhancement of individual forest functions and activities*. The Forest Law of Serbia (1991) defines the multiple-benefit functions of forests as the positive influences of forests on the environment and especially: protection, hydrology, climate, sanitary, health, tourist, recreation, economy, teaching, scientific research, and defence functions.

2. Sustainable forest management

The significance of forests and the richness and diversity of species in them is best reflected by the finding that they include more than 50% of the world biodiversity. The great contribution of forests is also the heterogeneity of landscapes, soil formation, flood control, soil erosion control, water conservation and purification, oxygen release, etc. Therefore the consequences of forest decline or deforestation are so serious that they are treated separately by the international conferences on conservation and sustainable forest management. Sustainability in a wider context is to be understood and refers to:

- conservation and reasonable improvement of forest resources and their significance and contribution to the global cycle of carbon (CO₂);

* Dr. Milan Medarević, full professor, Faculty of Forestry, Belgrade, Nenad Petrović, B.Sc., junior assistant, Faculty of Forestry, Belgrade

- conservation of forest ecosystem health and vitality;
- conservation and increase of forest production functions (in the widest sense);
- conservation, protection and potential enhancement of biodiversity in forest ecosystems.

Assumptions of sustainability: The requirements of sustainability can be met only under the following assumptions (Speidel, 1984):

- minimal area of estate,
- minimal capacity,
- compulsory regeneration (afforestation),
- security of production,
- maintenance of site productivity,
- ratio between felling and increment,
- good solvency,
- national economic assumptions,
- institutional coverage,
- financial security,
- legal frame conditions.

The obligatory maintenance and improvement of state, forest regeneration and afforestation are the essential conditions for the maintenance of both static and dynamic functional sustainability.

This requirement is identified in the quantitative and qualitative aspects in the Spatial Plan of Serbia (1996) through the goals of forest and forest soil management and utilisation. They include:

1. Improvement of the forest state: by converting coppice forests into high forests, reclamation of degraded forests into high-production stands, reclamation of coppice forests of poor quality and reconstruction of poor-quality degraded high forests into better quality forests; and
2. Increase of the area under forest (afforestation to 41%) in harmony with the global zoning and space categorisation. In this sense (till 2011), afforestation of the VI and VII quality classes should cover 1,686 km², afforestation and establishment of shelterbelts in Vojvodina should cover 100 km², afforestation in the headwater and river basin areas of planned storages - 680 km², afforestation of mine spoil banks and cinder banks should cover 299 km² etc.

Functional sustainability and parameters of sustainable management: The Report on forest status and the methods of their utilisation TBFRA 2000 points to the multi- functionality of forest ecosystem utilisation at a global level. All forests and forest soil are divided into forest area suitable (intended) for timber production, and other forests. Other forests include, inter alia, forests from I to VI categories according to IUCN (1999) criteria*, soil and water protection forests, forests used for socio-cultural functions, etc.

* Category I - Strict Nature Reserve

Category II – National Park

Category III – Natural Monument

Category IV – Habitat and Species Management Area

Category V – Protected Landscape

Category VI – Managed Resource Protected Area

Forests and forest soil in SCG in the categories I and II occupy 166,000 ha, and in categories III –VI they occupy 460,000 ha. Further to the previous parameters of area categories at a global level, in the Republic of Serbia (without Kosovo), the total space of state forests is classified into forty (40)* individual special-purpose entities, which can be related to the specific aims of management, as shown in Table 1.

Table 1: Distribution of total area of state forests in Serbia by special-purpose entities (Medarević M. et al 2004)

Special-purpose entity	Area		Special aim of forest management
	(ha)	%	
10, 11, 12	567103.15	62.83	Production of technical timber
13,14,15,16,80,92,94	19322.52	2.14	Production, rearing and protection of game
17	1017.46	0.11	Production of forest seeds
19, 20, 21, 22	17664.99	1.96	Protection of water (sources)
26, 27, 66	167320.02	18.54	Soil Protection against erosion
31, 47, 53	1284.81	0.14	Other protection forests (Protection of climate, road protection, etc.)
67, 68	74.9	0.01	Protection of natural monuments and vistas
73, 74, 75, 77, 78	4396.33	0.49	Intensive recreation utilisation
55, 56, 57, 81, 99	42117.01	4.67	Protection sites pf rare, endangered and valuable forest and other ecosystems
70, 79, 83	971.53	0.10	Protection and conservation of nature and landscapes (especially valuable natural ambiance entities)
71, 86, 84	2165.21	0.24	Scientific research/protection of areas of completely conserved nature
95, 97	679.3	0.08	Protection of nature and ambiance within the natural and memorial historic monuments
National Parks	78419.18	8.69	Conservation of species and genetic diversity, tourism and recreation
	824117.23	100.00	

Although within the total area of state forests in Serbia the production forests (in the classical sense) are dominant, there is a significant presence of other categories of utilisation, especially soil protection forests (against different erosion forms), water protection forests, National Parks, strict and special nature reserves.

In management planning forcing on special aims equal attention should be given to protection of biodiversity as the imperative aim in the framework of sustainability and to sustainable utilisation and forest management. In this sense, one should take into account which sites, which forest communities and which species of flora and fauna and their sites and populations, especially of individual species of trees, are classified in the categories of rare, relic, endemic and endangered species (Table 2).

* Full names of individual special-purpose entities is found in the Code Manual of the Information System on Forests in Serbia (2003), (Banković, S. and Medarević, M.)

Table 2: Relic, endemic, rare and endangered species in Serbia (TBFRA 2000)

No.	Species of trees and shrubs	Categories
1.	Common alder – <i>Alnus glutinosa</i>	Rare-endangered
2.	Common walnut – <i>Juglans regia</i>	Rare-endangered
3.	Wild cherry – <i>Prunus avium</i>	Rare-endangered
4.	Wild pear – <i>Pyrus pyraeaster</i>	Rare
5.	Crab apple – <i>Malus silvestris</i> , <i>Pyrus malus</i>	Rare-endangered
6.	Plum – <i>Prunus pseudoarmeniaca</i>	Rare-endangered
7.	Wild service tree – <i>Sorbus torminalis</i>	Rare-endangered
8.	Rowan – <i>Sorbus aucuparia</i>	Rare
9.	Common white-beam – <i>Sorbus aria</i>	Rare-endangered
10.	Aspen – <i>Populus tremula</i>	Rare-endangered
11.	Birch – <i>Betula pendula</i>	Rare-endangered
12.	Turkish hazel – <i>Corylus colurna</i>	Tert. relic
13.	White ash – <i>Fraxinus excelsior</i>	rare-endangered
14.	French maple – <i>Acer monspesulanum</i>	Rare
15.	Italian maple – <i>Acer opulus</i>	Subendemic
16.	Balkan maple – <i>Acer intermedium</i>	Endemic
17.	Norway maple – <i>Acer platanoides</i>	Rare-endangered
18.	Balkan maple – <i>Acer heldreichii</i>	Endemic
19.	Serbian spruce – <i>Picea omorica</i>	Relic, endemic
20.	Macedonian pine – <i>Pinus peuce</i>	Endemic
21.	White-bark pine – <i>Pinus heldreichii</i>	Endemic
22.	Mountain pine – <i>Pinus mugo</i>	Rare-endangered
23.	Yew tree – <i>Taxus baccata</i>	Tert. Relic
24.	Field elm – <i>Ulmus minor</i>	rare-endangered
25.	Mountain elm – <i>Ulmus montana</i>	Rare
26.	Daphne - <i>Daphne laureola</i>	Relic
27.	European holly – <i>Ilex aquifolium</i>	Relic
28.	Hop hornbeam - <i>Ostrya carpinifolia</i>	Relic
29.	Cherry laurel - <i>Prunus laurocerasus</i>	Relic
30.	Serpent stick - <i>Staphylea pinnata</i>	Relic
31.	Caucasian lime - <i>Tilia caucasica</i>	Relic

Forest management planning should be directed to the conservation, protection and increase of biodiversity at the ecosystem, species and genetic levels and, where evident, at the landscape level. The hazard to individual forest communities is conditioned by their minimal percentages in individual forest areas (Table 3).

Table 3: Spatial distribution of the complex of alluvial hygrophilic forests (state)

No.	Forest area	Forest hectarage	Willow and poplar forests		Forests of willow, poplar and narrow leaved ash		Forests of narr-leaved ash and pedunc.oak	
		ha	ha	%	ha	%	ha	%
1	Južn.Morav.	65654.65	38.00	0.06				
2	Jablaničko	36290.27	8.21	0.02				
3	Hišavsko	33504.87	6.98	0.02			10.83	0.03
4	Moravsko	48234.74	2.69	0.01				
5	Topličko	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Timočko	53978.49						
7	Sever.Kučaj.	56185.89	222.71	0.40			66.99	0.12
8	Juž.Kučaj.	39766.10						
9	Rasinsko	53116.15	3.09	0.01			18.16	0.03
10	Donj.Ibar.	39073.86						
11	Gor.Ibar.	46554.83	0.36	0.00				
12	Šumadij.	25724.43	2.58	0.01			1.20	0.00
13	Golijsko	58618.43	4.99	0.01				
14	Tars.-Zlat.	33255.49	0.83	0.00				
15	Limsko	54157.54					7.02	0.01
16	Podr.-Kolub.	37024.67	297.60	0.80	17.84	0.05	39.98	0.11
17	Posav.-Podun.	13479.61	562.41	4.17	6.01	0.04	1239.36	9.19
18	Sremsko	36780.81	227.40	0.62	81.93	0.22	17899.67	48.67
19	Banatsko	31491.47	1361.53	4.32	14.41	0.05	763.09	2.42
20	Sever.Bačko	17002.00	2243.00	13.19			248.00	1.46
21	Južno Bačko	11239.75	0.00	0.00	0.00	0.00	0.00	0.00
28	N.P."Tara"	11754.16						
	Forests outside N.P."Tara"	1747.85						
29	N.P."Fr.Gora"	22518.00	28.76	0.13	2.82	0.01	46.26	0.21
30	N.P."Đerdap"	37052.89						
31	N.P."Kopaonik"	7094.13						
33	Faculty of Forestry	5531.12						
34	JKP "B. Izvor"	7799.62						
Total:		884631.82	5011.14	0.57	123.01	0.01	20340.56	2.30

3. Harvesting and afforestation

The total average annual felling volume in Serbia is 2,649,510 m³. Compared to an average current volume increment (3,897,863 m³) the felling intensity is 40 %, and compared to total volume, felling intensity is 1.1 %.

Table 4: Quantity of felling volume by individual Districts (Medaredić M. 2005)

Districts	Average wood yield in the last 10 years 1992 – 2002 m ³	Percentage of Tech. %	Annual afforestation ha
Serbia	2 649,510	40	3,473
Central Serbia	1 849,254	34	2,208
Vojvodina	640,039	54	1,066
Kosovo	267,680	-	348
Severno Bački	10,906	44	44
Srednje Banatski	35,067	73	100
Severno Banatski	17,400	74	30
Južno Banatski	135,931	53	234
Zapadno Bački	73,960	63	146
Južno Bački	168,029	59	346
Sremski	198,946	45	161
Mačvanski	120,866	35	57
Kolubarski	54,985	27	21
Braničevski	63,472	29	131
Šumadijski	46,157	11	63
Pomoravski	104,308	26	129
Borski	118,435	24	67
Zaječarski	83,703	28	133
Zlatiborski	246,986	27	253
Moravički	168,259	43	98
Raški	206,869	49	350
Rasinski	91,919	30	235
Nišavski	49,310	14	34
Toplički	106,017	32	57
Pirotski	61,834	26	112
Jablanički	116,355	25	181
Pčinjski	113,152	28	176
Podunavski	3,188	55	15
Belgrade	93,437	61	92
Kosovski	77,560		96
Pečki	68,573		53
Prizrenski	25,435		62
Kosovsko Mitrovački*	53,143		78
Kosovsko Pomoravski	42,968		59

* The data for Kosovo are not reliable due to the information on forests in the post-war period (1999)

In relation to total yield presented in Table 4, it can be concluded that the ratio and percentage of round technical timber and cordwood at the level of Serbia is 40 % to 60 % in relation to net yield. The waste, compared to the gross yield which remains in the forest, accounts for 10 – 15 % (10 % hard broadleaves, 15 % soft broadleaves and conifers).

In Serbia, annual afforestation amounts to 3,473 ha (average for the last 10 years). A decreasing trend of afforestation was recorded from 1992 to 2002. The planned annual increase of the forest cover percentage in Serbia, according to the Spatial plan 1996 is: in Serbia 38,190 ha, Vojvodina 9,110 ha, central Serbia 24,450 ha and Kosovo 4,630 ha.

Table 5: Afforestation by years (1992 – 2002)

Year	1992	1993	1994	1995	1996	1997	1998	2000	2001	2002
ha	6,942	3,598	3,953	4,136	3,638	2,577	2,420	2,668	2,057	2,747

Non-wood forest products (other forest products): Other forms of harvesting per species and quantity are presented in Tables 6 and 7.

Table 6: Other forest products (1995) – TBFRA 2000

Product	Quantity	Unit
Juniper	200	tons
Mushrooms	1,395	tons
Gentian	200	kilograms
Blueberry	100	tons
Rose hip	50	tons
Lime and hawthorn (flower)	10	tons
Honey	14,000	tons

Table 7: Other forest products (1995) – TBFRA 2000

Hunted game	Quantity	Unit
Deer	706	heads
Roe	4.300	heads
Wild boar	2.522	heads
Hare	129.726	heads

The available data point out the considerable quantities of bee-honey and mushrooms produced in forests. Significant products are also juniper, blueberry, rose hip and lime. Based on the actual non-wood production, it can be concluded:

- That there is a spontaneous and unplanned, and thus irrational approach to harvesting both from ecological and from economic aspects;
- And that a planned approach would be difficult because of the complex nature of the forest and its environment, i.e. the complex nature of flora and fauna whose collection and harvesting does not endanger their survival.

Services: The value of services rendered in the forest or in adjacent areas is difficult to estimate in short term because of the complexity of the problem. Some of the service activities deal with:

- afforestation and artificial regeneration;

- forest utilisation (conservation, tending, felling and crosscutting of wood products, hauling and transport, loading and unloading, grading and measurement);
- recreation (passive and active recreation in all possible forms in forest spaces);
- education and research;
- protection of water sources and other infrastructural outputs, etc.

4. Limiting and endangering factors of sustainable forest management

Limiting factors: The possibility and rationality of utilisation of the forest functions, and the intensity of the realisation of the aims of forest management depend on the forest state, especially regarding the functional optimum defined for individual priority purposes. The state of forests in Serbia is unsatisfactory under several aspects (Table 8).

Table 8: State of forests in R Serbia (M. Medarević, 2000)

Silvicultural Forms	Area		Volume			Volume increment			
	ha	%	m ³	%	m ³ /ha	m ³	%	m ³ /ha	Pi
High all-aged stands	459,585	39.0	83 584,984	61.1	181.9	1 797,060	46.4	3.9	2.1
High even-aged stands	133,369	11.3	18 267,325	13.4	137.0	534,858	13.7	4.0	2.9
Plantations	36,404	3.1	3 949,361	2.9	108.5	414,625	10.6	11.4	10.5
Coppice forests	431,701	36.6	29 404,295	21.5	68.1	1 107,154	28.4	2.6	3.8
Scrub and shrub	66,711	5.7	1 002,106	0.7	15.0	33,238	0.9	0.5	3.3
Brushland	31,158	4.3	486,398	0.3	15.6	10,094	0.3	0.3	2.1
Fodder forests	810	-	52,048	0.1	64.3	834	-	1.0	1.6
State forests (50.2 %)	1 179,738	100.0	136 746,517	100.0	115.9	3 897,863	100.0	3.3	2.6
High all-aged stands	318,176	27.2	45 671,832	44.7	143.5	834,925	31.3	2.6	1.8
High even-aged stands	125,318	10.7	13 543,591	13.2	108.1	305,002	11.3	2.4	2.2
Plantations	449	-	42,345	-	94.3	370	-	0.8	0.9
Coppice forests	638,156	54.5	40 710,644	39.8	63.8	1 489,599	55.2	2.3	3.7
Scrub and shrub	68,832	5.9	1 439,654	1.4	20.9	40,029	1.5	0.6	2.8
Brushland	8,521	0.7	100,030	0.1	11.7	2,150	0.1	0.3	2.2
Fodder forests	10,530	0.9	690,298	0.7	65.6	16,421	0.6	1.6	2.4
Private forests (49.8 %)	1 169,982	100.0	102 247,394	100.0	87.4	2 697,496	100.0	2.3	2.6
High all-aged stands	777,761	33.1	129 256,816	54.1	166.2	2 641,085	40.0	3.4	2.0

High even-aged stands	258,687	11.0	31 810,916	13.3	123.0	839,860	12.7	3.2	2.6
Plantations	36,853	1.6	3 991,706	1.7	108.3	414,995	6.3	11.3	10.4
Coppice forests	1 069,857	45.5	70 114,939	29.3	65.5	2 596,753	39.4	2.4	3.7
Scrub and shrub	135,543	5.8	2 491,760	1.0	18.4	73,267	1.4	0.5	2.9
Brushland	39,679	2.5	586,428	0.3	14.8	12,244	0.2	0.3	2.1
Fodder forests	11,340	0.5	742,346	0.3	65.5	17,255	0.3	1.5	2.3
Total R Serbia	2 349,720	100.0	238 994,911	100.0	101.7	6 595,459	100.0	2.8	2.8

Based on the data of the above Table, it can be concluded that:

- total area of forests in Serbia is 2,349,720 ha;
- state forests cover 50.2 %, and private forests 49.8 % of the total forest area;
- high forests cover 1,036,448 ha (44.1%);
- coppice stands cover 1,069,857 ha (45.5%);
- plantations (intensive plantings) cover 36,853 ha (1.6 %);
- scrub, shrub, brushland and fodder forests as degradation forms cover 186,562 ha (8.8 %).

According to the Pan-European categorisation of forests (by which scrub, shrub and brushland are classified as other wooded land) the average volume in our forests amounts to 110 m³/ha, and the average volume increment is 3.05 m³/ha. Average volume in state forests is 116 m³/ha (125 m³/ha), average current volume increment is 3.3 m³/ha (3.56 m³/ha). The average volume in private forests is far lower than in state forests and amounts to 87 m³/ha (93 m³/ha). The average current volume increment in private forests is 2.3 m³/ha (2.44 m³/ha).

Compared to state forests (actual state), the production potential in private forests is used by about 75%. Compared to high forests, production potential in coppice forests is used by about 40 %. Compared to the estimated optimum of about V = 250 m³/ha and Iv = 5-6 m³/ha, the production potential is used by about 45 %.

Hazardous factors to real planning and sustainable utilisation of forest ecosystems are: forest dying, forest fires, hurricane winds and storms, climate changes, air pollution and the process of soil acidification. To support this statement these are some of the characteristic examples:

- The defoliation in Serbia and Montenegro during the period 1990 – 1997 ranged from 1.6% to 4.7%.
- During the same period, in Serbia and Montenegro the annual area burnt by forest fires was 2,930 ha. Alone in 2000 about 1,000 ha of forests burned in Forest Estate Vranje.
- The damage caused by hurricane winds in the area of Gornji Srem in 1998 was 109,000 m³.
- The deposition of heavy metals in forest soil causes its acidification.

5. Legal basis for the identification of the aims of forest management

The most significant international documents in environmental protection and sustainable development are:

- Rio Declaration on Environment and Development;
- Agenda 21 (Global program of action for sustainable development);
- Forest Principles – Non-Legally Binding Authoritative Statement of Principles for the Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests;
- Convention on Biological Diversity.

The World commission for protected areas (IUCN/WCPA) and the EUROPARK Federation in co-operation with the World Conservation Monitoring Centre (WCMC) published the directives for the implementation of IUCN management categories in protected nature areas. The various categories of protected areas are:

- I a Strict Nature Reserve
- I b Wilderness Area
- II National Park
- III Natural Monument
- IV Habitat and Species Management Area
- V Protected Landscape
- VI Managed Resource Protected Area

Matrix of the aims of management and IUCN categories of protected areas management

Aims of Management	Ia	Ib	II	III	IV	V	VI
Scientific research	1	3	2	2	2	2	3
Wildlife protection	2	1	2	3	3	-	2
Conservation of species and genetic diversity	1	2	1	1	1	2	1
Provision of services in the environment	2	1	1	-	1	2	1
Protection of specific natural and cultural forms	-	-	2	1	3	1	3
Tourism and recreation	-	2	1	1	3	1	3
Education	-	-	2	2	2	2	3
Harmonised utilisation of resources from natural ecosystems	-	3	3	-	2	2	1
Conservation of cultural and traditional characteristics	-	-	-	-	-	1	2
1 primary aim							
2 secondary aim							
3 potentially applicable aim							
- inapplicable							

At the national level of forest management, the utilisation of forests and total natural potential in forest areas is determined in the following legal and other acts:

The Constitution of the Republic of Serbia ("Official Gazette RS", No. 1/90)

Article 31: Man is entitled to a healthy environment. Everyone should, pursuant to the law, protect and improve the environment.

Article 72, paragraph 5: The Republic of Serbia manages and provides the system of protection and improvement of the environment; protection and improvement of plant and animal life.

The Spatial Plan of the Republic of Serbia ("Official Gazette RS", No. 13/96-354):

The plan requires that the strategic aims of utilisation, conservation and protection of forests and forest soil are directed to:

- improving the state of actual forests,
- increase of area under forest – by afforestation
- territorial differentiation of the aims of improving the state and afforestation, according to the needs,
- management and enlargement of forest complexes surrounding large city and production complexes, and
- conservation of rare and endangered species.

Pursuant to the *Spatial Plan* of Serbia, the strategic goals of hunting management during the plan period are:

- considerable increase of small game population density;
- multiple increase of big game population density;
- improvement of (sex and age) structure of big game populations and trophy quality;
- conservation of rare and endangered species of hunted game and other fauna.

Forest Law ("Official Gazette RS", No. 46/91, 83/92, 54/94, 67/93, 54/96):

Article 2: Forests, as the areas of general interest, must be maintained, regenerated and harvested, so as to conserve and increase their value and multiple benefit functions, ensure the sustainability and protection and stable increase of increment and yield.

Forest soil, as the area of general interest, is used for forest production and cannot be used for other purposes, except in the cases and under the conditions defined by this Law.

The Forest Law defines the obligation of planned support to forest management, as the natural resource. The system of planning is provided by the drawing up of periodic and annual plans of forest management at different levels, and they can be of strategic and operative character. Their content is identified by the sub-legal act. The sub-legal act is the Regulation on the content of the forest management plan and program, the annual plan of operations and the temporary annual management plan for private forests.

Law on Hunting ("Official Gazette RS", No. 39/93, 53/93, 67/93, 48/94):

Article 27, paragraph 1: Game protection and rearing, management and maintenance of hunting grounds, hunting and utilisation of taken game and its parts in the hunting ground, i.e. in the hunting area is performed based on the Hunting Management Plan.

Article 40: Hunting, protection, rearing and utilisation of game in National Parks and other nature areas is performed pursuant to this Law, the Law which regulates the environmental protection and management of National Parks.

Hunting Management Plans must be harmonised with Forest Management Plans (General and Special).

Law on the Bases of Environmental Protection (Federal) ("Official Gazette SRY", No. 24/98)

- Resolution on the policy of environmental protection in SR Yugoslavia (SCG)
- Resolution on the policy of biodiversity conservation in SR Yugoslavia (SCG)

Law on Environmental Protection ("Official Gazette RS", No. 66/91, 83/92, 53/93, 67/93, 48/94, 53/95)

Article 2: The system of protection and improving the state of environment includes a set of measures and conditions for: conservation and protection of environmental natural values and values created by work: protection of people and environment against pollution; protection against the impact of harmful and dangerous substances, ionising and non-ionising radiation, noise and vibrations; protection from destruction and degradation of natural values; as well as the measures and conditions for the improvement of environmental quality.

Article 32: To protect and improve the state of forest ecosystems, forests are managed so as to secure their protection, maintenance and regeneration, gene pool conservation, improvement of their structure and the realisation of the priority forest functions.

Article 49: Paragraph 1: Protected nature areas must not be destroyed and their properties must not be damaged.

Paragraphs 3, 4, 5, 6: The IUCN regimes of protection of I, II and III degrees are established for protected nature areas. Category I of protection prohibits the utilisation of natural resources and excludes all other forms of spatial utilisation and activities, except for scientific research and controlled education. Category II of protection regulates the limited and strictly controlled utilisation of natural resources, while the activities can be performed to a degree that enables the improvement of the state and the presentation of nature areas without the consequences to their primary values. Category III of protection regulates the selective and limited utilisation of natural resources and controlled interventions and activities in the space if they are harmonised with the functions of the protected nature area, or are related to the heritage traditional forms of economic activities and dwelling, including the tourist development.

Law on National Parks ("Official Gazette RS", No. 39/93, 53/93, 67/93, 48/94)

Article 3: In the area of National Parks the measures of protection and development include:

1. prevention of activities that can disturb the main characteristics and other properties of National Parks,
2. protection, conservation and enhancement of the main natural features, values and rarities,
3. scientific - research activity,
4. culture - education activity,
5. presentation and popularisation of the value of National Parks,
6. designation of the area and construction in the aim of conservation, regeneration and improving the state of natural and cultural - historical values of National Parks and their presentation, as well as the rehabilitation and revitalisation of endangered parts of National Parks,
7. establishment and development of tourist, recreation and other development functions in utilisation of natural and cultural - historical values of National Parks within the limits and in the way to ensure the protection, conservation and improving the state of the values.

Law on Water ("Official Gazette RS", No. 46/91, 53/93, 67/93, 48/94, 54/96)

Article 43, paragraph 1: The area with springs that can be used by quantity and quality or are used for drinking water supply must be protected against the intentional or accidental

pollution and other impacts that can have an unfavourable effect on the freshwater quality and quantity and on the water safety for human consumption.

Article 45, Paragraphs 1, 2, 3, 4 and 5: The areas which contain the sources described in Article 43 of this Law are under special protection. The areas from paragraph 1 of this Article are classified into three zones of protection: wider zone of protection, narrow zone of protection and the zone of direct protection. The wider zone of protection covers the area in paragraph 1 of this Article. The narrow zone of protection covers the area of the storage at the highest water level, with a river bank belt about 500 meters wide. The zone of direct protection is situated within the narrow zone of protection.

Article 46: The Forest Management Plans define special conditions and the method of management of forests and forest soil in the zone of direct protection and the narrow zone of protection, in harmony with the special-purpose of the zones and the prescribed measures of protection.

Law on utilisation and protection of the sources of water supply ("Official Gazette RS", No. 27/77-1470)

Article 12. The Forest Management Plans define special conditions and the method of management of forests and forest soil in the zone of direct protection and the narrow zone of protection, in harmony with the special-purpose of the zones and the prescribed measures of protection.

The regulation on the formulation of the Water Management Plan of the Republic of Serbia and the Water Management Plan of the Republic of Serbia, itself, in its section 1.8. referring to environmental protection, natural and cultural areas specify that it is necessary to carry out the analysis of the effects of the structures and activities on the environment in all areas where environment is endangered (effectively or potentially).

The Regulation on the method of designation and maintenance of the zone and the belts of sanitary protection of structures for drinking water supply ("Official Gazette RS", No. 33/78)

In addition to the special activities in the zones of protection of the sources of underground and surface waters and in the shelterbelts along the waterways and torrents, in the riparian areas of all water systems, the activities on space and ecosystem protection must be carried out, especially from the following aspects:

- Prevention of felling in shelterbelts along waterways and torrents,
- Prevention of unplanned exploitation of natural geological building material (rock, sand, gravel, etc.),
- Prevention of destruction of present ecosystems
- Conservation of landscape characteristics,
- Conservation of natural and cultural resources.

In the part "protection of nature areas", the first paragraph states that the Water Management Plan will be drawn up for all protected nature areas: National Parks, Nature Reserves (general and special – about 200), and landscapes of special characteristics.

6. Institutional coverage

Based on the Table 1, presenting the division of the total area of state forests in Serbia into special-purpose entities, the institutions which cover the integral system of utilisation should be the following:

- *Ministry of Agriculture, Forestry and Water Management.* The potential complementarity contained in the name has not been utilised to a sufficient degree, and sometimes even not in the in minimal degree.
- *Ministry of Science and Environmental Protection.* The financials for the research of the complex nature of forests are not allocated to a sufficient degree, and the protection of forest parts, pursuant to the adopted categories at the national level, most often ends only with a regulation, order or formulation of the repercussions to the manager who does not follow the rules. It is often (erroneously) thought that forest utilisation endangers the environmental quality.
- *Ministry of Education.* The forests as the base of education, cultural enhancement, more humane attitude to the environment are insufficiently used. In Norway, 350,000 pupils participated in the forestry training centre.
- *Ministry of Tourism.* Landscapes, mountains, forests and hunting are recognised by tourism as an important part of the tourist offer in Serbia. The sustainable management of these resources at the places where the resources are intensively utilised in this sense, is not at all financed by the Ministry.
- *Ministry of Traffic Capital Investment.* Only under the great pressure (and only partially), they recognize the adverse and harmful effects caused to forest ecosystems and the environment in general, by traffic corridors and the intensity of their utilisation.
- *Ministry of Energy and Mining.* Their obligation is the rehabilitation of opencast mines and mine spoil banks. Many of them have been forgotten after the exploitation and they represent the cancers in the space of the narrow environment.

The State, through the above Ministries, manages the space, the resources and the activities and consequently must take the responsibility for them in proportion to the content and intensity of utilisation. The task of the forestry profession regarding the greater number of methods of utilisation established for the priority aims (Table 1) is almost exclusively the provision of professional services. The financial support must be provided by the beneficiary - users.

The increase of forest cover percentage is not only and exclusively the strategic aim of forestry, it refers to all the subjects whose optimal functioning requires the more favourable forest cover percentage. They can be readily identified if the basic plan solutions of the Spatial Plan of Serbia are analysed. The institutions by which the management functions at the state level are provided are most often the State Enterprises, and specifically for forests, they are:

- SE «Srbijašume»,
- SE «Vojvodinašume»,
- SE National Parks and
- JKP Borjak

Equally significant are also all other public enterprises with activities related to or affecting areas under forests (SE «Srbijavode», etc.).

The Institutions that support the rational utilisation of the total potentials of forests and forest areas are:

- The *Faculties and the Institutes* dealing with the issues and thematic research of the complex forest nature;
- The *Bureaus* which complete the activities of the above institutions specifically and in the operative sense.

7. Conclusion

An in-depth analysis of the above leads to the following :

1. Unquestionable multiple-use forest utilisation in Serbia;
2. Existence of limiting and hazardous factors of the more optimal utilisation of the total natural forest potential;
3. Inadequate attitudes toward forests with special emphasis on:
 - enormous number of laws and sub-legal acts referring to the same space;
 - inadequate legal coverage of the forest benefits (uses) recognised by man;
 - legal solutions often unclear, complex, incompatible and differently interpreted;
 - the laws are not harmonised;
 - lack of financial mechanisms ensuring multi-functional forest utilisation;
 - The responsibilities and commitments in this sense of the Ministries are not defined, regarding the imperative of sustainable forest management – *they know their rights, but they forget their commitments*;
 - although a part of the national entity, there is no clear cooperation and unity of the Ministry regarding the more humane, rational, domestic attitude toward forests as an increasingly important resource and segment of the environment.

References

- Banković, S., Medarević, M., Pantić, D., Petrović, N. (2002): Distributin, condicions and management policy in mixd fir forests in Serbia, s 201 – 208, Ökologie und Waldbau der Waisstanne (*Abies alba* Mill.). Taguusberisht Zun 10. Internationalen IUFRO Tannensymposium 2002. Trippstadt.
- Group of authors (2000): Forest resource of Europe, CIS, N America, Australia, Japan and New Zealand, UN-ECE-FAO, TBFRA 2000.
- Jović D., Banković S., Medarević M. (1991.): Šume Srbije stanje, značaj, perspektive. Stručni skup povodom 100 godina šumarstva Srbije “Prošlost, sadašnjost i budućnost srpskog šumarstva kao činioca razvoja Srbije”. Zbornik radova DIT Srbije, (str. 9-16).
- Jović D., Banković S., Medarević M. (1991.): Šume Srbije stanje, značaj, perspektive. Stručni skup povodom 100 godina šumarstva Srbije “Prošlost, sadašnjost i budućnost srpskog šumarstva kao činioca razvoja Srbije”. Zbornik radova DIT Srbije, (str. 9-16).
- Jović D., Tomanić L., Banković S., Medarević M. (1992.): Šumski fond Srbije, Monografija: Šumarstvo i prerada drveta u Srbiji kroz vekove, Beograd (str.1-22).
- Jović D., Banković S., Medarević M. (1993.): Budući prinos šuma kao sirovinska baza za prerađivačke kapacitete u Srbiji. Monografija: “Uzroci i posledice erozije zemljišta i mogućnosti kontrole erozionih procesa”. Beograd, (str. 149 - 159).

- Jović D., Medarević M. (1995.): "Potencijali šuma i šumskih područja i njihov značaj za razvoj Srbije". Simpozijum: Potencijali šuma i šumskih područja i njihov značaj za razvoj Srbije". Monografija, Šumarski fakultet, Beograd.
- Jović D., Medarević M. (1995.): "Potencijali šuma i šumskih područja i njihov značaj za razvoj Srbije". Simpozijum: Potencijali šuma i šumskih područja i njihov značaj za razvoj Srbije". Monografija, Šumarski fakultet, Beograd.
- Jović D., Banković S., Medarević M., Grbić P. (1995.): Planovi gazdovanja šumama - problemi izrada i sprovođenje. Simpozijum: Potencijali šuma i šumskih područja i njihov značaj za razvoj Srbije". Monografija, Šumarski fakultet, Beograd.
- Jović D., Medarević M. (1995.): Šume kao prirodni resursi (Prostorni plan Srbije). Simpozijum: Potencijali šuma i šumskih područja i njihov značaj za razvoj Srbije". Monografija, Šumarski fakultet, Beograd.
- Jović D., Milojković D., Milin Ž., Tomanić L. (1977): Stanje i potencijali šuma Srbije. Glasnik šumarskog fakulteta br. 52, Jubilarni broj, Beograd.
- Medarević M., Aleksić P., Milić S., Sklenar K. (2002): Stanje četinarskih kultura iveštački podignutih sastojina četinara kojima gazduje JP "Srbijašume", JP "Srbijašume" i Šumarski fakultet, Beograd.
- Medarević M., Banković S., Pantić D., (2003): Stanje bukovih šuma u Srbiji, Časopis "Šumarstvo" br. 1-2, Beograd.
- Medarević M., Banković S., Pantić D., Petrović N. (2004): Izdanačke šume bukve – stanje, problemi gazdovanja i mogućnost njihovog rešavanja Časopis "Šumarstvo" br. 3, Beograd.
- Medarević M. (2002): Planine Srbije, šumarstvo i lovstvo, problemi gazdovanja šumama u planinama Srbije, Konferencija o razvoju planinskih područja sa međunarodnim učešćem - povodom međunarodne godine planina - Kopaonik.
- Medarević M. (2004): Održivo upravljanje šumama u odnosu na Panevropski kriterijum 3. Rad urađen u okviru Projekta Formiranje indikatora održivog razvoja Srbije, kordinator projekta Poljoprivredni fakultet - Beograd.
- Medarević M., Šljukić B. (2004): Održivo korišćenje šuma, Zbornik radova sa naučnog skupa "Održivi prostorni, urbani i ruralni razvoj Srbije", IAUS, Beograd.
- Medarević M., Petrović N. (2004): Održivo korišćenje šuma - sirovinska osnova i prerada drveta, Drvo tehnika br.6, Beograd,
- Medarević M., Sviličić A. (2005): Indikatori - Projekat: Formiranje indikatora održivog razvoja Republike Srbije.
- Speidel, G. (1984): Forstliche Betriebswirtschaftslehre. 2. Auflage, Paul Parey, Hamburg und Berlin.
- UN-ECE-FAO (1995): European criteria and indicators for sustainable forest management, Geneva;

Problems of sustainable forest management implementation - The example of the spatial plan for the special purpose reserve Golija / Serbia

Milan Medarević and Nevena Vasiljević

Abstract

The area of mountain Golija was established by regulation as the Natural park „Golija“ (75 183 ha). At the same time an area of 53 804 ha on the same mountain was announced in 2001 as a UNESCO–MAB Biosphere Reserve. Biosphere Reserves have to fulfill three complementary functions: conservation implying preservation of genetic resources, species, ecosystems and landscapes; development related to sustainable economic and human development in sense of utilization of endangerment forests in the area; and logistics enabling the realization of demonstration projects, ecological education, and research on local, national and international conservational concepts and sustainable development. This paper discusses the importance of dealing with the problems connected to establishing compatibility between different protection regimes proclaimed by the environmental law, the forestry law, and the specific regulations for the Natural park „Golija“.

Necessary documentation for planning

The Spatial Plan of Republic of Serbia (1996) is as a strategic document regarding development obligatory for other plans for special purposes. It defines the basic framework for utilization and protection of natural resources and forests as essential values. The Spatial plan of Republic of Serbia provides for achievement of the following goals in forest and forest land management:

- Improvement of the conditions of the existing forest area,
- Increase of the area covered by forests (afforestation).

The goals for wildlife management in the same area are:

- Increase of the population density of game (autochthonic species),
- Improvement of the sex ratio and age structure of the game population.

These goals are followed by a general goal for protection of rare, relicts and endangered species (flora and fauna) as well as forest habitat protection in whole.

The goals for protection of natural assets aiming at conservation and preservation of landscapes, ecosystems and habitats comprise the following elements:

- unique and rare natural features valuable for scientific research, cultural, educational and recreation interests,
- representative ecosystems and important biological and geological diversity, representative types of landscape from natural landscape to anthropogenic landscape,
- natural landscape, ambient and landscape which us surrounded by cultural heritage within its complex protection,
- and as a primary goal the protection of genetics, species and ecosystems biodiversity (The Pan – European Biological and Landscape Diversity Strategy, 1996).

In the Spatial Plan of Republic of Serbia (1996) Golija is identified as a valuable area with the following priority:

- a high value as a mountain region,
- an area with significant natural and cultural heritage,
- a tourist region with specific features and development potentials.

The areas of the Golija and Radocelo are preserved by regulation as a *Natural assets with exceptional significance*. An appropriate zoning according to the Environmental Law has been undertaken within Golija Nature park. According to the Forestry law, the Golija mountain covers three forestry areas: Golija, Donjeibarsko (down flow of the river Ibar), Gornjeibarsko (upper flow of the river Ibar) managed by the Public enterprises "Srbijasume".

According to the IUCN (1999) categorization for protected areas the Golija nature park belongs to the V category which is the most complex of the conservation categories. The objectives of this category, regarding nature resource management, are (IUCN, 1999):

- Conservation of landscape and habitats diversity as well diversity of species and forest ecosystems;
- Conservation of the harmonious interaction of nature and culture through the protection of cultural landscapes demonstrating cultural (traditional) manifestations such as customs, beliefs, social organizations and material trails as reflected in the prevailing use patterns;
- Development of recreation and tourism as significant elements in management;
- Elimination and prevention of inadequate land use;
- Support to the traditional way of living and economy consistent with nature and protection of the social and cultural milieu;
- Support to scientific and educational activities with long ranging benefits for the local community ;
- Support to local community contributions by providing appropriate services.

Regarding to the international terminology and the categories which are provided by MCPFE (Ministry conferences for Protection of the forest in Europe) category V is characterized by a *global management objective which means protection of landscape and specific natural elements*. The Natural Park Golija was announced as a UNESCO–MAB Biosphere Reserve in 2001 which put the emphasis on the conservation of cultural landscape.

In general biosphere reserves have to fulfill three complementary functions:

Conservation contributing to maintaining the existing landscapes, ecosystems, species and genetic biodiversity;

Development fostering economic and human advancement that is socio-culturally and ecologically sustainable. This means *using the whole forest potentials in this area consistent with its ecological capacity and respecting the principal of dynamic balance (sustainability)*

Logistic support to research projects for forest ecosystems within core zone; to operative projects with regard to multifunctional forest uses within buffer and transition zones; to educative projects related to local, regional, national and global issues of conservation and sustainable development; and to projects which are dealing with *harmonization between biodiversity conservation and sustainable development of mountain areas*.

The distinction of these three functions helps to identify the strategic problems regarding the zoning within the area of the Plan leading to three specific management zones (Seviljska strategija o Rezervatima Biosfere, 1995):

- The location for conservation and preservation zone (*core zone*),
- The need for tampon zone (*buffer zone*) which surrounds the core area,
- A flexible transition zone (*transition area*) or cooperation zone

The Strategy of clearly determined objectives is suggested at the international, national, individual level. Regarding the previously described functions common objectives are:

- Utilization of forest as a part of biosphere reserve owing to natural biodiversity preservation
- Integral utilization of forest and whole forest potential applying the model of sustainable forest management respecting local necessities.
- Utilization forest and whole forest potential for fundamental and operational research, monitoring and education.

It is obvious that there is an incompatibility with the objectives provided by IUCN and the Seville Strategy. Furthermore, this incompatibility deepens the problems of establishing the boundaries between the two natural assets in the same area. Another problem is finding a compatibility between the mentioned zones and the regimes of protection provided by Environmental law, the Regulation for protection of the Golija Natural Park as well as the current laws in Forestry, Hunting, Water management, and Land use. Biosphere reserves, in relation to the previous requirements contain, essentially, elements of the I, IV and V IUCN categories, and the dominant component is the category V of IUCN classification.

Forest conditions in the Natural park Golija

The natural environment of the Golija area has persisted to the present time in spite of human activities. Different ecological systems with a high biodiversity are controlled by non uniform geology, varied surface configuration, and numerous geomorphologic features. The region of Golija has been a morphological habitat of refuge where tertiary flora survived. Golija belongs to the geographical region called Stari Vlah which is a watershed of many rivers.

In spite of the name Golija, which reminds us of an area without forest (naked), the area is mostly covered by forests. The forest cover varies in the municipalities (Ivanjica 49%, Raška 46%, Novi Pazar 48%, Kraljevo 49% Sjenici 20%) and the optimal forest cover is estimated to be 53%. Of the Golija's forest area (55 581 ha) 55% are state owned forests and 45% private forests (Medarević et al, 2005.). On the Golija Mountain 20 forest association are established. Due to the elevation contrast which is 1 600 m, there is a representative spectrum of forests association typical for the whole vertical forest spread in Serbia.

The pure stands dominated occupying 60 per cent of the whole area while mixed stands cover the reminder of the area. Forests, meadows and pastures are mosaic patterned. One of the typical meadows is *Nardetum Strictae*, which is degraded by grazing. Succession of meadow vegetation to forest at Kosanonivo lake has the character of nature phenomena. At the peat, which is made by various mosses, *Carex paniculata* forms many balls where birches and spruces appear (Gajić, 1989). Thirty one tree species within natural assembling are registered on mountain Golija. There are five alochtone species which are represented with 0.01 per cent in the total growing stocks.

Broadleaf forests are predominant in the total growing stock. The beech is dominant with 53 per cent of stocking wood volume and with 48 per cent in volume increment, followed by spruce with 31.3 per cent in volume of wood and 48 per cent in volume increment 34.3. Participation of fir and black and scots pine is modest (1-7 per cent). Other species are represented with less than 1 per cent. This circumstance does not decrease its meaning in the sense of forest ecosystems biodiversity. First of all, the need for protection and conservation of balkan maple, sycamore, white ash, scotch elm, common elm, Norway maple, wild cherry, wild pear, wild service tree, mountain ash, and all type of rare, relict, sub endemic and endangered species needs to be emphasized.

The average volume of wood in the area is 250 m³/ha (125 m³/ha in Serbia), and the average volume increment is 5.65 m³/ha (3.5 m³/ha in Serbia). In the state forest, high forests are dominant and occupy 72.9 per cent, coppice forests cover 11.2 per cent, plantation forest cover 14.1 per cent, and scrub and bush land cover 1.8 per cent of the area. Under significant impact of humans, qualitative high forest content is changed. Related to Osnova datasets, high, mature forests cover 9 per cent in whole forest area, degraded high forest cover 3 per cent. On the whole, the potential for forest use is realized by 70 per cent with regard to the site potential, and additional effects are attenuated stability and multifunctional effects (Medarević et al, 2005.)

Forest management in the Nature Park Golija

Management problems are coming from the previously stated facts and can be classified as follows:

- Incompatibility between laws which regulate the relationship between sustainable uses of certain resources in the Golija Nature park;
- Law coverage (generally and locally) is only partially provided, as far as the current law solutions are not followed;
- Incompatibility of the acts for the nature park announcing it as well as a biosphere reserve making the achievement of goals more difficult;
- Insufficient definition of use and preservation criteria for announcing leading to “freewill” categorization and usage regimes;
- Existence of limiting factors, in this case caused by the forest condition, limiting the possibility of achieving general forest management goals.

As a consequence, there are problems in the decision making process which are intensified by the protection announcements as nature park and biosphere reserve Golija making strategic and operational planning difficult. The solution of this problem might be a combination of approaches and making a network in matching the different interests for forest protection and use.

General objectives for forest management in the Nature park Golija:

- Conservation and improvement of biodiversity as well as the function of Golija’s forest ecosystem;
- Improvement forest condition through reconstruction of forest condition from no orderly selection forests to orderly selection forest by increasing forest and forest care, regeneration of autochthonous forest species in forest plantations, conversion of coppice forest into high forest or other adequate silvicultural shapes;

- Enlargement of the forest area (afforestation) in compatibility with categorization of the space;
- Providing opportunities for use and development in frame of scientific, educational , recreational, cultural and other activities;
- Determination of criteria for protection of other natural resources such as hunting, water supply, manufacture of healthy food.

Special objectives for forest management:

- conservation and regeneration genetic materials and biodiversity, specially relic and endemic species;
- conservation and improvement forest ecosystems in whole;
- protection of degrade, modified and endangered ecosystems;
- restitution of degrade ecosystems;
- repatriation of several flora and fauna species;
- forest protection of different endangering factors;
- conservation and reconstruction of devastated stands;
- development and improving specific forestry aiming integral use of whole forest in this area;
- education and local public participation in various activities, form protection of general parks value to different actions;
- infrastructural equipment in order to get integral, multifunctional forest use and reaching the previous objectives (Medarević et all, 2005.).
- further research of complex forest nature and characteristic of forests in whole, specially rare and endangered species,
- setting up a forest informational system in Golija Nature Park (Medarević et all, 2005.).

Problems of strategic importance for forestry are connected to:

- Nature park boundaries and eventual demand for boundaries revision by encircled natural boundaries,
- revision of inside boundaries of individual zones (core, development, transition zones),
- problem connected to present forest condition ,
- problem connected to ignoring of private forest condition problem,
- problem of extensive relation to forest in phase of care and utilization ,
- problem of forest utilization regime within park area and relation to the whole resources (potentials of the park), conflict of interests, laws, plans, institutions, financing.
- transition processes impact, extensive dimension and reverse,
- problem of inadequate sanctions related to lack of respect of land use law (Medarević et all, 2005.).

Conclusion

Nature conservation and protection in Serbia within announcement of nature protected areas, are followed by several problems and restriction related to establishment of Golija Nature park and Golija biosphere reserves in the same time. Problems consist of :

- law incompatibility,

- incompatibility of acts for announcing nature protected assets,
- insufficient definition criteria for announcing nature protect assets,
- existence of restriction factors (forest condition and endangerment),
- unsolved conflict of interests (general, specific and individual).

Bearing in mind the spectrum of problems, simultaneously, with combination and making network, interests are harmonized during working out a plan while general and special objectives are defined.

Literature

1. Akt Internacionalnog koordinacioniog saveta MAB-a ("Čovek i biosfera"), UNESCO, 2001.
2. Gajić M., 1989: *Flora i vegetacija Golije i Javora*, Ivanjica
3. IUCN/WCPA: *Uputstvo za primenu kategorija upravljanja zaštićenim prirodnim dobrima*, interni prevod, 1999.
4. Medarević, M., Banković, B., Pantić, D.: *Stanje bukovih šuma u Srbiji*, Šumarstvo br 1-2, Beograd, 2003.
5. Medraević, M., Vasiljević, N., Šumarstvo u prostornom planu posebne namene za park prirode Golija, *Prostorni pla npodručja posebne namane za Park prirode Golija*, 2005. CEP, Beograd.
6. *Pravilnik o sadržini osnova i programa gazdovanja šumama, godišnjeg izvođačkog plana i privremenog godišnjeg plana gazdovanja privatnim šumama*, 2003., Sl. Glasnik RS br. 122,.
7. Program izrade Prostornog plana područja posebne namene Parka prirode Golija, Ministarstvo urbanizma i građevina, Beograd, novembar 2002.
8. *Prostorni plan Republike Srbije*, Službeni glasnik sa p.o. Beograd, 210-023, 83, 95-1004, 1996.
9. *Seviljska strategija o Rezervatima Biosfere*, 1995., UNESCO, Sevilja.
10. *The Pan – European Biological and Landscape Diversity Strategy*, 1996. Council of Europe.
11. *European criteria and indicators for sustainable forest management*, Geneva, 1995. UN – ECE-FAO.
12. Uredba o zaštiti Parka prirode Golija, sa opisom granica, Vlada Republike Srbije, "Službeni glasnik RS", br. 45/01, Beograd.
13. *Vodič za dobro upravljanje u oblasti životne sredine*, 2003., Regionalna kancelarija za Evropu i Zajednicu nezavisnih država UNDP-a,.
14. Zakon o zaštiti životne sredine, Službeni glasnik RS, br. 66/91.
15. Zavod za zaštitu prirode, Park prirode Golija predlog za stavljanje pod zaštitu kao prirodnog dobra od izuzetnog značaja, Studija, 2000., Beograd.

Conflicts between forestry and erosion

*Ratko Ristić, Ratko Kadović, Ivan Malušević and Snežana Belanović**

Abstract

Serbian forests, as a part of European forests, are a very important component of environment with regulative and protective functions, especially in the domains of water supply and erosion control. In the document of the European Union, Council Regulation (EEC) No 2080/92, some basic functions of forests were marked: combat against erosion and desert spreading, balancing the hydrologic cycle. Forest covers about a third of Europe's land area, but their importance has to be weighted even higher than their proportion of total area: they provide protection against both flooding and erosion by retaining water and thus delaying and mitigating maximal discharges. These functions of forests are potentially at risk under a changing climate, products of wet and dry deposition of air pollutants, land managing practices, and measures applied in forestry, such as tree species selection, stand structure, density management, harvesting methods. Productive functions of forests in Serbia are dominant on 77.8% of the area covered by forest vegetation, protective on 14.6% and special usage on 7.6%. The territory of Serbia is endangered by erosion processes, various categories of destructability, on almost 76 355 km² (86.4% of total area). Annual yield of erosion material achieves to 37.25·10⁶ m³ (487.85 m³·km²). Forest practitioners and planners in Serbia don't express that they bear in mind interactions: forest cover-soil-water storage-erosion control. Cooperation and overcoming of conflicts between forestry and erosion control is indispensable on the next levels: policy; planning; practice; investments; education.

Keywords: Forestry, Erosion Control, Conflicts, Planning.

Introduction

The vulnerability of forest ecosystems is obvious in connection with the intensity and quality of forest management. Floods, mud flows, landslides and avalanches have recently caused significant damages in some regions of Serbia, Indonesia, Georgia and Romania as a consequence of over exploitation or mismanagement of mountain forest ecosystems. Protection against natural hazards, biological diversity and recreation, all three important services of forests, are public goods. Within the context of global climate change and carbon dioxide fixation afforestation is an important feature. Incentives for afforestation would be: improvement of the environmental and landscape quality of rural areas; combat against soil erosion and desertification. Also, the transition process in the forest sector is under influence of the fragility of forest ecosystems and the connected problems: water supply, erosion control, soil and water conservation. Simultaneously, forests are a raw material basis, providing wood processing industry in the sense of quantities, quality and planned increase of production. Forest owners (private or public) have to be skilled to face up to the economic, ecological and social dimensions of sustainable forest management, regardless how large their property may be.

* Forestry Faculty of Belgrade University, ratkor@yubc.net

Upland and downland areas of watersheds are facing problems due to misuse of soil. Activities such as logging, improper road construction and clearcuts change the autochthonous forest cover of upland areas, leaving the soil unprotected by rain drops, surface runoff and erosion. Watershed management includes technical, social, economic, administrative and institutional measures, even political activities. The central question is whether the public interest in soil and water conservation, within forest ecosystems, should prevail over the right of private and public landholders to use and misuse soil. For controlling erosion, stabilization of moving sands, reduction of surface runoff and flood damage, forest ecosystems should be protected from massive logging and inadequate transport of logs through forest (from location of cutting to the forest road).

Serbian forests, as a part of European forests, are an important component of environment with regulative and protective functions, especially in the domains of water-supply and erosion control. In the document of European Union, Council Regulation (EEC) No 2080/92, some basic functions of forests were marked: combat against erosion and desert spreading, balancing the hydrologic cycle (Pontbriand 2000). Regulation 1054/94 predicts the aid for afforestation of 1554 euros per hectare in erosive regions.

2. Main characteristics of forests in Serbia

Afforestation degree of Serbia is 26.7 % (24 129.4 km²), and it is planned to reach 41.4%. Average volume of wood mass is 101.6 m³·ha⁻¹ (Ranković et al. 2002). This is only 50% of the possible volume if we take into consideration an optimal use of stands productive potential. Possible annual yield of wood mass is 13·10⁶ m³, and achieved is only 6.18·10⁶ m³ (2.67 m³·ha⁻¹). Deforested and degraded soil takes 14 010 km², in other words, 15.6% of the national territory. Productive functions of forests in Serbia are dominant on 77.8% of the area (covered by forest vegetation), protective on 14.6%, and special usage on 7.6%. The annual amount of cut wood mass amounts to 4·10⁶ m³, production of wood mass amounts to 6.18·10⁶ m³, and total wood mass is increased for 2·10⁶ m³ yearly.

3. Forest ecosystems and erosion control

The territory of Serbia is endangered by erosion processes, various categories of destructibility, on almost 76 355km² (86.4% of total area). Annual yield of erosion material amounts to 37.25·10⁶ m³ (487.85m³·km⁻²), and a great part reaches to hydrographic systems, being transported down the stream to water supply reservoirs, or is accumulated on fertile soils in river valleys (Ristić 2000). Pollutants unite with sediment, still in the process of erosive material production on the slopes (pesticides, products of dry and wet deposition). Then, by gravitation supported by water, move to the hydrographic system, and further on great distances to surface reservoirs of drinking water, decreasing water quality.

Forming stable forest stands on bare lands is an indispensable anti-erosive measure. Generally, forest vegetation intensifies processes of transpiration and interception, but decreases loss of water by evaporation. Also, it influences the development of soil layer and especially on its infiltration capacity. Specific runoff is lower but its duration is longer, which is illustrated by Figure 1. Three experimental hydrologic stations were formed on mountain Goč in Central Serbia (in function from 1980 to 1997). MI, A=0.076km², is under artificial plantings of *Pinus nigra*, *Pinus silvestris*, *Picea abies*, since 1960. MII, A=0.0635km², is under autochthonous meadow-pasture association *Helleboro serbicae*, with the dominant species *Danthonietum Calycinae*. MIII, A=0.0843km², originally was bare land on serpentine

rock, with 40% of surface under *Lasiagrostis calamagrostis* grass (in 1980 afforestation was carried out with *Pinus Nigra*). Duration of runoff is longer on the catchment areas under forest vegetation (MI, MIII) than on catchment area under meadow-pasture vegetation (MII). Until 1984 the shortest duration of runoff had afforested bare land (MIII), in the period 1985-1986 was on the level of meadow-pasture formation (MII), and from 1987 to 1997 was on the level of stable forest stand, 37 years old (Ristić et al. 1997).



Figure 1 – Duration of runoff on micro-catchment areas

4. Water supply and forest ecosystems

One of the main economic, existential and in a wider context civilization problem of mankind is the evident lack of quality drinking water. Serbia is not an exception, and shortages of water are evident, mostly, in the region of Kolubara, Eastern and Southeastern Serbia. Mean annual amount of precipitation is 735 mm, 564 mm is lost by evaporation-transpiration, and hydrographic systems obtain 189 mm “native water”. Total inflow, from the territory of other countries, reaches to 1950 mm. But, “transit” waters cannot be the basis for a lasting solution of water supply problems, because they could be charged with pollutants (pollution of river Tisa with cyanide, in summer 2000). The concentrations of these materials will increase with the trend of revival and development of the region. Water supply is based on the strategy of sustainable maximal usage of local sources of surface and underground water, and that the lack of water can be supplemented from regional water systems. The base for this strategy are surface reservoirs in the mountain forest zones (first class water quality), and for Vojvodina the focus is on the exploitation of underground water (deeper sources, alluvial sources). Catchments areas of formed and planned reservoirs take great surface (12 752km²). It is necessary to provide profitable exploitation in the designed period and good water quality, under appropriate conditions: protection of soil in the catchments from erosion and pollution; stopping of sediment in hydrographic system before reaching useful space in reservoirs. Realization of these tasks is not possible without active role of forest ecosystems on the

catchments areas. Only stable forest ecosystems can stop the intensification of excessive erosion, eroded material on the slopes, and have the feature of specific "bio-filter" for pollutants.

5. Forest ecosystems and hazards

Air-pollution, an evident phenomenon, characteristic of high-developed industrial countries, but also of undeveloped ones, charges the territory of Serbia. The last decade of the XX century in Serbia was marked by economic recession, war surroundings, and finally bombing in the period March-June 1999. Global increment of environmental pollution was one of the catastrophic consequences. War actions caused destruction of big oil refineries and reservoirs, chemical complexes and industrial objects. Afterwards, toxic and carcinogenic substances reached out to atmosphere and to the soil and hydrographic system. Excessive concentrations of pollutants in forest soils are the preceding factor of physiological weakness of trees and consequently susceptibility to diseases and pests.

Heavy metals are very dangerous, movable by erosion processes, with the possibility of reaching hydrographic networks and water supply systems. The content of Pb in soil layers of forest ecosystems is presented in Figure 2. Total content of Pb was determined at a few localities: Fruška Gora, Ivanovo, Goč i Crni Vrh (humus-accumulative horizon, and layers 0-5, 5-10, 10-20, 20-40, 40-60 cm deep). The content of Pb was determined by AAS (atomic spectra-photometry) using a "Varian-Spectra AA-10" apparatus. Maximal permitted quantity of Pb is 100 mg kg^{-1} and on locality Crni Vrh (CV1, CV2) was recorded $787\text{-}1487 \text{ mg kg}^{-1}$, in the humus-accumulative horizon. Similar results were realized for other heavy metals: Cd, Cu, Zn and Mn. Fortunately, humus layer in forest soil accumulates heavy metals, which are bound to organic materials and become less toxic than in the form of free ions.

Climate changes in Southeastern Europe and forecasts for the period until 2020. have a great influence on present and future planning in forestry and water management. Noticed trends of changes lead to miscellaneous theories:

- Increment of mean annual temperature of air from 2 to 6°C until the end of the XXI century, redistribution of precipitation (more precipitation in the period spring-summer, during short, intensive events);
- Decrease of annual precipitation and soil moisture with extreme consequences: disappearing of climatic beech forests the most productive ones in Serbia with an important ecological role (Ristić et al. 2001).

6. International experiences in overcoming conflicts between forestry and erosion control

Sustainable Forestry Initiative (SFI) in USA: SFI (Sustainable Forestry Initiative) promoted by AF&PA (American Forest&Paper Association's) helped improvements in water quality and erosion control (AF&PA 1997). Sustainable forestry means (AF&PA Board of Directors): "...to meet the needs of the present without compromising the ability of future generations to meet their own needs by practicing a land stewardship ethic which integrates reforestation, managing, growing, nurturing and harvesting of trees for useful products with the conservation of soil, air and water quality, wildlife and fish habitat, and aesthetics". AF&PA cooperates with 170 companies by law-requirements for the SFI. AF&PA members are committed to conduct all aspects of their business in an environmentally sensitive manner. AF&PA terminates memberships of companies for failure to comply with agreed obligations. To ensure compliance with SFI and to help validating progress of member companies, AF&PA invited a panel of independent experts to review the industry's performance.

Volunteering their time to serve on the panel are representatives from conservation groups, universities, professional forestry societies, and federal and state agencies. In the firm belief that forest landowners must take the necessary action to support and carry out the principles of sound environmental management, the panel monitors implementation of the SFI, and suggests ways and means by which AF&PA member companies can continually improve their performance.

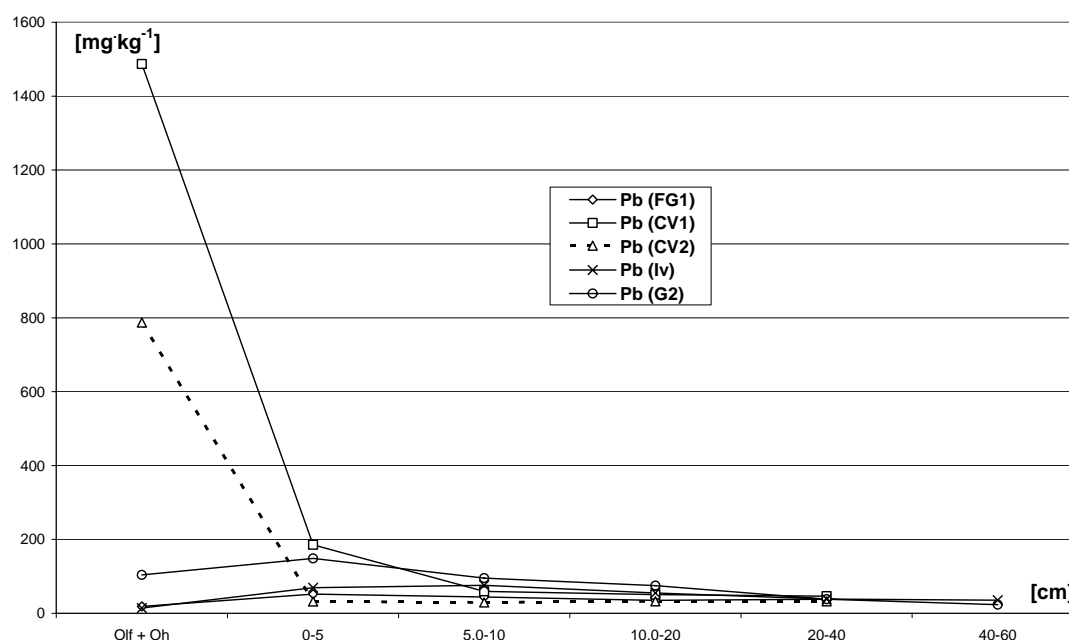


Figure 2 – Content of Pb in forest soil

Best Management Practices (BMPs) are measures established by each state to prevent or reduce erosion and water pollution by runoff from forestry activities. BMPs typically address such practices as timber harvesting and road construction, and their use is voluntary in many states. Under the SFI, compliance is mandatory for AF&PA companies. The Virginia SFI Committee, for instance, held three training sessions as part of SFI (BMPs) which were attended by more than 1000 loggers, foresters and woodland owners. The training sessions were organized by Virginia Polytechnic Institute and State University.

The forest industry continues to reforest harvested areas faster than all other landowners. During the period 1996-2003, member companies completed reforestation on 95% of harvested surfaces within two years of harvest. Clearcuts are allowed with an average size varying between 66 acres (26.71 ha) in 1995 and 64 acres (25.9 ha) in 2003. The cleanest surfaces and drinking waters come from forests, and to keep it that way, a number of companies are now requiring streamside management zones that are considerably wider than the corridors established under BMP guidelines Westvaco normally expands its streamside zones to provide an extra measure of stream protection and to enhance wildlife habitats. Its zones are extended to the upper reaches of many watersheds to provide even more water quality protection. Plum Creek sold 10 miles of frontage on the Blackfoot River in Montana to the Nature Conservancy to permanently protect the area from development.

Sustainable Forest Development in Switzerland: Switzerland's new instrument of forestry policy provides the necessary legal basis for a national policy dedicated to sustainable forest development in the spirit of the resolutions of the Ministerial Conference on the Protection of Forests in Europe. The objective is "...to manage and use the forest in such a way as to maintain its biological diversity, productivity, regenerative capacity, vitality and its ability to fulfil, both now and in the future, the relevant ecological, economic and social functions at local, national levels (and on a world scale) ". Forest management is no longer exclusively a matter for professional foresters. Clearcut has not been allowed in Switzerland for a hundred years. Exceptions are only considered in relation to special silvicultural practices. Excerpt from the federal law on forests (protection against natural catastrophes, Art.19): "Whenever the protection of population or property of considerable value so requires, the cantons shall ensure safety in areas set aside for protection against avalanches or prone to landslides, erosion and falling stones, and shall be responsible for embanking forest streams".

The forest's role of protecting people and property against avalanches, landslips and landslides throughout the mountainous regions of Switzerland is of national importance. The law specifies precise requirements to ensure that the forest is maintained in a state that allows it to carry out its protective functions. At the cantonal level, the division of responsibilities and organisation of tasks differs from one canton to another. Generally speaking however, the broad outline is as follows: the cantonal department responsible for forests has the political authority and oversees the canton's forestry service. The cantonal forestry service, with its various forestry districts, is responsible for forestry planning, inspecting the forests, marking the trees, advising the forest owners, for carrying out forestry projects including service roads, avalanche barriers, stream diversions, and for management of the public forests. The Federal government invested for forestry projects in the domain of prevention of natural catastrophes about 54 million of CHF approximately (in period 1990-2001).

Turkish Forestry and Erosion Control: The chief environmental problems in Turkey are: degradation of forests (100 000 km²), overgrazing and excessive removal of fuelwood; illegal deforestation and clearing of forest areas, largely caused by shortage of arable and pasture land; cultivation of unsuitable land and resulting soil erosion, and, in extreme cases, desertification and extensive landslides. Turkey has General Directorate of Afforestation and Erosion Control (AGM). The AGM has the primary responsibility for afforestation of all classes of land, particularly eroded or degraded forest areas, and including sand dunes, urban green belts, eroded gullies and shelterbelts (Maharaj 1997). The "National Afforestation and Erosion Control Mobilization Law " was passed in 1995, and the Minister of Forestry stated in early 1997 that the aim was to increase the rate of afforestation to 300 000 hectares yearly. Agroforestry is well-developed in Turkey, especially in the plain areas of Marmara, the Aegean, the western Black Sea and the Mediterranean.

Serbian experiences with conflicts between forestry and erosion control: Serbia doesn't have a strategy for Sustainable Forest Development nor practice standards like BMPs. The system of forest management planning in Serbia has been established by an approach "from larger levels downwards", with different types of planning (Medarević et al. 2002)

- Plan for the forests of Serbia (20 years)
- General plan of management (10-20 years)
- Special plan of management (10 years)
- Program of management in private forests (10 years)
- Plan of forest operations (1 year).

Spatial level planning includes the highest degree (state), and downwards to forest regions, management units, and cadastral community or municipality, compartment. But, forest management planning, irrespective on which level, doesn't include erosion control experts.

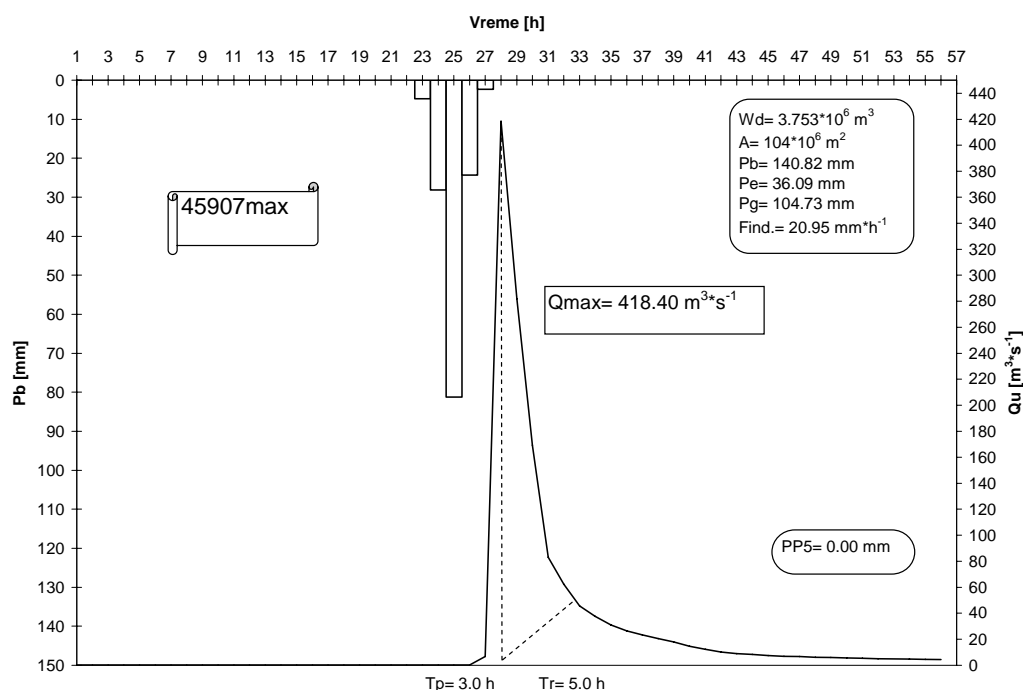


Figure 3 – Catastrophic flood wave as a consequence of misuse of forest land (13.06.1996. Western Serbia, village Brežde on river Manastirica)

Important problems such as reforestation of bare mountain areas, enhancing infiltration capacity of soil on slopes, rehabilitation of degraded forests and woodlands, establishment of protective greenbelts, restoration of degraded pastures and meadows are not among the other activities in PE "SerbianForests". The Ministry of Agriculture, Forestry and Water Resources Management, Department for Water, invested in ECW (Erosion Control Works) $0.248 \cdot 10^6$ € yearly during the period 1994-2000 (Ristić et al. 2001), and $0.424 \cdot 10^6$ € during the period 2002-2004 (Ristić et al. 2003). The indispensable level of investments amounts to $5.68 \cdot 10^6$ € yearly according to the Spatial Plan of Serbia. In the same time the Department for Forestry didn't support any kind of ECW.

The Public Enterprise "Serbian Forests" does not have experts for ECW in the official scheme of working positions. Some engineers for ECW work in PE, but on positions like: road construction, exploitation of forest, or marketing. In other words, PE "SerbianForests" does not recognize erosion as a problem even if the situation in the field is quite different. Ignoring of erosion and possible consequences, could lead to a frequent appearance of disasters like torrential flood in 1996 (Figure 3). The flood wave destroyed the village Brežde, and the nearest water level recorder measured the highest specific discharge ever recorded in Serbia ($4.02 \text{ m}^3 \cdot \text{s}^{-1} \cdot \text{km}^{-2}$). Serbian forestry needs instructions for field practice, like BMPs, to support the spirit of sustainable management.

7. Conclusions

Mono-functionality of forests in the sense of production and direct material benefits (wood mass, hunting, secondary forest products) cannot be undertaken without considering the context of protective and social-cultural functions. The protective function is related to erosion control, balancing of runoff regime and pollution control. Forests have an obvious influence on microclimate, increase of precipitation, wind and snow protection and air-quality. Social-cultural functions contain a wide range of tourist-recreational activities, education and protection of nature. Spiritual and aesthetic fundamentals of archetypes, connected with forests, lead to explanations of mentality and habits of the whole nation.

The condition of forests in Serbia is unsatisfactory from the aspect of usage of productive potentials (wood mass production per 1ha; degree of afforestation) as well as with regard to the realization of other useful functions (erosion and pollution control, balancing of hydrologic regime). Taking into consideration the present state of climate and the trend of its changes, there is a real threat of spreading semi-desert areas in Southeastern Serbia. Growing of new forests and care of existing ones is of strategic importance and it is necessary to achieve harmony between protection and production. Protection of catchment areas as water-supply reservoirs has to be done mostly with bio-technical works (rehabilitation of degraded forests, anti-erosive afforestation of bare lands on slopes) in order to decrease, as much as possible, the production of erosive material, the detachment of fertile soil, and transport of pollutants. Forest policy in Serbia has to deal with erosion control on different levels: planning, practice, PE Serbian Forests, private forest owners.

References

- AF&PA, 1997. Progress Report on the American Forest & Paper Association's Sustainable Forestry Initiative. Washington DC.
- Federal Office of Environment, Forests and Landscape (FOEFL) Swiss Forest Agency, 1995. Sustainable development of Switzerland's forests. Berne.
- Maharaj, K.M., 1997. Forests and Forestry in Turkey. FAO, Ankara.
- Medarević, M., Banković, S., Petrović, N., 2002. Forest Management Planning from the Aspect of Privatisation. International Conference: Privatisation in Forestry. Proceedings, pg.127-134, Belgrade.
- Pontbriand, L.B., 2000. European Experiences with Regulation 2080/92 and the New Afforestation Policy Under Agenda 2000. Scientific Symposium: New Forests for Europe: Afforestation at the Turn of the Century. Proceedings, pg. 23-35, Freiburg, Germany.
- Ranković, N., Nonić, D., Vasiljević, A., 2002. Serbia. International Conference: Privatisation in Forestry. Proceedings, pg. 97-119, Belgrade.
- Ristić, R., Macan, G., 1997: Water potential of Forest Region on the mountain Goč. The Third International Study Conference on GEWEX in Asia and GAME. Proceedings, pg. 169-173, Cheju, Korea.
- Ristić, R., 2000: Regime of Occurrence and Characteristics of Maximal Discharges on Torrential Catchments in Serbia. Doctoral Dissertation. Forestry Faculty. Belgrade.
- Ristić, R., Đeković, V., Marinković, P., 2001. Water Resources Protection from aspect of Erosion Control, Conference: Water Protection 2001. Proceedings, pg. 85-90, Arandelovac, Serbia&Montenegro.
- Ristić, R., Kadović, R., Knežević, M., Nikić, Z., Belanović, S., 2001. Heavy Metals in Soil and Possibility of Water Resources Pollution. Conference: Water Protection 2001. Proceedings, pg. 91-96, Arandelovac, Serbia&Montenegro.
- Ristić, R., Đeković, V., Letić, Lj., 2003. Sustainable Usage of Forest Ecosystems from aspects of Water Supply and Erosion Control, Conference: Water Protection 2003. Proceedings, pg. 21-26, Zlatibor, Serbia&Montenegro.

New trends in forest and environment legislation in Serbia

Nataša M. Tomic *

Abstract

The most serious problem for forestry in Serbia is forestry law enforcement. There is the Law on Forests adopted in 1991 with changes made until 2006. The main task for us is the creation of a new Law on Forests that will reflect the needs of Serbian forestry, as well as the needs of harmony with relevant national and international legal acts. In December 2004 a set of four environmental laws were adopted. These are: the Law on protection of environment, the Law on environmental impact assessment, the Law on strategic environmental impact assessment, and the Law on reproductive material of forest trees. According to adopted principles new forest legislation in Serbia should be based on the sustainable management principle. New regulations should also encourage private forest management practices. Now, after the years of international isolation, we are trying to emphasize and to improve international cooperation and complete the state of forests and forestry in our country.

Keywords: forestry, regulations, Serbia, environment, protection.

Introduction

It is well known that forest exploitation must be consistent with forest conservation and improvement. Every minute, 20 hectares of forest disappear. Deforestation is due to several causes and can lead to a real ecological and human drama. Forests cover 26.7% of the total area of Serbia. Territorially, the forests are divided in 28 forest districts, six of which are in Kosovo. The districts include State-owned and private forests. Serbia and Montenegro are one of the most important regions of biological diversity in Europe. As we know the entire forest ecosystem is a very important resource of international significance, so the management and protection of forest ecosystems must be assessed globally and in conformity with the commitments undertaken by our country through the ratification of international conventions on the protection and enhancement of forest biodiversity.

New environmental legislation

Much is expected from the new Law on protection of environment of the Republic of Serbia. The conservation of the genetic diversity of forest species should be assured by preserving forest ecosystems and rare forest species. The ratification of the *Convention on Biological diversity* gives Serbia the legal basis for that. Fostering conservation of biological diversity will be provided through sustainable forest management. The proposals for action of the Intergovernmental Forum on Forests include the encouragement of private investments in sustainable forest management by providing a stable and transparent investment environment within an adequate regulatory framework that encourages reinvestment of forest revenues into sustainable forest management.

* M. A, University of Belgrade

In Serbia, the wild types of plants and animals put under protection in order to preserve their biological diversity (biodiversity) have been set in 1993 by *the Ordinance on the protection of flora and fauna as natural rarities*.¹ The *Resolution on the policy of protection of biodiversity in FRY*² of 1994 was adopted because our country is characterized by considerable biological i.e. genetic resources in European and world proportions. In the area of protection of the environment and natural values in the Republic there is a system of legal norms, built on the constitutional basis, with more than 100 regulations. In December 2004 a set of four environmental laws were adopted. These are: *the Law on the protection of environment, the Law on environmental impact assessment, the Law on strategic environmental impact assessment, and the Law on the reproductive material of forest trees*.

*The Law on the protection of environment*³ determines that sustainable management of natural values and environmental protection is regulated by this law and other special laws and regulations.⁴ It prescribes that preservation of biosphere encircles the protection of organisms, their communities and habitats, including the preservation of natural processes and natural balance inside the ecosystems, providing their sustainability.⁵ Biodiversity and biological resources are protected and to be used in a manner that makes possible their survival, diversity, regeneration and advancement in case of disturbance. Protection of biodiversity, use of biological resources, genetically modified organisms and biotechnology are to be performed on the basis of this law and other special laws, as well as responsibilities taken over by international agreements.

In the FRY systematic observation and measuring of parameters of conditions of the environment (monitoring) was provided for by methods prescribed by Federal Government.⁶ The Law on the protection of environment⁷ states in Article 70. that in the Republic of Serbia monitoring is performed by systematic measuring, examination and evaluation of indicators of condition and pollution of the environment which includes monitoring of natural factors, i. e. change of the state and characteristics of the environment, transboundary monitoring of forests, as well as responsibilities from international agreements. Sustainable management, protection of diversity, recognition of rights of customary owners and respect for international treaty obligations, including the precautionary principle are among the most important issues. It is imperative that protective areas are monitored and unlawful activities are prosecuted.

Article 4. of the *Law on strategic environmental impact assessment*⁸ establishes the principle of precaution – that every activity must be carried out in a manner to prevent or reduce negative impacts of certain plans and programs prior to their adoption, provide for rational utilization of natural resources and reduce to minimum risk for human health, environment and material goods. The *Law on the environmental impact assessment*⁹ organizes the procedure of environmental impact assessment for projects that may have significant influence on the environment. *Regulation on analysis of objects, i. e. works environmental impact assessment*¹⁰ provides that environmental impact assessment is made for objects and

¹ “Official Gazette of the Republic of Serbia”, no. 50/93 and 93/93. Part of this Decree are lists with types of plants (List 1 – total 215 species).

² “Official Gazette of the FRY”, no. 22/94.

³ “Official Gazette of the Republic of Serbia”, no. 135, Dec. 2004.

⁴ See: Article 10. of the Law on the protection of environment.

⁵ Article 26. of the Law on the protection of environment, 2004.

⁶ Law on the basis of protection of environment, “Official Gazette of the FRY”, no. 24/98.

⁷ “Official Gazette of the Republic of Serbia”, no. 135, Dec. 2004.

⁸ “Official Gazette of the Republic of Serbia”, no. 135, Dec. 2004.

⁹ “Official Gazette of the Republic of Serbia”, no. 135, Dec. 2004.

¹⁰ “Official Journal of the Republic of the Serbia”, no. 61/92.

works in the area of industry, mining, energy, traffic, tourism, agriculture, forestry, water economy and public services, as well as for all types of objects and works having an impact on protected natural resources and in protective zones of immovable cultural goods.¹¹ According to Art 3, Par. 3. of the Law¹² impact assessment is performed also for the projects in the area of forestry. According to Article 4. the Government of the Republic of Serbia regulates:

- the list of projects for which impact assessment is obligatory;
- the list of projects for which impact assessment may be required.

The Law on the strategic environmental impact assessment¹³ regulates conditions, manner and procedure of performing environmental impact assessment of certain plans and programs, in order to provide advancement of sustainable development by integration of basic principles of environmental protection in the procedure of preparation and adoption of plans and programs. According to Article 5. strategic assessment is performed for plans, programs and elements in the field of space and urbanism planning or utilization of land, agriculture, forestry, fishing, hunting, energetic sector, industry, traffic, waste management, water management, telecommunications, tourism, preservation of natural habitats and wild flora and fauna. Many elements and data are collected when these strategic assessments are performed. One of the examples can be found according to Article 17. of the *Law on reproductive material of forest trees*¹⁴ where producers of reproductive material are obliged to keep a book of records for such material. The Ministry issues certificates on the origin of reproductive material produced in accordance with provisions of this Law.¹⁵

Today the new environmental legal doctrine is created in the world and environmental disputes are solved. The Permanent Court of Arbitration in Hague is one of the most important international forums for solving ecological disputes. The important place takes the International Court of Environmental Arbitration and Conciliation – ICEAC, established in 1994 in Mexico. The idea about founding this non governmental international institution appeared in May 1993 in Quarnavaka, Mexico. I had an opportunity to visit this place at the end of 90-ties where nature is highly valued and names of the streets represent different types of flowers.

In Serbia, the Law on the protection of environment¹⁶ in Article 85, par. 1 proclaims that polluters are obliged to pay compensation for pollution of the environment. Predicting the »polluter pays« principle the Law prescribes that “everyone who uses natural values is obliged to pay a real price for their utilization and re-cultivation of the area”. In the case of exceeding of legal levels of emission and other activities that lead to degradation of the environment, the polluter is obliged to perform and carry out a sanitation plan at his own expense.¹⁷ Action and sanitation plans are prepared by the Ministry together with the Ministries competent for the appropriate fields.¹⁸

¹¹ Article 2. of the Regulation on analysis of objects, i. e. works environmental impact assessment.

¹² “Official Gazette of the Republic of Serbia”, no. 135, Dec. 2004.

¹³ “Official Gazette of the Republic of Serbia”, no. 135, Dec. 2004.

¹⁴ “Official Gazette of the Republic of Serbia”, no. 135, Dec. 2004.

¹⁵ Article 22. of the Law on reproductive material of forest trees.

¹⁶ “Official Gazette of the Republic of Serbia”, no. 135, Dec. 2004.

¹⁷ Article 65, paragraph 4. of the Law on the protection of environment.

¹⁸ Article 67, par. 2. of the Law on the protection of environment.

Forest legislation

Laws on Forests have long histories and have been subject to revision and amendment in the light of new social, economic and environmental demands. The differences emerge between the countries following various forms of organization. The rapid transformation of Laws on Forests is dramatically evident in Central and Eastern European countries. It seems that now has come the time for Serbia to work on this issue.

In Serbia there is the Law on Forests¹⁹ adopted in 1991 with the changes made until 2006. Although, this Law includes different regulations that make sustainable forest management possible, there are also regulations that make it difficult or even impossible to implement it. Also there is a problem with other laws related to forestry that are not completely harmonized with the Law on Forests. Few laws were suspected to be in collision with the existing Law on Forests, like for example the Labour Law, the Inheritance Law and the Water Law. The main task for us is the creation of the new Law on Forests that will reflect the needs of the Serbian forestry, but also reflect the needs of the harmony with relevant national and international legal acts.

Today in the forestry sector we need the most sincere support to private forestry. Modern economy does not discriminate against different types of property. All types of property are completely equal before the law. Private property dominates the economic sphere although the public sector is relatively strong. Private forest owners are pleading for equal treatment of private and state forests, more cutting and stricter penalties for illegal actions in state forests, and stricter penalties for illegal activities of private forest owners. The system of punishment in Serbia should be carefully revised. One of the general conclusions is that sanctions must be stricter, the control better and that employees should be more engaged at all levels from the Ministry to the people working in the field. New Criminal Code of the Republic of Serbia²⁰ prescribes few criminal offences, related to the protection and preservation of forests and those are: devastation of forests²¹, forest theft²², and pollution of the environment²³.

According to the adopted principles the new forest legislation in Serbia should be based on the sustainable management principle. The law should be realistic, easy to understand and well-known by stakeholders. Also, new regulations to encourage private forest establishment are needed. It is the responsibility of the Government to create the necessary organizational structures and to provide the means for the protection and management of forest resources on a sustainable basis.

The Law on the protection of environment²⁴ in order to protect and promote forest ecosystems determines that forests are managed in such a manner to provide rational forest management,

¹⁹ "Official Gazette of the Republic of Serbia", no. 46/91, 83/92, 54/93, 60/93, 53/93, 67/93, 48/94, 54/96, 101/2005.

²⁰ "Official Gazette of the Republic of Serbia", no. 85/2005, 88/2005.

²¹ Article 274. of the Criminal Code of the Republic of Serbia; this offence includes two types: **lighter** with predicted pecuniary penalty or punishment of imprisonment to one year and **more severe (qualified)** with predicted punishment of imprisonment from three months to three years.

²² Article 275. of the Criminal Code of the Republic of Serbia predicts two types of this criminal offences: : **lighter** with predicted pecuniary penalty or imprisonment to one year and **more severe** with predicted pecuniary penalty or punishment of imprisonment to three years.

²³ Article 260. of the Criminal Code of the Republic of Serbia whose incrimination has five types according to the severity of offence, with special stress on the fourth type (destruction of fauna or flora – including forests, of great proportions) that may be sanctioned by punishment of imprisonment from 6 months to 5 years.

²⁴ "Official Gazette of the Republic of Serbia", no. 135, Dec. 2004.

preservation of the genetic fund, amelioration of the structure and realization of priority forest functions.²⁵ State organs, owners and beneficiaries of forests are obliged to undertake the necessary measures for preservation and sustainable forest utilization, measures of regeneration raising and advancement, as well as control and protection of forests in the case of transboundary pollution. The State closely regulates the use of natural resources, and licensing is almost an exclusive manner of allowing access to natural resources. The use of natural resources is strictly stipulated by law. According to Article 12, Par 2 of the Law on the protection of environment²⁶ a National Strategy of sustainable utilization of natural resources and goods, for a time period of at least 10 years, is to be adopted by the National Parliament. It is proclaimed that the National Strategy is realized through plans, programs and elements for each individual natural resource or good by the Government of the Republic of Serbia.

The National Forest Program in the new Law on the protection of environment²⁷, predicts in Article 64. that planning and management of environmental protection is provided and carried out through enforcement of the National Program of environmental protection made by the National Parliament for the period of at least 10 years. According to Article 64, Par. 3. the National Program is carried out through actions and sanitation plans adopted by the Government for a five years period. It should be based on long-term high level political commitment and long-term engagement of stakeholders. Protection and advancement of flora and forests in national park²⁸ is conducted according to special programs and elements as defined by the law.²⁹

The Law on the protection of environment regulates an integral system of environmental protection which provides for realization of human right on life and development in healthy environment and balanced relation of economic development and environment in the Republic. The fulfilment of international obligations in the field of forestry requires new legal solutions, but also the harmonization of forest legislation with the European Union legislation. It is necessary to adapt the legal system in Serbia to international requirements, keeping in mind globalization of states and people in planet proportions became reality.

Participation and cooperation in forestry

It is necessary to ensure that public authorities make available and disseminate environmental information to the general public. The Law on the protection of environment³⁰ in Article 78, Par. 2. regulates that the public has the right on access to legal registers or records with information and data in accordance with this Law. According to Article 80. of the Law³¹ the demand for delivery of information can be rejected if their publication would have negative influence on the:

- confidentiality of state bodies activities when it is predicted by the Law;
- international relations, defence of the country and public security;
- activities of jurisdictional organs;

²⁵ Article 25. of the Law on the protection of environment, 2004.

²⁶ "Official Gazette of the Republic of Serbia", no. 135, Dec. 2004.

²⁷ "Official Gazette of the Republic of Serbia", no. 135, Dec. 2004.

²⁸ On the territory of the Republic of Serbia there are five national parks /Fruška Gora, Đerdap, Tara, Kopaonik and Šar Mountain/.

²⁹ Article 5, par. 1. of the Law of national parks, "Official Gazette of the Republic of Serbia", no. 39/93, 44/93, 67/93, 48/94.

³⁰ "Official Gazette of the Republic of Serbia", no. 135, Dec. 2004.

³¹ "Official Gazette of the Republic of Serbia", no. 135, Dec. 2004.

- confidentiality of commercial and industrial data when predicted by the Law, except information on emissions endangering the environment;
- intellectual property rights;
- confidentiality of personal data, i. e. files when it is predicted by the Law;
- interest of the third persons having information and not being obliged to give them, i. e. not agreeing with their publishing.

It is expected that legally-mandated public access to information should promote transparency and accountability in forest related decision-making. The Law on the protection of environment³² in the section on public participation in decision making determines in Article 81, par. 2. that public participation in strategic impact assessment is provided in the framework of a presentation of spatial and urbanistic plans.

Now there is a wealth of experience worldwide in designing national legal frameworks for participatory forestry. It took some time for Serbia to comprehend the advantages which the ratification of the Aarhus Convention brings. Important new opportunities have been created for the involvement of civil society in forestry decision-making, from required public participation in the development of policy and creation of new legislation to greater emphasis on collaboration among individual forest owners. Forest administrations should do more to inform forest owners on activities of general interest. The lack of foresters in the field is concerning them and they insist on the more credible policy and cooperation in order to assure the realization of interests they share. The bad experiences in the organization of associations in the past made them work more cautiously. What is important for implementation of the participatory mechanism in our legislation and everyday life is that interest for associations exists.

Wildlife resources of Serbia offer considerable potential for commercial utilization, but unless private forests owners organize themselves in some form of commercial associations for joint management and trade, improvements in this area are unlikely to take place. Efforts are made to know more about private forest owners, to help them more, and to register them. If we want to make the private forestry sector stronger and better organized it is important that citizens (private forest owners) have the possibility to freely and voluntarily associate and unite with that goal of establishing associations. The role of the state in private forestry is mainly resumed in coordination, support and control. Establishing the system of planning of the private forests management and the establishment of advisory service for improvement of private forests is necessary.

In our country the concern that all of us share is the state of forest roads. Investments for these roads are really needed. Gathering of objective and comparable data will allow a better diagnosis and analysis of existing and future problems, evaluation factors that affect the functioning of forest ecosystems and timber production, as well as the reactions of these ecosystems to air pollution, climatic fluctuations, fires, and human interventions. Concerning afforestation measures, in many cases in Europe support was given for the planting of species which are profitable from the commercial point of view but whose environmental impact is negative, especially with respect to biodiversity and landscape. Moreover in some countries a very high proportion of AF aid was used to fund the construction of forest roads which have potentially negative long-term implications for the integrity of ecosystems. In Serbia, interest for afforestation and taking nursery plants exists, but it seems that there are not enough plants for afforestation. The reduction of forest tax can be may be the motive for afforestation.

³² "Official Gazette of the Republic of Serbia", no. 135, Dec. 2004.

Special importance should be given to the accomplishment of the function of education, research, recreation and tourism. Free education and support to research must be understood also in the context of forestry protection. Rebuilding of the forestry sector requires capacity building, institutional strengthening and financial support. We want to encourage and facilitate the interdisciplinary communication between scientists and other professionals working on ecological systems and sustainable development. Experimental activities are welcome too. We should consider the establishment of the Research and Training Centre for Forests, natural hazards and landscape.

The Law on the protection of environment in Article 6. predicts “Strengthening of conscience” in the following provision: State organs, scientific institutions, institutions in the field of education, health care, information, culture and other institutions, as well as other forms of associations, in the scope of their activities, stimulate, direct and provide for strengthening of conscience on the importance of environmental protection. The strengthening of conscience on the importance of environmental protection is provided through the system of education and upbringing, scientific research and technological development, improvement in working process, public information and popularization of environmental protection.

Ecological catastrophes recognize no borders and pollution of the environment in one region may threaten the population of much broader areas. For fight against environmental risks the tactics are various. Among the solutions that can be adopted are:

- managing of forest fire combating by aircraft,
- monitoring in the field (all forests are subject to official forest monitoring),
- introduction of Eco – informatics,
- collaborative action amongst private forest owners (cooperatives or other associations in order to fight against joint problems easier),
- people’ s involvement in forestry (active participation),
- goals of succeeding generations (preservation of forests),
- forest development plan for the whole country.

Serbia has only recently begun to emerge from a decade of international isolation. Now, after the years of international isolation, we are trying to emphasize and to improve international cooperation and advance the state of forests and forestry in our country. The Government has the task to develop and maintain international cooperation in forestry and to ensure the implementation of international agreements, resolutions and conventions on forests and related fields to which it is signatory.

Conclusion

Today, sustainable management, development and protection of forests, protection of diversity, recognition of rights of customary owners and respect for international treaty obligations, including the precautionary principle, are among the most important issues. The forestry sector must be viewed in the context of the entire legal system. The most important law in this area, the law on forests, was passed as early as in 1991 and with changes and supplements which did not affect its essence it is applied still nowadays. Rebuilding of the forestry sector requires capacity building, institutional strengthening and financial support. Some of the main needs are:

- promotion of the competitiveness of the forest sector,
- strengthening the protection of forest ecosystems,

- better organization of forest institutions,
- stimulation for new technologies application in production in forestry.
- measures to raise the professional skills of forest workers, improve safety conditions,
- education and training have high priority, are one major element of competitiveness,
- financial measures for training in rural development,
- study of risks and prevention of accidents in forest sector.

The Helsinki Resolution proclaims that forest management should be based on stable and long-term land-use policies and regulations, which aim at conserving functional forest ecosystems and take account of the ownership structure. An important issue in this context is the establishment of a modern forestry administration capable to promote the sustainable and participatory management of the forests resources. A new set of laws in administrative field is prepared. The specific components of forest education and training will effectively contribute to human resource development.

Management of natural and environmental resources must be given high priority in bilateral and multilateral development assistance. The challenge is to harmonize forests-related measures of development assistance policy with the outcomes of the international forest dialogue. Improving the national legal frameworks requires an understanding of the fact that the national legislation needs to be harmonized with the European Union legislation. The fulfilment of international obligations in the field of forestry needs new legal solutions, but also the harmonization of forest legislation with the European Union legislation. The efforts to achieve one of the major foreign policy goals of accession to the European Union are evident. In order to achieve legal harmonization the necessary steps are: full reintegration into the international community, and achievement of a self-sustaining economy without dependence on aid, and accession to the European Union in the long-term. "The world is Union" and the European Union strives for unifying the criteria of preservation and considerably raising the quality of environment.

Literature

Gajić, D., 2004. Pravni aspekt zaštite i očuvanja divlje flore i faune u Republici Srbiji, /Legal aspect of protection and preservation of wild flora and fauna and their natural habitats in the Republic of Serbia/, »Pravni život«, no. 9, Beograd, 443.

Milović, R., Korać, R., Rašović, Z., 1999. Evropsko pravo i pravni sistem u Crnoj Gori, /European Law and legal system in Montenegro/, »Službeni list Republike Crne Gore«, Podgorica, 289-301.

Petrušić, N., 2004. Rešavanje ekoloških sporova pred međunarodnim sudom za arbitražu i concilijaciju u oblasti zaštite životne sredine, /Solutions of ecological disputes under the International Court for arbitration and conciliation in the area of environmental protection/, »Pravni život«, no. 9, Beograd, 423-442.

Stevanović, R., 1997. Zbirka propisa o zaštiti životne sredine, propisi Srbije i Jugoslavije /Body of laws about environment protection, Serbian and Yugoslav Regulations/, Beograd.

Participation in Serbian forestry – Practical experiences

Zoran Tomović, Vlade Zarić**, Predrag Jović*** and Leopold Poljaković-Pajnik*****

Abstract

Activities and results of participation with the aim of involving the interested public in reform processes of the forestry sector in Serbia are presented. The public has actively participated in the development of the Serbian Forest Policy document, the draft Forest Law, and new approaches toward private forest owners associations.

Keywords: Serbia, reforms, forestry, participation

Objectives, method and participants

More active involvement and engagement of the public in processes of reforms in the Serbian forestry sector have been started by the project “Institutional Development and Capacity Building for the National Forest Programme of Serbia” during the first half of 2003. The project was realized in cooperation between the Ministry of Agriculture, Forestry and Water Management of Serbia (MAFW) and the United Nations Food and Agriculture Organization (FAO) through its Technical Cooperation Program (TCP). Planned project outputs were, in accordance with strategic goal of Serbian Government, to reintegrate in the international community and prepare EU accession.

Several specific objectives of the Project were defined: drafting a forestry policy and strategy; revising and updating the forestry legislation; designing a self-reliant forestry institutional framework capable of providing leadership for the sustainable development of the sector including private forestry development; and strengthening national capacities for forestry policy and programme development. FAO provided international consultants and the necessary equipment for project realization and the Government of Serbia the necessary political support, national consultants, people of a future group for participation and technical support. Numerous stakeholders participated actively in the mentioned processes and activities, and supported significantly the achieved results. A continuous process of broad stakeholder participation in the reform process toward further development and good governance in the forestry sector has been started.

Several methods and tools were applied during the process of public participation in forestry sector development. Activities covered 26 creative workshops (WS), consultative meetings, presentations, and a survey on forestry policy and legislation. Around 420 people participated from different organizations, companies, research and educational institutions, and NGOs. Stakeholders to be mentioned in particular are the Directorate of Forests, public enterprises for forest management, national parks and other protected areas, the forestry faculty, the

* Public Enterprise for Forest Management „Vojvodinasume“, Novi Sad

** Faculty of Agriculture, Beograd

*** Ministry Of Agriculture, Forestry and Water Management – Directorate of Forests, Beograd

**** Institute for Lowland Forestry and Environment Protection, Novi Sad

Institute for Nature Protection of Serbia, wood processing enterprises, chambers of commerce at republican and regional levels, local communities, PFOs, and nursery producers.

Creative workshops for skill improvement

A first WS trained a group of 14 people from different institutions in using participatory methods and tools. People from the Directorate of Forests, PE “Srbijasume”, PE “Vojvodinasume”, the Faculty of Forestry, the Faculty of Agriculture, the Institute of Lowland Forestry and Environment, and from the National park “Tara”. The theoretical part of a training program was realized in Plavna (near Novi Sad) and a practical part at Divcibare region and mountain village Planinica. The second WS, for 11 people from the same group, was organized with the aim of refreshing knowledge and skills in using participation methods and tools for more efficient work with stakeholders. A third WS, for strategic planning in forestry, was organized for 12 participants from the following institutions: Directorate of forests, PE “Srbijasume”, PE “Vojvodinasume”, Faculty of forestry, Faculty of agriculture and the Institute for lowland forestry and environment. All WS’s were realized together with FAO experts and international consultants of the Project.

Workshops for draft Forest Policy and Forest Law preparation

With the aim of preparing drafts of Forest Policy and Forest Law ten workshops were organized. Two of them were organized in an early stage of the project and eight in an already developed phase. They were organized by the group for participation in cooperation with international and national consultants, as well as with the members of the group in charge for development of drafts of the mentioned documents.

The first WS was held on 24th of February 2004 in PE “Vojvodinasume” in Novi Sad with 32 participants from the following institutions: PE “Vojvodinasume”, Institute for lowland forestry and environment, National park “Fruska gora”, Hunting association of Vojvodina, Secretariat for nature protection of Vojvodina, Secretariat for agriculture, forestry and water management of Vojvodina, PE for water management “Vojvodinavode”, Department for water management of Agricultural faculty in Novi Sad, Nature-Mathematical Faculty in Novi Sad, PFOA from Beocin, representative of nursery material producers from Subotica. The second WS was held in the HQ of PE “Srbijasume” in Beograd with 24 participants from following institutions: PE “Srbijasume”, Directorate of Forests, Institute of Forestry in Beograd, Forestry high school in Kraljevo, Biological Faculty in Beograd, Institute for Nature Protection in Beograd, Faculty of Forestry and National park “Tara”.

The third WS was held at Forest District Krusevac, on 24th June 2004 with 28 representatives of Department for private forests of PE “Srbijasume” from 15 forest districts. WS was dedicated to current problems in private forests and defining of future possibilities of organization and development of private forestry in Forest Policy and the new Law on Forests. The fourth WS was organized on 26th January 2005 in HQ of PE for forestry management “Srbijasume” with 26 representatives from the following institutions and stakeholder groups: PE “Srbijasume”, PE “Vojvodinasume”, Directorate of Forests, Secretariat for Agriculture, Forestry and Water Management of Vojvodina, Chamber of Commerce of Serbia, Institute for Lowland Forests and Environment, Institute of Forests, NP “Kopaonik”, Agricultural Faculty in Beograd and the representative of postgraduate students. Before WS a draft FP document was delivered to all participants for reading and giving suggestions for final shaping of the document.

The fifth WS was held on 23rd February 2005 in Institute for Nature Protection in Beograd. Twenty six participants were representing different institutions, NGO's and enterprises involved in nature and environment protection: Ecological center – Beograd, Institute of Nature Protection - Beograd, Dep. of the same institute from Novi Sad and Nis, Secretariat for environment protection and sustainable development, NP "Fruska gora", NP "Tara", Ecological movement "Ibar" – Kraljevo, Center for peace and development – Beograd, Geographical Faculty – Beograd, Mycological association – Beograd, NGO Green net of Vojvodina, Company for production and marketing of medicinal herbs and forest fruits "Adonis" – Soko Banja, Enreprise for management of protected forests "Borjak" – Vrnjacka Banja, Park of Nature "Golija", NGO Eco-base "South" – Vlasotince, Agency for environment protection of Serbia, Newspaper "Politika". All participants received draft FP several weeks before the WS.

The sixth WS was held on 14th March 2005 on Mt. Tara as a part of WS dedicated to establishment PFOA in Serbia. In total 17 participants (PFO's) from 4 local communities and 4 experts from Dep. for private forests of PE "Srbijasume" were present. Private forest owners came from following villages: Podgorac (municipality Bor), Miscinica (Mun. Valjevo), Rastiste (Mun. Bajina Basta) and Zaovine (Mun. Bajina Basta). Previously delivered FP document enabled analyzing of the document on the level of a community with a help of people in charge for private forests for those regions. During a two year period four additional WS's for the representatives of wood processing industry were organized in the aim of FP document development, especially of that part dedicated to wood processing problems. The WS's were organized with representatives of SME and big enterprises in Leskovac (12 participants), Beograd (12), Kraljevo (14) and Bor (19).

Beside the mentioned WS's two presentations of FP documents were held. The first one was attended by 8 representatives of the Chamber of Commerce of Serbia – Association of Forestry and Wood industry. The second one was held in the Chamber of Commerce of Vojvodina for 13 participants. An additional presentation of the FP document was held at the Faculty of Forestry for 12 participants (chiefs of chairs of the Faculty).

Creative workshops for private forest owners

A series of WS's and meetings with PFO's and nursery material producers was realized with the aim of organizing PFO's into associations. The main goal of these WS's was the development of private forestry. A basic motive for associating is protection their rights, possible business activities (cooperatives), SME in forestry, and establishment of possible cooperation with CEPF. During the realization of the project 8 WS's were organized, as follows:

- WS in local community Planinica (municipality Valjevo). In total 15 PFO were participating. The other function of the WS was a practical skill improvement for people of a Group for participation (of the Directorate of Forests). Significant number of villagers depends on forest and jobs in forestry.
- WS in local communities Tulovo and Slatina (minucipality Leskovac) for 15 participants (PFO's). People of this community have small forest holdings with traditionally specific relation to forests in protection, silviculture and maintaining with low level of exploitation. A number of villagers have their jobs in forestry, e.g. exploitation of state forests of Forest District Leskovac.

- WS in local communities Jagostica and Rastista in NP “Tara” (municipality Bajina Basta) for 16 PFO’s. This local community is characterized by small forest holdings, but a number of people work in National park, e.g. forestry jobs.
- WS in local community Zlot (municipality Bor) for 14 PFO’s, small family businesses in forestry representatives and small primary wood processors. Some of villagers have significant forest holdings and willing to enlarge their forest holdings in the future.
- WS for PFO’s from 4 local communities and 4 experts from the Dep. for private forests of PE “Srbijasume” was held in NP “Tara” for 22 participants. It was assessed that people from these villages (Zaovine i Rastiste in mun. Bajina Basta, Miscinica in mun. Valjevo and Podgorac in mun. Bor) have an (natural) preconditions, interest and skills to organize themselves PFOA. WS was organized with a support and participation of FAO experts and CEPF.
- WS in local community Veliki Siljegovac (mun. Kraljevo) was organized for 11 private nursery material producers. There is a long tradition in this local community in production of nursery material and in economic, technological means, as well as in marketing, they represent most significant center of such production in Serbia.
- WS in local community Subotica was held for 10 producers of horticultural nursery material and which, together with Veliki Siljegovac, represent one of significant centers of nursery production.

Beside these workshops a number of meetings with private forest owners were organized with the aim of motivating them for associating on a local level. Such meetings with private forest owners were organized in the following local communities:

- Zaovine (mun. Bajina Basta) on the outskirts of NP “Tara” with 8 PFO’s. PFO’s in this area have the biggest holdings of a high quality forest in Serbia. Beside that, they have the best forestry education and experience in forest exploitation and primary wood processing, as well as a tradition in “village tourism”.
- NP “Tara” with 14 PFO’s
- Podgorac (mun. Bor) for 15 participants. PFO’s of this local community have already developed production of a char coal, and they are active in nature and environment protection on a local level.

Surveys of private forest owners, employees in the forestry sector and other stakeholders

A massive survey of PFO’s, employees in forestry sector and representatives of other interest groups was done with the aim of objectivity in FP development, drafting of a new Law on Forests and establishment of PFO associations. By using participatory tools and methods over 70 families were approached in order to obtain their opinion on state and private forestry and associations. Beside that, over 400 different stakeholders were surveyed by mail to obtain opinions on state and private forestry, wood processing, quality and usage of forestry legislation, functioning of the Directorate of Forests, PE’s for forest management and their service for private forests, local communities, NGO’s and others.

Results and discussion

During 2-year activities of a Project team and the group for participation, active participation of numerous stakeholders and individuals significant initial results were achieved:

- Process and methods of participation were introduced as a generally accepted way of stakeholder activity in forestry sector.
- A draft Forest Policy document is prepared and, for the first time in forestry history of Serbia, is going to be approved by the Government of Serbia.
- The first draft of a Law on Forests is prepared, but still a matter of long negotiations in the future before adoption in the Parliament.
- A Group for Strategic Planning is established at the Directorate of Forests.
- The association of nursery producers in the local community Veliki Siljegovac is established.
- The preparatory work for the establishment of 4 PFO Associations in the local communities Bor, Bajina Basta and Valjevo is accomplished.
- Several ongoing international projects in forestry sector have been undertaken.
- The preparatory activities for national forest program development have advanced.

Introduction of participatory methods and tools, as well as participation as a process had been considered at the beginning of the project with significant pessimism by some of the important stakeholders. Presentation of numerous positive examples from the countries in transition and from other European countries did not impress such stakeholders to participate. The first significant impulse was achieved with the realization of a Group for participation and by starting activities in practical work with most of the important stakeholders.

In a process of involving experts and the public in forestry sector activities numerous stakeholders and interested individuals were participating, like: Directorate of Forests, PE's for forest management, NP's and others in charge for protected forests management, educational and research institutions, PFO's, nursery producers, NGO's and others.

Participation as a process and methods of participation are by now well accepted and used with almost the same efficiency in educational-research institutions and villages. Participants of lower levels of education were capable to define real condition and current problems in the forestry sector as well as to provide solutions for improvement of the unfavorable state of forestry.

Private forest owners evinced significant level of disbelief to state institutions and their services, to local administration, as well as to each other which is, basically, the most serious restraint for active engagement for establishing private forest owners associations. The second important restraint in that sense is the unfavourable political and economic situation in the country, as well as the lack of an incentive system fostering initiatives for the establishment SME in forestry.

Conclusions

Based on 2-year period of participatory methods application in the framework of the Project “Institutional development and capacity building for the nfp of Serbia” and achieved results, the following conclusions can be made:

- The participatory approach in solving numerous problems in the forestry sector in Serbia is well accepted by numerous stakeholders.
- Applied participatory methods have been an effective tool for analyzing the current state of the sector and for gathering suggestions for solving numerous problems.
- Applied methods are well accepted by participants of different levels of education.
- Very valuable information on the condition of the forestry sector, as well as valuable suggestions for solving problems within the sector have been gathered.
- The positive results imply the necessity of using in the future participatory approaches in realizing follow-up projects and developing important planning and legislative documents in the forestry sector.
- The cooperation between the forestry sector of Serbia and UN FAO in the Project “Institutional development and capacity building for the nfp of Serbia” gave significant impulses for the development of international cooperation in the field of forestry.
- The transformation of the forestry sector of Serbia is directed to acceptance of international criteria and already signed commitments at the global and European levels.

Reference

Reports 1-5 of the national consultant for participatory forestry. FAO TCP/YUG/2902 (A) “Institutional development and capacity building for the nfp of Serbia”. www.fao-forestry.sr.gov.yu

Local attitudes toward management of natural resources in the Tara National Park

Jelena Tomićević, Miodrag Zlatić**, Marina Milovanović****

The Tara National Park Tara (TNP) represents one of the main centers of biodiversity in the Balkan region. The mountain Tara was established as a National Park in 1981 and at the time of its inception the local communities were antagonistic towards it. However, there has been increasing recognition that local communities must be actively involved in the management of protected areas, and their needs and aspirations must be taken into consideration if biodiversity is to be conserved successfully. This paper examines the attitudes of local communities towards management of natural resources in Tara, based on a 2003 survey of 65 households interviews. Most of the respondents expressed positive attitudes towards participation in management of natural resources in TNP. Positive reactions towards development and conservation were strongly influenced by educational level. The study shows a need to include community development, educational generation and participation of local-people if the state wants to win the support of local communities for long-term biodiversity conservation goals.

Keywords: Tara, protected areas, local communities, biodiversity, participation

1. General Aspects

Protected areas are the cornerstones of biodiversity and species conservation (Kramer et al. 1997; Bruner et al. 2001). For most species, protected areas will be the single most important way to ensure their long term survival (MacKinnon 2001). Although they have usually been set aside from human exploitation, there is a growing recognition of the fact that protected areas should play a role in sustaining the local communities adjacent to them (IUCN 1980; McNeely 1993; Ghimire & Pimbert 1997). Up to the end of the 1970s, centralised regulatory control and separation of local people and their forest-based subsistence activities from conservation areas were widely advocated in the name of biodiversity conservation (Colchester 1996; Mehta & Kellert 1998).

The creation of parks has indeed helped save some endangered wildlife from extinction (Harmon 1987; McNeely 1989; Heinen & Yonzon 1994). Thus, while this exclusion policy protected some endangered species from extinction, local people suffered economic hardships as a result of the deprivation of access to wildlife and resources (Parry & Campbell 1992; Gurung 1995; Vedeld 2002; Weladji & Tchamba 2003). As a result, biodiversity was often inadequately conserved through such an exclusion approach. The policies employed through the 1970s failed to secure biodiversity. Local people were left deprived of access and hostile to government and local politicians. As a result, there were increasing external pressures for change that prompted policy reforms (Weladji et al. 2003). During the 1980s, a more participatory approach emerged and shifted the focus from preservation to sustainable

* Faculty of Forestry, University of Belgrade, Tel: +381 64 11 77 435; E-mail: tomicевичj@yahoo.com;

** Faculty of Forestry, University of Belgrade, Tel: +381 63 661 549, E-mail: mizlatic@yubc.net;

*** Faculty of Forestry, University of Belgrade, Tel: +381 64 130 26 91, E-mail: milovananim@beotel.yu;

resource use (Anderson & Grove 1987). There was an increasing recognition that local communities must be actively involved in conservation and that their needs and aspirations have to be considered, if biodiversity is to be conserved (West 1991; McNeely 1993; Lewis 1996).

The recognition of local community involvement has in turn led to the initiation of several development programmes based upon an understanding of the relationship between protected areas and various stakeholders (Newmark et al. 1993; Fiallo & Jacobson 1995; Ite 1996; Infield & Namara 2001; Sah & Heinen 2001; Obiri & Lawes 2002). Following these development programmes, new policies have emerged, seeking to promote public participation in planning, decision-making and the management of protected areas. The success of individual policies typically depends on whether the various stakeholders are positively or negatively affected by conservation programmes and policies (Walpole & Goodwin 2001). Therefore, the perceptions of the stakeholders and their attitudes towards a conservation area as well as the conservation policies are an important element for achieving sustainable conservation (Kaus 1993; Weladji et al. 2003).

Both community participation in and recognition of the role of traditional values are consistently recognised as fundamental to the success of development projects (Alexander 2000). In general, the attitudes of residents towards the conservation of resources and the protection of natural resources can be improved by increasing the benefits these populations receive as a result of supporting protection measures, and by involving these communities directly in decision-making processes (Parry & Campbell 1992).

Despite an acknowledgment of the need for local community participation and cooperation, there is a long history of a centralised approach to the planning and management of protected areas. In Serbia, in particular, national park planning and management has typically been characterised by a top-down approach. Considering the historical facts, local people from the village Rastište within the boundaries of park area were left marginalized in decision making process of establishment of Tara National Park and through the centralized top-down approach government proclaimed Tara as a National Park without of acceptance of local people and despite the fact that local people have their private land within the boundaries of Tara area. We chose for our study the village Rastište as a case study.

In order to understand the relationship of the local population with a Tara National Park, this study describes the socio-economic conditions of local people, their relationships with resource use, their participation in management, and their attitudes about National Park conservation. Its aim is, therefore, to investigate the attitudes and perceptions of the local people towards the Tara National Park. The following questions were addressed:

- 1) What are the attitudes of local people with respect to the Tara NP and future of the national park?
- 2) What factors, for example, perceived benefit and employment for a national park enterprise influence the attitudes of local people's towards the national park?

2. Methods

2.1. Study area

The Tara National Park (TNP) is situated in the west of Serbia between 43° 52' and 44° 02' north, and 19° 15' and 19° 38' east. The region which includes Tara NP extends over an area of 19 175 ha. It contains most of Tara Mountain and the region bordered by the elbow-shaped course of the River Drina, between Višegrad and Bajina Bašta, thus belonging to a part of Starovlaške mountains (Gajić 1989).

Tara National Park incorporates the region belonging to the Bajina Bašta municipality. Two local communities, namely Jagoštica and Rastište are situated entirely on the national park territory with eight further communities partly within the park's boundaries (Perućac, Beserovina, Zaovine, Rača, Mala Reka, Solotuša, Zaugline and Konjska Reka) (Gajić 1989). Five great mountains – Tara, Crni Vrh, Aluške Planine, Zvezda and Kaluđerske Bare – framed by the impressive canyon of the River Drina, represent the park's most precious features. Especially noteworthy is the diversity of the abiogenes and the heterogeneity of the ecological characteristics, as well as a very significant refuge in which numerous relict and endemic species and associations have been preserved, many even since the glaciations. It is considered that certain manmade ecosystems (meadows and pastures) also represent a particular value and potential of this region. Tara National Park was proclaimed a protected natural resource in 1981 by the First Regulation on the National Park (Official Gazette of RS no. 41/81).

The village Ratište is situated entirely within the borders of the national park and consists of strewn hamlets and represents the biggest and most scattered village in the Tara region. In the period 1948-1981, the population of the Tara region decreased to 5000 people, of which 900, or 17.2%, live within the national park. Rastište village has 107 households and 285 inhabitants (Census 2002). The main occupations of the inhabitants of this region are agriculture and forestry. A small number of inhabitants of the region are employed, mainly in forestry. The possibility of employment in other activities is limited, leading to a population drain, which along with a low birth rate means that the population is in decline (Gajić 1989). The dwindling population is a consequence of the underdevelopment of the region and the difficult local employment situation, causing the inhabitants to migrate to more developed areas (Institute for Nature Conservation 2003).

2.2. Household interviews

The household interviews were carried out between April and May 2003. The questionnaire was very carefully prepared, bearing in mind the antagonism towards protected area and age structure of the local people. The wording and order of the questions were also carefully thought out to avoid asking leading questions and / or priming the interviewees for particular responses to later questions (Lofland 1971). For example, participants were asked 'do you have any conflicts with the national park?' at the very end of the interview, to avoid possibly 'directing' their responses to earlier questions. On average, each interview took between approximately forty minutes and one hour to complete. Participants were chosen on the basis of the order in which they were met as we walked through the villages. Only one adult member of any one household was interviewed.

According to the census from the year 2002, 107 households were registered in Rastište. The total number of interviewed households in Rastište was 65, which represents 60% of the total number of registered households. The purpose of household questionnaire was to understand how households combine their capabilities, skills and knowledge with the different available resources and how their livelihood assets influence them and create their attitudes towards

protected area. Furthermore, we tried to find from household questionnaire what are the key elements for improvement of attitudes towards Tara area as well how to increase involvement of local in management of natural resources in Tara area.

The respondents were first asked to provide some demographic, socio-economic and the general characteristics of the household: number of members, their age-groups, ability to work, and the number of children in school as well. Questions in relation to work outside the household, migration and the number of single people within households were also posed. The respondents were asked about the relationship with Tara National Park. Their attitudes towards and perceptions about the Tara area. In addition to their interactions with protected areas, respondents were asked about the conflict with Tara NP, their attitudes towards cooperation-participation in management of natural resources with the National Park authorities. The final questions dealt with their attitudes towards the development of tourism, and their predictions for the future of their village in the Tara National Park. And the purpose of these questions was to find out which element could increase the hopefulness about their future and which social economic variables are important for achievement of sustainable conservation in Tara National Park.

The survey questionnaire included a mixture of open, fixed-response and multiple-response questions. A combination was used to examine the various dimensions to the respondents' attitudes and especially to get meaningful information. For example, if we chose only the multiple-choice answers then we can usually inhibit interviewees, preventing them from expressing their opinions in their own words, and in the context of their own situation. Generally, the fixed-response questions required one types of answer, a yes/no answer. Responses from these questions are presented as response frequencies for the community. Responses from open questions are presented as response categories constructed from replies to the open questions. Responses from these questions are also presented as response frequencies for the community. Where we had multiple responses as respondents had possibilities to give several answers, the responses are presented as the number of cited answers.

2.3. Analysis

The analysis of the interviews was essentially based on identifying patterns within the data gathered for the community and the identification of socio-economic variables which show attitudes towards Tara NP and future life in Tara National Park. The data acquired from the household interviews were analyzed in two phases. In the first phase, the interviews were transcribed and all of the 65 interviews were processed in MSWord. In the second phase, the statistics programme SPSS (Statistical Package for Social Sciences) version 10.0 was used. The collected data were processed using the descriptive statistics and correlation methods.

In the second phase certain issues were investigated in order to understand deeper the attitudes towards the Tara National Park. Actually, the set of questions chosen for the household interview already focused on the issues of the relationship with Tara national park, participation-cooperation with Tara national park administration. In addition, we were interested in their attitudes towards the development of tourism, and their predictions for the future of their village in the Tara National Park. Therefore, from the household questionnaire we distinguish the certain social-economic variables which were associated with our interested issues. In general, the variables measured included: the gender and age of the interviewee, the number of household members, household members able to work, education (children in school), the single people, those working for the National Park, those working outside the household, migration away from the household, migration into the household,

migration away from the village, the relationship with the National Park, land ownership, forest ownership, cattle breeding, other activities, cooperation, machinery (wealth), tourism, and future outlook.

Finally, for analyzes of correlation between the variables, we applied a nonparametric method of rank correlation with Spearman's rank coefficient. We chose this test regarding their applicability for social attitudes (Vuković 1997). By applying Kendal's rank coefficient the same conclusions about the importance of the variables could have been reached (Tenjović 2000).

3. Results and discussion

The major challenge facing protected areas in Serbia is to develop management systems that deliver both environmental sustainability and tangible long-term benefits for the local people. In case of Tara National Park we try to identify which elements are important for achieving the sustainable management of protected areas. A large body of literature supports community management processes (Mukherjee & Gangopadhyay 1997; Nhira et al. 1998; Pratima & Jattan 1999; Wily et al. 2000), and the successful empowerment of rural communities to manage their natural resources sustainably lies in the governments' ability to devolve management to the local level (Murphree 2000; Wily & Mbaya 2001). However, these processes are often complex.

While summarising the results from the household questionnaire, it became clear that the demographic and socio-economic conditions, which have changed in Tara National Park in recent years, have influenced people's attitudes towards the national park and conservation, and their attitudes on the future for life in Tara National Park. For the analysis to determine which demographic and socio-economic variables could help to explain why some respondents hold more positive attitudes towards conservation and the future for life in Tara National Park, the nonparametric test of rank correlation was applied together with the Spearman rank correlation coefficient.

The Spearman rank correlation coefficient between the gender of respondents and relationship with the NP is: $-.251^*$ ($df=65$, $p < .05$), which shows that women have a poor relationship with the NP, a negative attitude towards conservation, and that males have a more positive attitude towards conservation than women. The age of respondents and the variable relationship with NP correlate with: $-.353^{**}$ ($df=65$, $p < .01$), showing that older people have a poor relationship with the NP, and a more negative attitude towards conservation. A negative correlation means that the correlation is in the opposite direction of the set values of variables, which in a concrete situation means that young people have more positive attitudes towards conservation than older people. Also, the age of respondents has a significant influence on the perception of the future for life in the NP: $-.245^*$ ($df=65$, $p < .05$). The number of household members and the relationship with NP correlate with: $.430^{**}$ ($df=65$, $p < .01$), indicating that large families, with more household members have a better relationship with the NP, and a positive attitude towards conservation. The correlation with respect to attitude towards conservation found between the variables ability to work and relationship with the NP: $.366^{**}$ ($df=65$, $p < .01$), and shows that households active in work have better connections with the NP and a positive attitude towards conservation. The variables education and relationship with the NP correlate with: $.348^{**}$ ($df=65$, $p < .01$), clearly showing that education has a significant influence on a positive attitude towards conservation. Education also has a significant influence on expectations for the future in Tara National Park: $.262^*$ ($df=65$, $p < .05$).

The respondents who work for the NP have a good relationship with the NP and a positive attitude towards conservation, the correlation coefficient is: .841** (df=65, $p < .01$). The correlation between the variables work outside of household and relationship with the NP is: .766** (df=65, $p < .01$). The correlation results here meaning that a strong correlation between the variables work for the NP and work outside of household exists, so that any further discussion these two variables will be considered together as a single variable, namely work for the NP, which influences a positive attitude towards conservation. In Rastište village we found that conflicts between local people and the national park exist and that the correlation between the variables conflict and relationship with the NP is negative: - .327** (df=65, $p < .01$) indicating that respondents who have a good relationship with the NP or a positive attitude towards conservation are not in conflict with the NP.

Additionally, the results revealed a difference in the variables pertinent to the expectations for the future in Tara National Park. The variable wealth: .337** (df=65, $p < .01$) and the variable attitude towards tourism: .294* (df=65, $p < .05$) correlated significantly with positive perceptions of the future for life in Tara NP. Also, the variable wealth: .373** (df=65, $p < .01$) has a significant influence on the attitude towards conservation.

In general, local people have negative perceptions of future life in Tara National Park. In Rastište village, 83.1% voiced negative opinions. The findings of the study show that the level of education influences the attitudes of the local population with respect to the future in the Tara area in the case of the both villages. Education has also been cited elsewhere as a main reason for positive attitudes towards protected areas. Education is just one variable, but can have a powerful effect on attitudes towards conservation (Fiallo & Jacobson 1995; Gillingham & Lee 1999).

In the Rastište community the variables 'age of the respondents', 'wealth' and their positive attitudes towards 'tourism' also showed a correlation with positive attitudes towards the 'future for life' in the Tara area. Fiallo & Jacobson (1995) found that in Ecuador attitudes were influenced by the 'age of the respondents'. As has been the case in other studies (e.g. Mehta & Kellert 1998), the research carried out in Tara revealed that wealth is an important factor in people's attitudes towards conservation. The results revealed that positive attitudes towards conservation have a positive influence on people's perception of the future for life in Tara National Park, and that positive attitudes could possibly be caused by increased tourism-generated benefits. The influence of other demographic and socio-economic variables on people's attitudes towards the future was not significant.

Positive attitudes towards Tara National Park and conservation in the village were significantly influenced by the age of the respondents and whether or not they worked for the national park. The employment in the National Park variable was found to have a significant influence on attitudes towards conservation, possibly the result of benefits received from the Tara National Park enterprise. The findings suggest that benefits are an incentive for people to perceive conservation positively. A correlation between benefits and positive attitudes has been confirmed in many cases (de Boer & Baquete 1998; Gillingham & Lee 1999; Hamilton et al. 2000; Abbot et al. 2001; Mehta & Heinen 2001). Furthermore, gender and the number of household members also exhibited an influence on the attitude to conservation. Males had a more positive perception of the national park than females.

Education again had a positive influence on the attitudes towards conservation. Surprisingly, only 13.8% of the population of Rastište village were opposed to Tara National Park or were in conflict with the National Park. This suggests that their responses may not only be a direct consequence of what they have actually experienced. However, complaints were made in

relation to the restrictions on the use of natural resources. Therefore, increasing local people's involvement in the management of national parks may enhance their support and promote the sustainability of Tara National Park.

As mentioned in section 1 local people were left marginalized in the decision making process leading to the establishment of the national park. In this case, the state took a very strong top-down approach in establishment of Tara national park despite the fact that local people hold private land within the boundaries of Tara area. Therefore, since 1980s local people have been antagonistic towards Tara National Park management. Nonetheless, the results indicate that respondents who have a good relationship with the National Park or a positive attitude towards conservation are not in conflict with the National Park in any way. Additionally, in the Rastište community, the variable wealth has a significant influence on attitudes towards conservation. This is consistent with other researcher's findings, for example, Mehta and Kellert (1998) found that wealthier people express more positive attitudes towards conservation compared to poorer people.

The findings of the study show that local people have positive attitudes towards cooperation/participation with the National Park authorities and 78,5% expressed a desire to be included in the management of Tara National Park. A number of authors view the participation of local communities as key to a successful conservation strategy (Kiss 1990; Durbin & Ralambo 1994; Happold 1995; Rihoy 1995; Alpert 1996; Heinen 1996), although actual successes would appear to be rare (Sibanda 1995; Richards 1996).

4. Conclusion and recommendation

An understanding of the relationships between local people and protected areas, as well as knowledge of conflicts between people and protected areas, is required for the design of sustainable conservation strategies for the management of most protected areas (Weladji & Tchamba 2003). Ensuring local support for protected areas is increasingly viewed as an important element of biodiversity conservation (Walpole & Goodwin 2001). Furthermore, participation by local communities in management is widely considered a means of sustaining protected areas (De Boer & Baquete 1998). Further, new policies have emerged, seeking to promote public participation in planning, decision-making and management of protected areas (Weladji et al. 2003). Thus, the attitudes and perception of the local people in a conservation area are an important element for sustainable conservation. The results of this study indicate that conservation attitudes are influenced mainly by education.

Local people were found to hold relatively positive perceptions of Tara National Park, despite experiencing serious economic losses and deprivation since its establishment. This can partly be explained by the recognition by the local population of the intrinsic value of Tara's natural resources, and also by access to certain benefits from the Tara National Park enterprise. Despite having positive attitudes towards Tara National Park, the local population's perceptions of the future for life in the Tara area reflects in general the influence of the poor socio-economic circumstances in the country and the very turbulent process of transition. The primary reasons, however, were the demographic changes influenced by the emigration of local people. Altogether, the findings of our study shows that positive attitudes of local people toward the park can be a source of increased hopefulness about their future if they are engaged with the management and decision making for the National Park through a more participatory process.

Education and awareness programmes should focus on local people in order to increase participation in conservation and management activities and to improve people's attitudes towards conservation and local environmental issues. Participatory approaches have proved to be most successful in situations where the goals of the process are clear and there are positive attitudes towards conservation (Grumbine 1994; Jacobson, 1995). The implementation of participatory approaches is proposed as a means of promoting sustainable resource use and helping to ensure the ongoing involvement of local people in conservation.

Literature

- Abbot, J. I. O., Thomas, D. H. L., Gardner, A. A., Neba, S. E. and Khen, M. W., 2001. Understanding the links between conservation and development in the Bamenda highlands, Cameroon. *World Development* 29: 1115–1136.
- Alexander, S.E., 2000. Resident attitudes towards conservation and black howler monkeys in Belize: the Community Baboon Sanctuary. *Environmental Conservation* 27 (4): 341-350.
- Alpert, P., 1996. Integrated conservation and development projects. *Bioscience* 46 (11): 845–855. Anderson, D. and Grove, R., 1987. *Conservation in Africa: People, Policies and Practice*, Cambridge University Press, Cambridge, UK.
- Bruner, A. G., Gullison, R. E., Rice, R. E. and da Fonseca, G. A. B., 2001. Effectiveness of parks in protecting tropical biodiversity. *Science* 291: 125-128.
- Colchester, M., 1996. Beyond “participation”: indigenous peoples, biological diversity conservation and protected area management. *Unasylva* 186: 33-39.
- De Boer, W.F. and Baquete, D.S., 1998. Natural resource use, crop damage and attitudes of rural people in the vicinity of the Maputo Elephant Reserve, Mozambique. *Environmental Conservation* 25: 208–218.
- Durbin, J. C. and Ralambo, J. A., 1994. The role of local people in the successful maintenance of protected areas in Madagascar. *Environmental Conservation* 21(2): 115–120.
- Fiallo, E. A. and Jacobson, S. K., 1995. Local communities and protected areas: attitudes of rural residents towards conservation and Machalilla National Park, Ecuador. *Environmental Conservation* 22: 241-249.
- Gajić, M., 1989. *Flora Nacionalnog Parka Tara*. Šumarski fakultet i Šumarska sekcija Bajina Bašta, Beograd.
- Ghimire, K. B. and Pimbert, M. P., 1997. Social change and conservation: An overview of issues and concepts. In: Ghimire, K. B. and Pimbert, M. P. (eds.) *Social Change and Conservation: Environmental Politics and Impacts of National Parks and Protected Areas*. UNRISD and Earthscan, London, pp. 1-45.
- Gillingham, S. and Lee, Ph. C., 1999. The impact of wildlife-related benefits on the conservation attitudes of local people around the Selous Game Reserve, Tanzania. *Environmental Conservation* 26 (3): 218-228.
- Grumbine, R. E., 1994. What is Ecosystem Management?. *Conservation Biology* 8 (1): 27-38.
- Gurung, C.P., 1995. People and their participation: new approaches to resolving conflicts and promoting cooperation. In: McNeely, J.A. (ed.) *Expanding Partnership in Conservation*. Island Press, Washington DC, USA, pp.223-233.

- Hamilton, A., Cunningham, A., Byarugaba, D. and Kayanja, F., 2000. Conservation in a region of political instability: Bwindi Impenetrable forest, Uganda. *Conservation Biology* 14: 1722–1725.
- Happold, D.C.D., 1995. The interaction between humans and mammals in Africa in relation to conservation: a review. *Biodiversity and Conservation* 4: 395–414.
- Harmon, D., 1987. Cultural diversity, human subsistence, and the national park ideal. *Environmental Ethics* 9: 147-158.
- Heinen, J.T., 1996. Human behavior, incentives and protected area management. *Conservation Biology* 10: 681–684.
- Heinen, J.T. and Yonzon, P., 1994. A review of conservation issues and programs in Nepal: from a single species focus toward biodiversity protection. *Mountain Research and Development* 14 (1): 61 – 76.
- Infield, M. and Namara, A., 2001. Community attitudes and behavior towards conservation: an assessment of a community conservation programme around Lake Mburo National Park, Uganda. *Oryx* 35: 48-60.
- Ite, U.E., 1996. Community perception of the Cross River National Park, Nigeria, *Environmental Conservation* 23: 351-357.
- IUCN, 1980. *World Conservation Strategy: Living Resource Conservation for Sustainable Development*. IUCN/UNEP/WWF, Gland, Switzerland.
- Jacobson, S.K., 1995. *Conserving Wildlife: International Education and Communication Approaches*. Columbia University Press, New York, USA.
- Kaus, A., 1993. Environmental Perceptions and Social Relations in the Mapimí Biosphere Reserve. *Conservation Biology* 7 (2): 398-406.
- Kiss, A., 1990. *Living with Wildlife, Wildlife Resource Management with Local Participation in Africa*. World Bank Technical Paper 130, World Bank, Washington, DC, USA.
- Kramer, R. A., van Schaik, C. P. and Johnson, J., 1997. *Last Stand, Protected Areas and the Defense of Tropical Biodiversity*. Oxford University Press, New York and Oxford.
- Lewis, C., 1996. *Managing conflict in protected areas*, Gland, Switzerland and Cambridge, UK.
- Lofland, J., 1971. *Analyzing Social Settings, A Guide to Qualitative Observation and Analysis*. Wadsworth Publishing Company, Inc. Belmont, California.
- MacKinnon, K., 2001. Editorial – Integrated Conservation and Development Projects, can they work?. In: *Parks, ICPS: Working with Parks and People*, Vol 11, No 2. IUCN, Gland, Switzerland, pp.1-5.
- McNeely, J.A., 1989. Protected areas and human ecology: how national parks can contribute to sustaining societies of the twenty-first century. In: Western, D. and Pearl, M.C. (ed.) *Conservation for the Twenty-first Century*. Wildlife Conservation International/New York Zoological Society, New York, pp. 150 – 157.
- McNeely, J.A., 1993. *Parks for Life: Report of the IVth World Congress on National Parks and Protected Areas*. IUCN, Gland, Switzerland.

Mehta, J.N. and Kellert, S.R., 1998. Local attitudes toward community-based conservation policy and programmes in Nepal: a case study in the Makalu-Barun Conservation Area. *Environmental Conservation* 25 (4): 320-333.

Mehta, J.N. and Heinen, J. T., 2001. Does community-based conservation shape favorable attitudes among locals? An empirical study from Nepal. *Environmental Management* 28: 165–177.

Mukherjee, S. D. and Gangopadhyay, P. B., 1997. Is handing over forests to local communities a solution to deforestation? Experience in Andhra Pradesh, India. *Indian Forester* 123: 460–471.

Murphree, M.M., 2000. Community-based conservation: old ways, new myths and enduring challenges. Keynote paper, Conference on African Wildlife Management in the New Millennium. 13–15 December 2000. College of African Wildlife Management, Mweka, Tanzania.

Newmark, W. D., Leonard, N.L., Sariko, H.I. and Gamassa, D.G.M., 1993. Conservation attitudes of local people living adjacent to five protected areas in Tanzania. *Biological Conservation* 63: 177–183.

Nhira, C., Baker, S., Gondo, P., Mangono, J.J. and Marunda, C., 1998. Contesting Inequality in Access to Forests, Policy that Works for Forests and People Series No. 5: Zimbabwe. Centre for Applied Social Services and Forestry Commission, Harare and International Institute for Environment and Development, London, UK.

Obiri, J. A. F. and Lawes, M. J., 2002. Attitudes of coastal-forest users in Eastern Cape Province to management options arising from new South African forest policies. *Environmental Conservation* 29 (4): 519-529.

Parry, D. and Campbell, B., 1992. Attitudes of rural communities to animal wildlife and its utilization in Chobe Enclave and Mababe Depression, Botswana, *Environmental Conservation* 19 (3): 245-252.

Pratima, P. and Jattan, S. S., 1999. Participatory forest management to meet basic needs of forest dependent communities. *Indian Forester* 125: 895–902.

Richards, M., 1996. Protected areas, people and incentives in the search for sustainable forest conservation in Honduras. *Environmental Conservation* 23: 207–217.

Rihoy, E., 1995. The Commons without the Tragedy? Strategies for Community Based Natural Resources Management in Southern Africa. Southern African Development Community, Wildlife Technical Coordination Unit, Lilongwe.

Sah, J.P. and Heinen, J. T., 2001. Wetland resource use and conservation attitudes indigenous and migrant peoples in Ghodaghodi Lake area, Nepal. *Environmental Conservation* 28 (4): 345-356.

Sibanda, B.M.C., 1995. Wildlife, conservation and the Tonga in Omay. *Land Use Policy* 12: 69–85.

Tenjić, L., 2000. Statistika u Psihologiji. Centar za primenjenu psihologiju, Beograd.

Vedeld, P., 2002. The process of institution-building to facilitate local biodiversity management, NORAGRIC Working Paper 26, Agricultural University of Norway, Ås, Norway.

Vuković, N., 1997. PC Verovatnoća i Statistika. Fakultet organizacionih nauka, Beograd.

- Walpole, M.J. and Goodwin, H. J., 2001. Local attitudes towards conservation and tourism around Komodo National Park, Indonesia. *Environmental Conservation* 28 (2): 160-166.
- Weladji, R. B. and Tchamba, M. N., 2003. Conflict between people and protected areas within the Bénoué Wildlife Conservation Area, North Cameroon. *Oryx* 37 (1): 72-79.
- Weladji, R. B., Moe, S.R. and Vedeld, P., 2003. Stakeholder attitudes towards wildlife policy and the Bénoué Wildlife Conservation Area, North Cameroon. *Environmental Conservation* 30 (4): 334-343.
- West, P.C., 1991. Introduction. In: West, P.C. and Brechin, S.R. (eds.) *Resident Peoples and National Parks: Social Dilemmas and Strategies in International Conservation*. University of Arizona Press, Tuscon, USA, pp. XV-XXIV.
- Wily, L.A. and Mbaya, S., 2001. *Land, People and Forests in Eastern and Southern Africa at the Beginning of the 21st Century*. IUCN, Nairobi, Kenya.
- Wily, L.A., Akida, A., Haule, O., Haulle H., Hozza, S., Kavishe, C., Luono, S., Mamkwe, P., Massawe, P., Mawe, S., Ringo, D., Makiya, M., Minja, M. and Rwiza, A., 2000. *Community management of forests in Tanzania: A status report at the beginning of the 21st century*. *Forest, Trees and People* 42: 36–45.

Conflicts and partnership between forestry and nature protection: Case study of the Slovak Republic

*Rastislav Šulek and Jaroslav Šálka**

Abstract

Nowadays, there are numerous theories and opinions about relations between forestry and nature protection. Resulting from this, the issue of conflicts and partnership between forestry and nature protection is one of the essential topics in forest policy and economics. In the case of the Slovak Republic, the conflict between forestry and nature protection arises from the contradiction between the objectives of forest owners and objectives of the society. Such conflict is of great significance as more than 40 % of forest land is located on areas protected by the Nature and Landscape Conservation Act. On the other hand, in reality the conflict might be reduced by the fact that traditional forestry in Slovakia is based on so-called multipurpose approach and principles of close-to-nature forestry are being broadly taken into account in forestry legislation and practice. Thus, possible partnership between forestry and nature protection can be established on these principles and representatives of forestry as well as of nature protection might find the scope for possible co-operation and understanding. The objective of the paper is to analyse the conflict between forestry and nature protection using economic and policy theories, to identify relevant actors of the conflict, and to find possible solutions for regulating it by the state, based on the use of different policy tools. These solutions could result in the establishment of a partnership between forestry and nature protection in the Slovak Republic.

Key words: forestry, nature protection, forestry policy, forest management, forest owners

1. Introduction

Issues of relations between forestry and nature protection are one of the essential topics in forest policy and economics and the conflicts between forestry and nature protection are broadly discussed among a number of relevant actors. The essence of such conflicts originates from different objectives of different interest groups – on one hand, there are forest owners who want to utilize their forests in the sense of their legitimate property rights, originating from the general constitutional rights, and on the other hand, there is an interest of the whole society caring for ecological balance and effective environmental policy including nature protection.

These objectives are projected in two different conceptions – the conception of nature protection and the conception of forestry. The conception of nature protection is based on the regulative protection of areas and fauna and flora species. Extreme ideas of nature protectionists may lead to the situation when ordinary land use of large portion of protected areas is restricted and legitimate property rights of forest owners are not being respected. The conception of forestry, nowadays often presented as sustainable forestry, is based on the production of timber together with providing the other public beneficial forest functions,

* Department of Forest Economics and Management, Faculty of Forestry, Technical University Zvolen

including nature protection. Extreme ideas of forestry practitioners present nature protection just as an associate product of timber production. Thus, from the policy point of view, the conflict between forestry and nature protection arises from competition between economic and ecological interests in forest use.

2. Characteristics of the conflict between forestry and nature protection

The representatives of economic interests in forest use are mainly the organizations and institutions of forestry and wood-processing industries such as:

- state forest enterprises,
- non-state forest owners and their associations,
- associations of employers,
- professional foresters and their interest groups,
- state administration of forestry, e.g. ministry of agriculture,
- wood-processing industry enterprises and their interest groups,
- forest science, research and education,
- right-hand, conservative and business-supporting political parties.

In this case, these actors create coalitions originating from the orientation based on principles of market economy, securing of property rights, sustainable timber production and forestry professional capability. The crucial actor of this coalition is the state administration of forestry (Glück 2001).

The representatives of ecological interests are mainly the organizations and institutions of environment and nature protection, such as:

- ecological (nature protection) foundations and associations,
- state administration of nature protection, e.g. ministry of environment,
- biological and ecological science, research and education,
- left-hand, ecological and “green-oriented” political parties.

In this case, these actors create coalition originating from the orientation based on the biocentrism, theory of ecological balance and “small-is-beautiful” opinions. The crucial actor of this coalition is the state administration of nature protection (Schmithüsen 2004).

The basic characteristics of the conflict between nature protection and forestry can be described as follows:

1. In general, both mentioned groups of actors agree on the basic principles of nature protection in forests, such as preservation of forest sustainability, preservation of biodiversity, preservation of natural wealth,
2. Conflicts between both mentioned groups of actors can be observed in issues of forest use in protected areas, i.e. at the level of particular solutions and measures (Schmithüsen 2004).

Conflicts at the level of proposed solutions are so-called distributional conflicts e.g. the distribution of benefits originating from forests between forest owners and nature protectionists depends upon the type and size of protected areas. These conflicts are likely to happen in such areas as intensity of forest resources use for different purposes, types and size of protected areas, extent of ecological management of forests. The solution of such conflicts is enforced mostly by power e.g. by passing laws in parliament. An example of the solution of such conflicts is the proclamation of protected areas.

Conflicts at the level of proposed measures due to nature protection in forests are so-called conjuncture conflicts where the basic objectives are the same but the ways and methods of their achievement are different. Then, there is a room for consensus reached by the negotiations. These conflicts are likely to happen in such areas as type of used timber harvesting methods, type of forest regeneration and choice of tree species composition, share of dead wood, intensity of silvicultural and forest protection measures in protected areas.

Finally, there is a conflict originating from informal competition between the traditional state administration of forestry and the newer state administration of nature protection (Krott 1993, 2001). There is a formal division of competences and roles between both state administrations, however, at an informal level, both of them try to legitimise their competency in the area of nature protection and preservation of their subsistence funds by proposing political programmes, solutions and measures as well as by looking for allies.

Now, the basic question is how to solve the mentioned conflicts. The policy theory gives a simple answer – it is necessary to use some tools to regulate such conflicts. As there are two different conceptions – conception of nature protection and conception of forestry, there are also two different policies – nature protection policy and forestry policy. Thus, the state tries to regulate the conflict between forestry and nature protection by using different policy tools. Examples of such tools are presented in *Table 1*. Application and use of these tools may result in the establishment of possible partnership between forestry and nature protection.

Table 1: Examples of the policy tools

<i>Tools</i>	<i>Nature protection policy</i>	<i>Forestry policy</i>
1. regulative tools	- protection of areas - protection of species	- restriction and regulation of certain activities in forests - regulation of forest land conversion
2. economic tools	- indemnification of forest owners	- subsidies for more ecological forestry - levies on forest land conversion
3. information tools	- public relations of nature protection	- public relations of timber as renewable raw material - public relations of public beneficial forest functions

3. Conflicts between forestry and nature protection in the Slovak Republic

As it was already mentioned in the general characteristics of the conflict between forestry and nature protection, even if there is a general agreement on the principles of nature protection in the forests between “foresters” and “nature protectionists”, the problems appear in the particular solutions and measures. In the case of the Slovak Republic (SR), the conflicts between these two interests groups originate mostly from the following issues:

- types and size of protected areas,
- ownership and administration of forests in protected areas,
- management of forests in protected areas.

3.1 Protected areas in the Slovak Republic: The major source of conflict between forestry and nature protection in the SR is in the issue of types and size of protected areas. According to the Constitution of the Slovak Republic, everyone shall have the right to favourable

environment and shall have a duty to protect and improve the environment. No one shall imperil or damage the environment and natural resources beyond the limits determined by law. The State shall care for economic exploitation of natural resources, for ecological balance and for effective environmental policy, and shall secure protection of determined sorts of wild plants and wild animals. Details on these rights and duties shall be laid down by a law. In the case of nature protection, such law is the Act 543/2002 Coll. on Nature and Landscape Conservation that defines the competence, rights and duties of the state administration, municipalities, all other legal entities and natural persons in the sphere of the preservation of nature and landscape. This Act designs a system of complex nature and landscape preservation based on five levels of protection with different categories of protected areas (*Table 2*):

- 1st level – the territory of the SR not included in any of the higher levels of protection,
- 2nd level – protected landscape areas (PLA),
- 3rd level – national parks (NP),
- 4th level – protected sites (PS),
- 5th level – nature reserves (NR), national nature reserves (NNR), nature monuments (NM), national nature monuments (NNM).

Table 2: Protected areas in the Slovak Republic (2004)

Level of protection	Category of protected area	Area (hectares)		Percentage of the SR territory
1 st	unprotected land	3 768 191		76,8
2 nd	PLA	491 100	758 279	15,5
	protected range of NP	267 179		
3 rd	NP	262 348	266 264	5,4
	PS	468		
	protected range of PS, NR, NNR, NM, NNM	3 448		
4 th	PS	4 994	18 049	0,4
	NR, NNR, NM, NNM	10 869		
	protected range of NR, NNR, NM, NNM	2 186		
5 th	NR, NNR, NM, NNM	92 617		1,9
2 nd – 5 th together		1 135 209		23,2
Total		4 903 400		100,0

Source: www.sopsr.sk

Protected areas cover more than 23 % of the SR territory. It means that almost one quarter of the Slovak territory falls within areas with some kind of nature and landscape protection. With such extent of protected areas, the SR is at the top of all European countries. Areas of nature and landscape protection in other European countries are much smaller (e.g. the share of protected areas in Finland is 8 %, in Sweden 7 %, in France 9 % and in Germany 16 %). Due to the fact that protected areas are in many cases connected to the forest ecosystems, it is obvious that forest land is the most important land use category in all categories of protected areas (*Table 3*). Average forest coverage in protected areas reaches 74 %. Out of 2 millions hectares of forest land, more than 44 % fall within one of the four higher levels of protection. In the near future, especially in the connection with the establishment of NATURA 2000 network in the SR, the area of some categories of protected areas is expecting to increase or,

in some cases, the level of protection of existing protected areas is expecting to be higher. After declaration of all protected birds territories and protected territories of European importance according to the national lists, the protected areas will cover more than 34 % of the SR territory (in comparison with the present 23 %).

Table 3: Area of forest land in protected areas (2003)

Category of protected area	Total area (hectares)	Forest land	
		hectares	%
Protected landscape areas	515 001	367 798	71
National parks	588 018	426 571	73
Protected sites	6 467	5 788	90
Nature reserves	11 940	10 301	86
National nature reserves	85 121	79 569	93
Nature monuments	1 905	1 123	59
National nature monuments	271	57	21
Total	1 208 723	891 207	74

Source: Report on Forestry in the Slovak Republic 2004 (Discrepancies in the size of protected areas between Table 2 and Table 3 are caused by the fact that figures originate from two different years with minor changes during years 2003 and 2004)

3.2 Ownership and administration of forests in protected areas: Before 1990, due to the irrelevance of property rights and ownership structure of land in protected areas as well as due to the “unlimited” subsidies for state organizations managing protected areas, land use and management restrictions in protected areas were not important at all. As a result of this, more than 90 % of protected areas were declared during years 1970 – 1990. Restitution of property rights on agriculture and forest land to the original owners after 1990 was, from the nature protection point of view, the most important change that has disturbed the system of management of protected areas. However, the newly created nature protection legislation has not accepted this fact in a sufficient way.

According to the Act 543/2002 Coll. on Nature and Landscape Conservation, the landowner is obliged to tolerate the restrictions and other conditions of nature protection established by this Act. If ordinary use of his land is limited because of such restrictions, he shall be indemnified. Such indemnification is not applicable in the case of land owned by the state or in the case of private protected areas declared by the will of the landowner. The problem in the SR is that since the constitution of these legal provisions in 2002, the indemnification of landowners for property detriment due to restriction on the ordinary land use in favour of nature protection was realised only in a minimal scope. This is due to the lack of financial sources allocated in the state budget for such purposes as well as to the rather unclear procedure of calculation and reimbursement of the property detriment (Šulek – Šálka 2004).

Nowadays there are a significant number of forest owners who may ask for the indemnification due to the restrictions established by the nature protection legislation on land use in protected areas. Non-state forest owners own more than 54 % of forest land located in

national parks, 66 % of forest land located in protected landscape areas and almost 40 % of forest land located in other so-called small-scale protected areas. It means, that the forest owners of more than half of forest land located in protected areas may ask for such indemnification. The second problem in the SR is to be found in the field of state administration of protected areas. There are, in fact, two different systems of state administration:

- State administration of forestry, represented by the Ministry of Agriculture and county and district forest offices;
- State administration of nature protection, represented by the Ministry of Environment, county and district environment offices, and, moreover, the Slovak Inspectorate of Environment as well as the municipalities.

An excellent example of competence conflict between the state administrations of forestry and of nature protection in protected areas in the SR is the problem of the Tatra National Park. On the area of this national park, there are two parallel organisations – one of them established by the Ministry of Agriculture managing the forest resources, the other one established by the Ministry of Environment on the same area taking care of nature protection. Moreover, there is the State Nature Protection Office, which is responsible for professional supervision over the fulfilment of requirements of nature protection.

Another example of conflict between institutions of the Ministry of Agriculture and the Ministry of Environment can be found in the process of formulation and implementation of legal provisions dealing with the indemnification of landowners. During the years 1994 – 2003, when such legal provisions were constituted, both interest groups –representatives of forestry state administration as well as of the nature protection state administration wanted to play the key role in this process. Until 2002 the environment state administration was not willing to implement any regulations dealing with indemnification of forest owners as the valid forest legislation respects the requirements of nature protection, though without the indemnification of forest owners. When finally in 2003 the process of formulation of such legislation was completed, it was obvious that the whole process was clearly controlled by the state administration of nature protection (especially the Ministry of Environment) without respect to the objections of forest owners. Now, the state administration of forestry tries to act as a negotiator between forest owners and state administration of nature protection.

3.3 Management of forests in protected areas: In the SR, according to the Forest Act and the Regulation of the Ministry of Agriculture on Management of Forests, forests in protected areas or other forests significant from the nature protection point of view can be declared as forests of special purposes. Such declaration can be proposed by the forest owner, forest user or by any state administration body. Management of such forests shall be different from so-called ordinary management of forests – it shall be oriented towards the fulfilment of the functions of special-purpose forests.

Management of forests in protected areas is different according to the level of protection. In protected areas in the 2nd and 3rd level of protection (especially in protected landscape areas and national parks) the legal provisions established by the Nature and Landscape Conservation Act enables to perform ordinary forestry measures with following restrictions:

- Environmental-friendly or close-to-nature silvicultural and forest protection measures shall be applied.
- Rotation and regeneration periods shall be lengthened.
- Age and spatial structure of forest stands shall be managed so that the biodiversity can be preserved or improved.

From the forestry point of view, these nature protection restrictions are not that complicated as they comply with the traditional principles of close-to-nature forestry that are typical for the Slovak forestry.

The situation is considerably different in the forests located in protected areas in the 4th and particularly in the 5th level of protection (especially in nature reserves) where legal provisions established by the Nature and Landscape Conservation Act directly ban carrying out any forestry measures, including preventive silvicultural and forest protection measures. Even if carrying out such measures is planned in an approved forest management plan, the forest owner has to ask the responsible body of the nature protection state administration for permission to execute these measures. Due to this complicated process, forest ecosystems in protected areas in the 4th and 5th level of protection are, in many cases, left without any care and their condition is not very suitable e.g. in certain cases such forests were destroyed due to problems with bark beetles when forest managers were not able to do anything against it due to the restrictions of nature protection. According to the data of the State Nature Protection Office, almost 24 % of these forests are deteriorated and endangered. Resulting from this, neither production (economic) functions nor nature protection functions of these forests are really fulfilled.

Another problem in the field of management of forests in protected areas is connected to the process of forest certification. Nowadays, in the SR, both well-known forest certification schemes - FSC as well as PEFC - are being used. The existence and use of these certification schemes in forestry has already brought a number of extensive discussions on the role of certification in forest management and nature protection. While the FSC has already received endorsement and active commitment from a wide range of respected environmental NGOs, including WWF, Friends of the Earth, and Greenpeace, the PEFC is rather preferred by non-industrial private forest owners around Europe (Paluš 2000). This fact represents the differences defined by the principles of both certification systems for forestry practice. More homogenous and, from the nature protection point of view, stricter rules apply to the forest owners managing their forests according to the FSC standards. On the other hand, PEFC accepts the present state of national and regional rules and regulations and thus allows the forest owners to a certain extent to apply the methods and practices which are most suitable for a given region and which respect the local conditions. As the PEFC Guidelines for Forest Management Planning and Forest Management practices represent some recommendations and can be used on a voluntary basis, they do necessarily not have to follow the regulations for nature protection (compare FSC 2003 and PEFC 2003).

4. Conflict solving – partnership between forestry and nature protection

In order to solve the conflicts between forestry and nature protection, it is necessary to use different tools of forestry and nature protection policy. In the case of the SR, remarks on the use of suitable policy tools are resumed in the following review:

1. Types and size of protected areas:

- It is necessary to re-assess the actual types and size of protected areas and to exclude those that do not have an adequate natural character as well as those in which the relevant subject of nature protection has faded.
- From the forestry point of view, it is necessary to harmonize the categories of protected areas with the MCPFE Assessment Guidelines for Protected and Protective Forest and Other Wooded Land in Europe approved at the Fourth Ministerial

Conference on the Protection of Forests in Europe (Fourth Ministerial Conference Vienna 2003).

- It is necessary to develop the criteria for assessment of naturalness and conservation of forest ecosystems that would potentially apply for a declaration as protected areas.
 - As the conservation and enhancement of forest biological diversity is the priority in the case of forest land included in the protected areas, the provisions on protection of genetic and species diversity of forests shall be included in the Forest Act. As the Forest Act already contains provisions on the category of special-purpose forests in the protected areas the category of forests serving as genetic bases shall be also established.
2. Ownership and administration of forests in protected areas:
- It is necessary to provide sufficient financial means for indemnification of landowners of protected areas or, on the other hand, to match interests of nature protection and economic possibilities of the public finance.
 - The rather unclear procedures of calculation and reimbursement of the property detriment should be simplified. Moreover, to improve the implementation process, it is necessary to introduce accompanying information tools, as the calculation of the indemnification is too complicated.
 - The Government authorities shall consider the fact that landowners might be given the possibility to exchange their land in protected areas for state-owned land outside such areas.
 - The competence conflicts between the Ministry of Agriculture, representing the interests of forest owners, and Ministry of Environment, representing the interests of nature conservationists, should be eliminated.
 - The forestry sector (especially state administration of forestry) shall co-operate with the authorities of nature protection in preparation and development of the programmes of care about the protected areas so that all legitimated requirements, requirements of forest owners as well as those of the nature protection authorities, are satisfied.
3. Management of forests in protected areas:
- It is necessary to harmonize forestry and nature protection legislation in the sphere of restrictions of management measures in protected areas. One has to know what “has to be done” according to the forestry legislation, and “what is not allowed to be done” according to the nature protection legislation.
 - The foresters together with the nature protectionists should optimise management of forests in protected areas according to the MCPFE Assessment Guidelines for Protected and Protective Forest and Other Wooded Land in Europe. It is necessary to divide all forest ecosystems in protected areas into categories with three different approaches: “no active intervention” (in the best-preserved forests), “minimum intervention” (e.g. biological control of bark beetle gradation), “conservation through active management” (e.g. according to the principles of close-to-nature protection).
 - The passive protection of forest ecosystems in protected areas shall be replaced by differentiated active protection or management of forest ecosystems according to their naturalness and conservation status.
 - The Ministry of Agriculture shall elaborate the project of monitoring of forest ecosystems in the protected areas.
 - The management of forests in protected areas should be harmonised with the issues of forest certification.

Resulting from the remarks on the use of such policy tools, the partnership between forestry and nature protection generally requires consideration of diverse values and interests of various stakeholders by means of multi-professional team work of experts, inter-agency co-operation, public participation, and settlement of controversies concerning land-use alternatives through negotiation.

5. Conclusion

The SR has a long tradition in both nature protection as well as forestry. Nowadays, one of the main issues of nature protection in the SR is exactly the issue of relations between forestry and nature protection as more than 70 % of territory of protected areas is covered by forests. As a result, there is competition between the conception of traditional multi-purpose sustainable forestry aiming at the production of timber together with the fulfilment of other public beneficial forest functions, and conception of the nature protection. Then, there is a policy conflict that is complicated by different ideas about issues of nature protection in forests or, vice-versa, issues of forestry in protected areas.

As a solution of these conflicts, representatives of the forestry sector propose the so-called close-to-nature forestry approach in protected areas whereas, on the other hand, the state administration of nature protection proposes strict principles of nature protection. It means that both groups of actors agree on the basic principles of nature protection in forests, but conflicts between them can be seen at the level of particular solutions and measures. This is described in detail in the case of the SR using example of types and size of protected areas, ownership and administration of forests in protected areas and, finally, management of forests in protected areas. The described solutions could result in the establishment of possible partnerships between forestry and nature protection in the SR, based on the principles of a participatory approach to planning and use of forest land in protected areas.

References

- Glück, P., 2001: Forst – und Holzwirtschaftspolitik. Institut für forstliche Sozioökonomik, Wien, 202 p.
- Krott, M., 1993: Naturschutzstrategien für die Staatsforstverwaltung. In: Krott, M., Smykala, J.: Beziehungen der Staatsforstverwaltung zur Naturschutzverwaltung, Praxisvergleich in Europa, Europaforum Forstverwaltung 3, Warschau, pp. 171–186.
- Krott, M., 2001: Politikfeldanalyse: Forstwirtschaft, Eine Einführung für Studium und Praxis. Parey, Berlin, 254 p.
- Paluš, H., 2000: Review on certification of non-industrial private forests in Europe. In: Marketing 2000 – Marketing at the Break of the Millennium, Zvolen, pp. 57–66.
- Report on Forestry in the Slovak Republic 2004 (Green Report). Ministry of Agriculture of the Slovak Republic, Bratislava, 168 p.
- Schmithüsen, F., 2004: Wald– und Naturschutzpolitik – Gesellschaftliche Regelungsprozesse. Professur für Forstpolitik und Forstökonomie. Sechste überarbeitete Auflage; Eidgenössische Technische Hochschule (ETH), Zürich, 276 p.

Šulek, R.; Šálka, J., 2004: Balance between forestry and nature conservation – reimbursement of forest owners in the Slovak Republic. In: Legal Aspects of European Forest Sustainable Development, Forestry and Game Management Research Institute, Jíloviště – Strnady, pp. 155–160.

Fourth Ministerial Conference Vienna, 2003: [http:// www.mcpfe.org/resolutions/vienna](http://www.mcpfe.org/resolutions/vienna)

FSC, 2003: <http://www.fscoax.org>

PEFC, 2003: <http://www.pefc.org>

www.sopsr.sk

Searching for a balance between forestry and nature conservation in Slovenia

Jurij Gulič and Andreja Škvarč***

Abstract

In Slovenia, forests cover more than half of the country area and are an essential feature of the landscape. For both, private and state-owned forests, management planning is in the hands of the Slovenian Forest Service. Due to rational management with forests in the past, a vast amount of forest areas have persisted until the present day. The Slovenian Institute for Nature Conservation is under obligation to participate in the process of spatial planning with the document called Nature Protection Guidelines. In the case of forestry planning the nature conservation content is applied to forest area. With accession to EU, Slovenia got a legal obligation to design the Natura 2000 network. The qualifying Natura 2000 forest habitat types account for some 40 % of the network area. The new concept has induced some changes in nature conservation legislation which in turn affects the content and purpose of forest management plans. In the future, forest management plans of Natura 2000 sites will have to be linked to the Natura 2000 site management plans, and forestry monitoring will have to be integrated into the Natura 2000 monitoring system. An important step forward towards harmonisation of both »sectors«, forestry and nature conservation, represents the ongoing LIFE project »Natura 2000 in Slovenia - management models and information system«. One of the goals of the project is the preparation of solutions for incorporation of management plans for Natura 2000 sites into existing sector management plans.

Keywords: nature conservation, forest management plans, EU nature legislation, nature protection guidelines

1. General Aspects

Slovenia lies at the cross-roads between the Alps, the Dinaric Mountains, the Pannonian lowland and the Mediterranean. It is characterised by a wide biotic and landscape diversity in a relatively small region. Forests account for 63%, while agricultural areas encompass 33 % of the country area (CORINE Landcover 1998). Forests predominate in as much as three quarters of the Slovenian territory. In 1875 only 36% of the country area was covered by the forest. The present situation is the result of the process in which abandoned farmland has reverted to scrub and woodland. The composition of species of Slovenian forests has been significantly changed due to extensive felling and planting of Norway spruce. The present vegetation shows that Norway spruce prevails in more than 30%, and beech forests are found in 31% of the forest area. The presumption for the potential vegetation is 58% of beech forests and only 8% of Norway spruce forests (ASFS 2004). The majority of forests are privately owned. It has been estimated that 80% of forests will be private sector on

* J.G., The Institute of the Republic of Slovenia for Nature Conservation, Regional Unit Maribor, Pobreška cesta 20, SI-2000 Maribor, Slovenia, tel: 00386/(0)2 333 13 74, e-mail: jurij.gulic@zrsvn.si, <http://www.zrsvn.si/slo/>

** A.Š., M.Sc., The Institute of the Republic of Slovenia for Nature Conservation, Central Unit, Dunajska 22, SI-1000 Ljubljana, Slovenia, tel: 00386/(0)1 230 95 26, e-mail: andreja.skvarc@zrsvn.si, <http://www.zrsvn.si/slo/>

completion of the denationalisation. For most owners, with the exception of mountain farms, the forest does not represent a notable supplementary source of income.

For both, private and state-owned forests, management planning is in the hands of the Slovenian Forest Service. Due to rational management of forests in the past, a vast amount of forest areas have persisted until the present day. Forest management plans and silvicultural plans have a long tradition in Slovenia. In the territory of present-day Slovenian forests management was established with forest ordinances from the 15th century. The first regulation plans for some forest areas (mainly mine forests) were drawn up at the beginning of the 18th century. As a milestone in the history of nature conservation in forestry the year 1892 should be mentioned, when the first Illyrian forests were exempt from forest management as reserves. Based on the concept of sustainable and multipurpose forest management, the first management plans drawn up after the 2nd World war already included basic elements of nature conservation. In the mid nineteen seventies a network of forest reserves was established with an area of 10,000 hectares in total, and no forest exploitation was prescribed there since then.

The origins of nature conservation in Slovenia date back to the beginning of the 20th century. As the first national conservation programme is considered the document "Spomenica" (1920). Its objective was to introduce the protection of parks and of some plant and animal species, and to promote the concept of nature conservation to the public. At the time between the two world wars Slovenian nature conservation was organized under the umbrella organization of Musealic Union and later on within the Natural Science Union. The Decree on the protection of cultural heritage and natural sights adopted in 1945 became a law on protection in 1946. The first professional authority was established in 1946 when nature conservation was dealt with by the Institution for Heritage Protection. A new law on nature conservation and cultural heritage was adopted in 1981. In the field of the national planning programme natural heritage became an obligatory part.

An important step forward in the history of Slovenian nature conservation history represents the year 1999 when a new umbrella act on nature conservation was adopted. With this law a new independent public organization called the Institute of the Republic of Slovenia for Nature Conservation (IRSNC) was founded. It consists of a coordinating central unit and of 7 regional units covering the whole country area. Professional work in nature conservation is organized at two levels – administrative and specialist. Administrative tasks are in the hands of the Ministry of Environment and Spatial Planning and of the Environmental Agency, while the specialist level is conducted by the Institute (IRSNC) with its most important task, the protection of Slovenian nature and its most valuable natural sites. The law of 1999 introduced a new content and notions such as: natural heritage sites (natural values), biotic richness, ecologically important areas, special protected areas, nature protection guidelines, and relevant features from the EU legislation.

2. Determination of the problem

Nowadays forestry has the primacy in the forest areas; on the other hand the biological discipline keeps its exclusivity on the basis of species and habitats. The attitude of the two fields causes conflicts among them again and again. Nature conservation in the wide sense of the word has presumably preserves of complex forest areas which may induce restrictions of all kinds. It is often not taken into account that the presence of specific plant and animal species which are the subject of interest is in fact the result of forest management in the past. The forest has its own dynamics and is capable of maintaining its biotic richness in the

landscape. An inflexible approach which is aimed at preserving the status quo condition of an ecosystem and does not consider the succession process is inappropriate. The notion of preserving a suitable condition of a habitat (habitat types) that was been determined as such in compliance with EU legislation requires more or less a wide scale approach to forest management. Only with large enough forest areas a continuous development of the desired scope will be assured. The same is true of plant and animal species present in these areas. A formal basis for nature conservation in accordance with forest legislation has been set up, but its implementation is often inappropriate.

Nature conservation as a segment of forest management considers mainly state-owned forests. Private forest property is highly fragmented and interest in forest production is rather low. These difficulties result in a departure from objectives stated in the basic forest document, the National Forest Development Programme. Although the required silvicultural work and cutting are not directly linked with nature conservation, the low realization takes it beyond the reach of objectives that are foreseen in the forest management plans. The new concept of protected areas under the Birds and Habitats Directive has induced some changes in nature conservation legislation which also affects the content and purpose of forest management plans. In the future, forest management plans for Natura 2000 sites will have to be linked with Natura 2000 site management plans. To ensure that forestry will be capable of performing new tasks, especially managing the Natura 2000 forest sites, it will have to include knowledge from other natural sciences. In addition to restrictions on property, new guidelines including possible restrictions will be drawn up to preserve a suitable condition of habitats (mainly in protected areas). The success will depend on the quality of communication between the Ministry of Agriculture, Forestry and Food and the Ministry of the Environment and Spatial Planning.

3. Legislation review and implementation

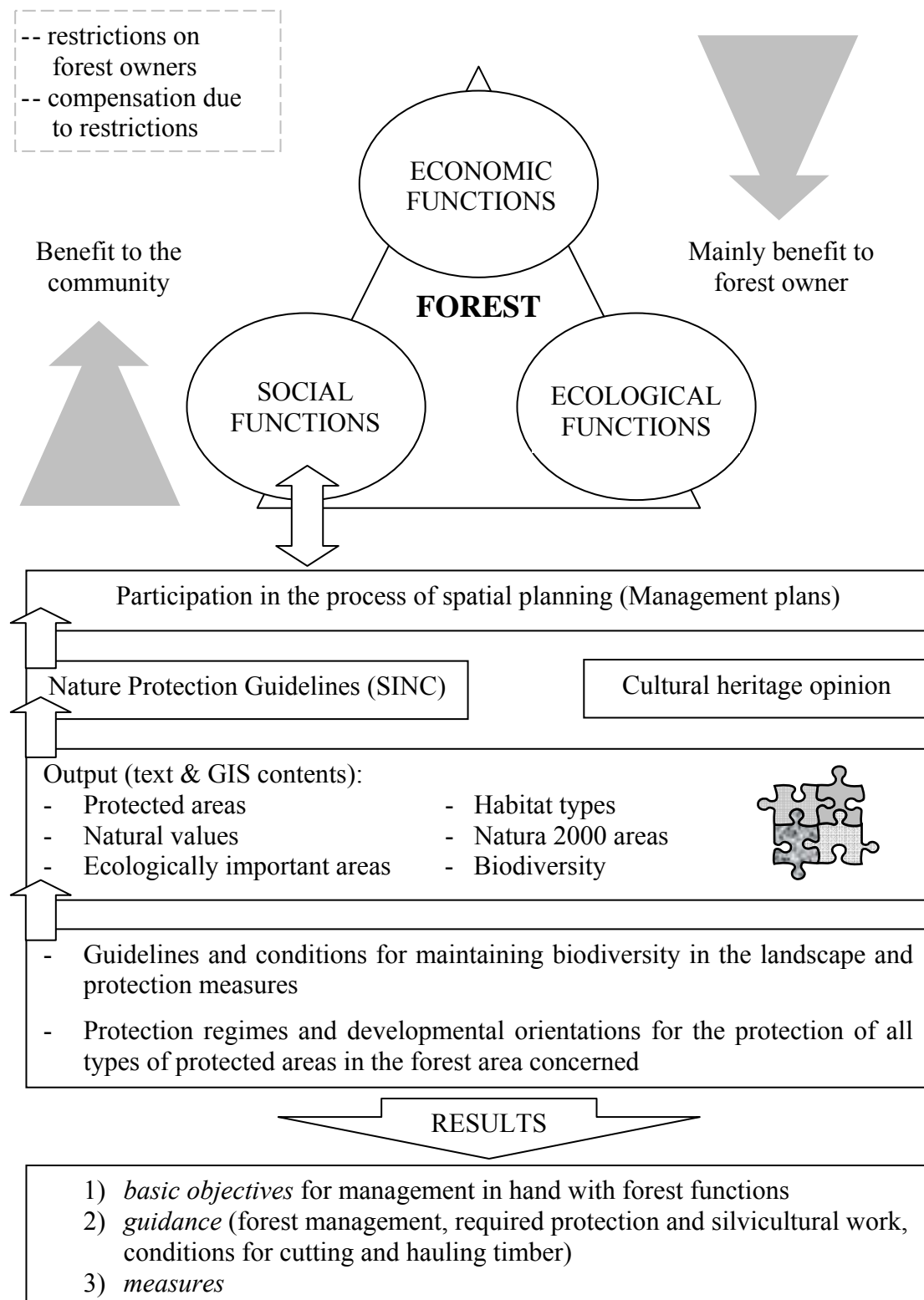
The Forest Act regulates protection, cultivation, exploitation and use of forests in order to secure:

- Sustainable and multipurpose management in accordance with the principles of environmental protection and natural values;
- Permanent and optimal functioning of forests as ecosystems;
- Implementation of all their functions (ecological, social and productive) on a permanent basis.

To ensure the functioning of a protected area it is vital to set up an appropriate management system. One of the most important constituent parts, required internationally, is to draw up a management programme, which takes account of development. The programme is to be based on the Protection Act and its objectives, its protection regimes and other guidelines.

The Slovenian Institute for Nature Conservation has an obligation to participate in the preparation of forest management plans with the document entitled Nature Protection Guidelines. The document includes geocoded data on protected areas, Natura 2000 sites, natural heritage sites, ecologically important areas, and all potentially protected areas and features. The textual part includes background information, guidelines and conditions for maintaining biodiversity in the landscape and protective measures, protection regimes and developmental orientations for protection of all types of protected sites in forest areas concerned.

Figure 1: Inclusion of nature conservation content in forest management plans



The content of Nature Protection Guidelines represents a constituent part of social functions called the Function of Biodiversity Conservation and the Protection of Natural Values. Selected cartographic guidelines are evaluated in terms of significance of functions: a function either determines forest management or it has an important effect on it or it only partly affects it (regulations on forest management and silvicultural plans - in preparation). The guidelines provide a basis for the preparation of basic objectives of forest management, of guidance on and of measures for forest exploitation. Among the ecological functions the biotope function, in particular, is of significance from a nature conservation point of view. Due to the history of legislation in the field of nature conservation and forestry the interpretation of the biotope function and of the biodiversity conservation function overlap to a certain extent. The biotope function, however, is of vital importance to maintenance of a suitable condition of forests.

To maintain the diversity of a forest ecosystem it is vital to ensure a suitable development of all minority ecosystems and of minority tree species and other plant species, and to conserve suitable forest conditions for endangered and rare animal species in a given area. In areas in which this function is of significance it is crucial that construction of infrastructure and of other building projects is prevented, or such construction work and, if possible, the implementation of all forest management measures are carried out at the time of the year when as little damage as possible is done to animal species because of which a certain forest area has a biotopic function of significance. In compliance with ratified international conventions (particularly biodiversity conventions) on biodiversity protection at all levels, it is of the utmost importance for forest management in an area to maintain natural ecosystem diversity which is a sine qua non for the development of other levels of biodiversity (diversity of species, genetic diversity etc.)

4. Forestry in Slovenia and Natura 2000

With the accession to the EU Slovenia is under legal obligation to design the Natura 2000 network. More than two thirds of the Natura network area is covered by the forest. The qualifying Natura 2000 forest habitat types account for some 40 % of the network area. The best represented forest habitat type is the Illyrian *Fagus sylvatica* forest (*Aremonio-Fagion*), which covers 28% of the network area.

To compile a list of sites (pSCI) containing forest habitat types listed in Annex I of the Habitat Directive, which mainly includes host species from Annex II and qualifying bird species from the Birds Directive, the process was as described below. Forest management classes and data from compartments were used according to the following criteria:

- concordance with forest communities described in the manual,
- priority status and representation,
- conservation status – management classes in which a non-indigenous species in a site represented more than 30% in the growing stock were exclusive,
- forests in a large area were advantageous,
- forests representing habitats of Annex II species were more likely to be included,
- socio-economic factors such as the existence of a protected area, absence of roads or state ownership were also taken into account, but they were never a decisive factor (Golob 2004).

When Natura 2000 forest sites were determined, forestry played a decisive role. From the viewpoint of nature conservation the proposal for the selection of areas is suitable. When

regional minority habitat types were determined in compliance with Annex I, there was a discrepancy between the expected results and the actual results. An example is the forest community Tilio-Acerion (9180*) and some smaller areas in which alder forests are dominant along watercourses and in headwater areas (91EO* Alno-Padion, Alnion incane). The problem is that these habitat types are scattered mainly in beech forests and that forest information system cannot provide reliable data for them. These areas are primarily the main habitat type of certain animal species stated in Annex II of the Habitats Directive. Although some of these areas will not be included in the final selection of the designated Natura 2000 sites it will be necessary to ensure conservation of these minority habitat types through forest management.

4.1 Management and Natura 2000: The new concept of protected areas under the Birds and Habitats Directives has induced some changes in nature conservation legislation, which in turn affects the content and objectives of forest management plans. In the future, forest management plans for Natura 2000 sites will have to be linked with Natura 2000 site management plans.

An important step forward towards harmonisation of both »sectors«, forestry and nature conservation, is the ongoing LIFE project »Natura 2000 in Slovenia - management models and information system«. The main goals of the project are the preparation of guidelines for management plans for Natura 2000 sites and the preparation of solutions for incorporation of management plans for Natura 2000 sites into existing (national statutory branch) administrative and management plans of sector. A series of workshops have been organised, in which representatives from several sectors including forestry are searching for solutions for integrated and harmonised management of Natura 2000 sites.

4.2 Monitoring and Natura 2000: Under Article 17 of the Habitats Directive, Member States are under obligation to draw up a report on the implementation of measures in line with the Directive. The report shall include in particular information concerning conservation measures referred to in Article 6 (1) as well as evaluation of the impact of those measures on the conservation status of natural habitat types of Annex I and of species listed in Annex II and the main results of the surveillance referred to in Article 11 (EC, 1992). In practice, this means the necessity to monitor the conservation status of habitat types of Annex I and the species of Annex II within the designated Natura 2000 areas and surveillance of species and habitat types from all the Annexes over the whole country territory. For habitat types, the information needed for the report are: trends in natural range and area size, information about the state of habitat's specific structure and functions which are necessary for its long-term maintenance and conservation status of the typical species.

In Slovenia, the monitoring of forest ecosystem has a long tradition. As early as 1987 a monitoring system with regular annual sampling in a 16 x 16 km national grid was set up as part of a larger international programme. A method has been designed for monitoring damage in forests due to air pollution and for providing temporal and spatial information on forest condition (crown and foliar condition, soil chemistry). In 2004 another more detailed monitoring method was designed to investigate the cause-effect relationship between air pollution and forest condition. Another type of monitoring forest ecosystem is the monitoring of certain plant and of animal species. The latter monitoring is aimed at large carnivores, birds of prey, owls, deer species, small mammals, grouse as well as birds nesting in artificial nesting boxes. The methodology, quality control, training and standard data forms for forestry monitoring are defined by a statutory act (Rules on the protection of forests). Methodology

has been prepared by the Slovenian Forestry Institute and field work is carried out in co-operation with the Forestry Service field staff.

In the context of monitoring for Natura 2000, it can be concluded that a lot of information especially about the structure and functions of Natura 2000 forest habitat types and about trends of certain Natura 2000 forest species has already been obtained and it is still being collected with standardised methods. Therefore it is rational and necessary to find the way for integrating forestry monitoring into the monitoring system of Natura 2000.

5. Synergy between forestry and nature conservation

The synergy between the public service of forestry and of nature conservation should be based on the following:

- The staff of regional units of the Slovenian Forest Service that is almost every day present in their forest districts has an insight into the condition of the forest and its development. On other hand, the Slovenian Institute for Nature Conservation is under the obligation to prepare nature conservation guidelines for forest management plans. To be able to prepare professional and well-founded guidance the Institute requires co-operation of foresters.
- Foresters also provide for the Institute information about possible occurrence of natural values that are recognised anew. If the two professions manage to cooperate then co-operation between the two institutions is also appropriate. It should be pointed out that the synergy between them is making good progress. Exchange of information strengthens the quality of work, which is reflected in the inclusion of nature conservation content into forest management programmes.
- The Slovenian Institute for Nature Conservation is participating in the process of communication as regards Natura 2000 sites. When communicating with regional or district units of the Forestry Service, the two professions exchange opinions and views, and develop possible solutions aimed at achieving target objectives. Thus the two services strengthen their cooperation in everyday tasks as well.
- In the future, the Slovenian Institute for Nature Conservation will have to provide special knowledge for forestry experts of how to maintain suitable conditions of plant and animal species in forests located in N2K areas.
- The Slovenian Forestry Service and its forestry information system will provide for the Nature Conservation Institute the possibility for an insight into conditions of forest stands especially if some information is needed for monitoring the condition of an area.

6. Conclusion

Slovenia has an appropriate formal and practical basis for efficient nature conservation of the forest. If forestry is to retain the leading position in forest management it will have to master the skills of interactive communication with the public whose awareness of the need for conservation is increasing. It will have to open up and search for synergy with other professional fields. Current conditions in most of the areas under protection indicate the necessity for amendments to act on the protection of areas with natural values in compliance with the Nature Conservation Act. In addition, it will be crucial to appoint managers of some protected areas and to set up a nature conservation inspection service in the whole natural environment.

7. References

- ASFS (Association of Slovenian Forest Societies), 2004: Gozd in gozdarstvo Slovenije. Ljubljana, Ed: Franc Perko, 39 p.p.
- Golob, A., 2004: Challenges and opportunities in the practical implementation of the Bird and Habitat Directive in Slovenian forests. Appendix 13, 9 p.p.
- Piskernik, A., (1963-1964): Iz zgodovine slovenskega varstva narave. Varstvo narave, 2-3: 59-70.
- 75 let spomenice Odseka za varstvo prirode in prirodnih spomenikov. Uprava RS za varstvo narave, Ljubljana, 1995
- Forest Act (Zakon o gozdovih). Ur. l. RS št. 30/1993
- Nature Conservation Act (Zakon o ohranjanju narave - ZON). Ur. l. RS št. 96/04 - UPB-2
- Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Direktiva Sveta 92/43/EGS z dne 21. maja 1992 o ohranjanju naravnih habitatov ter prosto živečih živalskih in rastlinskih vrst - Direktiva o habitatih).
- Council Directive 79/409/EEC of 2nd April 1979 on the conservation of wild birds (Direktiva Sveta 79/409/EGS z dne 2. aprila 1979 o ohranjanju prosto živečih ptic – Direktiva o pticah).
- Decree on special protection areas (Natura 2000 areas) (Uredba o posebnih varstvenih območjih (območjih Natura 2000)). Ur.l. RS, št. 49/2004, 110/2004
- Decree on habitat types (Uredba o habitatnih tipih). Ur. l. RS, št. 112/2003
- Rules on the designation and protection of valuable natural features (Pravilnik o določitvi in varstvu naravnih vrednot). Ur. l. RS, št. 111/2004
- Rules on the protection of forests (Pravilnik o varstvu gozdov). Ur. l. RS, št. 92/2000
- National Forest Development Programme (Program razvoja gozdov v Sloveniji - NPRG). Ur.l. RS, št. [14/1996](#)
- CORINE Landcover, 1998

Swedish forest and nature conservation – Legislation and policy

Johanna Fintling

Abstract

During the last decade the Swedish Forest Policy and Nature Conservation Policy respectively has undergone an important process of development. The framework of legislative tools have more or less remained the same, yet the view of responsibility and the way of applying these legislative tools has changed due to the development of policies.

The Swedish forest policy

The Swedish Parliament approved a new forest policy in 1993. The former forest policy meant strong emphasis on timber production and considerable state intervention in forestry. The Forestry Act and associated provisions regulated and controlled forest management at large extent, while a special forest tax financed state subsidies for forestry investments. The state also carried out a forest inventory for compulsory management planning.

In the revised Forest Policy of 1993 production goals and nature conservation goals are both given equal importance. The forest owners are given great responsibility for achieving these goals. An important principle of the forest policy is the sector responsibility. It implies that authorities, companies and other organizations within the forestry sector are responsible for the environmental issues within their sphere of activities. The forestry sector is thus given a thorough responsibility for the forest environment.

The Forestry Act: Production goals and conservation goals are both given equal importance in the revised Swedish Forestry Act of 1994. Forest owners have great responsibility for achieving these goals. The Forestry Act sets out the demands placed on forest owners by society. These include the wood production levels that must be attained and the considerations that must be shown to nature conservation and the cultural heritage. In addition to the Forestry Act, the Regional Forestry Boards are also responsible for enforcing parts of the Environmental Code. Consultations must take place with the Boards when forestry measures run the risk of significantly change the natural environment, one example could be the construction of a logging road. The Regional Forestry Boards also have the power to protect small habitats with species of flora and fauna of special interest, i.e. habitat protection areas. The main outlines of the Forestry Act are as follows:

Reforestation: New forest must be planted or naturally generated after felling when the land's capacity to produce timber is not fully exploited. Planting or measures for natural regeneration must have been completed by the end of the third year after felling. Reliable methods and suitable species of trees must be used in the forestation work. Natural regeneration can be a good method if the site is suitable. Otherwise, the land must be sown or planted. Soil scarification is often a prerequisite for good results. If there are insufficient numbers of seedlings, supplementary planting must take place before it is too late. Subsequent weeding and thinning may be necessary. Disused agricultural land must be reforested within three years of the land falling into disuse. This does not, however, apply to land to be protected for its natural characteristics or its cultural heritage.

Forest felling: Thinning must encourage forest development. Timber stocks after thinning must be large enough to utilise the production capacity of the land. After thinning the trees must be evenly distributed on the area. Damage to trees and the ground must be avoided as far as possible. Regeneration felling must not be carried out until the forest has reached a certain age. For predominantly coniferous forests, the age varies between 45 and 100 years. Regeneration felling is restricted on forest holdings larger than 50 hectares. Up to half of the land may be made up of finally felled areas and of stands less than 20 years old. Additional rules apply to holdings larger than 1 000 hectares.

Land with adverse regeneration conditions: A permit is required for regeneration felling in the interior of Northern Sweden and on the islands of Öland and Gotland. Details of measures planned to secure regeneration and to safeguard the balance of nature, the cultural heritage and reindeer husbandry, must be given. Further a permit is also required for regeneration felling in forests that contain valuable hardwood species such as beech, oak, ash, etc. Regeneration and conservation measures to be taken must be stated. Normally, a new hardwood species stand must be established after felling.

Insect damage: Insect pests breed in the bark of newly felled coniferous wood. Insect damage is controlled by removing damaged trees if they exceed 5 cubic metres per hectare. Unbarked conifers must not be stored in the forest or at the roadside during the summer.

Nature conservation and cultural heritage: Biological diversity in the forests must be preserved. At the same time, the cultural heritage must be safeguarded and social aspects must also be taken into consideration. Therefore, it is important that due care and attention is paid to all forestry measures. The most important considerations are:

- Do not create excessively large felling areas.
- Leave non-productive forest land untouched.
- Avoid damaging sensitive habitats and valuable historical sites.
- Be particularly careful when felling in areas rich in rare flora and fauna.
- Retain some deciduous trees in coniferous forests for the entire rotation period.
- Leave protective buffer zones adjacent to water, non-productive land, agricultural land and urban areas.
- Always leave a number of older trees standing on felling sites, preferably in groups.
- Plan felling and transport operations so as to avoid or limit damage to the land and water courses.
- Plan forest roads so as to minimise damage to the forest and safeguard the cultural heritage.

The conservation requirements must not be so far-reaching that they make on-going forestry activities significantly more difficult. Where there is a choice of methods to be used, the promotion of biological diversity must always be given priority.

Reindeer husbandry: The size and locations of felling areas must be decided with due regard to reindeer husbandry. Further consideration can be shown by leaving groups of trees standing on felling sites and on non-productive land, such as migration routes.

Report on forest and environmental status: All forest owners must prepare a status report on the forest and environment on their holdings. Information on felling possibilities, the need for regeneration measures and areas of importance for nature conservation and cultural heritage must be available.

Notification of regeneration felling: Regeneration felling on sites larger than a half hectare must be notified to the Regional Forestry Board at least six weeks in advance. ‘Regeneration felling’ now replaces the term ‘final felling’, and includes all felling with the exception of thinning and cleaning. Notification is made on a special form available from the Regional Forestry Board. The area to be felled and the regeneration methods to be used must be specified. A sketch of the area must be drawn on the form, or alternatively, a copy of a forest map, etc. should be attached. A description of the intended conservation measures to be used, and measures to protect the cultural heritage within the area, must also be stated. Notification must also be given if the land is to be used for purposes other than timber production, i.e. if forest fuel is to be removed, if foreign tree species are planned be used, or in the event of protective ditching.

Implementation measures: The Swedish Forest Administration (SFA – the National Board of Forestry and the Regional Forestry Boards) is responsible for implementing the forest policy. The implementation means used are contractual services, extension services and information, law supervision, forest inventories and state subsidies. During the past 5 years, 30 per cent of the organizations total amount of workdays has been devoted to contractual services. The corresponding figure for extension services and information is 20 per cent while 15 per cent of the workdays were devoted to law supervision.

One of SFAs starting points regarding the balance between the two forest policy goals is the “80-10-10 - relationship”. This relationship means that at a national level, 80 % of the forests should be managed with a production objective including general conservation measures in all forestry operations, 10 % of the forests should be managed with a production objective including reinforced conservation measures, and 10 % of the forests management operations ought to be carried out for the sole purpose of supporting biological diversity.

Another interpretation of importance concerning the forest policy is “the National Sector Objectives”. The objectives are worked out by SFA in close dialogue with representatives of different groups of stakeholders including for example The Swedish Forest Industries Federation, The Sami Parliament, Forest Owner Associations, The National Heritage Board, The Swedish University of Agricultural Sciences and various NGOs. The National Sector Objectives, which are also specified into Regional Sector Objectives, aims at breaking down the forest policy goals into more concrete and measurable objectives.

Environmental quality objectives

In 1999 The Swedish Parliament established 15 environmental quality objectives to guide Sweden towards a sustainable society. The objectives were adopted by a broad majority of Parliament. The overriding aim is to solve all the major environmental problems within one generation (approximately 30 years), i.e. to hand over a society to the next generation in which the major environmental problems have been solved. The most important objective concerning forests is the environmental quality objective “Healthy Forests”. The Swedish Forest Administration is responsible for achieving this objective.

The outcomes within a generation for the environmental quality objective “Healthy Forests” should include the following:

- The natural production capacity of forest land is preserved.
- The natural functions and processes of forest ecosystems are maintained.
- Natural regeneration is practiced wherever the land is suitable for this method.
- The forests natural hydrology is protected.

- No remedial measures are taken against the effects of forest fires.
- Care-demanding forests with valuable natural and cultural assets are managed in such a way as to preserve and enhance the assets.
- Forests where there is great variation in the age of the trees and the composition of tree species are protected.
- Cultural monuments and environments are protected.
- Importance is attached to forests as resources of nature experiences and recreation is taken into account.
- Endangered species and natural ecosystems are protected.
- There are viable populations of domestic plant and animal species living in natural conditions.
- Endangered species can spread to new habitats in their natural areas of distribution, thus ensuring viable populations.
- Alien species and genetically modified organisms that may be a threat to biological diversity are not introduced.

Interim targets for healthy forests: To strengthen the implementation of the environmental quality objectives, national and regional measurable interim targets have been established. The national interim targets for Healthy Forests are as follows:

1. Nature conservation on forest land, 2010

A further 900,000 hectares of forest land in need of protection will be excluded from forest production by the year 2010. To achieve this interim target 400,000 hectares will be protected by measures undertaken by the state, but the achievement of the target is also depending on voluntary protection measures taken by forest enterprises and individual forest-owners on 500,000 hectares of forest land.

2. Reinforced biological diversity, 2010

The amount of dead wood, the area of forests with a high proportion of deciduous trees and old-growth forests will be maintained and increased by the year 2010. This target is meant to be reached by measures of information and advice from the authorities.

3. Protection of cultural remains, 2010

Forest land will be managed in such a way as not to damage ancient monuments and to ensure that damage to other well-known and valuable cultural remains is negligible by 2010. This target is also meant to be reached by measures of information and advice from the authorities.

4. Action programmes for threatened species, 2005

By the year 2005 action programmes will be under way for endangered species that require targeted measures. The Swedish Environmental Protection Agency and The Swedish Threatened Species Unit will be instructed to prepare a strategic action programme to protect about 30 species in the forests, as well as an action programme for other endangered species.

Besides “Healthy Forests”, the following environmental quality objectives in some way are related to forestry: “Reduced Climate Impact”, “Natural Acidification Only”, “Zero Eutrophication”, “Flourishing Lakes and Streams” and “Thriving Wetlands”.

A renewed Swedish nature conservation policy

In 2002 The Swedish Government formulated its unified and partly renewed nature conservation policy. The Government also manifested its basic view of the relationship between the environmental quality objectives established by The Swedish Parliament, and the

nature conservation policy. The Swedish Government pointed out several areas as important areas concerning the on-going work with nature conservation.

The Government stressed the necessity of a reinforced local dialogue and local influence within the process, as well as the important role of the municipalities regarding nature protection. Further, strategies of nature conservation must be more based on the actual nature values, independent of possible threats. The Government also announces more emphasis on the need for improved coordination between the diverse public interests in relation to nature protection, above all outdoor recreation and preservation of the cultural environment.

Joint commission - the National Board of Forestry and the Environmental Protection Agency

The National Board of Forestry and the Environmental Protection agency in 2004 were given a joint commission from the Swedish Government. The authorities shall prepare a joint in-depth strategy for the work with nature reserves, habitat protection areas and nature conservation agreements in special valuable areas of forest land. The starting point of the commission is the environmental quality objective "Healthy forests". The main direction in the strategy is to accomplish a cost efficient protection concerning the most valuable forests.

The National Board of Forestry and the Environmental Protection Agency in the strategy (interim version) points out the importance of transparency and an open dialogue with affected? citizens. They also put emphasis on the fact that local authorities must take into consideration forests protected by the forest owners on a voluntary basis, and thereby see forest owners as collaborators in the common work with nature conservation. This means that nature conservation on a legal and voluntary basis ought to be seen as supplementary measures. Further the authorities are supposed to work towards the objective without causing more restrictions on forestry than necessary.

When prioritizing, focus should be laid on the most valuable areas. Existing nature values are ranked higher than areas which could develop natural values. Landscape zones with clustered areas of high value ranks higher than isolated areas. The biological value should be given priority within an international, national and regional perspective.

Implementation measures: To achieve the objectives concerning nature conservation, the responsible authorities have to work with different complementary implementation measures such as voluntary protection measures and legislative instruments.

Voluntary protection measures: Voluntary protection measures taken by forest enterprises and individual forest-owners can be documented in a forest management plan or in a declaration of intention, or can involve forest certification schemes. A more formal and specified voluntary measure is nature conservation agreements. A nature conservation agreement is an instrument of civil law which specifies the terms of a voluntary agreement between a regional forestry board and a landowner. Landowners receive a financial gratification, and part compensation for the land-use restrictions involved. Another incentive for voluntary measures is state subsidies. The revision of the forest policy in 1993 meant a great reduction in state subsidies. State subsidies are however still available when managing broad leaved forests and to some extent when preserving natural and cultural environment.

Legislative instruments for nature conservation:

- The Forestry Act – general attention at all forestry measures: Biological diversity in the forests must be preserved. At the same time, the cultural heritage must be safeguarded and social aspects must also be taken into consideration. Therefore, it is important that due care and attention is paid to all forestry measures. The conservation requirements must not be so far-reaching that they make on-going forestry activities significantly more difficult. This qualification level sets the limit to how far restrictions on forestry can reach by virtue of the Forestry Act. According to custom and legislative history the qualification limit varies about approximately 2-10 % of the economic value of the harvest of the specific stand.
- The Environmental Code – nature reserves and habitat protection areas: By virtue of the Environmental Code the regional authorities are in power to protect forest areas which are of high value for nature conservation as nature reserves (the county administrations) or habitat protection areas (the regional forestry boards). If this decision on declaring the area as a legally protected area means that on-going forestry activities gets significantly more difficult (which it normally does) the forest owner are entitled to economic compensation. The authorities are always trying to gain the forest owners acceptance for the measure taken and to come to an agreement on the economic compensation, before enforcement measures are taken.
- In the aim to fulfill the obligation of including the EU-directive on the Natura 2000 ecological network of protected areas, new sections concerning protection of nature have been introduced in the Environmental Code. The current regulations mean that any measure taken which could cause significant damage to the environment in the special protected area, is prohibited without having the permit required. In case the permit is denied and this means that on-going forestry activities gets significantly more difficult, the forest owners are entitled to economic compensation. The responsible authorities will continuously use the forms of protection available, such as nature reserves, national parks, biotope protection areas, bird and seal protection areas. In some cases other kinds of protection may be used. One example is shoreline protection. Other approaches include nature conservation agreements for forest management or environmental grants for agricultural land. Fisheries legislation can also be used to regulate fishing. The form of protection used for a given site is determined by the need for measures to conserve or protect the site.

The right to economic compensation: A persons right to compensation when land is expropriated or the land use is restricted in such a manner that ongoing land use in the affected part of the property is substantially impaired, is stated in Swedish fundamental law. The fundamental law further guarantees that such expropriation or restrictions only can be compelled when it is necessary to satisfy pressing public interests, and that compensation shall be determined according to principles laid down in law. The law in point is the Expropriation Act. The main principle is that when a real estate is expropriated, the owner is entitled to economic compensation equivalent to the market value of the real estate. If the land use is restricted above the qualification level, the owner is entitled to economic compensation equivalent to the reduction in market value due to the restrictions.

The Swedish forest and nature conservation policy – the near future

The Forest Policy: A current inquiry is evaluating the Swedish Forest Policy. During the past years greater emphasis has been laid on urban forestry and social aspects of the forests (e.g. outdoor recreation and health issues). This aspect on forests and forestry has, besides the production and environmental goals, more or less been considered as the “third leg” of the Swedish Forest Policy. The minister in charge of the forest policy has announced that the on-going inquiry likely will result in the remaining of current political alignment with the supplementation of the social aspects.

The Environmental Quality Objectives: Evaluation and monitoring of the interim targets of the environmental quality objective “Healthy Forests” show that we will manage to have reinforced biological diversity in the year 2010, i.e. the amount of dead wood, the area of forests with a high proportion of deciduous trees and old-growth forests are going to be maintained and increased. We will also accomplish to have the action programmes for the threatened species that requires targeted measures in the end of the year 2005.

When coming to the target of having a further 900,000 hectares of forest land in need of protection excluded from forest production by the year 2010, the prospects of success seems pessimistic. Of the total amount, 400,000 hectares are meant to be protected by measures undertaken by the state, i.e. nature reserves and habitat protection areas. The difficulties in the first place are concerning the forming of nature reserves. Swift measures which must be taken are probably a question of sufficient staff resources at the county administration boards, together with sufficient state subsidies for economic compensation to affected forest-owners. Concerning the voluntary protection measures on 500,000 hectares the quantity seems to be reached, but the biological quality of the areas are uncertain. Another difficulty concerns the interim target of having only negligible damages to ancient monuments and other well-known and valuable cultural remains by 2010. Complementary measures taken are an on-going inventory of cultural remains transferred into digital information, and intensified extension services.

The Nature Conservation Policy: The renewed nature conservation policy made out the direction and the methods used for the work towards achieving the environmental quality objectives. This work will be continuously monitored and evaluated in the aim to, if necessary, change strategy and shift measures and methods used to fulfill the mission.

References

www.svo.se (The Swedish Forest Administration)
www.naturvardsverket.se (The Swedish Environmental Protection Agency)
www.miljomal.nu (The Swedish Environmental Objectives Portal)

Last trends in Turkish environment and forest legislation

*Sedat Ayanoğlu and Nimet Velioglu**

Abstract

The purpose of this paper is to summarise recent alterations in the Turkish environmental and forest law, to make an analysis of important actual issues, and to recommend appropriate modifications of the applicable legislation.

Keywords: privatisation, land survey, converted land, illegal occupation, forest act, legal alterations.

Introduction

After the election of November 3, 2002 the 59th Turkish Government has attempted to make radical alterations in current Turkish forest legislation by enacting two laws (Laws 4841 and 4960). Because of strong opposition from environmentalists the opposition party and the President himself both laws were reversed by the President and became annulled. According to the annulled laws forest lands occupied by people for agricultural, livestock, and settlement purposes would have been taken out of forest boundary and alienated by transferring ownership to those occupants. In addition, those two laws had some special provisions that allowed privatization of forest land for industrial development and investment purposes. Beyond that those laws had provisions that cover privatisation issues of some forestry services. As a consequence of both laws' failure the Ministry of Environment and Forestry arranged a small group of experts meeting for consultancy to increase the efficiency of environment and forestry services at September 21-22, 2004 (Proceedings of Abant Meeting).

At that meeting some radical decisions have been taken for the purposes mentioned above. After the meeting the Ministry of Environment and Forestry decided to meet the National Environment and Forestry Council for a legal basis arising from the Organisation Act of the Ministry. The Council Meeting was held in Antalya - a city in Southern Turkey – in March 22-24, 2005. Within the scope of the meeting the following 11 working groups have been formed:

1. Local Administrations and Environment
2. Environment Administration for a Sustainable Development Process
3. Environmental Impact Assessment and Environmental Order Plans
4. Forest Ecosystem and Sustainable Development
5. Forest Land Survey and Ownership Conflict
6. Forest Products and Forest Products Industry
7. Nature Protection
8. Combat of Desertification, Erosion Control and Afforestation
9. Public Relations
10. Research Development and Education
11. Efficiency of Environment and Forestry Services.

*Faculty Of Forest University Of Istanbul, 34473, Bahçeköy-Istanbul/Turkey
e-mail: ayano52@istanbul.edu.tr, nimetvelioglu78@hotmail.com

Working groups were formed by 20-30 experts chosen among representatives of universities, NGO's and related institutions. They spent approximately three months of work on their assigned special subjects. The output of each working group is summarized in the following section (Proceedings of the First Council of Environment and Forests, Decisions, Antalya, March 2005).

In addition some alterations have been made by March 22, 2005 in the actual legislation, for example: Article 4 of the Law of Land Survey, Article 2 of the Mining Law, Articles 8 and 14, temporary Article 3 and annexed Article 9 of the Law of Pasture, and Article 8 and annexed article 4 of the Law of Tourism Encouragement.

Review of the output of the Working Groups

1. Local Administrations and the Environment

This working group has agreed upon the following points;

- a. Country land use planning should be completed and put into force pretty soon.
- b. Country environmental management planning should be prepared.
- c. Regional physical environmental plans are to be prepared and implemented.
- d. Land development planning should be updated and settlement planning and housing lots are to be developed in order to prevent metropolitan areas from ghettos and illegal settlement.
- e. Regional pollution maps are to be prepared and some radical solutions against air pollution should be established to prevent the public from breathing polluted air.
- f. To renew the sewage systems of Province centres and cities with populations exceeding 100.000 inhabitants the municipalities thereof should be reformed regarding the Law of Istanbul Hydraulic and Sewage Administration No: 2560.
- g. All municipal drinking water pipelines, sewage systems and distilling facilities are to be completed at first and then educational programs addressing the public consciousness should be implemented in order to prevent the public from drinking waste water.

2. Environment Administration for Sustainable Development Process

This working group has reached the following conclusions:

- a. Soil pollution control regulation does not meet the expected protection measures and the regulation needs to be updated and modified to address current soil pollution problems.
- b. Sustainable farming criteria and soil classification criteria should be developed to lead farming activities. Therefore, a soil protection and efficient usage law addressing this issue is to be enacted and implemented pretty soon.
- c. A land development law, determining where to build houses and industrial facilities in particular, should be enacted. Thus, land sliding areas and faulty areas should be prevented from use for industrial and housing developments.
- d. Water basins must be prohibited from any kind of construction activities.

3. Environmental Impact Assessment and Environmental Order Plans

Environmental Impact Assessment and Environmental Order Plans are important when implementing any kind of plans that have potential adverse impacts on the environment. This working group has made the following decisions:

- a. Public participation in strategic EIA decision making process should be provided for.
- b. The social and economic aspects of environmental order plans should be considered when making those plans.
- c. The environmental order plans should be integrated into city and regional development plans.
- d. Public training programs and environmental consciousness courses should be implemented when having considered public awareness of environmental protection.

4. Forest Ecosystems and Sustainable Development

This working group has focused on forest ecosystems and sustainable development issues. In particular it has reached the following conclusions;

- a. Within the management objectives of watersheds in Turkey multiple use, erosion control, and water storage functions should receive high attention.
- b. The activities within watersheds should be monitored by using a geographic information system (GIS).
- c. A land classification system which forms the background of watershed management should be implemented at country level. To do this forest land surveying activities need to be completed on a priority basis.
- d. Vegetation types, erosion sensitivity areas and wildlife reproduction areas in watersheds should be determined and marked on a map.
- e. The inventory work addressing biodiversity, non-wood forest products, standing stock and wildlife stocks should be completed.
- f. Within the forest resources planning process a combined ecological economic approach should be considered. Public participation and public awareness should be paid attention to.

5. Forest Land Survey and Ownership Conflicts

In Turkey forest ownership and land survey are two main sources of long lasting conflicts between the State and the public. This working group has intensified its efforts to land survey and ownership issues in Turkish Forestry. In particular the group has reached the following conclusions:

- a. Forest land survey must be completed urgently because most of the ownership conflicts arise from non –defined forest boundaries.
- b. General land survey and forest land survey should be implemented by a single agency. The forest land survey agency and the general land survey agency should be united in a single unit.
- c. The activities taking degraded forest lands out of the forest boundary must be halted urgently and such areas should be rehabilitated by the General Directorate of Forestry.

6. Forest Products and Forest Products Industry

The working group on forest product and forest industry has spent efforts on industrial development making important points to be mentioned here. The most prominent ones are:

- a. Forest product certification programs should be implemented.
- b. The firms engaged in the forest industry should be recorded in an official commerce database.

- c. Research, project development and cooperation with other countries should be undertaken on national basis.
- d. The pulp and paper industry is one of the weakest industries within the forest sector. Satisfactory financial support should be provided for encouraging this industry.

7. Nature Protection

Nature and biodiversity protection is an important step toward global protection efforts. Turkey has taken some steps through nature and biodiversity protection so far. But, for financial, administrative and lack of personnel reasons a satisfactory protection level has not been reached by now. This working group has discussed some important issues such as Ramsar Convention areas and specially protected areas and has made the following recommendations:

- a. Current legislation should be updated.
- b. Coordination among relevant administrations should be provided for.
- c. Protected areas should be increased in size and specially protected areas and habitats should be designated and managed by an authority pursuing a participatory approach.
- d. Biodiversity and nature protection should be monitored by a national monitoring agency.
- e. National inventory work should be completed and all data should be kept in a national database.

8. Combat Desertification, Erosion Control and Afforestation

Desertification is another problem that poses a serious threat to the global ecosystem. Turkey is among the counties in which the side effects of desertification have been experienced for many years. In particular some parts of Central Anatolia and South Eastern Anatolia are under the threat of desertification. The working group has spent efforts to find sound solutions to prevent the country from desertification. Some prominent points of conclusion are:

- a. Reforestation and afforestation effort should be increased to meet annual expectation of about 100.000 ha.
- b. Erosion control activities should be kept going until stopping topsoil movement.
- c. Flood and avalanche control projects should be developed and implemented in mountainous areas.
- d. Seed amelioration, the reclamation of grazing areas should be increased both in quality and quantity.
- e. Also the importance of private afforestation activities in erosion control is mentioned in this working group.

9. Public Relations

This working group has made the following recommendations:

- a- The role of NGO's should be enhanced and these associations should be encouraged to participate in environmental and forestry issues.
- b- The role of forestry in rural development should be clearly defined and the rural people should be encouraged to collect and sell some non-wood forest products.
- c- Forest village development cooperation should be supported financially and forest village development should be encouraged.

10. Research-Development and Education

The outputs of this working group are:

- a. Environment-friendly production methods and products should be supported and renewable energy sources should be preferred in manufacturing process.
- b. Genetically modified organisms are to be controlled and to do that a special management unit should be established to perform such a task.
- c. Special educational programs should be implemented to increase environmental consciousness and awareness.
- d. The students are encouraged to visit and travel to zoos, botanical gardens, arboretums etc. for enhancing their environmental awareness.

Legislation Group (Outputs from Working Group 11)

This working group has carried out a special task at the occasion of the 1st. National Environment and Forestry Congress by reviewing all environmental and forestry legislation, particularly the ones relevant to the issue called “Article 2/B issue” (taking degraded forest lands out of forest boundary and allocate it to some other usage types such as housing development, farming and industrial expansion). This national congress was held with the special theme to modify current forest legislation and the Articles 169 and 170 of the Constitution allowing selling degraded forest lands to the public. Therefore, it had an essential focus on the topic of this working group and to the scope of this paper. It is also important to mention that some statutes such as the National Parks Law, the Pasture Law and the Mining Law have been modified to allow private sector to invest for mining and other economic activities within national parks, forest lands and grazing areas. In Turkey there is, in fact, a long- lasting, may be more than half a century old, severe debate among politicians, foresters, the public and environmentalists about the (destiny) future of degraded forest lands. This issue can be presented in the following manner.

In the Country there has been a massive domestic migration toward metropolitan and industrialized areas such as Istanbul, Ankara, Izmir, Izmit starting in the early 1950’s. The reason for such a migration is not totally different that happening in the global context; finding jobs, education opportunities for children, getting better health conditions, etc. One of the most important consequences of such migration is to occupy public lands, forestlands and pastures next to the cities and build a small shelter kind house to inhabit initially. The state made all kinds of infrastructure such as electricity, water, sewage, roads, schools etc. Even in some areas the government built official buildings such as Court houses and Municipality buildings. Since the former constitution of 1961 did not allow the state to give land titles to the occupiers, the Parliament modified Article 131 of the Constitution of 1961 and distributed those occupied lands to the occupiers under the condition that those lands had been occupied before October 15, 1961 and reasoning that those lands had lost their vegetation cover and characteristics of forestlands. In 1973, Article 2/B of the Forest Code of 1956 was modified regarding Article 131 of the Constitution of 1961. Those former forestlands were taken out of the forest boundary and official land titles were given to the occupiers. Thus, the Article 2/B issue was born in Turkish Forestry.

Such legislative measures did not prevent the forestlands from public occupation which the effect that after the deadline of October 15, 1961 forestlands have been occupied as well. The same scenario has been repeated at the beginning of the 1980’s. The new constitution was modified as well as the forest code of 1956 for the second time saying that the occupied forestlands before December 31, 1981 would be disseminated to the occupiers and the deed

would be transferred them as well. Initially, such occupation seemed innocent and the people occupied those forestlands only for housing purposes. But, the occupiers converted those houses to luxury villas and apartments and have been making nice profits at the expense of degrading a huge amount of forest lands.

The second legislative modification did not stop the occupiers as more forests have been kept occupied since December 31, 1981. Nearly 1 million hectares of forestlands have been converted to housing, industrial construction and farming activities so far. But, this time the government could not give the deed to those people, because Article 169 and 170 of the Constitution of 1982 did not allow doing it. To get rid of such a legal problem the same scenario has been put in the scene by the current government. But at this time the opposition side is not weaker than the government. Therefore, the government has been trying to find a common path to solve such a conflict. That is why the national forestry and environment Congress has been held. Also, some other modifications have been taken into account. As a conclusion of the Congress, the majority of the participants objected to modify both the constitution and the forest code of 1956. We will see what the government will do and how it will pass a legislation allowing selling those occupied forestlands for the third time.

On the other hand, the Mining Law, the Pasture Law and the National Parks Law have been modified meanwhile. The modifications are more prone to allowing economic investments into those areas. According to the new modification performed in the Mining Law gravel resources, rocks, sands, soils etc., are defined as mining material and put into the scope of the current Mining Law. Since, regular mining activities are allowed on forestlands, sand, rock and soil resources are now allowed as mining activities. Particularly in metropolitan areas such mining severely degrades forestlands and pollutes air and water in particular. At the same time the National Parks Law was modified allowing all kinds of mining activities within park areas. Another modification was performed in the Pasture Law by allowing pasture land to become city development and settlement areas following city development planning.

In conclusion one may say that the government tries to increase economic investments in all fields of the economy at the expense of environmental and forest deterioration whereas some parts of the public make increasing efforts in trying to protect those areas (Proceedings of the First Council of Environment and Forest, Antalya, March 2005, Papers Volume I, II, II, IV).

References

Forests and Turkish Forestry “Benefits, Statistical Facts and Forestry in The Constitution, Development Plans Government Programs and Annual Programs, KONUKCU,M; Ph. D., September, 2001

1. Ulusal Ormancılık Kongresi, Türkiye Ormancılar Derneği, Ankara, 2001

1.Ulusal Ormancılık Kooperatifleri Sempozyumu; OR-KOOP, Kastamonu, 2002

2005 Yılı Orman Koruma Faaliyetleri Değerlendirme Raporu, Çevre ve Orman Bakanlığı Orman Genel Müdürlüğü,

Devlet Planlama Teşkilâtı Sekizinci Beş Yıllık Kalkınma Planı Ormancılık Özel İhtisas Komisyonu Raporu, DPT Yayın No: 2531-ÖİK:547, Ankara, 2001

Cumhuriyetin Ellinci Yılında İstanbul’un İdari Sorunları Semineri, İstanbul Üniversitesi Hukuk Fakültesi İdare Hukuku ve İdari İlimleri Enstitüsü, İstanbul, 1973

Orman Kadastro ve 2/B Sorunu Sempozyumu, TMMOB Harita ve Kadastro Mühendisleri Odası Şubesi, İstanbul, 2004

Türkiye’de Kavakçılık, T.C. Orman Bakanlığı Kavak ve Hızlı Gelişen Tür Orman Ağaçları Araştırma Müdürlüğü, İzmit, 1994

1. Ormancılık Şurası, Kararlar, Cilt: 1, Ankara, 1993

1. Ormancılık Şurası Tebliğler ve Ön Çalışma Grubu Raporları Cilt:2, Seri No: 13, Yayın No: 006,1993

Cumhuriyetimizin 80. yılında Bitkisel Üretim Hayvancılık ve Ormancılığımız, Kongre Bildirileri Kitabı, Ankara, 2003

Türkiye Milli Kavak Komisyonu VII. Olağan Kurulu Tebliğler, İzmit, 2003

Avrupa Birliği Sürecinde Orman Köylüsü ve Ormancılığımızdaki Yeri, İstişare Toplantısı, Ankara, Aralık 2005

Orman Bakanlığında Yeni Yapılanma, Yaptıklarımız, Yapacaklarımız, Hedefler, Ankara, 1995

1. Çevre ve Ormancılık Şurası Tebliğler, Cilt 1,2,3,4., Antalya, Mart 2005.

1. Çevre ve Ormancılık Şurası, Kararlar, Antalya, Mart 2005.

Economic aspects of forest legislation in Ukraine

Artem Torosov and Volodymyr Romanovsky***

Abstract

At present a draft new version of the Forest Code of Ukraine has been prepared and is under consideration by Parliament. It established state, communal and private ownership of forests determining to a great extent the economic component part of forest legislation. The draft Forest Code of Ukraine provides for a paid basis for forest resources utilization on lands of state, communal and private ownership. According to the form of ownership the following sources for covering expenses on forestry management, improving the qualitative composition of forests, protection, and reforestation thereof, are foreseen: the state budget and proper funds of enterprises in forests under state ownership; the regional budget and proper funds of enterprises in forests under communal ownership; and proper funds of private forest owners. On the whole, the economic component part of the forest legislation aims at spurring up the economic activity of state enterprises and private forest owners.

Keywords: forest legislation, economics, finance, ownership

The contemporary status of Ukraine's forests

Ukraine's forests play an important role in forming the landscapes and in conserving environment and biodiversity. They, as a natural resource, require constant care for their conservation and balanced utilization. The contemporary forest coverage of Ukraine has drastically changed both quantitatively and qualitatively. Over the recent 40 years, the area of forest-covered lands has increased by 31.8 % and is as great as 9.4 million ha. The wood reserves of Ukraine are in excess of 1.7 billion m³. The actual forest coverage across Ukraine's territory (15.6 %) is inadequate. For an optimum level of forest coverage to be achieved (within the bounds of 19 to 20 %), it is necessary to enlarge the forest-covered area by at least 2 to 2.5 million ha. This will contribute to achieving an environmental balance, practically in the whole territory of Ukraine, enhancing the biosphere-related functions of forests, and bringing Ukraine to general European standards on nature utilization.

At the same time, we can note that in many regions of Ukraine the contemporary status of forests is far from being perfect. Some sources of the drying of forests appear, and low-valued and derivative stands occupy considerable areas. Forests situated on an area of about 3.5 million ha grow in the zone of radioactive contamination, with part of these forests being fully excluded from forestry production. Gradual and selective systems of harvest cuttings are disregarded. Techniques of forestry operations are at a low level. The area under forest shelter belts is drastically declining. Despite the fact that in recent years the forest sector has been relatively stable, the dynamics of market relations in Ukraine lag behind the requirements of

* Ukrainian Research Institute for Forestry and Forest Melioration, 86 Pushkinskaya St., 61024 Kharkiv, Ukraine, e-mail: torosov@uriffm.org.ua

** State Committee of Forestry of Ukraine, 9a Shota Rustaveli St. , 01023 Kyiv, Ukraine, e-mail: dklg@nbi.com.ua

market economy and do not fully take into account component parts of sustainable forest management.

Basic lines of the national forest policy

Ukraine belongs to the new independent states in transition with the typical general patterns in shaping policy and legislation in the sphere of nature utilization and nature conservation. In many respects this is due to the fact that in Ukraine, in contrast to many other countries, there is no “independent” document on strategic development of the forest sector economy. The Ukrainian government has approved a State programme entitled “Forests of Ukraine for 2002-2015”, but this programme is an administrative and financial document. So, it is necessary to have a larger concept of political and forecasting character for the forest sector. As a rule, such a document constitutes the national forest policy of the country and must be approved at a Parliament level or at a governmental level. We note the basic lines of the forest policy of Ukraine:

- The development of strategic programs on evolution of the forest sector;
- Improvements in the statutory legal base of the forestry and harmonizing this base with international principles of sustainable forest development and management;
- Elaboration and introduction of criteria and indicators for sustainable forest development;
- Bringing the forest coverage of the territory in natural zones to an optimal level, shifting to principles of management based on landscape-drainage approaches;
- Conservation and build-up of the environmental potential of forests, the enhancement of their productivity and worth;
- Development of forestry science and education;
- Improvement in social protection to those working in the forest sector;
- Enlargement of international co-operation.

In so doing, the most essential objectives of a national forest policy are its economic, organizational and legal aspects based on the conservation of mainly state ownership of forest, and, at the same time, development of communal and private ownership and of private forestry. This implies:

- Perfection of the structure of state management in the forestry sector and utilization of forest resources;
- Improvement in organization of forest utilization on the basis of development of market patterns;
- Development of the timber industry complex of the country;
- Technical re-equipment of the forest sector on the basis of the engineering complex;
- Introduction of a financial and economic instrument of management that would ensure profitability of the forestry to reach the balance between interests of forest owners, administrative entities, and enterprises;
- Reforming of forest inventory and perfection of information systems;
- Improvement of State control over the status of forests and forestry management;
- Development of game-preserve facilities.

The priorities of the national forest policy must be consolidated in a new edition of the Forest Code of Ukraine. At present, a new Forest Code of Ukraine is under consideration by the Parliament.

Assessment of the prevailing forest legislation

We note that the prevailing Forest Code of Ukraine is substantially in line with the Forest Code of the former Ukrainian Soviet Socialist Republic by its structure and content, and is now obsolete. The most part of the forest-related and environmental legislation of Ukraine was adopted under the old Constitution, and this also has left its mark. Basic disadvantages of the present forest legislation are conditioned by the lack of a national forest policy. Some of the disadvantages are:

- No direct mentioning has been made of the important principles of forest management that have been internationally recognized, in particular on conservation of biodiversity in forests;
- No economic aspects have been identified for forestry operations even if an item in the budget is provided for forestry, but under conditions of the economic crisis this kind of financing is highly conjectural;
- No instruments are available as for participation of basic social groups of the population and non-governmental organizations in decision-making processes in the forest sector.

The forest legislation of Ukraine is highly overregulated. Though the environmental legislation of Ukraine is directly connected to the forest legislation, there are a number of contradictions between them to be specified and coordinated. Apart from legislative and statutory national acts, there are as well a number of decisions made by local authorities that are directly concerned with forests. For the most part such decisions are aimed at assigning wood-cutting areas, handing over available forest lands, prohibiting the export of timber beyond the boundaries of territorial entities (districts, regions) etc. This testifies the imperfection and uncertainty of regional features of the forest policy. At present, the prevailing Forest Code of Ukraine is thus no longer in conformity with the contemporary social, economic, and legal relations that exist in the country. A series of articles of the Forest Code are in fact contradictory to the recently adopted (2001-2003) basic statutory acts, like the Land, Administrative, Civil, and Budgetary Codes.

Economic aspects of the forest legislation

The most important challenge is the economic aspect of forest legislation and the financing of Ukraine's forestry in modern conditions. Every year it is a large problem to secure receipt of money from the State budget for the forest sector. This is due to the fact that consideration is given only to its component part related to raw materials as well as to a relative resistance of the forest sector towards symptoms of the systematic crisis in Ukraine's economy and to an insufficient standardized base. The financing on the principle of "the budget remains" is observed as a distinctive economic tradition of the state towards the forestry sector. It should be noted that the most urgent problem was and still is one of paying for the utilization of wood, as wood was and has been a basic kind of raw products of the forestry. This problem becomes even more acute in view of the fact that forest estimates are based on a cost-is-no-object approach. This leads into a profound conflict with the requirements to forest estimates in the context of introducing a market economy.

According to the draft new Forest Code, the utilization of forest resources on lands under state or communal ownership is to be undertaken on a paid basis, with the exception of the placement of bee-gardens and in case of collection of herbs, flowers, berries, nuts, mushrooms, etc. in forests for personal use. The allocation of payments for the utilization of

forest resources on lands under state or communal ownership is determined by legislation. It is necessary to introduce financial and economic managerial instruments to ensure cost efficiency in forestry. Such instruments will allow for a balance of interests between forest owners, administrative entities, and enterprises. The forestry-financing system and fiscal policy must give impetus to economic activities of both state-owned enterprises and private forest enterprises. There is good reason to develop the state forest budget in a manner which would be directed to the targeted financing of state programmes related to forestry management and hunting, protection and conservation of forests, creation of forest shelter belts, and conservation of available natural reserves.

Regional and municipal programmes are to be financed mainly at the expense of special dues and fees, accrued taxes and other payments from forestry management on appropriate territories as well as at the expense of funds gained by enterprises from their economic activity. It is essential to effectively use the potentialities of local budgets to finance measures on afforestation and environmental activities on principles of repayment of taxes from forestry. With this aim in view, an appropriate instrument should be legalized in order to use expenditures from local budgets for forestry management. Subsidized investments on the part of the state and local authorities are additional sources of financing. The forest budget will be based on payments for the utilization of forest resources, on penalty charges, on property charges and compensation of damages for violations of forest legislation, on compensation of damages and losses to forestry as a result of alienation of lands from the forest estate.

Primary consideration must be given to the problem of payments for wood utilization. If, under modern conditions, the forest estimates are oriented to the full reimbursement of expenses associated with forestry operations, this will demand for a many-fold administrative increase in forest estimates. This will result in a considerable rise in net costs and prices of forest products, which will cause crisis phenomena in the timber industry. Payments for forest resources must be established by combining methods of state regulation and market pricing. The minimum level of these payments has to be established by directions on the basis of standardized direct expenses on forest growing, according to a list of forestry operations as specified by law. The size of actual payments (market prices for forest resources) will be specified in accordance with demand and supply, and with the availability of competition on the part of forest users with the aid of market institutions.

State regulation provides for the use of appropriate economic standards (rates of expenses, pricelists, etc.). Measures on State regulation and market instruments will allow for the accumulation of financial resources and for the creation of preconditions to form a forest budget. Such conditions will make it possible to ensure effective planning of receipts and expenditures in forestry and to identify the level of subsidies to be granted to enterprises of certain regions. Taking into account an exclusive environmental role of Ukraine's forests, there is a need to ensure state support to the forestry. By this, the State will fulfil its commitments as for the maintenance of ecological and protective functions of Ukraine's forests. According to different forms of ownership the draft Forest Code provides for the following sources of covering expenses for forestry management (perfection the qualitative composition of forests, the protection and reforestation thereof):

- From the State budget and proper funds of enterprises relative to forests under state ownership;
- From local budgets and proper funds of enterprises with respect to forests under communal ownership;
- From proper funds with respect to private forests.

Expenditures for these measures may as well be paid for from other sources unless otherwise specified by law. When the care of forests is at the expense of budget funds the income from selling forest products in the process of the care is directed towards forestry management (improving the qualitative composition of forests, protection, and reforestation thereof). Expenditures on the perfection of productivity of forests, their qualitative composition, and the forestry management in State-owned and communal forests are covered by the target allocation of funds for the implementation of national and regional (local) programmes on the forestry management. The draft Forest Code envisages that the state gives an economic impetus to measures on extensive re- or afforestation by way of:

- Compensation for expenditures incurred by forest owners and users when introducing measures on extensive re- or afforestation;
- Accelerated depreciation of capital assets meant for land-protective and environmental purposes.

The compensation of expenditures is effected from of the state budget of Ukraine and local budgets in compliance with national and regional (local) programmes. The issue on economic incentives for extensive re- or afforestation is considered on the basis of applications or petitions put in by forest owners and users to the executive authorities or local governments where a given piece of woodland is situated.

Conclusion

On the whole, the economic part of the new forest legislation is aimed at giving an impetus to economic activity of state-owned enterprises and private forest owners. The distinctive features of the economic part of the new forest legislation are presented as follows:

- The order of covering the expenditures on forestry operations is refined by allocation of funds for the implementation of state and regional programmes on forest management.
- The order of economic incentives for extensive reproduction of forests.

The draft Forest Code determines legal principles to address economic issues of forestry. The further evolution of forest legislation is connected with the development of corresponding standard documents to specify concrete tools for implementation of economic instruments of the Forest Code of Ukraine. These tools are connected with the development of a modern market approaches to the economics assets of forest resources and to payment for forest utilization.

Annex 1: Programme of the International Symposium 2005

IUFRO RG 6.13.00: 7th International Symposium on Legal Aspect of European Forest Sustainable Development; Zlatibor Mt, Serbia, May 11 – 15, 2005

Day/ Time	Program
Thursday, May 12 th	
Hotel "Čigota" - Registration Desk	
08.30 – 09.30	Registration of Participants
Hotel "Čigota" - big hall	
09.30 – 10.30	Official opening
	Opening speech Welcome to guests and sponsors
10.30 – 16.30	Key-note presentation (20+10 min)
10.30 – 11.00	Prof. Dr. Andjelka Mihajlov, Faculty for Technical Sciences, University of Novi Sad Aleksandar Vasiljevic, Directorate for Forestry, Belgrade THE FORESTS IN EU STRATEGIES FOR SUSTAINABLE USE OF NATURAL RESOURCES AND SUSTAINABLE DEVELOPMENT
11.00 – 11.30	Franc Ferlin, MSc., Slovenian Forestry Institute, Ljubljana Aleksander Golob, Agency of the Republic of Slovenia for Environment Špela Habič, Slovenian Forest Service - Postojna SOME PRINCIPLES FOR SUCCESSFUL FOREST CONSERVATION MANAGEMENT AND FORESTRY EXPERINCES IN ESTABLISHING THE NATURA 2000 NETWORK
11.30 – 11.45	Project presentation
11.45 – 12.00	Coffe - Break
12.00 – 12.30	Dr. Darij Krajčič, Institute of the Republic of Slovenia for Nature Conservation, Ljubljana FORESTRY AS PART OF NATURE CONSERVATION IN THE EUROPEAN UNION
12.30 – 13.00	Dr. Jörg Lohmann, IUCN - Office for SEE, Belgrade IUCN - THE WORLD CONSERVATION UNION: PARTNER FOR HARMONISATION OF FORESTRY AND NATURE CONSERVATION IN SOUTH EASTERN EUROPE
13.00 – 14.30	Lunch - Break

14.30 – 15.00	Dr. Volker Sasse, Constanze Schaaff, FAO - Sub-regional office for Central and Eastern Europe, Budapest Prof. Dr. Franz Schmithuesen, ETH Zentrum – Department of Environmental Sciences, Zürich COORDINATION OF POLICIES RELATED TO FOREST LAND USE	
15.00 – 15.30	Prof. Dr. Ioan Vasile Abrudan, Faculty of Silviculture and Forest Engineering, Brasov CONFLICTS AND PARTNERSHIPS BETWEEN FORESTRY AND NATURE PROTECTION IN EASTERN EUROPE	
15.30 – 15.45	Project presentation	
15.45 – 16.30	Discussion Forum	
Ethno village "Sirogojno"		
18.00 – 20.00	Visit and sightseeing	
National Restaurant "Zavičaj"		
20.00 – 22.00	Ceremonial Dinner	
Friday, May 13 th		
Hall of restaurant "Lovćen" & "Serbia"		
📖 Session work		
	Hall A	Hall B
08.30 – 13.00	WB/SEE	EU/CIS
13.00 – 14.30	Lunch - Break	
Mokra Gora & Ethno village "Mecavnik"		
15.00 – 21.00	Expert excursion	
Saturday, May 14 th		
National park "Tara"		
08.30 – 13.30	Expert excursion	
National Restaurant		
13.30 – 15.00	Lunch and closing of Symposium	
20.00	Return to Belgrade and accommodation in Hotel "Jugoslavija"	
Sunday, May 14 th		
09.00	Depart of Symposium Participants (optional-sightseeing of the city)	

Annex 2: Addresses *

ALBANIA

Vasillaq Mine
General Directorate of Forestry and Pastures
Rruga Sami Frasheri No.4
Tirana
Tel: +355 4 256786
Fax: +355 4 256784
E-mail: vasillaq_mine@yahoo.com

AUSTRIA

Heinrich Schmutzenhofer
IUFRO WP 6.03.04
Endemanng 6
A-1230 Vienna
Tel.: +43 1 889 2066
Fax: +43 1 877 9355
Mob.: +43 676 630 4856
E-mail: fam.schmutzenhofer@chello.at

Peter Herbst
IUFRO RG 6.13.00
Wulfenstraße 15
A-9500 Villach
Tel.: +43 424 252 471
Fax: +43 424 226 4048
Mob.: +43 676 548 3095
E-mail: hp@net4you.at

BELGIUM

Marius Lazdinis
European Commission
DG Agriculture and Rural Development
Unit F.6 Bioenergy, biomass, forestry and
climate change
B-1049 Brussels
Tel.: +32 2 29 84448
Fax: +32 2 29 21133
E-mail: Marius.LAZDINIS@ec.europa.eu

BOSNIA AND HERZEGOVINA

Doni Blagojevic
Faculty of Forestry
University of Banja Luka
Vojvode Stepe Stepanovica 75a
78 000 Banja Luka
Tel.: +387 51 464 628
Fax: +387 51 460 550
Mob.: +387 65 786 879
E-mail: doniluga@yahoo.com

Mersudin Avdibegovic
Faculty of Forestry
University of Sarajevo
Zagrebacka 20
71000 Sarajevo
Tel.: +387 33 614 003
Fax: +387 33 61 1349
Mob.: +387 61 16 7720
E-mail: mavdibegovic@gmail.com

CZECH REPUBLIC

Jiri Stanek
Lesy České Republiky
Přemyslova 1106
50168 Hradec Králov
Tel.: +420 495 860 312
Fax: +420 724 524 005
Mob.: +420 495 262 391
E-mail: jiri.stanek@lesycr.cz

Karel Vančura
Forest Management Institute
UHUL, Nabrežni 1326
25001 Brandys n.L.
Tel.: +420 221 812 357
Fax: +420 221 812 988
Mob.: +420 777 974 610
E-mail: vancura.family@volny.cz

* Editors and first authors

GEORGIA

Mariam Kimeridze
Tbilisi State University
Department of Ecology
16. Gotua str., app. 58
380060 Tbilisi
Tel.: +995 323 883 58
Fax: +995 320 011 27
E-mail: kimeridze@hotmail.com

GERMANY

Mirjana Stevanov
Institute for Forest Policy and Nature
Conservation
Buesgenweg 3
D-37077 Goettingen
Tel: +49 551 393 418
Fax: +49 551 393 415
Mob.: +49 171 1630483
E-mail: mzavodj@gwdg.de

GREECE

Christos Goupos
School of Forestry and Natural Environment
Aristotle University
GR-54124 Thessaloniki
Tel.K.: +30 31 998956
Fax: +30 31 998863
E-mail: cgoupos@for.auth.gr

HUNGARY

Volker Sasse
FAO, Sub-regional office for CEE
Benczur utca. 34
H-1068 Budapest
Tel.: +36 1 461 2028
Fax: +36 1 351 7029
E-mail: volker.sasse@fao.org

IRAN

M. Masoud Ghelichkhani
Ministry of Environment, Dept. of Forestry
P.O.Box 31535-181,
North Taleghani Ave,
3149779511 Karaj
Tel.: +98 621 250 4962
Fax: +98 621 250 6957
Mob.: +98 912 148 1320
E-mail: masghel52@yahoo.com

JAPAN

Ikuo Ota
Faculty of Agriculture, Forestry Department
Ehime University
3-5-7 Tarumi, Matsuyama,
790-8566 Ehime
Tel.: +81 89 977 5932
Fax: +81 89 977 5933
E-mail: ikuota@agr.ehime-u.ac.jp

LATVIA

Liga Mengele
State Forest Service
13, Janvara street 15
LV-1050 Riga
Tel.: 00 371 722 22 90
Fax: +371 721 11 76
Mob.: +37 1 659 7224
E-mail: liga@vmd.gov.lv

LITHUANIA

Imantas Lazdinis
Department of Environmental Policy and
Management
Faculty of Strategic Management and Policy
Mykolas Romeris University of Lithuania
Ateities 20 LT-08303 Vilnius
E-mail: i.lazdinis@mruni.lt

THE NETHERLANDS

Mirjana Stanisc-Quaedvlieg
Maastricht School of Management
Endepolsdomein 150
6229 EP Maastricht
Tel.: +31 43 38 70 839
Fax: +31 43 38 70 800
E-mail: mira71@xs4all.nl

REPUBLIC OF MACEDONIA

Ivan Blinkov
Faculty of Forestry
University of Skopje
Bul. Al. Makedonski
1000 Skopje
Tel.: +389 23 135 033/152
Fax: +389 23 164 560
Mob.: +389 70 205 782
E-mail: blinkov@ukim.edu.mk

ROMANIA

Gheorghe Parnuta
Forest Research and Management Institute
Soseau Stefanesti 128
077190 Voluntari - Ilfov
Tel.: +40 21 240 6845
Fax: +40 21 240 6845
E-mail: gh_parnuta@icas.ro

Ioan Vasile Abrudan
Transilvania University of Brasov
1, Sirul Beethoven
2200 Brasov
Tel.: +40 268 476 808
Fax: +40 26 847 6808
Mob.: +40 72 353 3512
E-mail: abrudan@unitbv.ro

SERBIA

Andjelka Mihajlov
Faculty of Technical Science
University of Novi Sad
21000 Novi Sad
Mob.: +381 63 316 355

E-mail: anmi@eunet.yu

Djordje Jovic
Institute of Forestry
Kneza Vislesava 3
11000 Belgrade
Tel.: +381 11 3553 355
Fax: +381 11 3545 969
Mob.: +381 64 113 5649
E-mail: inszasum@eunet.yu

Dragan Nonic
Faculty of Forestry
University of Belgrade
Kneza Visaslava 1
11030 Belgrade
Tel.: +381 11 355 3122
Fax: +381 11 254 5485
Mob.: +381 63 84 82 165
E-mail: dnonic@eunet.yu

Dusan Jovic
Ministry of Agriculture, Forestry and Water
Management
Directorate of Forests
Omladinskih brigada 1
11070 Belgrade
Tel.: +381 11 311 7566
Fax: +381 11 311 7611
Mob.: +381 63 319 628
E-mail: djjovic@net.yu

Franc Ferlin
FAO Coordination Office
Zarkovacka 2d
11030 Belgrade
Tel.: +381 11 357 1122
Fax: +381 11 357 1327
Mob.: +381 63 193 9314
E-mail: franc.ferlin@fao.org

Jelena Tomicevic
Faculty of Forestry
University of Belgrade
Kneza Visaslava 1
11030 Belgrade
Tel.: +381 11 355 3122
Fax: +381 11 254 5485
Mob.: +381 64 11 77 435
E-mail: tomicevicj@yahoo.com

Jörg Lohmann
IUCN - The World Conservation Union
Programme Office for SEE
Dr. Ivana Ribara 91
11070 Belgrade
Tel./ Fax: + 381-11 2272 411
Mob.: + 381-63 357 407
Email: joerg.lohmann@iucn.org

Milan Medarevic
Faculty of Forestry
University of Belgrade
Kneza Visaslava 1
11030 Belgrade
Tel.: +381 11 355 3122
Fax: +381 11 254 5485
Mob: +381 64 220 1109
E-mail: milanmed@eunet.yu

Nataša Tomić
University of Belgrade
Faculty of Transport and Traffic
Engineering
Milesevska 60
11000 Belgrade
Tel.: +381 11 344 2846
Mob: +381 64 135 0644
E-mail: atlantic@sezampro.yu

Radovan Nevenić
Institute of Forestry
Kneza Visaslava 3
11000 Belgrade
Tel.: +381 11 3553 454
Fax: +381 11 3545 969
Mob.: +381 64 129 0933
E-mail: nevenic@EUnet.yu

Ratko Kadovic
Faculty of Forestry
University of Belgrade
Kneza Visaslava 1
11030 Belgrade
Tel.: +381 11 355 3122
Fax: +381 11 254 5485
Mob: +381 63 892 4341
E-mail: philip94@eunet.yu

Ratko Ristic
Faculty of Forestry
University of Belgrade
Kneza Visaslava 1
11030 Belgrade
Tel.: +381 11 355 3122
Fax: +381 11 254 5485
E-mail: ratkor@yubc.net

Zoran Tomovic
PE "Vojvodinasume"
Preradovićeve 2,
21131 Petrovaradin
Tel.: +381 21 432 237
Fax: +381 21 643 3139
Mob: +381 63 563 886
E-mail: vsrazvoj@EUnet.yu

SLOVAK REPUBLIC

Rastislav Sulek
Technical University Zvolen,
Faculty of Forestry - Dept. of Forest
Economics and Management
T.G. Masaryka 24
SK-960 53 Zvolen
Tel.: +421 45 520 6325
Fax: +421 45 533 2654
Mob.: +421 905 219 614
E-mail: sulek@vsld.tuzvo.sk

SLOVENIA

Darij Krajčič
The Institute of the Republic of Slovenija
for Nature Conservation
Cankarjeva 10,
SI-1000 Ljubljana
Tel.: +386 1 244 3500
Fax: +386 1 244 3522
Mob.: +386 51 306 196
E-mail: darij.krajcic@zrsvn.si

Jurij Gulič
The Institute of the Republic of Slovenia
for Nature Conservation
Cankarjeva 10,
SI-1000 Ljubljana
Tel.: +386 1 244 3500
Fax: +386 1 244 3522
E-mail: jurij.gulic@zrsvn.si

SWEDEN

Johanna Fintling
Regional Forestry Board of
Södra Götaland
P.O. Box 234
S-29131 Kristianstad
Tel.: +46 44 18 67 26
Fax: +46 44 10 97 61
Mob: +46 70 245 14 87
E-mail: johanna.fintling@svsso.svo.se

SWITZERLAND

Franz Schmithüsen
Swiss Federal Institute of Technology
Department Environmental Sciences
ETH Zentrum - Universitätsstrasse 22
CH-8092 Zürich
Tel.: +41 44 341 4292
Fax: +41 44 632 1110
E-mail: franz.schmithuesen@env.ethz.ch

Willi Zimmermann
Swiss Federal Institute of Technology
Department Environmental Sciences
ETH Zentrum - Universitätsstrasse 22
CH-8092 Zürich
Tel.: +41 44 632 3217
Fax: +41 44 632 1110
E-mail: willi.zimmermann@env.ethz.ch

TURKEY

Sedat Ayanoglu
Faculty of Forestry
İstanbul Üniversitesi
34473 Bahçeköy, İstanbul
Tel.: +90 212 226 1823

Fax: +90 212 226 1113
Mob.: +90 532 455 9455
E-mail: sedatayanoglu@yahoo.com

UKRAINE

Artem Torosov
Ukrainian Research Institute of Forestry
and Forest Melioration
Pushkinska 86,
61024 Kharkiv
Tel.: +380 57 704 10 02
Fax: +380 57 704 10 09
E-mail: torosov@uriffm.org.ua

Lyubov Polyakova
Forest Management Scientific Centre
20 Sholom-Aleyhema str., fl.200
02156 Kiev
Tel.: +38050 6983543
Fax: +38044 5442348
E-mail: lpolyakova@ukr.net

Annex 3: IUFRO Research Group 6.13.00

Homepage: [http:// iufro.boku.ac.at/iufro/iufronet/d6/hp61300.htm](http://iufro.boku.ac.at/iufro/iufronet/d6/hp61300.htm)

The IUFRO Research Group 6.13.00 Forest Law and Environmental Legislation of the International Union of Forest Research Organization (IUFRO) was established in 1981 during the XVII the World Congress in Kyoto, Japan and has been active under the leadership of Franz Schmithüsen (1982-2000) and Peter Herbst (since 2001) At present the group has more than 60 members who contribute voluntarily according to their research interests and within the limits of their available time. More than 260 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 and state of knowledge reports.

Research papers may be submitted and are printed in English, French, German and Spanish. If you wish to participate in the work of the IUFRO Research Group 6.13.00, please contact the Coordinator or one of the Deputies.

Peter Herbst (Coordinator)	Wulfenstrasse 15 A – 9500 Villach Austria	Fax: + 43 4242 264 048 E-mail: HP@net4you.at
Jon Lindsay	FAO – Legal Office Viale delle Terme di Caracalla I-00100 Roma Italy	Fax: + 39 06 5705 2151 E-mail: jon.lindsay@fao.org
Dennis C. Le Master	Dept. of Forestry and Natural Resource 1159 Forestry Building Purdue University West Lafayette Indiana 47907-1159 USA	Fax: + 1 765 496 2422 E-mail: dclmstr@comcast.net
Franz Schmithüsen	Forest Policy and Forest Economics Department of Environmental Sciences ETH – Zentrum CH – 8092 Zurich Switzerland	Fax: + 41 44 632 1110 E-mail: franz.schmithuesen@env.ethz.ch

Annex 4: Research Publications and State of Knowledge Reports

- Ayanoglu, Sedat; Günes, Yusuf; Aydin Coskun, Aynur; Herbst, Peter [eds.] (2006): Legal Aspects of European Forest Sustainable Development. Proceedings of the 8th International Symposium in Istanbul, Turkey, May 2006. Department of Forest Law, Faculty of Forestry, Istanbul University.
- Schmithüsen, Franz; Herbst, Peter; Nonic, Dragan; Jovic, Dusan; Stanisic, Mirjana [eds.] (2006): Legal Aspects of European Forest Sustainable Development. Proceedings of the 7th International Symposium in Zlatibor Mountain, Serbia, May 2005. Forstwissenschaftliche Beiträge Forstpolitik und Forstökonomie, ETH Zurich.
- Gallardo Gallardo, Enrique; Schmithüsen, Franz [eds.] (2005): La Contribución del Derecho Forestal – Ambiental al Desarrollo Sustentable en América Latina. IUFRO World Series, Volume 16, Secretariat, Vienna. 381 pages
- Abrudan, Ioan V.; Schmithüsen, Franz; Herbst, Peter [eds.] (2005): Legal Aspects of European Forest Sustainable Development, Proceedings of the 6th International Symposium, Poiana Brasov, June 2004. Transilvania University of Brasov, Romania. 180 pages
- Schmithüsen, Franz; Trejbalova, Katerina; Vancura, Karel [eds.] (2004): Legal Aspects of European Forest Sustainable Development, Proceedings of the 5th International Symposium, Zidlochovice, May 2003. Forestry and Game Management Research Institute, Jiloviste-Strnady, Czech Republic. 252 pages
- Le Master, Dennis C.; Herbst, Peter; Schmithüsen, Franz [eds.] (2003): Experiences with New Forest and Environmental Laws in European Countries with Economies in Transition. Proceedings of the 4th International Symposium Organised by the IUFRO Research Group 6.13.00, Jaunmokas, Latvia, August 2002. Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie, ETH, Zurich, Vol.29. 187 pages
- Schmithüsen Franz, Iselin Georg, Herbst Peter [eds.] (2002): Forest Law and Environmental Legislation – Contributions of the IUFRO Research Group 6.13. Proceedings VII. Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie, ETH, Zurich, Vol.27. 253 pages
- Schmithüsen Franz, Iselin Georg, Herbst Peter (2002): Bibliography – Contributions IUFRO Research Group Forest Law and Environmental Legislation – September 2002. Chair of Forest Policy and Forest Economics, ETH Zurich, Working Papers International Series 02/03, 35 pp.
- Schmithüsen Franz, Iselin Georg, Le Master Dennis [eds.] (2002): Experiences with New Forest and Environmental Laws in European Countries with Economies in Transition. Proceedings of the Third International Symposium; Jundola, Bulgaria, June 2001. jointly organized by the IUFRO Research Group 6.13.00 and the USDA Forest Service. Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 26. 184 pages
- Schmithüsen Franz, Iselin Georg (2000): Bibliography 1984-2000 of Contributions from the IUFRO Research Group Forest Law and Environmental Legislation. Chair of Forest Policy and Forest Economics, ETH Zurich, Working Papers International Series 00/5, 35 pp (*also loaded on the two homepages mentioned above*).
- Schmithüsen Franz, Herbst Peter, Le Master Dennis [eds.] (2000): Forging a New Framework for Sustainable Forestry: Recent Developments in European Forest Law. IUFRO Research Group Forest Law and Environmental Legislation, Selected Contributions. IUFRO World Series. Volume 10. Secretariat, Vienna. 354 pages

- 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 pages
- Schmithüsen Franz, Herbst Peter, 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 6.13.00 and the Austrian Ministry of Agriculture and Forestry, Ossiach, June 1998. Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 21. 142 pages
- Schmithüsen Franz, Siegel, William [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 from the IUFRO Research Group 6.13.00 Forest Law and Environmental Legislation. IUFRO World Series, VOLUME 7, Secretariat, Vienna. 373 pages
- 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 Initiative on Forests. Chair of Forest Policy and Forest Economics, ETH Zurich, Grundlagen und Materialien Nr.96/2. 172 pages
- Schmithüsen, Franz, [ed.] (1996): Experiences with Public Forest Ownership and Joint Management System. Proceedings of the IUFRO Forestry Conference Pushkino, Moscow Region, Russia. Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol.17. 217 pages
- 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 pages
- Schmithüsen, Franz, [ed.] (1992): 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 pages
- 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 pages
- 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 pages
- 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 pages

- Nr. 35 *Schmithüsen Franz; Herbst Peter; Nonic Dragan; Jovic Dusan; Stanisic Mirjana, Eds., (2006)*
Legal Aspects of European Forest Sustainable Development. Proceedings of the 7th International Symposium in Zlatibor Mountain, Serbia May 2005, organized jointly by the IUFRO Research Group 6.13.00 and the Forestry Faculty of the University of Belgrade. 338 Seiten
- Nr. 34 *Baruffol Ueli; Baur Priska; Zimmermann Willi; Schmithüsen Franz (2005)*
Öffentliche Finanzierung der Bereitstellung von Gütern und Leistungen des Waldes in der Schweiz. 126 Seiten
- Nr. 33 *Baruffol Ueli; Baur Priska; Dürrenmatt Roger; Kammerhofer Alfred W.; Zimmermann Willi; Schmithüsen Franz (2005)*
Evaluating Financing of Forestry: Country Report Switzerland. 110 Seiten
- Nr. 32 *Zingerli Claudia; Bisang Kurt; Zimmermann Willi (2004)*
Nationale forstpolitische Programme Kontext, Anforderungen und das Beispiel "Waldprogramm Schweiz". 126 Seiten; ISSN 1420-1143 / ISBN 3-907648-06-4
- Nr. 31 *Seeland Klaus; Ballesteros Nicolas (2004)*
Kulturvergleichende Untersuchungen zum sozialintegrativen Potential gestalteter urbaner Naturräume in den Agglomerationen Genf, Lugano und Zürich. 98 Seiten; ISSN 1420-1143 / ISBN 3-907648-05-6
- Nr. 30 *Baruffol Ueli (2003)*
Contractual Regulation of Access to Information on Biodiversity for Scientific and Commercial Use - The Novartis-UZACHI Biolead Project. Diploma Thesis. 127 Seiten; ISSN 1420-1143 / ISBN 3-907648-04-8
- Nr. 29 *Le Master Dennis; Herbst Peter; Schmithüsen Franz, Eds., (2003)*
Experiences with New Forest and Environmental Laws in European Countries with Economies in Transition. Proceedings of the 4th International Symposium; Jaunmoka, Latvia; August 2002 organized by the IUFRO Research Group 6.13.00. 187 Seiten; ISSN 1420-1143 / ISBN 3-907648-03-X
- Nr. 28 *Hänsli Cornelia, Keel Alois, Kissling-Näf Ingrid, Zimmermann Willi (2002)*
Sturmschäden im Wald, 1999: Eine vergleichende Analyse der politischen Prozesse und der staatlichen Massnahmen nach "Lothar" und "Martin" in der Schweiz, Deutschland und Frankreich. 266 Seiten; ISSN 1420-1143 / ISBN 3-907648-02-1
- Nr. 27 *Schmithüsen Franz, Iselin Goerg, Herbst Peter, Eds., (2002)*
Forest Law and Environmental Legislation – Contributions of the IUFRO Research Group 6.13 - Proceedings VII. 253 Seiten; ISSN 1420-1143 / ISBN 3-9520829-9-6
- Nr. 26 *Schmithüsen Franz, Iselin Georg, Le Master Dennis, Eds., (2002)*
Experiences with New Forest and Environmental Laws in European Countries with Economies in Transition. Proceedings of the Third International Symposium; Jundola, Bulgaria, June 2001. Jointly Organized by the IUFRO Research Group 6.1300 and the USDA Forest Service. 184 Seiten; ISSN 1420-1143 / ISBN 3-907648-01-3
- Nr. 25 *Zimmermann Willi und Schmithüsen Franz, Eds., (2002)*
Legal Aspects of National Forest Programmes. Presented at the Meeting of COST Action E19, "National Forest Programmes in a European Context"; Aberdeen, Scotland, March 2001. 153 Seiten; ISSN 1420-1143 / ISBN 3-9520829-8-8
- Nr. 24 *Gönner Christian (2001)*
Muster und Strategien der Ressourcennutzung: Eine Fallstudie aus einem Dayak Benuaq Dorf in Ost-Kalimantan, Indonesien. XII und 268 Seiten; ISSN 1420-1143 / ISBN 3-9520829-7-X

- Nr. 23 *Schmithüsen Franz, Iselin Georg and Herbst Peter, 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 6.13.00 and the Austrian Federal Ministry of Agriculture and Forestry Ossiach, September 1999. 111 Seiten; ISSN 1420-1143 / ISBN 3-9520829-6-1
- Nr. 22 *Nicolè Simone, Seeland Klaus (1999)*
Studio sulle potenzialità d'integrazione sociale offerte da spazi naturali. Due esempi di progetti con persone disabili in Svizzera e Germania. 140 Seiten; ISSN 1420-1143 / ISBN 3-9520829-5-3
- Nr. 21 *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 6.13.00 and the Austrian Ministry of Agriculture Ossiach, June 1998. 142 Seiten; ISSN 1420-1143 / ISBN 3-9520829-4-5
- Nr. 20 *Wangchuk Sanjay (1998)*
Local Perceptions and Indigenous Institutions as Forms of Social Performance for Sustainable Forest Management in Bhutan. 178 Seiten; ISSN 1420-1143 / ISBN 3-9520829-3-7
- Nr. 19 *Seeland Klaus and Schmithüsen Franz, Eds., (1997)*
Local Knowledge of Forests and Forest Uses among Tribal Communities in India. 170 Seiten; ISSN 1420-1143 / ISBN 3-9520829-2-9
- Nr. 18 *Peck Tim J. and Descargues J. (1997)*
Le contexte politique pour le développement du secteur de la forêt et des industries forestières en Europe. 192 Seiten ; ISSN 1420-1143 / ISBN 3-9520829-1-0
- Nr. 17 *Schmithüsen Franz, Ed., (1996)*
Experiences with Public Forest Ownership and Joint Management Systems - Proceedings of the IUFRO Forestry Conference Pushkino, Moscow Region, Russia, June 1994. 217 Seiten; ISSN 1420-1143 / ISBN 3-9520829-0-2
- Nr. 16 *Schmithüsen Franz, Ed., (1996)*
Forest Law and Environmental Legislation - Contributions of the IUFRO Research Group - Report VI. 368 Seiten
- Nr. 15 *Karameris Athanassios (1995)*
Ansätze zur Erfassung und Beurteilung von Nutzungen und Nutzungsüberlagerungen im Zusammenhang mit der touristischen Entwicklung im Berggebiet. 88 Seiten
- Nr. 14 *Peck Tim J. and Descargues J. (1995)*
The Policy Context for the Development of the Forest and Forest Industries Sector in Europe. A Discussion Paper on some of the main policy issues and options, as seen from an international perspective, that are having or may have an Impact on the sector. 173 Seiten
- Nr. 13 *Egli Arnold (1994)*
Einfluss ausgewählter Standortsfaktoren in Abhängigkeit von zehn nicht Stickstoff fixierenden Baumarten auf die Ertragsbildung wichtiger Feldfrüchte unter agroforstlichen Anbaubedingungen - Ein Beispiel aus Butare/Rwanda (Ost-/Zentralafrika). 206 Seiten
- Nr. 12 *Zimmermann Willi, Schmithüsen Franz, Portier Laurence (1993)*
Untersuchung staatlicher Fördermassnahmen auf dem Gebiete des Forstwesens in der Schweiz, im benachbarten Ausland und in der EG. 204 Seiten
- Nr. 11 *Schmithüsen Franz, Ed., (1992)*

Forstgesetzgebung / Forestry Legislation / Législation Forestière. 390 Seiten

- Nr. 10 *Schmithüsen Franz, Ed., (1990)*
Forstgesetzgebung / Forestry Legislation / Législation Forestière. 384 Seiten
- Nr. 9 *Price Martin F. (1990)*
Mountain forests as common-property resources - Management policies and their outcomes in the Colorado Rockies and the Swiss Alps. 251 Seiten
- Nr. 8 *Altwegg David (1989)*
Die Folgekosten von Waldschäden - Bewertungsansätze für die volkswirtschaftlichen Auswirkungen bei einer Beeinträchtigung der Schutzfunktion von Gebirgswäldern. 339 Seiten
- Nr. 7 *Kasper Heinz (1989)*
Der Einfluß der eidgenössischen Forstpolitik auf die forstliche Entwicklung im Kanton Nidwalden in der Zeit von 1876 bis 1980. 196 Seiten
- Nr. 6 *Schmithüsen Franz, Ed., (1988)*
Forstgesetzgebung / Forestry Legislation / Législation Forestière. 263 Seiten
- Nr. 5 *von Schlabrendorff Fabian (1987)*
The Legal Structure of Transnational Forest-Based Investments in Developing Countries. - A comparative study of the contractual practice in selected host countries of the tropical Asia-Pacific region. 337 Seiten
- Nr. 4 *Schmithüsen Franz, Ed., (1986)*
Forstgesetzgebung / Forestry Legislation / Législation Forestière. 175 Seiten
- Nr. 3 *Zimmermann Willi (1986)*
Erhaltung und Verbesserung des Waldzustandes: Katalog möglicher staatlicher Massnahmen / Conservation et amélioration de l'état des forêts: Catalogue des mesures étatiques possibles. 156 Seiten
- Nr. 2 *Schmithüsen Franz, Ed., (1984)*
Forstgesetzgebung / Forestry Legislation / Législation Forestière. / 176 S.
- Nr. 1 *Ley Christian/Zimmermann Willi (1984)*
Förderungsprogramm Energieholz. 81 Seiten

