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International Union of Forestry Research Organizations
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Unión Internacional de Organizaciones de Investigación Forestal

Forging a New Framework for Sustainable Forestry: Recent Developments in European Forest Law

Editors:
Franz Schmithüsen, Peter Herbst and Dennis C. Le Master

IUFRO Research Group
Forest Law and Environmental Legislation
Selected Contributions

IUFRO Secretariat Vienna
Chair Forest Policy and Forest Economics, ETH Zurich
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PREFACE

Appropriate public policies and legislation are essential requirements for sustainable economic and social development in rural and urban areas, for safeguarding the environment in which we live, and for protecting flora, fauna and the cultural heritage. The work of the IUFRO Research Group on forest law and environmental legislation shows the increasingly complex institutional and legal framework that deals with forest resource development, nature and landscape conservation, and environmental protection. It reflects interaction of numerous cross-sector and sector public regulations required to foster sustainable forest management and socially acceptable forestry practices.

A major reason for the successful co-operation and considerable scientific output of this research group over the years is the variety of interests, outlooks and approaches resulting from the different disciplinary origins and professional experiences of its members. The activities are based on a common interest of foresters, jurists in environmental and natural resource law, nature conservation specialists and natural resource managers to exchange information and insights on the dynamic evolution of relevant national legislation and on the impact of newly adopted international and supra-national legal instruments. The research agenda focuses on studies on these institutional and legislative networks as well as on the political, economic and social processes that determine their significance and adaptability. Colleagues engaged in research and academic teaching or in executive and managerial positions who are interested in these challenging issues are invited to join the IUFRO research group.

AVANT PROPOS

Des politiques publiques et une législation appropriées sont des conditions essentielles pour un développement économique et social durable des zones rurales et urbaines, pour la sauvegarde de l'environnement où nous vivons ainsi que pour la protection de la flore, de la faune et de l’héritage culturel. Le travail du groupe de recherche de l'IUFRO sur le droit forestier et la législation environnementale montre la complexité croissante du cadre institutionnel et juridique relatif au développement des ressources forestières, à la conservation de la nature et du paysage et aussi à la protection de l'environnement. Il reflète les interactions d'un grand nombre de règlements sectoriels et intersectoriels qui sont à prendre en considération afin de promouvoir la gestion durable des forêts et les pratiques forestières acceptées par la société.

La raison principale qui a mené ce groupe de recherche à une collaboration fructueuse et à de nombreuses publications scientifiques tout au long de ces années en est une somme d'intérêts, de concepts et d'approches variés qui proviennent des

diverses disciplines et expériences professionnelles de ses membres. Les activités se basent sur un intérêt commun de forestiers, de juristes en droit de l'environnement et des ressources naturelles, de spécialistes en conservation de la nature et de gestionnaires des ressources naturelles. Cette collaboration leur permet d’échanger des informations et des connaissances sur l'évolution dynamique de la législation nationale s'y référant et sur l'impact des instruments légaux nouvellement adoptés au niveau international et supranational. L'agenda de recherche se concentre sur des études des réseaux législatifs et institutionnels comme sur les processus politiques, économiques et sociaux qui déterminent leur importance et leur possibilité d'application. Les collègues de la recherche et de l'enseignement académique ou bien ceux à des postes d'exécutif ou de gestion, intéressés à s'engager sur ces thèmes en plein essor, sont invités à joindre le groupe de recherche de l'IUFRO.

Prof. Niels Elers Koch

Co-ordinator IUFRO Division VI

Social, Economic, Information and Policy Sciences

ABSTRACT

New forest laws have been adopted in Eastern European countries as part of their transition to a market economy with considerable effect on the structure of forest land ownership, improvements in management regulations and modernization of the forest sector's institutional framework. New forest legislation has also been developed in several countries in Western Europe in order to adapt its content to changing economic conditions, new social demands and more political participation of interest groups and citizens at local and regional levels. The selection of 35 reviewed papers submitted to the Research Group on Forest Law and Environmental Legislation of the International Union of Forestry Research Organisations (IUFRO) provides an overview of the dynamic and multifaceted development in sustainable forest management and documents recent changes in forest laws of 25 European countries. The text collection is an important source of information on forest law development in the European region and a comprehensive reference for comparative analysis

Key Words: Forest Law; Environmental Legislation; Forest Resources Management; Constitutional Law; Administrative Law

RESUME

De nouvelles lois forestières ont été adoptées dans les pays d'Europe de l'Est suite à leur transition à une économie de marché et ont eu un impact considérable sur la structure de la propriété foncière de la forêt, sur l'amélioration des règlements en matière de gestion et sur la modernisation du cadre institutionnel du secteur forestier. Dans plusieurs pays d'Europe occidentale de nouvelles lois ont également été promulguée par suite de conditions économiques en pleine mutation, de demandes sociales nouvelles et du fait d'une participation politique plus accentuée des groupes d'intérêt et des citoyens aux niveaux local et régional. La sélection de trente-cinq études révisées et soumises au groupe de recherche sur le droit forestier et la législation environnementale de l'Union Internationale des Instituts de Recherche Forestière, IUFRO, donne une vue d'ensemble de la dynamique et des multiples facettes d'un développement forestier soutenu et documente sur les récents changements en matière de législation forestière de vingt-cinq pays européens. Cette collection de textes est une source importante d'informations sur le développement du droit forestier en Europe et une référence de base pour des analyses comparatives.

Mots clés: Droit forestier; Législation environnementale; Aménagement des ressources forestières; Droit constitutionnel: Droit administratif

ZUSAMMENFASSUNG

In den Ländern Mittel- und Osteuropas wurden im Zusammenhang mit dem Übergang zur Marktwirtschaft neue Forstgesetze erlassen, die zu wesentlichen Änderungen in Bezug auf die Eigentumsstruktur von Waldflächen, zur Besserung der Regelungen der Waldwirtschaft und zu einer Modernisierung der institutionellen Rahmenbedingungen des Forstsektors geführt haben. Auch in einer Reihe von Ländern Westeuropas wurden neue Forstgesetze verabschiedet, die den sich ändernden wirtschaftlichen Bedingungen, neuen gesellschaftlichen Ansprüchen sowie Forderungen nach vermehrter politische Beteiligung von Interessengruppen und Bürgern auf lokaler und regionaler Ebene Rechnung tragen. Der vorliegende Band enthält 35 ausgewählte und durchgesehene Beiträge, die der Arbeitsgruppe Forstrecht und Umweltschutzgesetzgebung des Internationalen Verbands Forstlicher Forschungsanstalten, IUFRO, eingereicht wurden. Diese geben einen Überblick über die dynamische und vielseitige Entwicklung im Bereich der nachhaltigen Waldbewirtschaftung und dokumentieren wichtige Neuerungen in der Forstgesetzgebung in 25 Europäischen Ländern. Die Sammlung von Beiträgen ist eine wichtige Informationsquelle über die Entwicklung des Forstrechts in Europa und eine umfassende Grundlage für vergleichende Analysen.

Key Words: Forstrecht; Umweltschutzgesetzgebung; Forstliche Ressourcenbewirtschaftung; Staatsrecht; Verwaltungsrecht

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FOREWORD

The research group on forest law and environmental legislation of the International Union of Forestry Research Organisations (IUFRO) was established in 1981 during the XVIIth World Congress in Kyoto/Japan. The network currently has more than 60 participants who contribute to its work according to their research interests and time limitations. More than 150 contributions presenting overviews on significant law developments in different parts of the world, analysis of specific forestry and environmental legal issues, and country studies on changes in the forestry-related legal network have been published in a series of research reports.

Laws and regulations addressing forests and forestry are the focus of work of the research group, but its activities are not limited to forest law. Legislation regulating other land management sectors and an increasing number of cross-sectoral laws affect forest conservation and development. The network of laws, regulations and jurisdictions, the linkages between different public policies, and the positive and negative effects resulting from various regulations for sustainable forest resource utilisation are of growing interest. A significant number of studies have been conducted examining the impact on forests and forestry of laws and regulations on environmental protection, nature and landscape conservation, wildlife, water and soil conservation, rural development, and pasture and grazing management. Other important research has been done on forest and tree tenure, joint public and private utilisation and management systems, forest revenue assessment on public lands, and incentives to promote sustainable forestry practices of landowners.

In many countries the process to revise and amend forest laws has gained momentum over the years. Efforts to improve the legal framework have been caused by the growing political importance of forests at local and national levels as well as in the international community. In the countries of Central and Eastern Europe, which are in transition to a market economy, a new legal framework regulating land ownership, land management practices, environmental protection as well as nature and landscape conservation was established during the past 10 years. All of these countries enacted new forest and environmental legislation, and most of them are now engaged in the process of revising the new laws in order to adapt them more realistically to prevailing conditions and to amend unforeseen shortcomings. In several countries parliament and government have used the opportunity to renew the whole body of forest and environmental law in order to modernise the institutional framework of the forest sector. They also took the opportunity to adjust legislation to the principles of sustainable development consistent with international treaties, agreements and declarations that have been recently agreed to.

The trend to adopt new forest legislation can also clearly be seen in a considerable number of countries in Western Europe. Examples of new forest laws are found in Scandinavia as well as in the central and southern parts of the continent. There are several reasons that have accelerated the process of modernisation such as the changing economics of wood production, a sharpening perception of the population of the environmental and social benefits of forests, and an increasing willingness to

take concrete measures to protect and maintain biodiversity in a wide range of different forest ecosystems. There is also a clear trend toward transfer of constitutional and administrative competencies in regulating forest protection and management towards sub-national and local levels, as well as to introduce new forms of decision making allowing increased cooperation among public authorities, non-governmental organisations and affected interest groups. Another feature appearing in recent revisions of forest legislation is the principle of sustainability in natural resource utilization which has important consequences.

Altogether the process of modernizing forest legislation involves application of the principles of sustainable development, multifunctional and site-specific forest management, and silvicultural practices that are “close to nature.” It involves more integration of public policies addressing forestry activities, rural development and environmental protection, as well as multi-level institutional networks reaching from local and national decisions to European and international requirements and standards. Environmental, nature conservation and rural development legislation have significant effect on forests, forestry practices and the developmental opportunities of the sector. International legal instruments, intergovernmental agreements signed as part of Pan-European processes related to forest protection and nature conservation, and numerous regulations of the European Union have influenced national forest laws.

The IUFRO Research Group has produced a considerable number of studies on forest law and forestry-related legislation in various European countries. As apparent from the bibliography, these studies consider a wide range of legal aspects relevant to forest production and nature conservation. The 35 reviewed papers presented in this volume of the IUFRO World Series provide an overview of the dynamic and multifaceted development in the field of sustainable forest management and document recent changes in the legal framework regulating forest protection and forestry practices in 25 European countries. The text collection focuses specifically on recent forest law developments as determined by new social aspirations, new economic and political requirements, and by a broader understanding of the cultural meaning of forests. It is an important source of information and a comprehensive reference for comparative studies on the institutional framework of the forest sector in Europe.

We wish to thank all members of the group who have contributed over the years and helped to establish an important research network within IUFRO. We thank Miss Christina Chiari and Mr. Georg Iselin, both forestry graduates from the ETH, for assisting in the preparation of this volume.

Franz Schmithüsen, Peter Herbst, Dennis Le Master

THE EXPANDING FRAMEWORK OF LAW AND PUBLIC POLICIES GOVERNING SUSTAINABLE USES AND MANAGEMENT IN EUROPEAN FORESTS *

FRANZ SCHMITHÜSEN

ABSTRACT:

Forest laws have been revised and amended in order to adjust to new social demands in many European countries. Public policies addressing nature conservation, land use planning and renewable natural resources have produced legislation relevant to forests and forestry. National laws are increasingly influenced by international conventions and other legal instruments. The evolving regulatory framework reflects the growing importance of forests in sustainable development. It raises new issues with regard to the respective role of the public and private sectors, to the rights of land owners facing external demands, and to compensation arrangements between forest enterprises, user groups and public entities. It also calls for more efficient decision-making processes on sustainable forest resource management, balancing local, national and global requirements.

Key Words: Forest Law; Natural Resource Legislation; Land Renure; Forest Management; Sustainable Development.

1 FOREST LAW AS A REGULATORY FRAMEWORK FOR PROTECTION AND UTILIZATION OF FORESTS

Economic and Social Context: The evolution of forest legislation in the European Countries indicates that understanding of how natural resources are to be used in a sustainable manner depends on a given economic and social context. The options that should remain open for the future, result from the changing perspectives and possibilities of different generations. The meaning of sustainable forestry is determined by local circumstances and their significance has considerably changed over time. Today sustainable management is understood as forestry practices which respect the naturally given potentials of the ecosystems and maintain the diversity of forests in their typical landscapes. They leave multiple options for an increasing production of wood, for protection of the environment and for recreation.[1]

Regulation of Forest Uses: Public provisions referring to forest uses over more than one generation are probably among the oldest forms of long-term environmental policies. Customary law, codified already in the 14th century, regulated forest uses in accordance with the demands and options of their times. An increasing number of forest and timber ordinances, issued from the 16th century onward, followed. Meeting local needs, long-term availability of raw materials and energy, and increased outputs through better forestry practices were the issues at stake. Legislation established the requirement of a continous flow of wood production,

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (1999):1-30

[1] There is a considerable number of recent research publications and case studies which analyse the evolution of forest uses and sustainable resources utilization at national and local levels. For several European countries see for instance Arnould et al. 1997, and Cavaciocchi 1996; for Germany, Austria and Switzerland Schmithüsen 1998; for France Corvol 1987, Corvol et al. 1997, and Centre Historique des Archives Nationales 1997

which meant stopping mere exploitation of what was available. It recognised the long-term nature of forests, and promoted the involvement of several generations in forestry activities. Increasingly it provided for planning and management, and for measures of regeneration and reforestation. Step-by-step forest laws introduced principles of renewable natural resources utilisation as a requirement for sustainability as we understand it today.

Regulation of Property Rights and Forest Tenures: Just as important is the fact that forest laws define ownership rights and access to forests for different user groups. With the favourable conditions of an expanding wood production and an expansion of the timber trade, continuity and increase of supply required investment in forestry and this could not be achieved without security of forest tenures. Especially during the 19th century many forest laws had a tendency to restrict or abolish usufruct rights, and to transform collective tenure into clearly defined land ownership. In some areas, this has favoured the constitution of communal forests, whereas in others state forests were maintained. Private property rights were formally registered and forests still under collective tenure were divided among the users. Quite often a combination of tenures developed which is characteristic for the present ownership of forests in European countries. On the whole, the laws distinguished between use and management rights according to which forests were a productive asset for generating profit and income, and other uses which were important to the population or certain user groups. Increasingly they recognised resource management aspects of public interests which primarily concerned protective values in mountainous areas.[2]

To establish a legal basis for uses and ownership has been a tedious, difficult and often conflictual process. Sovereigns and nobility claimed wood resources for operating mining industries, commercial salt production, glass-making factories and for ship building. They obtained juridical control over vast areas and created forest administrations in order to impose close supervision on communal and, to a lesser degree, on private lands. The growing influence of the state created tensions with peasants and villagers. To them, local uses were more important than government-promoted commercial wood production.

Regulation of Wood Production and Management: Forest laws have moved from local restrictions and usage rules to comprehensive provisions that organise and regulate sustainable wood production. The change was initiated by a new understanding of forests which could be used in competitive markets for industrial activities. Forestry and wood processing became production sectors for which a sustainable raw material flow was the prerequisite, and at the same time, the condition of business. This lead to a system of management which, yet unknown in other sectors, has kept its exemplary value. It is based on scientific models adjusting harvesting intensities to the long-term potential of forest sites, species, and age structure. The principle of sustainable wood production is implemented by applying these models over large areas in different forest tenure systems. In view of the public utility of forests, their uses and management are regulated to an extent which is uncommon in other economic activities. Legal requirements relate primarily to the protection of the forest cover, to minimum standards for management, and to measures contributing to increased productivity.[3]

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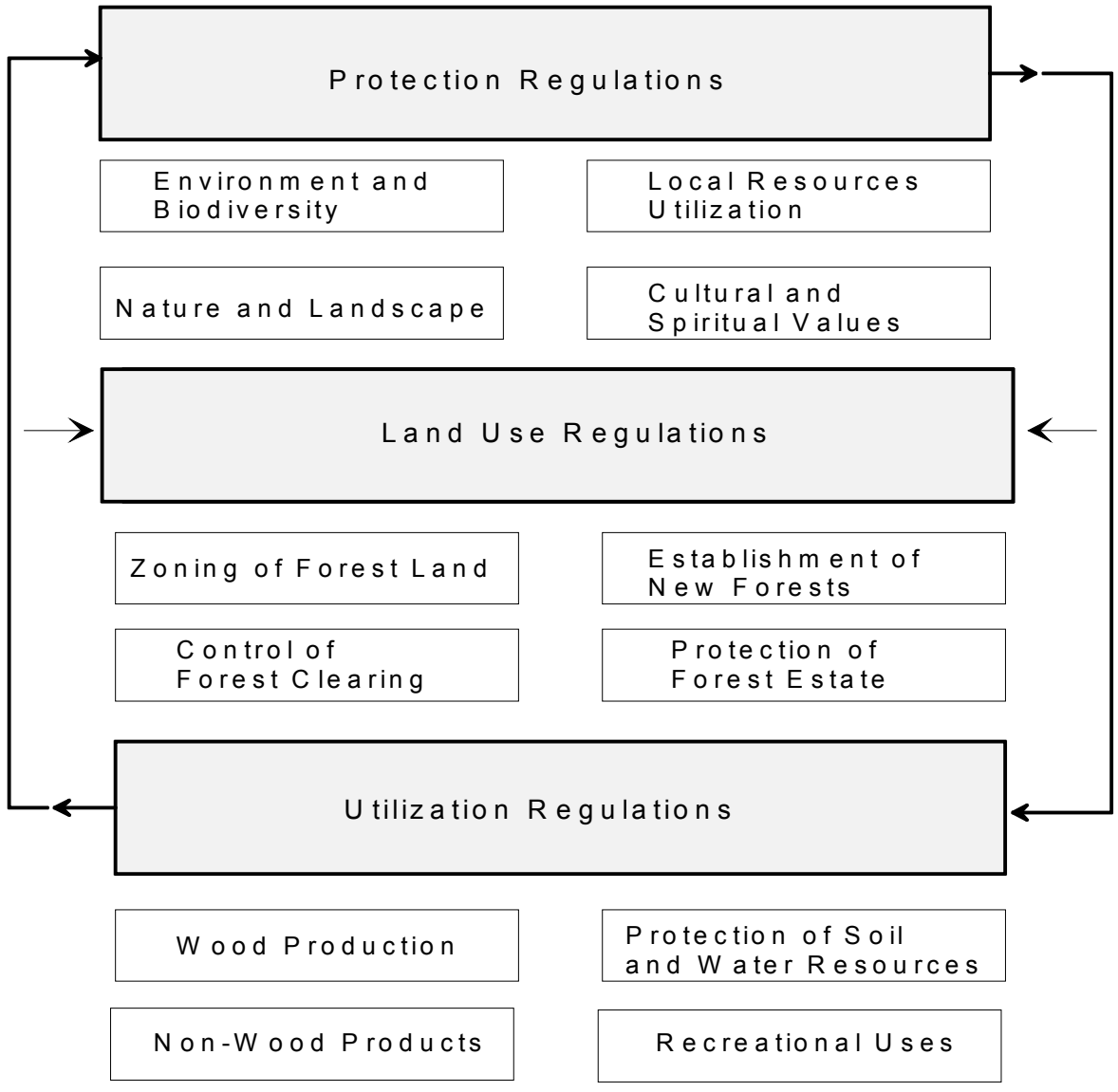
[2] The regulation of ownership and usage rights, and the conflicts between public and private interests determining the adoption of the Austrian forest law of 1852 are analyzed in Feichter 1992, 1996. The development of forest tenure in Spain is summerized by Rojas 1996.

[3] An overview of management issues that may be subject to regulatory measures is provided in FAO 1994.

Principal Elements of Forest Legislation: Many European countries have thus long standing experiences in sustainable forestry based on public policies and regulations. Forest laws balance private land ownership rights against the public interests associated with multiple forest uses as well as determine specific management standards for communal and state forest tenure (Schmithüsen 1996). With regard to conservation and sustainable utilization of forests legislation provides different types of regulations (*Figure 1*). Protection regulations refer to measures on environment and biodiversity, nature and landscape protection, and restrictions associated with cultural and spiritual values. Land use regulations include zoning of the forest land, control of forest clearing, protection of the permanent forest estate, and the creation of new forests through afforestation. Utilization and management regulations determine responsibilities of forest owners with regard to sustainable production of wood and non-wood products, the protection of soil and water resources as well as public access to forests and recreational uses.

Figure 1: Principal Elements of the Regulatory Framework for the Conservation and Sustainable Utilization of Forests



Source: Schmithüsen 1996, p. 38

2 EXAMPLES OF NEW FOREST LEGISLATION IN THE EUROPEAN REGION

The last years have seen a rapid evolution leading to a revision of forest laws in all parts of Europe.[4] The process of adapting legislation to new political, economic and social developments has gained considerable momentum.[5] Countries with new and amended laws range from Albania and Finland to Sweden and Ukraine *(Figure 2).* They include Denmark, France, Germany, Great Britain, Portugal and Spain. Major changes occure in the Central and Eastern European countries which are in the process of promulgating a profoundly modified legal network of forest, nature conservation and environmental protection regulations. The following examples show the variety of conditions under which the process of adapting the legal framework to the changing conditions of forest resources utilization occurs.[6]

Belgium: The long process of preparing the Flemish Forest Decree, finally issued in 1990, stands for two tendencies in adapting forest laws to new realities (Lust 1996). It takes advantage of the possibility to formulate different forest policies for the regions of Belgium (Flanders, Wallonia and Brussels), as enacted by the Specific Act on institutional reforms of 1980. It is also an interesting piece of legislation because its preparation involved a large number of stake holders and, in particular, local authorities, rural planning entities and nature conservation groups.

Finland: Recent changes in legislation refer to a significant reorganisation of administration (Tikkanen and Vehkamaki 1996). The Forest and Park Service Act of 1993 establishes a state enterprise working under the Ministry of Agriculture and Forestry and, in matters of nature protection, under the supervision of the Ministry of Environment. The Forest and Park Service manages natural resources and other property under its competence in a sustainable and profitable way by taking into account protection and appropriate increase of biological biodiversity. Nature protection measures are carried out in accordance with the Nature Protection Act of 1971 and with determined operational and financial targets. Other duties refer to competences under the Fisheries Act of 1982, the Terrain Traffic Act of 1991, the Hunting Act of 1993 and the Outdoor Recreation Act of 1973. In addition to timber production, nature protection and national parks, the tasks of the new service relate to recreational use of public lands, to unemployment relief in northern rural areas, and to caring for local traditions and cultural heritage.

France: The law Nr. 85-1273 on management, improvement and protection of forests formally recognises production, protection and social utility as the principal objectives of national forest policy (Humbert 1996). The law is an important refinement to the National Forestry Code of 1979 and consolidates previous legislation as in particular Law Nr. 63-819 adopted in 1963. It is also complementary to the French Nature Conservation Law of 1976 and its subsequent regulations. Following a recent governmental report on the national forest policy with important strategic proposals to improve the forest resources potential (Bianco 1998) a revision of the forest law is in preparation.

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[4] For significant trends in newly adopted or revised forest laws in Western European Countries and relevant forestry related European Community Legislation see Cirelli and Schmithüsen 2000.

[5] A useful source providing information on current revisions of forest laws as well as on forestry related environmental and nature conservation legislation is the Internet Access to the Development Law Service of FAO*: http://faolex.fao.org/faolex_eng/index.html* This service provides the full text of laws and regulations that are relevant in the present context.

[6] The IUFRO Research Group Forest Law and Environmental Legislation (6.13.00) has published a considerable number of case studies on legal developments and regulatory issues at national and sub-national levels. For an overview on available contributions see Schmithüsen and Iselin 1999, for regular updates Schmithüsen and Iselin: http://www.fowi.ethz.ch/ppo/biblio.html

Figure 2: Revision or Major Amendments of Forest Legislation 1990-1998

1990	*Belgium*	Flemish Forest Decree
	Croatia	Forest Act
1991	*Poland*	Act on Forests
	Lichtenstein	Forest Law
	Switzerland	Federal Law on Forests
1992	*Albania*	Law on Forestry and Forest Polce
	Spain	Forest Law (Andalucia)
1993	*Finland*	Forest and Park Service Act
	Sweden	Forest Act
	Estonia	Forest Law
	Slovenia	Forest Law
1994	*Spain*	Forest Development Law (Castilla y Leon)
	Latvia	Law on Management and Utilization of Forests
	Lithuania	Forest Law
	Ukraine	Forest Code
	Norway	Forest Law
1990-1994	*United Kingdom*	Guidelines and Rules
1992-1994	*Germany*	New Forest Acts in the 5 States on the territory of the former German Democratic Republic
1996	*Czech Republic*	Forest Act
	Denmark	Forest Law
	Finland	Forest Act
	Hungary	Act on Forest and the Protection of Forests
	Portugal	Forest Law
	Romania	Forestry Code
1997	*Bulgaria*	Law for the Restoration of Property of Forests and Forest Lands
	Poland	Law on Forests
	Russia	Forest Code of the Russion Federation
1998	*France*	Revision of Forest Law
	Norway	Revision of Forest Law
	Poland	Revision of Forest Act

Source: Conference of European Forest Ministers, Lisbonne 1998; National Reports. Other Country Information.

Germany: The Federal Forest Act is a frame law and has not experienced major changes since its promulgation in 1975. Issues of resources protection and management are regulated by member state (Länder) forest laws and regulations. In the former Federal Republic of Germany most of the state forest laws have been adopted during the 1970s with subsequent amendments and modifications. After reunification new forest legislation has been prepared in the 5 states which had belonged to the territory of the former German Democratic Republic (Weber 1994). This process involved in particular a repartition of constitutional competencies, regulations with regard to the organisation of state forest services, determination rights and obligations of private and public forest owners, regulations referring to forest practices and sustainable management, and legal provisions dealing with applicable forest subsidies and compensations (Niesslein 1992). An important aspect in reorganising forest utilization has been the process of reconstitution of forest tenures by recognising private, communal and state forests as well as through privatisation of land held previously under cooperative forest properties (Sasse, 1996)

Great Britain: Changes in forestry activities are largely based on ministerial statements, policy declarations, combined with a system of legal restrictions, tax advantages, grants and extension. The presently relevant forest policy statement of the Government was written in 1991 and followed by a programme on sustainable forestry, published in 1994 (Miller 1996). The Forestry Commission, established in 1919 by Act of Parliament, exerts considerable control over management decisions in both the private and state sectors. A set of guidelines drawn up by the Forestry Authority between 1990 and 1994 refers to forests and water, forest nature conservation, forest recreation, forest landscape design and community woodland design. They contain prescriptive statements, that detail, for instance, forest design and management in order to minimise impact on water, or they are more of an advisory nature in connection with grant aid applications. The possibility to claim the cost of planting trees against tax relief has been abolished in 1988. It was the intention to offer an equivalent through grants to which conditions can be attached more readily than in the case of tax relief. The Woodland Grant Scheme provides for the possibility that farmers can get annual payments for 10, respectively, 15 years in order to compensate for loss of agricultural earnings. An interesting aspect is the role of forestry consultants many of which have passed examinations to become Members or Fellows of the Institute of Chartered Foresters. This implies that they are bound by the ethics and codes of behaviour of this professional institute and appear on the approval list of members in consultant practice.

Italy: Forest legislation is still determined to a large extent by regulations based on the Serpieri Forest Law of 1923 with subsequent amendments. There are, however, new developments in fields like nature and landscape legislation, rural development and special programmes for mountainous regions which have a considerable impact on forest management (Merlo and Petenella 1990). This refers, in particular, to the Nature and Landscape Law of 1985 (Legge Galasso) which provides for regional landscape plans with consequences for the role of forest land and its management. Another interesting development results from the growing impact of European Community regulations related to agriculture and from measures in favour of selected regions which are translated in specific plans and projects (Gajo and Marone 1996). Italy offers an example of a country in which forestry becomes more and more integrated into general land development schemes based on integrated planning and joint financial commitments under different programmes. Relevant regulations for

forest resources management result increasingly from a broad range of environmental and primary sector regulations.

Spain: The Spanish basic law on the conservation of natural areas and of forest flora and fauna of 1989 has had an important impact in establishing state authority for the declaration and management of national parks (Rojas Briales 1992). It is also part of the process for redefining constitutional competences both between forest and nature conservation legislation as well as between national and regional entities. Several forest laws for autonomous regional entities are in the process of preparation or have already been adopted.

Sweden: In 1993 a new Forest Act has been promulgated (Svensson 1994, Thelander 1996). It replaces the act of 1979 which was in force with slight amendments during the 1980s. The new law is of considerable interest and the result of important changes in forest policy direction. An important aspect of the country's new forest policy results from the fact that environment and wood production are now considered as policy objectives of the same priority and of equal weight in managing forest resources. Forest owners are responsible for environmental measures required on land used for timber production and have to bear the related costs. Costs for national parks and nature reserves are to be borne by the State. Extension services and the transfer of knowledge and know-how receive strong emphasis since forest owners have now greater responsibilities in forest resources management. Subsidies are restricted to improvements of the forest environment. On the whole the new law has been simplified in comparison with the previous one, is less restrictive and gives more freedom of action in land management.

Switzerland: After a long process of review a new Federal Law on Forests was adopted by the two chambers of parliament in 1991 (Schmithüsen 1995). As the previous law, which had been in force since 1902, it is based on a joint constitutional competence for forestry matters. The federal level has a frame competence, focusing on the protection of forest lands and on the protective role of forests in mountainous areas. The cantons are responsible for the implementation of federal regulations. They have also a fairly large domain of own competences, which include forest management planning, support to public and private forest owners, and organisation of the cantonal forest services. At present the cantons are in a process of revising their legislation and several cantonal forest laws have already been adopted.

Central and Eastern European Countries:[7] As of 1994 new forest legislation had been enacted in Croatia, Poland, Slovenia, the tree Baltic States and Ukraine (FAO 1995, country reports). Since 1995 the Czeck Republic, Hungary, Romania and Russia have adopted new forest laws. The principal issues that have been dealt with in the new legislation are sustainable development of forests, privatisation and private forestry, forest management and utilisation, community forestry and law enforcement (Cirelli, 1999)

The task to create a new legal framework for forestry and environmental protection is undertaken within a fundamentally changed constitutional environment. It is determined by democratic decisions, by constitutional rights of the citizens and by a state of law which legitimises governmental intervention. Experiences are to be gained with regard to the implementation of the new laws and, at least in some countries,

[7] A recent overview on forest law developments in European Countries in transition to market economies is available in FAO Legal Papers Online Nr. 2 (Cirelli 1999) under http://www.fao.org/Legal/default.htm For other country information and analysis of relevant issues relating to the process of adapting the forestry sector to a market economy see IUFRO 1992; FAO 1995; Ljungman, 1995; Schmithüsen ed. 1996, Schmithüsen et al. eds. 1999, Schmithüsen et al. eds 2000

with the additional revisions in order to make legislation more workable. Economies in transition imply that wood production as well as services are subject to the rules of demand and supply and that sustainable forestry practices are only viable if they are determined by considerations of economic efficiency and profitable management. Public regulation will be operable if forest owners are able to obtain immediate benefits from their activities and if they are compensated by for additional costs from user groups and the community. The new forest laws reflect to a considerable extent these frame conditions of forestry in a market economy.

Poland: Among the countries in transition to a market economy, Poland has been among the first ones to adopt a fundamentally revised forest law. It replaced the former law on state forestry of 1949 and the law of 1973 regulating management of non-state properties. Both laws had been subject to numerous amendments and a project of a consolidated legislation had already been launched during the 1980s (Partyka et al. 1990). The new law on forests, enacted by parliament in May 1991, refers to all forms of forest ownership and defines the principles of maintenance, protection and increase of forest resources as well as of forest utilization in the overall perspective of environmental protection and national economic development (Strykowski and Lonkiewics 1995). Management plans are key element in the new legislation, to be prepared for all types of property with the objectives of increasing the productivity of forest resources, ensuring economic profitability and providing environmental benefits. State forests have been maintained and should be managed under a regime of financial self-dependence. A forest fund has been established in order to compensate for variations in cost/revenue structures among different forest districts. A critical point in the law are provisions related to privately owned forests for which regulative measures are in force but not sufficient support in implementation is available. The Act on Forests has important relations to the nature protection law which has also been promulgated in 1991. A revision of the forest law has been undertaken in 1997.

3 SIGNIFICANT TRENDS IN RECENT FOREST LEGISLATION DEVELOPMENTS

Evaluating Changes in Forest Legislation: The tendencies that become apparent from recent changes in forest laws and regulations in several European countries show a variety of approaches and may be judged from different point of views. Relevant criteria for analysis on the advancement of legislation are:

- *Consistency:* requires the compatibility of forest regulations with constitutional values and democratic rules, with national policies addressing land-use, economic development and environmental protection, and with international commitments and multilateral agreements.

- *Comprehensiveness:* refers to the objectives of forest legislation with regard to forest protection and forestry development, to different types of forest tenures, and to the rights and responsibilities of various categories of forest owners.

- *Subsidiarity:* relates to the role of forests as national, regional and local resources. It also relates to the double nature of forests as private production means that may be used according to the decisions of land owners and as resources that yield numerous benefits to the community. Subsidiarity indicates to what extent public programmes support the activities of land owners.

- *Applicability:* refers in particular to the organisational framework of public forest administrations in relation to changing responsibilities and tasks, and to

appropriate forms of participation of forest owners and interest groups in regulating forest uses and management practices. Coordination of competencies among public entities is an important aspect in evaluating the applicability of new or amended regulations.

Adaptation of Legislation to Changing Social Demands: Changes in social demands towards forests are in itself nothing new. In addition to the production of wood and many other products, forests have always had great importance with respect to protective and sociocultural values. The actual demands are of a much diversified nature and specific within countries and at a given locality. They involve the production of goods and services of a distributive character. And they refer to interests in the very existence of forests, which have their foundation in the perception and the personal conviction of people. The potential for alternative uses, the variety of actual outputs as well as the values associated with their existence make the forests an important element of the rural and urban space. The capacity to satisfy present needs, but also those of future generations, determine their social relevance and the objectives of sustainable management. It is this aspect, which gives a new dimension to the political debate on forests and forestry and to forest law developments.

Multifunctional Policy Objectives: The objectives of new laws are more diversified and comprehensive. Moving from a perspective which focused on wood as a sustainable resource, forest laws are now addressing a wider range of private and public goods and values. They acknowledge the importance of both production and conservation. Their goals refer to the role of forests as multifunctional resources, to their economic potential, and to their importance in the environment. Increasingly they address the variety of ecosystems, the need to maintain biodiversity, and the preservation of forest lands for reasons of nature and landscape protection. Regulations on the management and utilisation stipulate the need to balance timber production, recreational uses and the protection of forests for soil and water conservation and against impacts from natural disasters. In accordance with the variety of ecosystems and local conditions, management objectives refer explicitly to the role of forests as multifunctional renewable resources.

Transfer or Delegation of Constitutional Competencies in Forestry Matters: An important aspect in recent forest law developments are changes in the role of national, regional and local authorities. This refers foremost to constitutional competencies in forestry matters. There is a trend to shift or delegate forestry competencies to regional governments or to newly created autonomous state entities. Where the national level remains responsible for forest conservation and development sub-national entities become more strongly involved in policy formulation and implementation. A similar process occurs with regard to the relationships between governmental entities and local communities and associations by expanding their competencies in forest management and land-use planning. These developments provide, all together, more opportunities for multi-level political decisions and for the negotiation of locally adapted solutions. They acknowledge, that forests are of national concern as well as they are renewable resources of the rural and urban space. Transfer or delegation of competences allows for more participation of people in democratic decision-making processes in which they can express their specific interests and values associated with forest management and utilisation.

Regulative and Incentive Instruments: Regulative instruments keep their importance in particular with regard to protecting forest areas from uncontrolled clearings and

from devastative exploitation. Regulations, which so far have restricted forest management decisions, are gradually replaced by joint management systems which engage forest owners and public authorities on a negotiated and increasingly on a contractual basis. A critical review of existing incentives for afforestation, forest roads and cooperation of forest owners takes place with the aim to develop more output oriented systems and to develop more precise performance and impact criteria. New categories of incentives for silvicultural practices close to nature, multiple use management and promoting measures which sustain biodiversity gain importance. Compensatory payments to forest owners for the performance of specific tasks in the public interest became an important issue. On the whole, legislation on forest incentives is increasingly concerned with the determination of specific targets, more precise commitments of the beneficiaries and accountability on proven results in relation to the committed financial means.

Information and Process-Steering Instruments: With a shift to a more collaborative forest policy, informational and persuasive instruments gain considerable weight in forest legislation. This refers to information and debate in parliament and in other political entities, to information and arbitration processes among different interest groups, and foremost to a continuous dialogue between forest owners and public authorities. New legislation thus provides for monitoring and evaluation systems which produce information on forest health, composition of forest stands, and on the impact of uses affecting forest ecosystems and biodiversity. There is also demand for information on the economic performance of forest enterprises and on the financing of services rendered to the public

Process steering instruments regulate in particular organisational structures and competencies, as well as communication between governmental services and non-governmental organisations. This implies, for instance a legal framework for decision making procedures among public agencies, the designation of lead agencies, the organisation of public hearings, and for environmental assessment and evaluation procedures. It also calls for a distinction between competencies related to investment and development versus those related to resources protection. There is an increasing tendency to separate more clearly the regulatory function of public forest services from their role as managers of forest lands.

Strategies to Support Forest Owners: New and amended forest laws show less regulation and control of communal and private forest owners in management planning, forestry operations and commercialisation of forest products. The shift to joint management responsibilities is probably favoured by constitutional emphasis on local government and strengthened institutional and financial capabilities of municipalities. New legislation focuses on setting framework conditions by defining minimum requirements and performance standards. It confirms forest owner rights in using services offered by the private sector and promotes contractual arrangements with third parties that benefit from sustainable forest management. Guidelines for best management practices and approvals by exception are increasingly used. In addition to incentives in order to increase forest production, new ones related to maintaining biodiversity and to nature conservation. Strategies of support consider more strongly measures in order to overcome structural deficiencies by stimulating research and technology transfer, more integration between forestry and other sectors of primary production, and more investment which increases the competitiveness of the wood industry sector in national and international markets.

Promotion of Silvicultural Practices Close to Nature: Legislation favours measures of silviculture close to nature and limits clear cutting. It provides for special authorisation of planting non-stocked areas with high potential for nature conservation. It requires

information of how forest owners take care of conservation in felling plans. It stipulates environmental impact assessment of alternative silviculture and logging methods and the supply of monitoring information which demonstrates, that biodiversity is maintained. Public financial measures favour the conservation of broad-leaved forests and promote silvicultural measures for regeneration, tending and thinning in broad-leaved stands. There is a trend to promote a flexible form of resources management, which is not too intensive, relies on the site specific production potential and leaves options for future demands and values. Silvicultural practices close to nature are a modern form of management which safeguards the natural diversity and stability of the forests, and maintain at the same time future options.

Proactive Legislation and new Approaches in Implementation: On the whole new forest legislation becomes proactive in the sense that it relies more systematically on incentive and monitoring measures. This implies more opportunities for forest owners and interest groups to get involved in decision-making and implementation. On the side of forest authorities it leads to greater importance of process-steering and to a shift from individual decisions and projects to comprehensive forestry programmes. Parliamentary and governmental decisions focus on broad objectives and on allocating the necessary resources. In accordance with the principles of new public management this leads to a new approach in implementing forest regulations. It implies precise demands on the tasks and services to be performed by administrations and public entities with more operational flexibility in managing human and financial resources. The allocation of financial resources in relation to specific targets based on global budgeting and/or service contracts is a new feature in public process-steering. It requires the development of criteria of financial controlling which measure efficiency (output/input), effectiveness (attainment of objectives) and economy (real costs/standard costs) based on best practices.

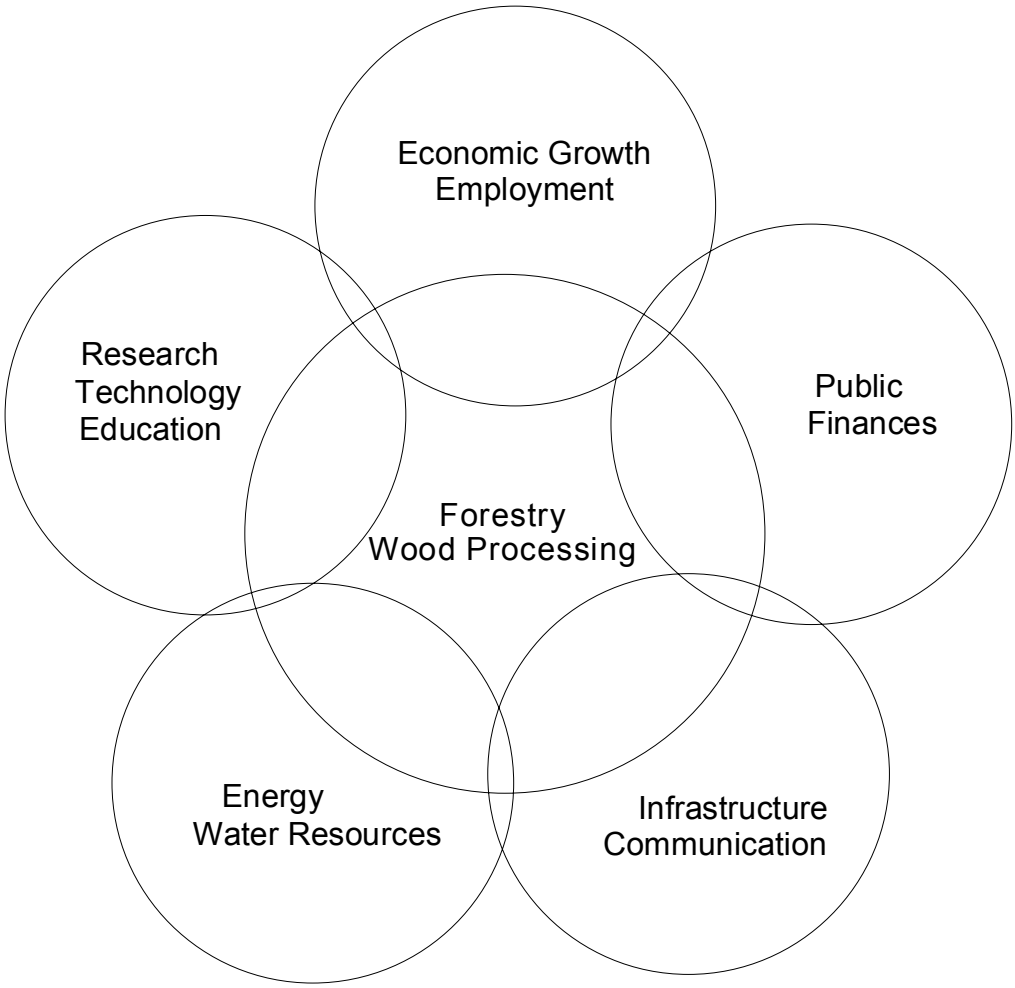
4 LINKAGES BETWEEN FOREST, ECONOMIC DEVELOPMENT AND ENVIRONMENTAL POLICIES AND LEGISLATION

Forestry Related Public Policies and Legislation: The use of forests and forest land as well as the management of timber stands are subject to a network of public policies and legal provisions, which has expanded considerably during the last 20 years. A general matrix assessing the influence of external policies on the contribution of forests to sustainable development and environmental stability has been elaborated by de Montalembert 1995. It identifies broad cross-sector linkages and possible impacts on sustainable forest management with emphasis on macro-economic, social and industrial sector policies. An analysis of the policy context for the development ot the forest and forest industries sector in Europe as seen from an international perspective has been undertaken by Peck and Descargues in 1995/1997. Emphasis is put on policies that influence access to intermediate and end-use markets for wood and processed forest products. The prospects for access to raw-material supply, and possible impacts on the relationship between major competitors and alternative materials and products are examined.

The development potential of forestry and wood processing industry is influenced by factors such as population growth, economic growth, liberalisation of trade, new markets for forest products and the short and long term production potential of the large forest regions. An important factor is the price of energy which influences the relationship between processed wood products and competing

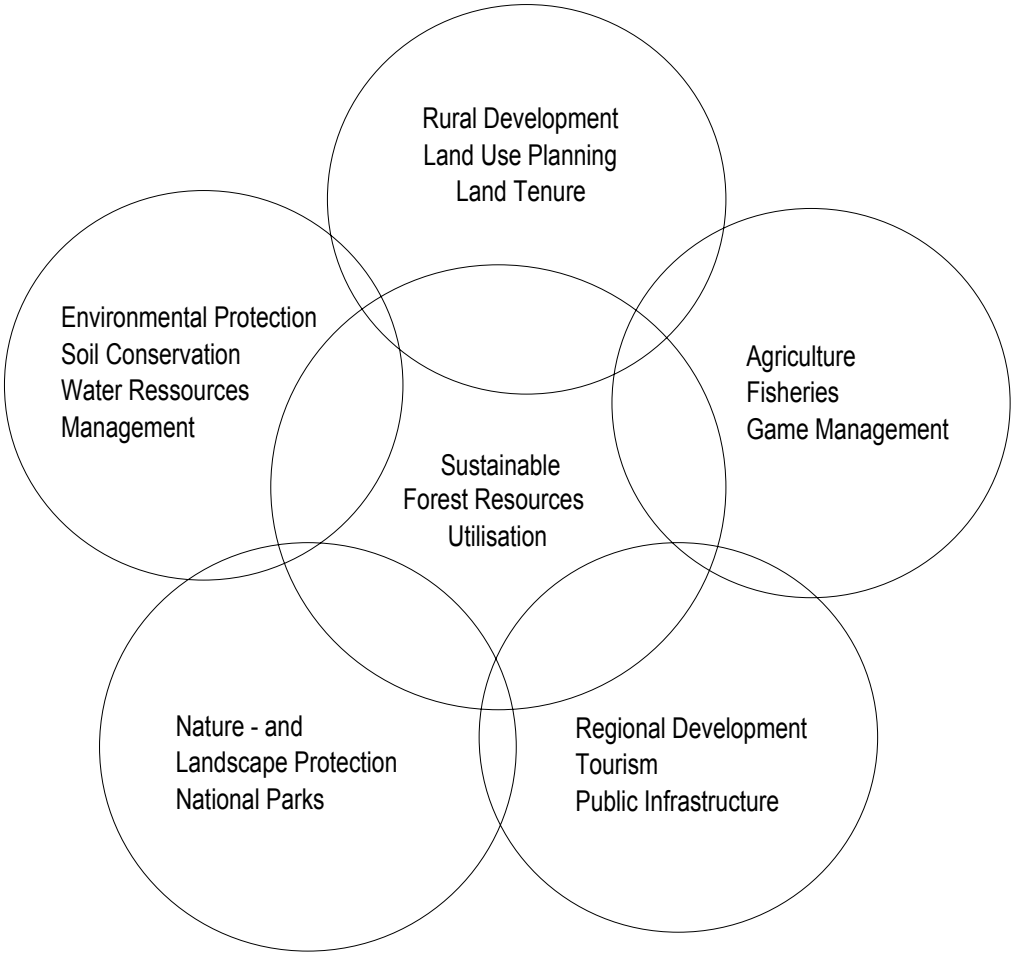
materials. Public policies and laws determining macro-economic trends are of considerable importance. This refers for instance to economic growth and employment, public finance, public infrastructure and communications, energy, research and technology development *(Figure 3).*

Figure 3: Public Policies with Important Impacts on Forestry and Wood Processing



Most European countries have created an increasingly complex network of public policies and legislation that address directly and indirectly forest conservation and sustainable forest resources utilization. This refers to cross-sector policies and laws that have emerged during the past 30 years such as on environmental protection, nature and landscape conservation, land-use planning and regional development. It also refers to sector policies and laws that were adopted at an earlier stage but have been modified and amended considerably in the meantime. This includes for instance regulations on agricultural development, water protection and use regulations, fishery, hunting and wildlife conservation and, of course, forest policy and legislation *(Figure 4)*:

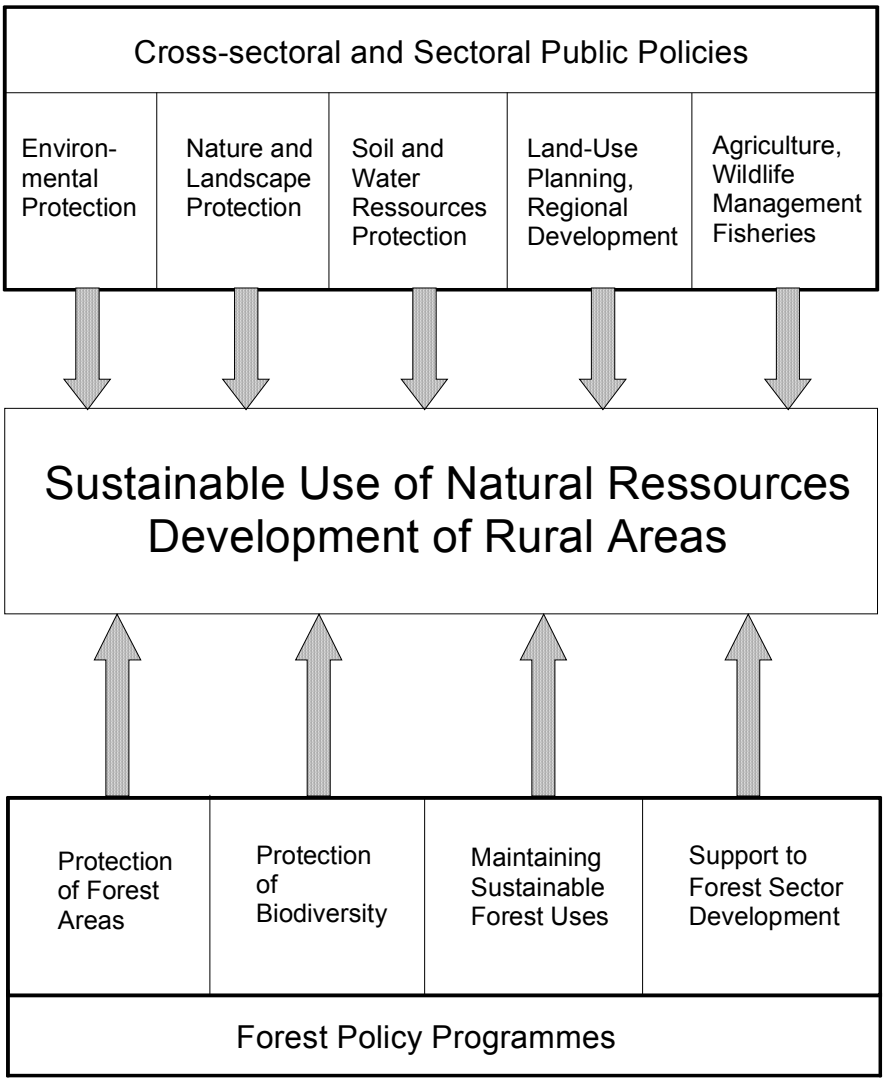
Figure 4: Public Policies with Important Impacts on Sustainable Forest Resources Utilization



Policy and Legislation Networks: The complexity of public policy networks *(Figure 5)* leads to an increasing interdependence between forest laws, economic development laws and natural resources and environmental legislation (de Montalembert and Schmithüsen, 1993). It requires a thorough analysis of the compatibility of laws and regulations. The following aspects need attention:

- the implications of the expanding system of environmental and nature protection legislation on forest management;
- the degree to which the respective provisions support, or neutralise and obstruct each other;
- the scope for inserting specific provisions related to forest conservation and management in environmental protection laws;
- the impact of natural resources and rural development legislation on sustainable forest management;
- the need for modifications of forest management regulations in order to be compatible and to support such legislation.

Figure 5: Linkages Between Forest Policy Programmes and Other Public Policies



Source: Schmithüsen 1995, p.47 (modified)

A centre piece of the expanding network of environmental and natural resources legislation is nature and landscape protection. Nature conservation is not limited any more to protecting endangered species and biotopes. It aims at the integration of nature and landscape protection in all aspects of resources development. It has immediate and in many cases far reaching consequences for the status and use of various categories of forest lands as well as for current forestry practices. Whereas protecting of forests from clearing and maintaining biodiversity are common objectives of nature conservation and forest laws there may be considerable difference in regulating uses and management requirements. Legislation provides increasingly that forest management is subject to review and assessment with regard to nature conservation. It establishes a de facto, and in some countries a formal participation of conservation and user groups in decision making processes. Ecological and landscape inventories become an important source of information for public and private nature conservation organisations. The forest authorities are obliged to consider ecological and protection aspects with the same attention as they examine long and short term forest production, silvicultural and economic development

objectives.[8] This again requires a process of consultation among governmental agencies that have competencies in regulating forestry matters, environmental protection, land-use planning and rural development. Without institutionalised co-ordination, lengthy and costly delays in project planning and implementation will occur.

5 FORESTRY RELATED INTERNATIONAL LEGAL INSTRUMENTS[9]

A substantial expansion of international law on the environment and development has occurred during the last twenty years. Several agreements have been adopted to encourage countries to accept commitments towards a more sustainable use of natural resources. This has enabled governments to institutionalise world-wide and regional co-operation, and to establish confidence-building processes. The following overview considers legal instruments which are multilateral and refer, with one exception, to all types of forests.[10]

Legal Instruments Adopted Prior to UNCED: Some international instruments were adopted prior to the Rio Conference in 1992 (*Figure 6*). A common feature is that they focus on particular issues and problems and that most of them originated within specialised agencies of the UN. They refer to specific aspects of protecting biodiversity such as the Convention on International Trade in Endangered Species (CITES), and the Ramsar Convention which protects wetlands of international importance. Other agreements address cultural and social issues needing attention on a world wide scale such as the UNESCO Convention on the World Cultural and Natural Heritage and the ILO Convention concerning Indigenous and Tribal People.

The International Tropical Timber Agreement refers to trade and forest resources utilisation and operates under the UN Trade and Development Conference.

CITES is intended to control or limit international trade on endangered species of wild fauna and flora. With very cumbersome and sophisticated procedures, endangered species of trees may fall under the regulations of this convention. Two problems with CITES are it addresses only those species that are endangered, and even then its approach is not comprehensive since it only refers to import and export of such species. The Ramsar Convention imposes on contracting parties the obligation to formulate and implement their planning so as to promote the conservation and wise use of wetlands within their boundaries. The biological relation between wetlands and forestry ecosystems is well known. And it is possible to think that by protecting wetlands, some forestry ecosystems will also be protected. But for practical purposes, this link is only implicit, and there is nothing in this legal instrument that addresses forestry issues directly.

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[8] The research proceedings edited by Glück et al. in 1999 contain general papers and a large amount of country information on the implications of public policy networks on national forest programmes and forest management planning.

[9] An overview on the development of international environmental governance is given by Sand 1990. For processes and issues of the international policy network related to forests and forestry see for instance: Maini and Schmithüsen 1991, Tarakovski 1995 and 1999, Humphreys 1996, Glück et.al. 1997. International initiatives following the Rio UNCED Conference and materials from the intergovernmental Forum on Forests (1995-1997) are documented in Grayson 1995 and Grayson and Maynard 1997. Documentation on the work of the Intergovernmental Forum on Forests is available on *http://www.un.org/esa/sustdev/iff.htm*

[10] A collection of texts of the legal instruments indicated in Figure 6 and 7 is available in Schmithüsen and Ponce eds. 1996.

Figure 6: Forest Related International Instruments Adopted Prior to UNCED 1992

Convention on International Trade in Endangered Species of Wild Fauna and Flora, CITES, 1973
Convention on Wetlands of International Importance, Especially as Waterfowl Habitat, Ramsar Convention, 1971/1982/1987

Convention for the Protection of the World Cultural and Natural Heritage, UNESCO, 1972
Convention Concerning Indigenous and Tribal Peoples in Independent Countries, ILO, 1989

International Tropical Timber Agreement, 1983/1994

The emphasis of the UNESCO Convention is on the protection of natural and cultural heritage of outstanding universal value from the historical, aesthetic, ethnological, anthropological, scientific, geological or natural point of view. This instrument has a mechanism that enables the establishment of "recognised sites", which may receive support under the convention. As in the previous case, it is possible to think that by protecting sites of universal value, the international community may have the chance to protect some forest sites, but there is nothing in this legal instrument that addresses forestry issues in particular. The ILO Convention establishes the obligation for state organisations to develop jointly with interested peoples, a co-ordinated and systematic action to protect the rights of indigenous peoples, and to ensure their integrity. The ILO Convention contains provisions for the protection of land-use rights of indigenous peoples as well as their traditional knowledge base. Such protection is an important action and an indispensable prerequisite for sustainable uses of forests owned by indigenous communities.

Legal Instruments Adopted During UNCED: The 1992 UNCED Conference dealt with the environment and development from a global perspective and includes forests and forestry (*Figure 7*). Three legally binding instruments (conventions) were agreed to during UNCED. In addition the conference adopted two instruments specifically related to forests that are comprehensive by intention but not legally binding. There is at present a gap between the non-binding legal instruments on forest protection and management and the formal obligations from conventions with broader objectives. This situation makes it difficult to translate global objectives into consistent national policies on forests and to develop international collaborative efforts in the forestry sector.

Figure 7: Forest Related International Instruments Adopted by the United Nations Conference on Environment and Development, UNCED, in 1992

- Rio Declaration on Environment and Development

- Framework Convention on Climate Change
- Convention on Biological Diversity
- Convention to Combat Desertification

- The Forest Principles
- Agenda 21, Chapter 11: Combating Deforestation

UNCED Conventions with Implications for Forests and Forestry: The Convention on Biological Diversity establishes as objectives: "the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding". Many provisions can be found among the obligations of the Convention, that are of relevance to forests, including: to develop national strategies, to undertake identification and monitoring of components of biological diversity, to establish systems of protected areas, to facilitate access to genetic resources, to provide access to technology and biotechnology, to protect the knowledge of traditional and indigenous communities, and to provide financial resources for developing countries. The fulfilment of these obligations is in many respects relevant to forests and forestry. The Convention does not address forestry-related issues in terms required by Chapter 11 and The Forest Principles. It does not take into account the multiple roles and values of forests, and in particular their productive development potential as renewable resources.

The objective of the Framework Convention on Climate Change is "the stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". The Convention recognises the ecological role of forests as carbon sinks. In implementing greenhouse gas reductions, countries are encouraged to improve the conditions, either by increasing the amount of land under forest cover, or at least by conserving existing forest areas. The Convention to Combat Desertification puts emphasis on land uses, with special provisions for the problems of African countries. It refers in particular to the protection of traditional knowledge, and to trade practices that may cause desertification. As in the case of other conventions, forests are implicitly addressed by several provisions of the Convention, but there is no systematic consideration of them.

The three conventions contain provisions that recognise the need of financial resources to support activities under each convention. They emphasise the need to undertake research and development in order to understand the processes that lead to the achievement of their various objectives. At several occasions they recognise the interaction between trade activities and their objectives.

Non-Legally Binding Instruments on Forests Adopted at UNCED: During the preparatory phase and, even more, during the deliberations of the Rio Conference, it became evident that the problems related to the promotion of sustainable forest management and to stopping of the degradation of forests involve complex subjects and divergent interests. The causes of deforestation are many, and they occur at very different levels. They extend from small fractions of land, at individual localities, to macro-economic levels, where certain patterns of consumption and trade practices lead to increased deforestation. Also, the consequences are many, and occur at different levels. Some phenomena are both the causes and consequences of land degradation.

Chapter 11 of Agenda 21 and The Forest Principles (a set of non-legally binding statement of principles for a global consensus on management, conservation and sustainable development of all types of forests) recognise the environmental, social and economic importance of forests and forestry, and suggest dealing with them comprehensively. Both texts show, that the weight given by the international community to forests has changed in qualitative and quantitative terms. They reflect the political will to approach issues in an integral manner which recognises the many uses, as well as the multiple values associated with forests. The principal limitation of Chapter 11 and the Forest Principles is the lack of mechanisms to address the

problems. They mention frequently the need for additional financial resources and technologies to support countries in their efforts to implement the recommendations. But there are no commitments to provide for financial transfers or to facilitate access to appropriate technologies. International co-ordination is advocated, but its implementation is left to the good will of governments and multilateral or bilateral agencies. There is a strong emphasis on exchange of information on global or regional forest developments, but again, adequate mechanisms, such as a conference of the parties, are missing.

International legal arrangements have to balance a wide range of divergent interests of governments and multilateral institutions. This is particularly true when dealing with forests and forestry, which involve environmental protection problems at a global scale, and at the same time, issues of economic and social development that are of considerable importance at national and local levels. The present state of affairs with regard to forest conservation and development indicates that the international community has not been in a position to provide consistent and operational arrangements to address global problems and to organise institutionalised co-operative efforts. Much will depend on the decisions to be taken by the Intergovernmental Forum on Forests and on future actions of the Commission on Sustainable Development of the United Nations.

The Need for Flexibility and a Phased Approach in Expanding International Co-operation in the Forestry Sector: International legal instruments have, at least in their initial stage, frequently the character of soft law, meaning that they are general on purpose and provide opportunities for individual countries to determine their own approach in choosing appropriate solutions to common problems. They leave options with regard to implementation, instead of formulating precise and binding commitments. Apart from establishing legal certainty, international agreements have the role of providing working tools flexible enough to accommodate competing interests, changing situations, and evolving scientific and technical knowledge. Mechanisms facilitating a gradual adoption of responsibilities, can thus produce concrete and implementable results on the long run.

Considering the diversity of forestry issues by ecological zones and different stages of economic development, a framework convention on forests is probably an appropriate alternative in order to achieve a more institutionalised level of international co-operation. It would allow for protocols with flexible regional arrangements, to be negotiated in accordance with the possibilities of the parties to accept commitments on sustainable forest practices.

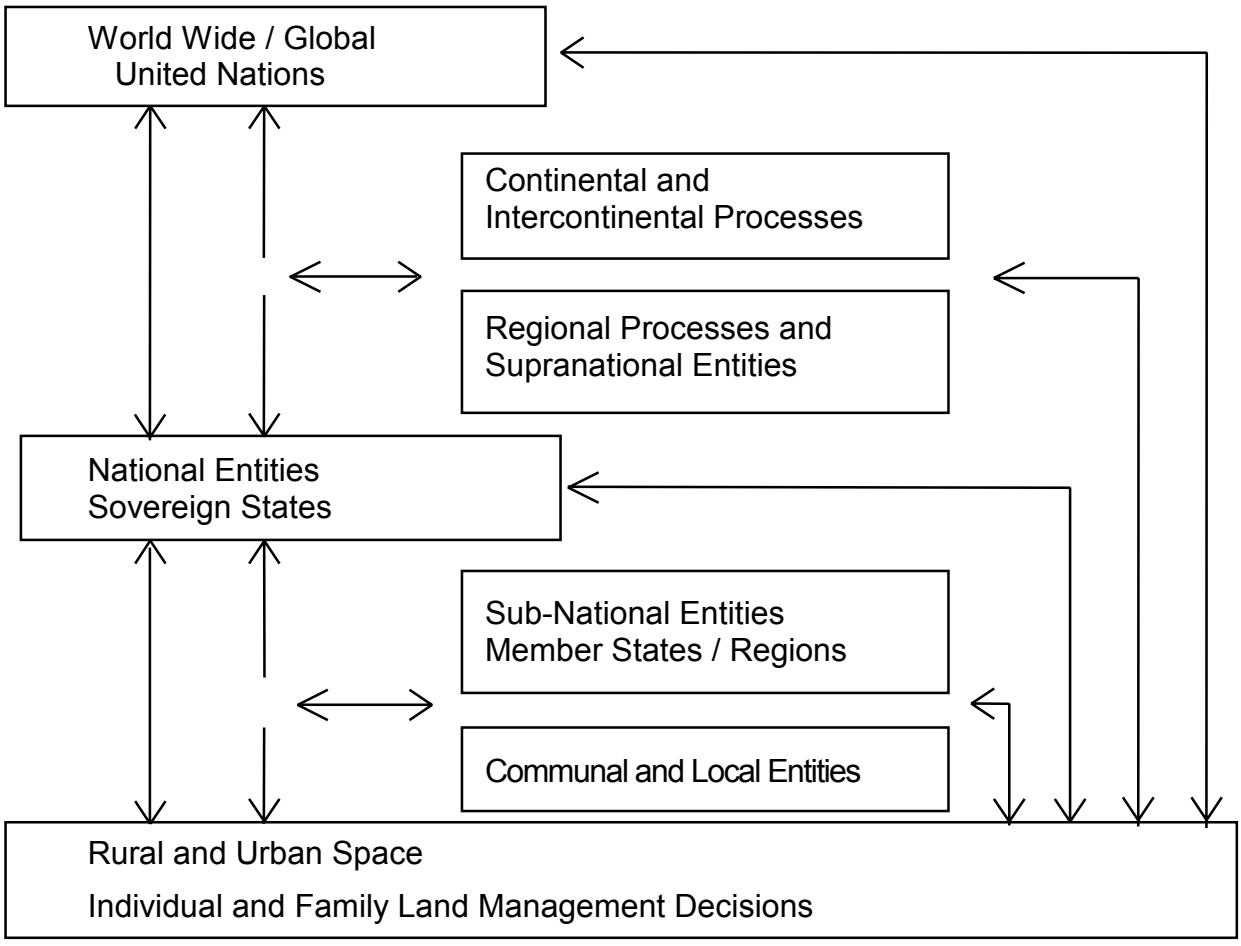
The development of international law on environment and natural resources utilisation is characterised by the establishment of enabling mechanisms. They support countries with a lower level of advancement in certain policy areas in order to agree step-by-step to the adoption of new instruments and to facilitate compliance with legally binding commitments. Such has been the case, for instance, with the Montreal Protocol, where a special fund was set up to finance projects addressing the reduction or phasing out of ozone depleting substances. Another mechanism to allow for gradually increasing commitments is the use of subsidiary instruments such as the Kyoto Protocol implementing the Climate Change Convention. This kind of approach appears to be highly relevant for strengthening international co-operation in forestry matters.

6 IMPACTS ON LAND OWNERS AND SUSTAINABLE FOREST DEVELOPMENT

Multilevel Policy Networks: The commitments of international forest-related instruments have to be seen within the context of multilevel policy networks (*Figure 8*).

They are initiated by national governments, which negotiate the framework of co-operation. At the same time, national governments are the principal agents for implementation. An increasing range of continental and regional processes involving multilateral and supranational entities form at present the international system. In part, they develop their own political and institutional dynamic; in part, they emanate from the work of UN agencies. International and supra-national agreements and instruments reflect primarily global or continental concerns. They have, however, immediate consequences for the development of rural areas, from which the problems originate and where the solutions and developments chances are to be looked for.[11]

Figure 8: Public Decision Making and Decision Impacts within International, National and Local Networks

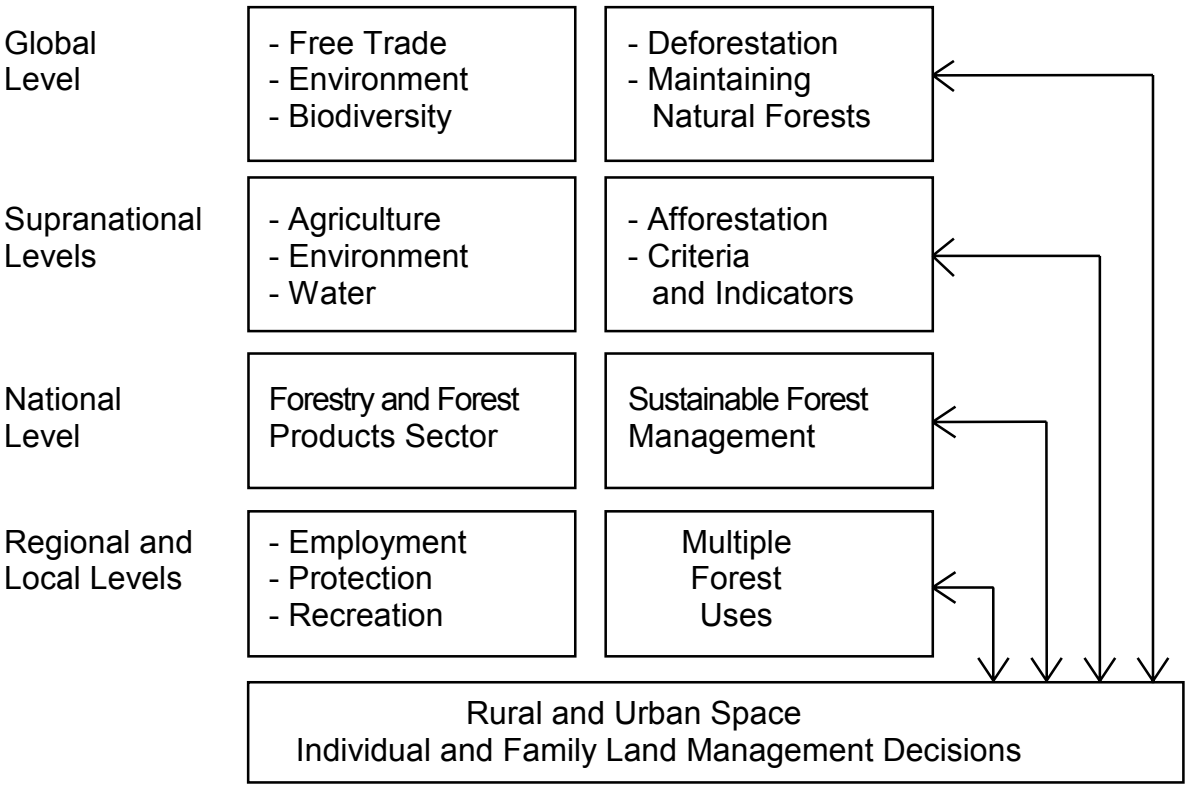


Major Policies Issues: The prominent issues at stake vary at different levels of the policy network *(Figure 9)*. At the global level free trade, environmental protection and biodiversity are dominant subjects. Forest-related aspects are increased industrial uses through access to new areas, reduction of large-scale deforestation, and

[11] Problems of multi-level governance versus simple structures of centralisation or decentralisation are discussed by Benz 1999. He argues that policy-making in complex multi-level governance related to the formulation and implementation of forest policy programmes offers new opportunities to develop more consistent solutions that satisfy different social groups and policy actors. Obser 1999 analyses the interdependence of international, national and local initiatives of sustainable forest management focussing on criteria and indicators and related certification schemes in forestry.

maintenance of a minimum proportion of natural forests. At the supra-national level[12] major issues are structural changes in agriculture, and the protection of environment and of water resources. Afforestation of marginal lands and criteria and indicators for sustainable forest development are of importance. At the national level, emphasis is on forestry and wood processing as productive sectors of the economy, and on the regulation of forest management practices. At local levels multiple forest uses providing employment, protection and recreation are of immediate concern.

Figure 9: Major Forest and Forestry Related Issues within International, National and Local Networks



Consequences for Land Management and Family Decisions: National regulations induced by international agreements, as well as directly applicable provisions, for instance in the case of international and multilateral projects, affect primarily individual and family land management decisions. It is largely at this level, that the policy objectives have to be put into workable, socially acceptable and economical feasible programmes. The conservation and development of rural space, and the increase of its production potential is the pivot and the ultimate objective of the political networks addressing sustainable uses of lands and natural resources.

The envisaged solutions are of a cross sectoral and multisectoral nature in many cases. Issues, which are on the forefront of global or supra-national concerns, are superposing a national and local demand. The combined effects have to be

[12] The considerations of this paper are limited to international and global policy developments relevant to forests and forestry. The paper does not deal with supra-national aspects that are of importance to the countries of the European Region. This refers in particular to the Pan-European Process of the Ministerial Conference on Forests, to the increasing number of cross-sectoral and sectoral policies and regulations of the European Union having an impact on forests and forestry, and to the Alpine Convention and its Protocol on Mountain Forests. These issues need a detailed analysis to be undertaken at another occasion.

assessed in relation to specific needs and potentials. The impacts on individual and family land management decisions are incremental.

Role of Land Owners Facing Public Demands: For the forest owners the situation changes in as much as additional demands of user groups and public opinion arise and are gradually incorporated in laws and regulations. The public has contrasting views on forests as a means of production and as a particularly valued element of the physical and spiritual environment. A large proportion of the population considers forests as a space for leisure and outdoor activities. Even if forested areas in Europe have been intensively used during the past, they are perceived today by many people as a manifestation of nature which is supposed to be largely free from human intervention. For many persons forests are important as a place of recollection, of contemplative reflection and of personal freedom. An increasing number of nature and environmental organisations articulate and promote the expectations and interests of the public.

Such developments need to be qualified in accordance with the constitutional rights of ownership. It is primarily the responsibility of the landowners to define the objectives of forest uses and to choose the management options which fits them best. It is up to them to decide to what extent they are able and willing to provide goods and services for which markets do not, or do not yet exist. In particular, private forest owners are barely in a position to carry the incremental costs of external benefits without compensation. Legislation has to balance the rights and obligations of landowners against those of individuals, user groups and the community.

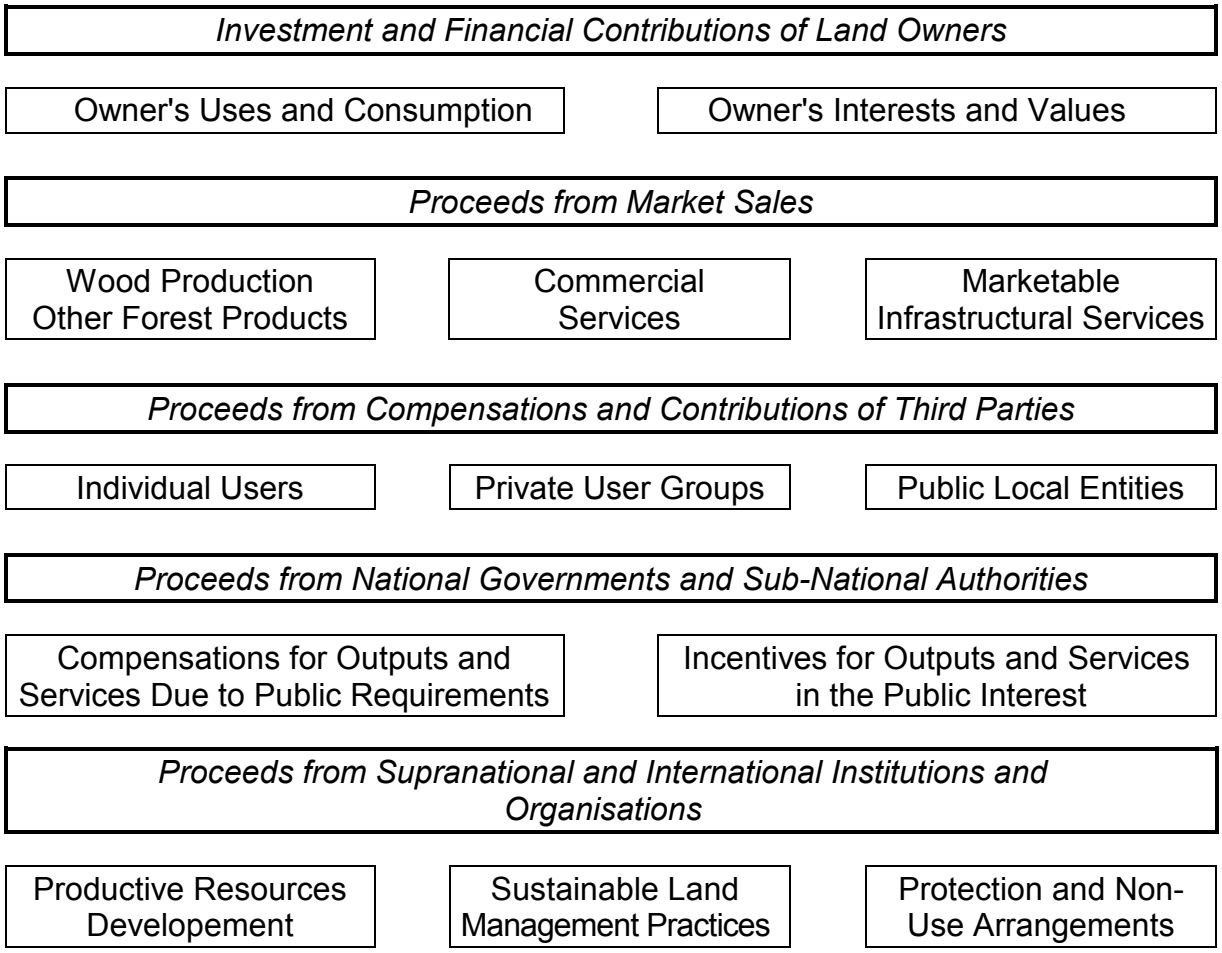
Shift from Regulation to Joint Management Responsibilities: Sustainable use of forests means that the rate of resource consumption and the environmental impacts that follow from it are a constitutive part of management decisions. The use of forests is not a mobilisation of production inputs and consumption values without costs. Sustainable forestry requires re-investment or new investments to maintain and increase productivity and an adjustment of use intensities to the available potential. It needs a legitimate basis for arbitration between many economic and social interests. To enable public and private actors to accomplish these tasks has been the challenge to forest law in the past. It will remain a challenge in the future.

This implies a shift from state control of forestry practices to legislation which favours new forms of joint management involving forest owners, non-governmental organisations and public authorities. Legislation sets a frame for defining the requirements and performance standards of the parties concerned. It supports efforts to develop cooperative forms of decision-making and contractual arrangements with third parties. Guidelines for best management practices, procedures for mediation and the exchange of information constitute a substantial part of this framework. From the viewpoint of the authorities it puts emphasis on process-steering and more comprehensive implementation programmes. It supports negotiated activities on a contractual basis and reduces direct governmental intervention. And it requires a more precise determination of targets and evaluation systems in order to asses the outcomes and impacts of public policies.

New Strategies in Forest Resources Management: The expanding policy framework on forest resources management - both in its multisectoral dimensions as well as in its relevance to different political levels - requires new strategies of the landowners, a high amount of process-steering on the side of public agencies and concerted decision-making on the side of the principal users and environmental groups. The following points are of particular relevance:

- Land-use decisions can only be made in relation to specific situations and combinations of interests.
- The primary responsibility for land management is with the forest owners; they are not obliged to provide external benefits beyond legal requirements.
- It is necessary to institutionalise the involvement of the relevant interest groups and of local public entities in land-management decisions and practices.
- Multifunctional forest uses need a balance between the commitments of user groups and public entities and the benefits which accrue to them.
- Sustainable forest management requires organised mediation and arbitration processes that are facilitated and legitimised by public process steering instruments.

Figure 10: Different Sources of Financing for Multiple Outputs and Services from Forest Land Management.



Source: Schmithüsen and Schmidhauser 1998, p. 103 (translated and modified)

Financial Arrangements for Multiple Forestry Outputs: Public policies and legal provisions that favour an adequate transfer of resources, are instrumental for generating a combination of private and public benefits and for developing the potential of the rural space. They allow for more interactions between landowners, immediate beneficiaries and public entities in accordance with the principle of subsidiarity (Schmithüsen 1996). Rural policies have to be concerned with multiple

outputs and services from productive land management and natural resources conservation requiring different sources of financing (*Figure 10)*). In addition to market proceeds, this may include contributions from user groups, as well as incentives and compensations from different levels of the political community. Such an approach leads to a sharing of financial commitments, which is consistent with the economic realities of multiple-use forest land management.

CONCLUSIONS

Challenges to Research on Policy and Law Developments: For a long time, perhaps for too long, policy research has focused largely on forest programmes defining uses and management practices. This understanding developed in Central and Western Europe, where forest laws have existed over long periods and - in comparison with other continents - have initiated a high level of sustainable forest practices. Today preservation and uses of forests address a wider range of political concerns. The linkages between an increasing number of policy areas, the superposition of international and national political actors, and the increasing importance of sub-national and local entities are challenges to policy research on the role of forests in rural development. This refers, in particular, to implementation processes based on multiple transfers of financial resources, that are commensurate with different political goals for sustainable development. It also refers to public decision making processes involving third parties concerned and benefiting from the implementation of such goals.

Policy and Legislative Networks: Research needs arise with respect to new methodological approaches in order to deal with positive and negative impacts between sectoral policies on different land uses, cross-sectoral policies of environmental and nature protection, and regional development programmes. It is necessary to examine their effects not only at national or local levels. They have to be analysed within increasingly complex political networks, in which international and supranational legal instruments introduce or reinforce specific policy objectives. Research designs are required, that show the consequences with regard to changes in national policies, to the influence on public opinion, as well as to their impact on immediate land management decisions.

Process Steering Aspects Related to Multilevel Governance: Since international and supranational agreements rely to a large extent on implementation by national and sub-national policies, the distribution of public competencies, financial and administrative arrangements, and decision making procedures need particular attention. The role of land owners, local entities, non-governmental organisations, and public opinion are important research components. The same refers to shifts of responsibilities to the private sector, to bargaining processes and to contractual arrangements.

This requires case studies on public process steering instruments, which support negotiation, mediation and contractual arrangements in order to manage more sustainably the natural resources of rural areas. Such studies contribute to a better knowledge on the relationships between present and future resource potentials, as determined by benefits or outputs and investments or inputs within a common flow of financial transfers. It makes the discussion on the improvement of policy programmes, both in an international as well as national perspective, more substantial. Otherwise the pressure for more regulation as induced by international agreements will remain a series of demands, which complicate land management and contribute little to an improvement of living conditions in rural areas.

Evaluation of Implementation and Results: Empirical research on the evaluation of the impacts of existing policy networks and on the successes and failures, which result from them, are of considerable interests. Major issues are the relevance, the implementation possibilities and the effective contributions of their various segments to sustainable resource utilisation in a given area. Objectives, instruments and provisions for financial resources transfers are among the key issues. Studies on implementation and results require an examination of programme outputs from public entities and non-governmental organisations with delegated competencies, and of the outcomes determined largely by the reactions of owners and land managers. The impacts have to be evaluated with regard to the improvement of living conditions, and to environmental and biodiversity conservation.

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

DENNIS C. LE MASTER AND CHARLES E. OWUBAH

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

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

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

COUNTRY REPORTS

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

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (2000): 1-12.

forest policy documents." A third reason is that implementation of the forest and environmental legislation did not receive much attention during the formulation process, that implementation mechanisms and institutions were to be developed after the policies were established in law.

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

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

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

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

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

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

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

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

Forest Policies
1. Protection of forest areas
Existing forests shall be maintained and conserved.
Forests shall be protected from fire, insect infestations, disease epidemics and destructive human uses.
2. Protection of biodiversity
Forest biodiversity shall be preserved and indigenous tree and other plant species shall be used when planting is involved.
3. Maintaining sustainable forest uses
Forests shall be used in sustainable ways and rationally managed in the context of long-term planning.
Degraded forests shall be rehabilitated.
Cutover forests shall be replanted soon after cutting.
4. Support to forest sector development
Production of timber and other forest products is encouraged.
A road network shall be established and maintained.
Environmental and Related Policies
1. Environmental protection
The quality of the environment shall be protected and preserved in order to provide current and future generations with favorable living conditions.
2. Nature and landscape protection
Management and use of protective forests are restricted to those regimes, activities, and uses consistent with the purposes of the respective protective forests.
3. Soil and water resources protection
Forest soil and water resources shall be protected.
4. Land-use planning and regional development
The landscape is part of environment and shall be protected.
5. Agriculture, wildlife, and fisheries management
(No apparent common policies)

INTERNATIONAL AGREEMENTS AND INTERNATIONAL ORGANIZATIONS

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

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

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

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

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

IMPORTANCE OF EASTERN EUROPEAN FORESTS

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

Of course the forests are not consolidated. A considerable amount of the area they make up, however, is associated with the Carpathian Mountains which curve 1500 kilometers along the borders of the Czech Republic, Slovakia, and Poland, into the

eastern part of the Ukraine, and then into central Romania, forming a giant horseshoe that generally faces to the west. South of the Danube, the mountains extend to form the Balkan Mountains in central Bulgaria, running east and west, and further south, the Rhodope Mountains, which forms much of the border between Bulgaria and eastern Greece. The Carpathian Mountains and their extensions, together with their forest cover, provide an immense resource, which, if carefully managed and sustainably developed, would provide many new opportunities for the people of the region, ranging from outdoor recreation activities such as hiking and skiing, tourism, including ecotourism, and wood products manufacturing.

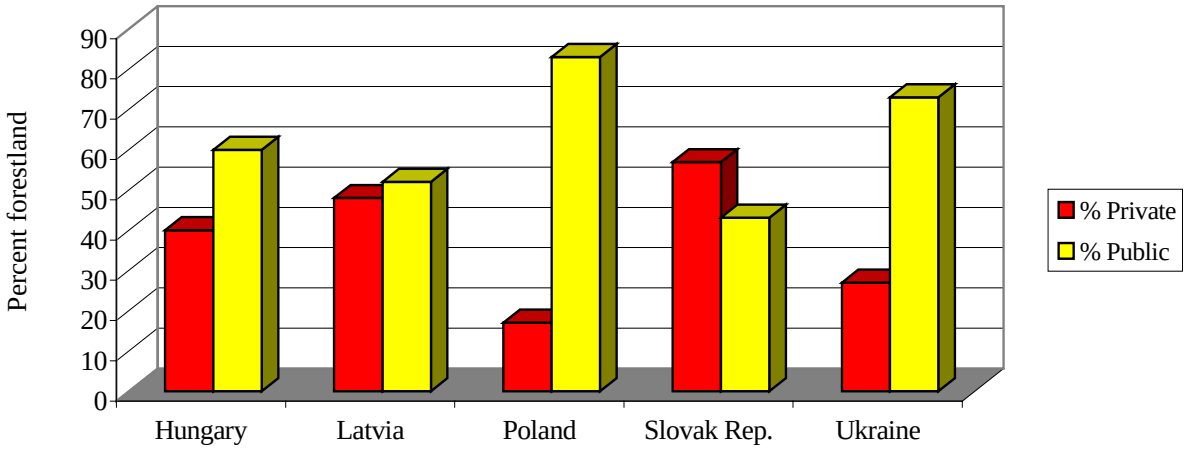
Table 2: Total Land Area and Forest Area for Eastern European Countries, 1995

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

FOREST TENURE, SUSTAINABLE FOREST MANAGEMENT AND THE NATION STATE

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

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



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

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

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

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

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

otherwise exchange their rights. Transferability is a measure of robustness of tenure arrangement and has a positive effect on investment.

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

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

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

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

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

Owubah (1999) applied the model to Ghana and found a direct relationship between tenure structure and performance in terms of sustainable forestry practices, defined as 1) preservation of indigenous, economically valuable tree species, 2) forest conservation, and 3) establishment of forest plantations. Specifically, he found significant and positive relationships between four tenure structure variables—namely, comprehensiveness, duration, transferability, and right to economic benefits—and sustainable forestry practices. He argues that exclusiveness was not significant because access to land in Ghana is usually held through traditional allodial owners of land. As a result, rural Ghanaians view many forest benefits as public goods. Additionally, the relative narrow parameters attached to security in the study might explain why it was not significant.

Both theory and experience indicate forest tenure directly affects the conduct of forest landowners. In turn, the conduct of landowners affects the performance of forest tenures in terms of sustainable forest management. Many options are

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

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

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

1 = relationship; 0 = no relationship

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

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

1 = relationship; 0 = no relationship

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

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

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

THE ROLE OF THE NATION STATE

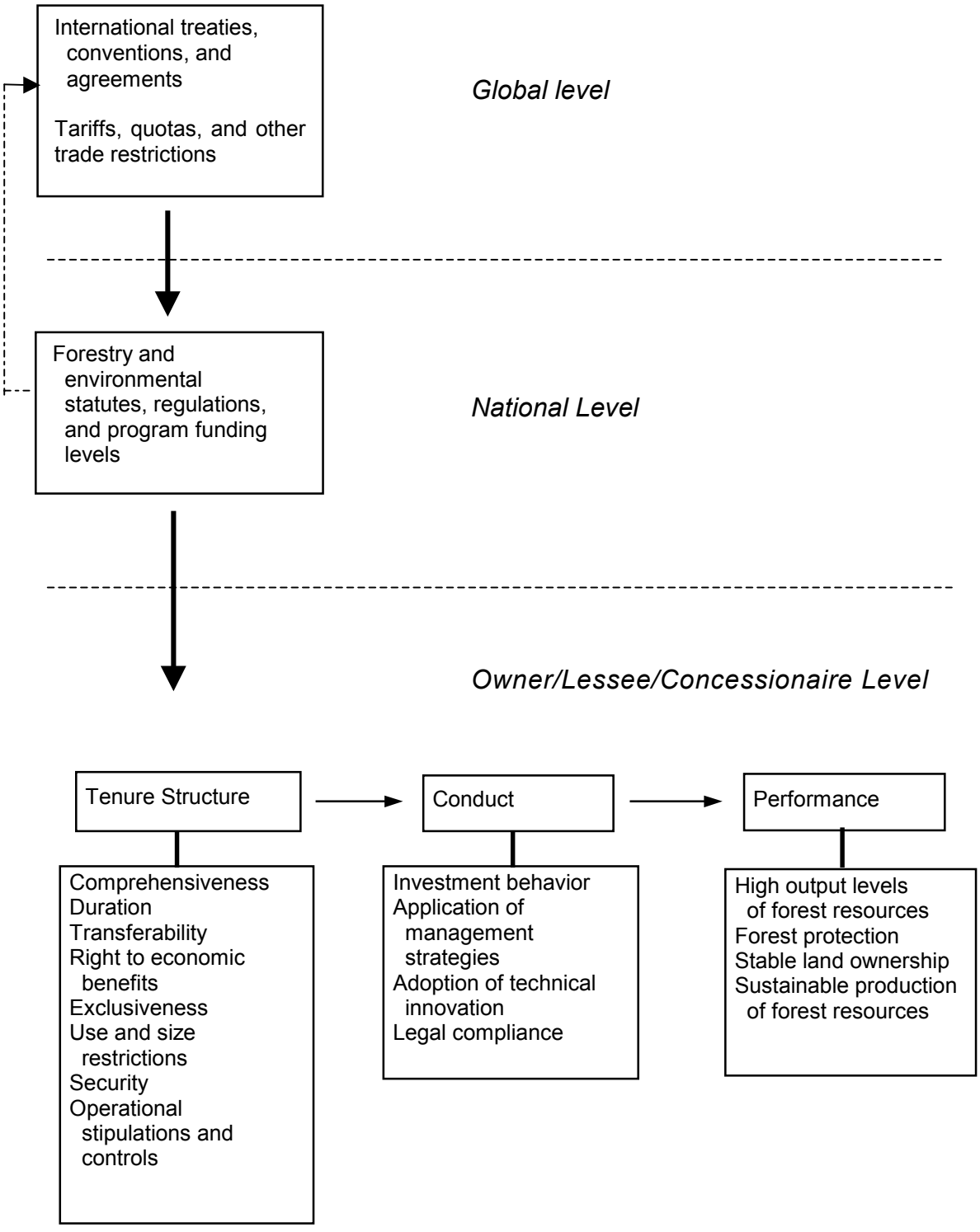
The key position of the nation state in implementation of international treaties, conventions, and agreements in terms of forest tenures is depicted in Figure 2. Forest policies in the form of statutes, administrative rules, and program funding are developed and implemented in nation states in carrying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

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

SUMMARY

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

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



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THE PRINCIPLE OF SUSTAINABILITY IN AUSTRIAN FOREST LEGISLATION – ANALYSIS AND EVALUATION *

GERHARD WEISS

ABSTRACT

By signing international declarations and resolutions (UN Conference on Environment and Development, Rio de Janeiro; Ministerial Conferences on the Protection of Forests in Europe, Helsinki and Lisbon) Austria has committed herself to attain sustainability in forest management. This paper compares the understanding of "sustainability" as expressed in the Austrian Forest Act from 1975 with that of the international discourse on sustainable development. The in-depth analysis reveals that the Austrian Forest Act strongly reflects the needs of industrial society and its sustainability concept is strongly biased towards economic interests. The UNCED concept of sustainable forest management strives more evenly at the fulfilment of economic as well as ecological, social and cultural goals. The evaluation of Austrian forest policy and legislation using the Helsinki criteria and indicators for sustainable forest management, results in a good performance when looking at the "classical" goal of timber production (sustained yield). Considerable deficits, however, are found with regard to the protection of biological diversity and the establishment of participatory processes in forest policy-making. This can be explained by the fact that established actors within the policy-making system defend their interests and territory against these new societal demands.

Key Words: Forest Act, forest policy, sustainable development, sustainable forest management, Austria

1. OVERVIEW ON THE AUSTRIAN FOREST ACT 1975

Precursors of the Forest Act from 1975 were the Austrian Empire's Forest Act (*Reichsforstgesetz*) from 1852 and the Torrent Prevention Act (*Wildbach-verbauungsgesetz*) from 1884. The Forest Act from 1852 replaced the provincial forest laws and, coming into force after the revolution of 1848, incorporated the liberal thinking of the time. The privileges of the monarch and the sovereignties was abolished and private farm and forest ownership with all civil and property rights were established, including the land-owner's right of hunting (Feichter, 1996; Weiss, in press). The state's role in forest management was confined to public interests (constitutional state). Forest legislation did not principally change in 1975. The basic goals of forest preservation and sustainable timber production are still valid, and basic features like the regulations on protective forests and the forest ban are included in the Austrian Forest Act (*Österreichisches Forstgesetz*) from 1975 without major changes (Schmiderer/Weiss, 1999). The Torrent Prevention Act from 1884 was enforced after severe floods that occurred in 1882 in large areas of the monarchy. Basic definitions are still in force, but the major regulations on the prevention of torrents and avalanches are now included in the Forest Act. The most important features of the Austrian Forest Act 1975 as amended to 1996 are indicated in *Table 1*.

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* Source: IUFRO Research Group 6.13; Submitted Paper, March 2000.

Table 1: Structure and Contents of the Austrian Forest Act 1975 (am. 1996)

CHAPTER	CONTENTS OF THE FOREST ACT
CHAPTER I §§ 1 – 5 Forest, general aspects	definition of forests
CHAPTER II §§ 6 – 11 Forest planning	goals of forest planning planning instruments, e.g. - forest development plan, hazard zones plan
CHAPTER III §§ 12 – 39 Preservation of forests and the sustainability of their functions	general preservation goals public interest in forest preservation reforestation destruction/degradation of forests clearing of forests for other uses (conversion) treatment of protective forests (site-protection) forest ban (protection against natural hazards and protection of environmental goods like drinking water) servitudes in forests (other people's use rights) forest recreation (open access to all forests, recreation forests) by-uses of forests (forest pasture, collection of leaf and needle litter, tapping for resin)
CHAPTER IV §§ 40 – 57 Forest protection	protection against forest fires protection against insects and diseases protection against air pollution
CHAPTER V §§ 58 - 79 Logging	transport on ground: - general regulations, transport facilities subject to approval logging over other people's property logging co-operatives transport by water (floating)
CHAPTER VI §§ 80 – 97 Forest utilisation	protection of immature stands prohibition of large or potentially harmful clear cuts supervision of Christmas tree extraction free fellings and fellings subject to approval, felling plans authorisation of provincial governments for further regulation
CHAPTER VII §§ 98 – 103 Protection against torrents and avalanches	forest treatment in catchment areas of torrents and avalanches prevention measures in watersheds supervision and clearing of torrent beds organisation of the Torrent and Avalanche Control Service
CHAPTER VIII §§ 104 – 134 Forest personnel	professional forest personnel and forest guards duties and education of forest personnel authoritative rights of forest guards obligation to employ professional forest personnel forest schools and forest training centres
CHAPTER IX §§ 135 – 140 Federal Forest Research Institute	goals and organisation of the Federal Forest Research Institute
CHAPTER X §§ 141 – 147 Forest subsidies	goals and measures of forest subsidies
CHAPTER XI §§ 148 - 169 Forest seeds and seedlings	(cancelled, since 1996 regulated in the Forest Seeds and Seedlings Act)
CHAPTER XII §§ 170 – 185 General regulations, etc.	authorities, competencies, stages of appeal forest supervision, sanctions, implementation, etc.
ANNEX	list of "forest" trees

Contents: Forests comprise stocked areas including *pinus mugo*-stands above the alpine tree-line and wind-break stripes in agricultural areas. Unstocked ground which is used in connection with forestry also belongs to forests (e.g. forest roads). Parks and small groups of trees do not count as forests. Newly afforested areas are regarded forests 10 years after planting, in case of natural succession if half of the area is covered (Forest Act 1975 am. 1996, chapter I).

The Act attributes *four "functions"* to the forest: productive function (sustainable timber production), protective function (protection against erosion and natural hazards), welfare function (protection of environmental goods like drinking water, etc.), and recreational function (use for recreation). Four corresponding "forest functions" are zoned by the authority in the forest development plan. Catchment areas of torrents and avalanches and hazard zones are mapped by the forest-technical service for torrent and avalanche control (chapter II).

Overall principles of the Forest Act are: the preservation of the forest area, the preservation of the productivity of the forest sites and their functions, and the preservation of yields for future generations (*sustainability*). For this purpose, any clearings have to be reforested in time, forest sites and stands may not be destructed, degraded or damaged, and forests may not be used for any other purposes other than forest culture. Especially *protective forests*, i.e. forests on easily erodible sites (site-protective forests), have to be treated without impairment of the protective functions. If the preservation of protective functions against natural hazards or for water procurement requires, forests have to be banned by the authority. For such *ban forests* management measures have to be prescribed; forest owners have a claim for compensation by the beneficiaries of the forest. Everybody has the *right for access* to any forest for recreational purposes, no matter if private or public property. This right is restricted to day-time use and to enter on foot. Berries and mushrooms may be collected by everybody for non-commercial purposes. If there is very high interest in recreational use of certain forests they – with compensation – may be declared as *recreation forests*. Besides of timber production, protective purposes, and recreation only certain "*by-uses"* are allowed, which comprise: forest pasture, collection of leaf and needle litter, and tapping for resin (chapter III).

The following chapters contain further restrictions and prescriptions in order to attain sustainable forest management (forest protection, logging, forest management). Kindling of *fire* is forbidden except by the forest owner. The forest owners are obliged to observe the abundance and development of destructive insects and, if necessary, to take measures for *pest control*. The Forest Act also provides for protection against *air pollution*. Industrial plants that may damage forests have to be approved by the forest authority. The concentration of certain air pollutants in the forest area is limited to immission threshold values of certain substances (chapter IV). *Logging operations* have to avoid erosion or other damages of the soil. The construction of *forest roads* is to be announced at or, e.g. in protective forests, to be approved by the authority. If necessary for the extraction of timber from a certain forest property, roads may be erected also on other people's forest land (chapter V).

According to chapter VI timber production is prescribed as the main use of forests. At the same time this use is restricted to sustainable management. For this purpose, *immature stands* (as a rule younger than 60 years) may not be felled. An official supervision system is installed for producing and trading *Christmas trees*. *Clear cuts* exceeding 2 hectares or clear cuts putting a threat on soil, water household, or protective functions are forbidden. Clear cuts exceeding half a hectare have to be

approved by the authority. Special supervision is carried out for fellings in *protective forests*. Stricter regulations of forest management are in force on provincial level in mountainous parts of Austria.

Since 1884 the *prevention of torrents and avalanches* is regulated by forest legislation. If the prevention of natural hazards require, forest management measures or afforestations may be prescribed in watersheds. The local governments are obliged to check the run of torrents for blocking material. The Torrent and Avalanche Control Service *(Forsttechnischer Dienst für Wildbach- und Lawinenverbauung)* under the Ministry of Agriculture and Forestry prepares hazard zones plans, and it projects and carries out prevention measures against hazards, such as constructions or afforestations. The main share of the costs for these measures are borne by the federal state by means of the Disaster Relief Fund (*Katastrophenfonds;* chapter VII).

Forest companies are obliged to employ *professional forest personnel* trained at forest high schools and at university. Furthermore forest owners have to nominate *forest guards* that support the administration of the forest law. *Forest schools* and *training centres* are established to educate forest workers (chapter VIII). A *Federal Forest Research Institute (Forstliche Bundesversuchsanstalt)* conducts research, experimental and monitoring activities and delivers expertise and certificates (chapter IX). Subsidies are available for enhancing the forest functions including the support of the *productivity* and the *competitiveness* of forestry and timber production (forest road construction, marketing, extension services, etc.). Other specific measures are *afforestations* at high altitudes, *restoration* of protective forests or forests damaged by air pollution, and enhancement of the recreational functions of forests (chapter X). For trading forest seeds and seedlings their *provenance* has to be officially approved according to a system of growing regions and altitude (formerly chapter XI). This supervision system is now in detail regulated in the Forest Seeds and Seedlings Act from 1996 *(Forstliches Vermehrungsgutgesetz)*.

Forest authorities are installed at provincial level. Their duties are the *supervision* of forests, forest management and timber production (fellings). Furthermore they carry out *extension services* for the forest owners, distribute *subsidies* and deliver *expert opinion* (chapter XII).

2. QUALITATIVE CONTENT ANALYSIS OF THE FOREST ACT

Methodology: This section presents a content analysis of the Forest Act from 1975 with consideration of amendments until 1996 (Jäger/Blauensteiner 1997; all paragraphs cited in the following refer to the Forest Act). The analysis in particular focuses on the understanding of sustainability in this law. The term “sustainability” is a key-word in forestry. Forest law and forest authority usually legitimise themselves/their work by the goal of “securing sustainable forest management”. Being a central principle in forest ideology it fictitiously harmonises the different interests in forest use that exist in society (Pleschberger, 1981; Glück/Pleschberger, 1982). Different groups understand different things by “sustainable forest management” because of their different underlying interests and values. For an analysis of the forest law it is therefore of crucial importance to ask what is understood by sustainability in the Forest Act. What are the motives, underlying values and reflected interests? Such an analysis has to deal with the strained relations of conservation and utilisation of the forest. The forest law can be viewed as an economic law (Pleschberger, 1989: 54) or a law on environmental protection (Kalss, 1990: 4). In fact, it regulates the relation between economic utilisation and

environmental protection. The interesting question is, in what way the relation of nature and society is conceptualised in the forest law. How is the discrepancy between economic utilisation and nature conservation reconciled? Answers will be found by analysing how sustainability is formulated, but also by studying how forest and forest management are defined, and by looking at other basic terms of the Act like “forest culture” or “forest functions”. The analysis has to look behind the definitions of forest/forestry/sustainability. This is done by applying the concepts of text interpretation under the paradigm of qualitative empirical social research (Giddens, 1984; Froschauer/Lueger, 1992).

The Definition of Forests: In paragraph 1 the Austrian Forest Act defines forests as land stocked with certain woody plants. These forest plants are listed and comprise trees that are usually grown for timber production. This formulation together with the more concretised definitions following in the Act, reveal three major criteria qualifying to be a forest: Forest a) is a piece of land, b) stocked with trees, and c) used/usable for “forest culture” (the Act uses the term *“Waldkultur”* for forestry/forest management, an unusual term which translates literally into silviculture or forest culture; in this paper I use the term “forest culture” to indicate this special use in the Forest Act). The vegetation form “wood/trees” is only the more obvious criterion; in most regulations the Forest Act refers to the purpose of forest culture to decide about what is a forest/what is not a forest/what is conversion of forest land.

The Forest Act presupposes the use of forests for forestry. Throughout the Act forests are seen in the context of forest management: Although forest roads are not stocked they count as forest; a park or an orchard, on the other hand, are not forests because they serve different purposes than forest culture. The regulations on the conservation of forests also show how important the purpose for forestry is for defining forests: The “clearing” *(Rodung)*, i.e. conversion of forests into other uses, is forbidden (paragraph 17). Not the forest but forestry/forest culture is protected here. Not so much clearing the ground from trees but the different use is forbidden: If a piece of forest land is cleared to build a hut used for forest management, this is lawful and the ground still is regarded a forest. If, in contrast, the hut is used for other purposes, it is regarded an unlawful clearing (conversion) of the forest, even if the trees are not removed. Another regulation concerns the destruction or degradation of forests. According to paragraph 16 any damage to forests is prohibited. This regulation is formulated in terms of natural resource management: neither forest site, its productivity, nor its tree cover may be damaged. The regulation does not follow ecological but national-economic motivations. It aims at attaining timber production. This is not to protect property; it is also targeted at the forest owner. The protection of timber production is regarded a public interest; even the forest owner may not damage trees. With regard to this concept, bark-peeling by ungulates is regarded a severe damage.

The Meaning of Forest Culture: As described above, a forest is basically defined as where forest culture takes place. The Austrian Forest Act prescribes management of forests (paragraph 13 on reforestation, paragraph 80 on immature stands, etc.) and it prohibits any other use of forests other than forest culture (paragraph 17 on clearing/conversion). But what is meant by forest culture? In the original version of the Act from 1975 the definitions of forests and forest culture were directly connected with the four “forest functions” *(Wirkungen des Waldes).* With the amendment from 1987 this definition changed slightly, but the meaning stayed the same. Forest culture can be understood as the management of forests for those purposes intended by the forest law, i.e. the four forest functions: productive function, protective function, welfare function, and recreational function (*Nutz-, Schutz-,*

Wohlfahrts- und Erholungswirkung; paragraph 6). The doctrine of forest functions was developed in normative forest policy science by Dieterich (1953). The concept of forest functions practically prescribes certain purposes of the forest. The Austrian Forest Act prescribes silvicultural management for all forests according to their functions. The Act itself employs the term "effect" *(Wirkung)* instead of "function" *(Funktion).* This term on the one hand seems to be more "scientific", on the other hand less binding. Less normative implications are in the interest of the forest owners. However, forest culture is not just allowed but prescribed by law. The Austrian forest development plan follows the forest functions concept and principally strives for a prescription of forest management goals. Only because of the power of forest owners' interest groups the plan is not binding. In principle, the goals of forest management are formulated according to public interests. Timber production is seen as the main public interest in forestry and – being normally also in the interest of the forest owner – is officially preferred as long as other public interests do not supersede this goal (productive function). If one of the other three functions of forests prevail, the forest can be declared a ban forest (protective or welfare function) or a recreation forest (recreational function). In these cases, management measures – lying in third parties' interests – may be prescribed, if they are also in the public interest. The forest owner has a claim for compensation by the beneficiary of these measures, if his/her rights are constrained. Protective forests, i.e. forests on easily erodible sites, in any case have to be managed according to their ecological condition and in a way that their protective functions are maintained (paragraph 22).

The understanding of forest culture is restricted to these four purposes. Measures for other uses like berry production, wildlife habitat management, enhancing biological diversity, nature protection, etc., are not regarded forest culture and are not allowed if timber production is affected significantly (obligation of forestry, *Forstzwang*). The Act presupposes forest management by the forest owner. It not only assumes but demands that this means timber production (with the exception of protective forests, ban forests and recreation forests). Other management goals are only considered and allowed as "by-uses" (*Nebennutzungen;* forest pasture, collection of leaf and needle litter, tapping of resin). While these by-uses are regulated in the Forest Act, game management is dealt with by different laws (competency of provincial governments). With the exception of ban and recreation forests which explicitly are defined as in the public interest, non-timber products or services of the forest are not allowed as a main goal of forest management.

The Concept of Sustainability: The Austrian Forest Act explicitly talks about sustainability at several places and implicitly this goal can be found throughout the document. The most prominent place is chapter III, titled "The preservation of forests and the sustainability of their functions". Sustainability is formulated in a hierarchy of principles building up on one another. In paragraph 12 the following general principles of sustainability are formulated:

- conservation of the forest area
- conservation of the productivity of the forest sites and sustainable protection of their functions
- preservation of yields for future generations.

This is an ecologically-based concept of resource management, which takes into account the long production time of timber: The law protects production area, productivity, and future yields. The protection is not oriented at nature conservation but resource utilisation. Sustainability refers to the desirable purposes of forest

culture as defined earlier in the Forest Act, i.e. the four “forest functions”. By this the purposes of forest management are not only timber production but also social values. Economic (timber production), ecological (resource protection), and social goals (natural hazards protection and recreation) are formulated from an anthropocentric view.

In chapter III the goal of attaining sustainability is operationalised. This starts with the obligation to “reforest” (*Wiederbewaldung,* paragraph 13). Cleared or understocked areas have to be replanted or regenerated with suitable forest trees. In the view of the Act a forest has to consist of trees in full cover. The underlying forest management model is a clear-cutting/even-aged management system for timber production. Since 1987 the Forest Act prefers natural regeneration if possible and if the stand is adjusted to the site conditions. The traditionally very technical-oriented management system (planting) is directed to more natural-oriented management practices now (natural regeneration). Paragraph 16 prohibits any degradation or destruction of forests, neither by the forest owner nor by other people *(Waldverwüstung).* Both the ecological basis of the forest (ground, soil productivity) and the valuable stands are protected against damages. According to the Act it would not be allowed to renounce timber production and accept bark-peeling damages by deer in favour of intensified game management. Likewise, it would not be allowed to let develop shrubby succession stages after wind-throw for more than eight years in favour of natural forest succession or nature conservation goals. These examples would be regarded degradation or conversion of the forest: the use of forests for other purposes than forest culture is forbidden (*Rodung,* paragraph 17). Although this is called the prohibition of “clearing”, the main criterion of the regulation is not the removal of the trees but the use for other purposes (conversion). This conversion, however, is to be allowed, if other public interests outweigh the public interest of forest preservation. There is no absolute prohibition. Conversion of forests can only be allowed if in the public interest, not in private interest of the forest owner. These public interests are mainly defined as public infrastructure projects but also agricultural and housing activities, according to goals of public land-use planning. Especially economic development and technical infrastructures are preferred over forest preservation. On the side of the forest the preservation of protective functions are mentioned as being of particular importance (protective forests, ban forests, small forest share in the region). All public interests are weighed by the forest authority. In the institutional agenda of the forestry administration the conservation of forest area has the highest priority (Krott 1990: 120ff). The forest functions other than timber production are especially considered in the regulations on “protective forests” (*Schutzwald;* site protection, paragraphs 21-26), on the “forest ban” (“ban forest”, *Bannwald;* protection of people and infrastructure etc. against elementary forces and protection of water etc., paragraphs 27-31), and on “recreation” (use of forests for recreational purposes, paragraphs 33-36).

The main interference of the Act with forest owners’ property rights is the protection of the forest area and the obligation of silvicultural management oriented at timber production. Most regulations of the Act aim at reducing negative external effects of forest utilisation (e.g. erosion, avalanches, etc.) or negative externalities of other activities on the forest (e.g. recreation, industrial emissions, etc.). Only minor restriction of private forest uses exist in favour of other uses. The open access for everybody to all forests for recreation and the special protection of forests on easily erodible sites affect large areas but these regulations usually do not cause major disturbances of forest management (Weiss, 1999). Major interventions are the declaration of ban forests and recreation forests or the prescription of measures in

watershed areas. These possible interventions concern only very restricted areas; in the case of forest recreation for everybody compensation has been provided by a 25% State payment to the fire insurance. The declaration of the forest ban is only possible if the benefits of the ban "reveal to be more important" than the management restrictions (paragraph 27). Protective, welfare and recreational functions must be measurable (notes 1-3 to paragraph 6 in Jäger/Blauensteiner, 1997: 46-47). It shows that most regulations of the Act are for the benefit of national-economic interests (obligation of timber production; forest ban for protection of railways, etc.) or they are directly related to modern industrial society (recreation purposes). Forestry can thus be seen as being conceptualised from the view and interests of the industrial society.

The limited protection of forests against air pollution underpins this conclusion. According to the Forest Act only measurable damages have to be compensated. In reality, however, ecological damages often cannot be measured and the polluters cannot be named in many cases. Furthermore, public interests in air pollution have to be weighed against the public interests in forest preservation. The regulations on the protection of forests against air pollution are characterised by a repair strategy instead of prevention, a vague formulation, and a restricted liability of polluters (Glück, 1986: 118). The results of these deficits in programme formulation are a poor programme implementation and thus a weak protection of forests (Weiss, 1993). This situation can be explained by the power of industrial interest groups (Glück, 1986: 114ff).

3. SUSTAINED PRESERVATION OF FORESTS VERSUS SUSTAINED CONSIDERATION OF INTERESTS

Two Possible Conceptions of Sustainability: The term "sustainability" itself is without meaning unless stated what goal/condition/activity etc. should be sustained. In principle, the Forest Act conceptualises the forest as a natural resource and strives for its preservation. There are two conceivable strategies that can be followed to preserve forest resources:

a) The forest is to be protected, without consideration of certain interests.

b) Forests have to be protected for certain use interests.

Both of these conceptions of sustainability have different characteristics and have their specific problems. The first rather reflects a biocentric view of life and corresponds to nature protection concepts *(protection of the forest).* It assumes that nature/forests have great value apart from manifest interests. Forests would have to be protected for "themselves", or for any possible future use. The risk of this strategy is that other purposes might be more important or more valuable than those served by the preserved forest. The chance is that the forests are preserved for benefits that are not so obvious and for future uses. The second conception tries to answer to manifest interests in the forest specifically *(protection of forest uses).* The forest land should be utilised in the best possible way. The pitfalls of this strategy lie in the identification of the "right" uses – in present and, even more, in the future. It is already difficult to identify the most important use in present; when regarding to the future it is questionable if today's interests will also be relevant then. Furthermore, following the logic of the most important use also leads to the conclusion, that, if other uses are more important than forestry, the forest should be converted into another form of land-use. But in this case the forest obviously is destroyed.

Resource management is relatively easy if the goals are clear; but if sustainability demands to preserve resources for unknown future uses there is no clear or incontestable solution. The dilemma between conservation and utilisation cannot be resolved theoretically, because resource management always depends on the goals which are presumed. The demand to preserve uses for future generations poses a not resolvable problem: how to know about future demands? The assumption underlying conception (a) is either that there are intrinsic values that – being independent from man's desires – do not change over time, or that the preservation best conserves all possible options. In fact, also if intrinsic values are recognised no general rule exists that would allow to weigh use interests against intrinsic values. Conception (b) follows either the assumption that uses will not change over time, or that changing demands can be foreseen and anticipated. Both assumptions are highly questionable when looking at the unforeseen changes of forest use in history. All of these positions cannot be decided logically or scientifically because they are either value-related (intrinsic values) or because the future is unforeseeable (uncertainty). In any case, it is very much a question of belief, a question of ideology.

The Austrian Forest Act represents a mixture of these concepts. In principle, and especially in its rhetoric, the Act starts with the goal of preserving all forests – corresponding to conception (a). But when getting more concrete the goal of utilisation very soon becomes clear: forests are already defined as serving the purpose of forest culture; forest culture serves for the four functions stated; and eventually, if other purposes prevail, the forests even may be "converted". The aim of the Act never lies in the protection of nature itself but – according to conception (b) – in its utilisation. The crucial point then is the question: utilisation for what purposes? The Act claims to aim at utilisation in the public interest. Theoretically, the forest owners' utilisation is not free, because also timber production is said to be in the public interest. However, in his/her practical management decisions the owner is relatively free, timber production presumed. Timber production is formulated as the main goal of forest culture; thus the sustainability goal of the Forest Act is to attain sustained yield of timber. As long as this goal is clear and uncontested the problem is only technical: how to manage the resource in a way that it is sustained? In this respect the Act (for the main part) represents an ecologically sound concept. However, timber production is not the Forest Act's one goal. If one goal is chosen, normally other goals are restrained. The problem of sustainability very much lies in the definition of the relevant goals. No uncontested concept of sustainability exists that clearly decides on the "right" goals. Therefore, the political problem lies in the procedures of how to choose these goals. For resolving the problem of telling "good" from "bad" goals the Act uses the trick of referring to the "public interest". This vague formulation allows the authority to decide in the implementation process. In any case, the Act defines that conversion of forest land should not be a decision of private interests but should be decided politically – in the interest of the public. What the higher public interest is, however, is not clearly defined in the law but has to be decided in the implementation process (Krott, 1990). Here, the private interests come in again back-door: interest groups already place their interests in the formulation of the law, and further on in the implementation process.

The Austrian forest law employs a utilisation-oriented concept of sustainability. But whose use-interests are reflected in the law? The Forest Act defines a hierarchy of forest uses (*Table 2*): First, the four forest functions are those uses that are desired officially. Second, certain by-uses are accepted. Third, certain damages are tolerated.

Table 2: Hierarchy of Goals in the Austrian Forest Act

Desired uses of forests:	
1	Timber production
2	Protection against natural hazards
3	Welfare functions
4	Recreational functions
Accepted by-uses:	
5	Grazing
6	Tapping for resin
7	Collection of leaf and needle litter
Tolerated damages:	
8	Air pollution
9	Game / wildlife
10	Skiing

Four Forest Functions: Within the four forest functions, timber production generally is preferred (throughout the Forest Act, most regulations from “sustainability” to “subsidies” support this purpose); in certain situations the other three functions may override this general goal. The protection against natural hazards, especially in the interest of railways turns out to be the second-most important purpose of forests (forest ban, measures in catchment areas of torrents and avalanches, specific regulations in the interest of railways), followed by welfare functions (forest ban, protective forests), and recreational functions (open access to all forests, recreational forest).

By-uses: Agricultural uses of the forest are accepted, especially grazing. The collection of leaf and needle litter is restricted more strongly. Tapping for resin is regulated as well.

Damages: Certain damages of the forest by other uses than forest culture are tolerated. For instance, damages by air-pollution have to be accepted to a certain extent, if industrial production is regarded more important. Furthermore, the Forest Act speaks about damage by game, but does not include measures (which are the competency of provincial legislation). However, the forest authority may report on damages. Skiing in forests is not prohibited except for with the help of ski-lifts.

Interests Behind these Goals: The main aim of timber production can easily be explained historically: Forest legislation developed from the regulation of forest utilisation in the special interest of industries (Weiss, in press). Not only the forest law but also the self-understanding of foresters is still strongly oriented at the (sustainable) production of timber. The concept of multi-functional forestry, incorporated in the Act through the formulation of four forest functions, goes back to Dieterich (1953). For a large part, in the Austrian Forest Act this can be regarded symbolic policy. It serves for attaining public legitimacy, but eventually the multiple-use concept is only poorly operationalised. While timber production is to a large extent congruent with private interests of the forest owner (preservation of forest

area presumed), the other purposes lie in the interest of other groups. In policy-making, however, these interest groups are underrepresented (Pregernig, 1999). Not only in formulation but also in policy implementation the forest authority is strongly oriented at its main clientele, the forest owners (selective clientelism; the implementation problematic is discussed in detail with the example of the Austrian mountain forest policy and the protection against natural hazards, in Weiss, 1999). While a participatory style of policy-making would consider different public interests in the forest more evenly, the traditional technocratic and introverted style of forest politics and forest policy supports strong economic interests. With respect to democratic principles this clientelistic behaviour of the authority is problematic, because the different public interests as formulated in the forest law are not considered in a balanced way.

Industrial interest groups, being dependant or imposing threats on forests, were able to have their interests included in the forest law (besides of the primacy of timber production which is oriented at industrial needs as well): the forest ban was formulated for protection of transportation (Empire's Forest Act from 1852 in the interest of railways; amendment from 1987 in the interest of road authorities); and the policy for protecting forests against damages by air pollution shows severe deficits in programme formulation. The Act also reflects strong interests of agriculture; the acceptance or restriction of those uses in the forest very much correspond to their actual interests: The restriction of agricultural forest uses are to be explained by structural changes within agriculture much more than by the power of forest protection interests (Selter, 1993). In terms of regulating game management and nature protection, forest legislation is in conflict with other legislative (provincial governments) and administrative bodies (hunting/wildlife authority, nature and landscape protection authority). The hunting authority appears more powerful because the protection of the forest against damages caused by game is in their competency. Some additional regulations concerning forestry have been issued by provincial nature protection laws (approval of forest roads, landscape protection, national parks, etc.) and the Ministry of Environment (timber certification). Nature and environmental protection issues (for instance, the protection of biological diversity, landscape amenities, etc.) have not been taken up by forest legislation by now. One exception may be the better support for natural regeneration and mixed stands in recent years.

The actual forest legislation is thus to a very large extent formulated from the viewpoint of industrial society (timber production, protection of infrastructure, conversion of forests for infrastructure purposes, tolerated damages by industry, recreational use). A strong influence from economic interests can be observed with regard to interests both within forestry and from outside. Within forest management ecological aspects are subordinate to timber production; they are mainly seen from the viewpoint of natural resource management. Industrial demands (air pollution) and needs of economic development (infrastructure purposes) are considered but the Forest Act does not speak about regional-economic and employment effects. Social needs that are considered in the Forest Act are drinking water protection and recreational interests.

4. ASSESSMENT OF THE AUSTRIAN PROGRAMME FOR SUSTAINABLE FOREST MANAGEMENT

Since the 1980's, forest management is discussed politically on a world-wide level and under the premises of "sustainability" (Glück, 1994). This discourse on sustainable forest management is related to the international discourse on "sustainable development". Sustainable development is the dominating discourse on environmental politics since the report of the World Commission on Environment and Development, *Our Common Future*, was published in 1987 (so-called *Brundtland report*, WCED, 1987). While earlier environmental discourses formulated relatively simple demands (e.g., the discourse on the limits of growth requires an end to economic and population growth), the concept of sustainable development is complex (*Table 3*): it strives for a harmonisation of resource preservation and economic development; it recognises social and ecological systems; and it refers to the local and global level. Sustainable development incorporates the goals of ecological protection, economic growth, social justice, and intergenerational equity – locally and globally, immediately and in perpetuity (Dryzek, 1997: 121).

Table 3: Discourse Analysis of Sustainable Development (Source: Dryzek, 1997: 132)

1. Basic entities recognised or constructed • Nested social and ecological systems • Capitalist economy • (no limits)	3. Agents and their motives • Many agents at different levels, notably transnational and local rather than the state; motivated by the public good
2. Assumptions about natural relationships • Subordination of nature • Economic growth, environmental protection, distributive justice and long-term sustainability go together	4. Key metaphors and other rhetorical devices • Organic growth • Connection to progress • Reassurance

The conservation of forests was an important topic of the UN Conference for Environment and Development in Rio de Janeiro in the year 1992 (UNCED, so-called Rio Summit). Forests are mainly valued as a vast bank of genetic resources and for their contribution against global warming (CO_2-fixation). Forests were brought into discussion by the industrialised countries in the northern hemisphere, who imposed the conservation issue on tropical forests – which practically are the forests of developing countries in the south. These countries insisted on their right for development. Forests and the deforestation problem are seen differently from the north and the south: The north wants to protect but the south wants to utilise the forest resources (Centeno, 1993). In the final documents the aim of the north for preserving as well as the aim of the south for developing were adopted. Within sustainable development, sustainable forest management means that on the one hand the conservation of forests is required and on the other hand the right for development is conceded. The negotiations resulted only in a vaguely formulated and non-binding Statement of Forest Principles ("Non-Legally Binding Authoritative

Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests") as the lowest common denominator between north and south (Humphreys, 1996: 102). The principle of sustainable management, conservation and sustainable development of all types of forests was furthermore included in Chapter 11 "Combating Deforestation" of Agenda 21, the main result of the Rio Summit. One declared – but failed – aim of the UNCED was to agree on a World Forest Convention and this aim has been discussed further on within the Intergovernmental Panel on Forests (IPF) 1995 – 1997 and within the Intergovernmental Forum on Forests (IFF) 1997 – 2000 (IISD, 2000).

Until today, a global forest convention has not been achieved. Instead, various initiatives for elaborating criteria and indicators for sustainable forest management have been started, among others the Pan-European Process for the Protection of Forests in Europe. This process which started through a first Ministerial Conference on the Protection of Forests in Europe in Strasbourg in 1990, initially was concerned with the problem of forest decline in Europe (*Waldsterben*) and further on adopted the Rio goal on attaining sustainable forest management in all forests (Second Ministerial Conference in Helsinki, 1993). This – still ongoing – process so far has resulted in a list of criteria and indicators for sustainable forest management, comprising quantitative and qualitative indicators on ecological, economic and social aspects of forestry (so-called *Helsinki criteria and indicators*). Besides of the production of criteria and indicators no efforts are made to change procedures or to address underlying causes of forest loss.

Sustainable development is no scientific concept, it is rather a vision. Any interpretation of the overall goals and principles of sustainable development inevitably incorporates value decisions. With regard to sustainable forest management, Rametsteiner (2000: 57) states that the results of ongoing political processes are "driven by the various actors, their respective values, interests, knowledge and their relative negotiation power." As no objective definition of "sustainability" can exist the task is rather to define the procedures how sustainable development is to be interpreted.

Austria has signed the Rio declarations as well as the resolutions issued at the Ministerial Conferences for the Protection of Forests in Europe. By this Austria has committed herself to ensure sustainable forest management according to those international agreements. The question arises to what extent existing measures already meet those demands and in what way forest policy has reacted to new requirements. By applying the quantitative indicators established in the follow-up process after the Second Ministerial Conference in Helsinki, Sehling (1999) describes existing instruments and their effects, as far as data are available. He also tried to define standards for each indicator according to scientific or political consensus and to measure the fulfilment of these goals. For many tasks, of course, no standards could be found and there is lack of data. However, the study shows in which areas there are deficits in formulating standards, establishing instruments, collecting data, and/or achieving policy results. The study assembles regulations and policy results not only in the field of forestry but also in other sectors. *Table 4* summarises the assessment results using quantitative indicators, by answering to the questions: "Do substantive regulations exist?" and "Are there significant results?" As no standard-setting process with broad participation of all interested groups has taken place by now, the evaluation of results here (deviating from Sehling) is oriented at relative effects rather than absolute standards.

Table 4: Assessment of the Austrian Programme for SFM Using the Quantitative Pan-European Indicators (Sources: Sehling, 1999, and Author)

Criteria and indicators	Regulation *)	Results *)
Criterion 1: Maintenance and appropriate enhancement of forest resources and their contribution to global carbon cycles		
Indicator 1.1: Forest (wooded) area and changes	✔	+
Indicator 1.2: Changes in volume of growing stock etc.	✔	++
Indicator 1.3: Carbon storage and changes	+/-	?
Criterion 2: Maintenance of forest ecosystem health and vitality		
Indicator 2.1: Amount and changes of air pollutants depositions	✔	- -
Indicator 2.2: Changes in defoliation of forests	✔	?
Indicator 2.3: Damages by biotic or abiotic agents	✔	-
Indicator 2.4: Changes in nutrient balance and acidity	✔	+
Criterion 3: Maintenance and encouragement of productive functions (wood and non-wood)		
Indicator 3.1: Balance of growth and removals of wood	✔	++
Indicator 3.2: Percentage of forests with management plans	+/-	+/-
Indicator 3.3: Total amount and changes of non-wood products	+/-	+/-
Criterion 4: Maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems		
Indicator 4.1: Changes in		
a. natural/semi-natural forest types	+/-	-
b. strictly protected forest reserves	+/-	-
c. forests with special management regimes	+/-	-
Indicator 4.2: Changes in threatened species	+/-	-
Indicator 4.3: Stands managed for genetic resources	+/-	-
Indicator 4.4: Changes in the proportion of mixed stands	+/-	+/-
Indicator 4.5: Proportion of natural regeneration	+/-	+/-
Criterion 5: Maintenance and appropriate enhancement of protective functions in forest management (notably soil and water)		
Indicator 5.1: Forests managed for soil protection	+/-	-
Indicator 5.1: Forests managed for water protection	+/-	?
Criterion 6: Maintenance of other socio-economic functions and conditions		
Indicator 6.1: Share of forest sector from GNP	✔	-
Indicator 6.2: Area of forests with access per inhabitant	✔	+
Indicator 6.3: Employment changes in forestry, esp. rural areas	—	-

*) Regulation in forest or other policy fields; assessment: ✔ (existing); +/- (partly); — (not existing);
Results in terms of effectiveness or impact; assessment:
++ (very good); + (good); +/- (partly); - (poor); - - (very poor); ? (not sufficient data available)

This assessment is in the following completed by considering also the qualitative indicators of the Pan-European Process (prescriptive, not-binding indicators) as agreed upon in Lisbon, 1998.

Under *criterion 1*, concerning forest resources and global carbon cycles, four concept areas are considered in the official document: general capacity (only descriptive indicators), land use and forest area, growing stock, and carbon balance. With regard to the protection of forest resources in terms of forest area and growing stock a very good performance can be expressed for Austria. Growing stock is well-monitored and increasing. Overall, the forest area is increasing as well. There is a tendency, however, that the forest area increases in disadvantaged regions with already high forest shares, while in contrast forests are diminished in regions with a high pressure of alternative land-uses (agricultural, industrial, and metropolitan areas) where the forest area is already small. There is no effective co-ordination of forest planning with general land-use planning. Although no data are available with concern to balancing the carbon cycle, the same can be said for this new policy field because this figure pretty much goes together with the first two indicators. However, without large-scale afforestations the question remains, in how far forests can contribute to mitigating climate change. Programmes for promoting use of wood for energy and for paper recycling exist, but eco-taxes are missing.

Programmes for maintaining (or restoring) forest ecosystem health, *criterion 2*, exist but results are poor. Damages occur from many sources, from outside and within forestry (air pollution; game damages because of non-adequate wildlife management; insect diseases and storm damages because of forestry failures). A national inventory on the condition of forest soils shows satisfactory results. The suitability of the indicator “defoliation” for describing forest health and/or damages is questioned by Austrian scientists.

The productive “functions” of forests, as referred to by *criterion 3*, are very well considered in Austrian policy when looking at timber production (concept area wood products). Only very small forest parcels are managed without management plans. Non-wood products and services are only tolerated to a certain extent; agricultural uses are discriminatorily called “by-uses”. Hunting is an important economic factor, but forest and wildlife policies (and management practices) are not harmonised.

The conservation of biological diversity, as required by *criterion 4*, is a relatively new issue in forest policy. Being pushed by environmental interest groups and formulated in international forest politics, this objective so far has not much been considered in national forest policy in Austria. Most biological diversity related programmes are formulated in nature protection policies (threatened species, nature reserves, national parks). Some activities, however, have been initiated within forest policy (maintenance of forest genetic resources, forest reserves, subsidies for mixed stands, encouragement of natural regeneration). Nature reserves are going lost, the lists of threatened species grow longer. The goal of installing forest reserves for all forest types in Austria has not been achieved. The areas of mixed stands and natural regeneration grow, but regeneration of fir is hampered at many places.

Although the forest law explicitly names the maintenance of protective functions – which *criterion 5* is referring to – as a major goal (protective/welfare functions), this is not adequately operationalised and implemented. Forests stocking on vulnerable soils are specially protected (“protective forests”) but the forest authority reports on a bad condition of a large proportion of this area. In general, the situation concerning soil and water protection can be assessed to be satisfactory, but special management programmes do not exist (except for subsidies for protective forest

restoration). No data about forest management in water protection areas are available.

In *criterion 6* a diverse list of "other socio-economic functions and conditions" is assembled, which primarily are defined by descriptive indicators. Austria supports the forestry sector in terms of rationalisation, research and education. No rural development or employment programmes exist within forest policy. Forest policy activities for raising public awareness are in the first place oriented at legitimising existing forestry practices in the public opinion. Environmental issues are rather covered by environmental groups or institutions. Within forestry, however, forest policy promotes close-to-nature management (mixed stands, natural regeneration). With regard to recreational services no extensive planning activities are carried out, but all forests, private and public, are open for public access as a rule. Culturally valuable sites are protected by various measures within agriculture or landscape protection policies. The style of forest policy can be called neo-corporatistic in Austria. Forest owners' interest groups are included in policy-making but no environmental groups. Public participation in decision-making is practically non-existent.

The assessment of forest policy and legislation results in a good performance when looking at timber production. With regard to this "classical" goal of forest policy strong regulations and an extensive monitoring system exist. Although certain damages by logging operations, etc. occur, respective policy outcomes and impacts in general can be assessed positive. Forest policy is weak against influences from outside forestry: The results of forest protection against air pollution are poor, and the forest share in regions with high pressure on land-use and land development is decreasing. In Austrian forest policy, economic and ecological goals are seen from a national-economic, natural resource management view-point. Regional-economic or employment goals are not included in forest policy. Ecological goals mainly are regulated in nature protection laws of the Austrian provinces. The goal of preserving biological diversity, ranking among others on top priority position in international forest politics, is hardly included in Austrian forest policy by now. Only minor corrections of the traditional course of forest policy towards "close-to-nature" management of forests have been made. According to the documents of UNCED and the Pan-European Process, a participatory style of policy-making is required but this is not pursued in Austria.

5. NEW CHALLENGES IN AUSTRIAN FOREST POLICY AND LEGISLATION

The major underlying causes for forest degradation in Austria are described in Pregernig/Weiss (1998: 24-26) as the following: predominance of economic interests within the political system; delegation of authorities between the federal state and the provinces; pursuit of short-term economic goals; primacy of timber production; green pillarisation and selective clientelism. Pregernig and Weiss argue that external pressure from international regimes, just like the Pan-European Process, could be one factor for policy change. Until today forest legislation has not responded to the new demands although various declarations and resolutions on sustainable forest management in the new understanding were signed by the Austrian government. Glück (1994: 86) characterises these new demands as a paradigm change in forest politics. This would mean the change of the "old" paradigms of "sustained yield" and "multipurpose forest management" to the "new" paradigms of "ecological sustainability" and "ecosystem management". This change has not yet taken place in Austria. An outstanding feature of these new demands is the preservation of

biological diversity, which is practically not included in the forest law in Austria by now.

At the moment, there are no major legislative activities in the field of forestry. There are some indications, however, that allow for a short description of the current forest political situation in Austria. This situation can be described by a tension between the traditional introverted forest politics and new societal demands. Demands for including ecological goals in forest policy and introducing participatory processes meet with resistance of the established policy-making system:

Growing Pressure on Traditional Forest Politics Towards a More Open and Inclusive Style of Policy-making: The definition of sustainability is challenged by international forest politics which formulate the goals of preserving biological diversity and establishing participatory processes in forest policy-making. Environmental interest groups as well as the Ministry of Environment demand the certification of timber produced by "sustainable forest management". A world-wide timber certification system has been established by the Forest Stewardship Council (FSC). In Austria, after a law on the ban of tropical timber has been abolished after short life, a law on a voluntary quality label for timber has been passed on the initiative of the ministry for environment (Federal Law on the Creation of a Quality Mark for Timber and Timber Products from Sustainable Forest Management).

Defence of Interests and Territory by Established Actors: Representatives of forest owners as well as forestry administrations express their belief that with regard to sustainable forest management there is no need for action in Austria. Until recently, timber certification has been rejected by forestry officials but eventually the European forest owners have responded to the FSC label by an alternative certification system, the Pan-European Forest Certification initiative (PEFC) which is not designed to improve forestry practices but as a competing system to FSC (workshops by PEFC Austria, Nov. 2, 1999; January 18, 2000; and February 29, 2000). Until today, the implementation of the law on a quality mark for timber from sustainable forest management has been hindered successfully by a blockade of the Ministry of Agriculture and Forestry. The head of the forestry section in the Austrian federal ministry for agriculture speaks of a "good internal co-operation in Austria with interest groups" – and means forest owners' interest groups, exclusively (ÖFZ 1999 /2: 7). He calls the new European Union forest strategy a success, because the position of the forestry sector was defended "against other groups". A change of the Austrian Forest Act is "not on the agenda". However, there is the fear that a change of the Forest Act would result in a stronger consideration of nature protection goals. This was one of the reasons why the new regulation concerning the production, trade and use of forest seeds and seedlings in 1996 was not included in the Forest Act but was formulated in an extra law. An amendment of the Forest Act might have resulted in a complete reformulation, which was not pursued by the forestry administration.

Generally, the style of policy-making has not changed very much in recent years in Austria. For attaining many goals of global and European forest policy the change of procedures outside and within the forestry sector are required. For strengthening the forestry sector and rural areas against non-sustainable management and development, an orientation of the economy at environmental goals would be necessary. Sustainable management of natural resources, for instance, could be supported by eco-taxes. For strengthening ecological goals within forestry a stronger inclusion of environmental interest groups or local communities in forest policy-making would be favourable.

6. CONCLUSIONS

The international discourse on sustainable forest management started from environmental criticism of deforestation in the tropics. This has initiated an international debate on adequate measures to combat deforestation and forest degradation world-wide. A consensus has been found on the definition of “sustainable forest management” within the concept of sustainable development, which defines economic, ecological, social and cultural goals as equally important for the sustainable development of societies. The criticism of present practices, however, is weakened from stage to stage of the policy process. Already the definition of “sustainable development” on world-wide level has relativised environmental criticism of existing economy and politics. In the following stages of policy formulation ecological, social and cultural goals loose and economic goals gain importance. This is the case within the Pan-European Process for the Protection of Forests in Europe, which is dominated by governmental forestry administrations. The Pan-European criteria and indicators for sustainable forest management prefer quantitative economic/ecological over qualitative social/cultural criteria and indicators. Aspects of natural resource management, which reflect the traditional view of timber production, are assembled in an extensive list of binding quantitative indicators, while social and cultural aspects are considered rather unspecified as “other socio-economic functions”. The definition process of criteria and indicators itself strengthens the traditionally strong role of official experts and the established policy community and weakens the role of non-governmental groups and local populations. The instrument of criteria and indicators supports technocratic solutions and suppresses public participation. The concentration on criteria and indicators distracts attention from institutional and procedural changes which seem to be necessary prerequisite for effective policy change.

The analysis of the understanding of sustainability in the Austrian Forest Act results in a strong orientation at timber production. The Forest Act reveals to be formulated from the view of industrial society. A strong bias is observed towards economic interests not only within forestry (timber production) but also from other sectors (air pollution, technical infrastructures). This stands in a clear contrast to a “new” definition of sustainable forest management within the international discourse on sustainable development, which calls for an evenly recognition of economic, ecological, social and cultural goals in forest management.

The evaluation of Austrian forest policy, using the Pan-European criteria and indicators, shows considerable deficits in setting policy goals, in formulating respective instruments, in collecting information on the state of forests, and in achieving policy results. In particular, the goal of preserving biological diversity is almost non-existent in the national forest law. In the Austrian Forest Act and forest policy the primacy of timber production still prevails when compared with ecological, social and cultural goals. Austrian forest policy is characterised by a neo-corporatistic style which includes forest owners but excludes other societal groups with interests in the forest (with the exception of powerful industries). Forest policy does not strive for public participation which is demanded by UNCED and the Pan-European Process alike.

Presently, the Austrian forestry administration tries to defend their traditional position against the new demands formulated by international forest politics, although Austria has officially signed international agreements that call for policy changes.

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ORIGIN AND DEVELOPMENT OF THE FLEMISH FOREST DECREE *

NOËL LUST

ABSTRACT

The Flemish Forest Decree of 13 June 1990 is the result of 15 years of discussion and scrutiny by concerned parties. The first draft was mainly the work of a small group of experts, consisting of officials of the Forest Service, several university forestry faculty members, and a jurist. he draft was thoroughly examined by different interest groups: private forest owners, local governmental authorities, agricultural interests, nature conservation organizations, rural planning groups, and politicians. Finally a Forest Decree, very much a compromise, was approved. The basic features of the first draft were present in the final Decree, but the influence of interest groups was also evident, especially from nature conservationists and the agricultural lobby. Some provisions of the Decree are confusing in wording.

Since 1990 two important revisions were approved, mainly stressing the ecological function of the forest.

1. FROM CENTRAL TO REGIONAL FOREST LEGISLATION

The Flemish Forest Decree of 13 June 1990 is the result of 15 years preparation, exchange of ideas, careful consideration, and political decisions. It evolved as a result of a series of dynamic factors, including changes in society; new forest uses; increasing importance of ecological problems and nature conservation demands; developments in forest science.

The Forestry Act of 1854 which referred to the country as a whole was obviously obsolete. Since the Law of 1 August 1974 on provisional regionalisation, a differentiated forest policy was possible in Belgium. A definitive milestone was the Specific Act of 8 August 1980 on the reform of institutions, allowing each region (Flanders, Wallonia and Brussels) to enact its own forest legislation.

The first steps toward an improvement of the existing forest law had been taken by the former unitary forest administration, however, without success. The initiative for establishment of a specific “Flemish Forestry Act” was taken in 1979. The competent minister charged a work group with establishment of new forestry legislation adapted to Flemish situations and demands. The work group consisted of officials of the national Forest Service (or Forest Administration), several university forestry faculty members, and a jurist, and was chaired by a representative of the minister. The absence of representatives from private forest owners, the wood processing sector, and external interest groups was striking. The activities of the work group led, after some intensive discussions, to a ministerial proposal for a Forest Decree (draft I). This proposal, however, was never submitted to the Council of State.

Draft I was reviewed by the next minister, who belonged to another political party. The reviewed proposal was then submitted to the High Flemish Forestry Council, which finally approved, almost unanimously, a revised draft. Afterward, the text was submitted for review and consultation. It was discussed in all kinds of so-called “think-cells” and interest groups. Finally, in December 1984, a second ministerial

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* Source: IUFRO Research Group 6.13; Report VI (1996): 215-226. (revised and updated)

proposal for a decree was sent for advice to the Council of State (draft II). Then a period of almost complete inactivity began. Nothing happened for more than three years. A new minister came into office, and this time the work went to completion. The Council of State gave, after ten meetings on the proposed decree, its advice in June 1988, which included both minor and major recommendations. Of special significance was its advice on the decretal competence of the Flemish Region.

The Council came to the conclusion that the ministerial proposal did not take into consideration four articles of the Constitution. Certain competencies are reserved by the Constitution, and so they could not be regulated by region through decrees. Consequently, it appeared that this draft had to be reviewed thoroughly. However, the solution was simple. The articles involved were omitted and replaced by related articles of the Forestry Act of 1854. So 39 articles of the old act were not abolished. They mainly concerned articles on judicial procedure for crimes committed in forests and on determining the punishment. After new consultations and further advice from the Council of State, a proposed Forest Decree was approved by the Flemish Executive (draft III). The Commission of Environment and Nature Conservation subsequently examined this bill. The Commission spent 18 meetings on the bill and approved 85 amendments and some 60 text alterations. However, the basic content of that bill did not change. On 31 May 1990, the Flemish Council approved the Forest Decree by an 87% majority. On 13 June 1990, it was ratified by the Flemish Executive. On 28 September 1990, the Forest Decree was publicized in the statute book (text 4).

Several drafts led to the final Forest Decree. It is worth mentioning that the whole procedure lasted eleven years and that the various drafts were examined by five successive ministers. An intensive working period of five years was followed by a dormant period of three years and then by a new intensive working period of three years. All together the Forest Decree is the result of discussions, in which several parties and interest groups participated:

- The Forest Service, together with several university forestry faculty members, provided the basic content of the legislation.
- Private forest owners were not directly involved in the elaboration of the text, in spite of the fact that they represent 70% of the forest area involved. Although the Forest Decree has a great impact on them, they resisted very little. They mainly defended their point of view, at least publicly, in the Flemish High Forestry Council during the second phase. In general, they offered more collaboration than opposition.
  Local governmental authorities, including some big municipalities with large forest properties, asked for greater autonomy. They mainly tried to impose their point of view through politicians, during the discussions in the final phase.
- Rural planning groups were very active during the second phase. In general, their interest was rather limited.
- The agricultural sector was actually not interested in forestry. It only wanted to prevent afforestation on agricultural lands. Later on, when the policy on set-aside's became clear, resistance increased. The lobby mainly acted through politicians in the Commission.
- Nature conservation groups were not involved in the project in the beginning. Later on they tried, on one hand, to minimize the impact of the Forest Decree and of the Forest Service, and on the other hand, to stress the ecological function of the forest. They partially succeeded.

- Politicians seemed hardly interested in forests and forestry, but their activity in the commission was remarkable, primarily motivated by political considerations, e.g. securing support of interest groups, good legislation, party interests, etc.

An analysis of the four basic texts (three drafts plus the final Decree) suggests that the main features of the Forest Decree were already laid down in the first draft.

- In all drafts, the Decree concerns all forest ownerships, but differentiated policies are set for public and private forest owners.
- The objective is identically formulated: to regulate establishment, protection, and management of forests.
- In all texts, several definitions are given, for example, for the definition of a “forest”.
- Multifunctionality of forests and of forest management is emphasized.
- In all cases the principles of accessibility are the same: public forests normally are freely accessible; and private forests are normally not accessible without permission of the owner.
- The preservation and protection of forests is stressed.
- A central position is assigned to the Forest Service. It is charged with application of forest regulations to all forests.
- Incentives for management of private forests were established in the first draft.
- Efforts to prevent forest fragmentation were made from the beginning.
- Basic judicial procedures for crimes committed in forests and of determining the punishment have remained the same.
- Provisions on the Flemish High Council have always been incorporated.
- The central point of the Forest Decree, i.e. a compulsory management plan for the private forests larger than five hectares or for connected forest areas larger than 5 ha, has never been rejected.
- Regulations on long-term forest planning were not foreseen in the first draft. They were introduced in the second draft at the insistence of the rural planning group.

On the whole the basic principles of the Forest Decree barely changed in the course of years of discussion and consideration. Nevertheless, the insights and provisions in terms of forest functionality, forest administration, forest management planning, forest protection, etc., continuously developed. Almost all articles in the Decree changed slightly.

2. IMPORTANT CHANGES IN THE PROPOSALS.

Removal of the Forestry Act 1854: Originally there was the intention to remove the Forestry Act of 1854 entirely. After the second phase, however, in order to comply with the advice of the Council of State, 39 articles were maintained. In this respect, two points are remarkable:

- No one had considered this eventuality during the preparatory period.
- The advice of the Council of State was divided. The contradiction between the ministerial version of the Decree and the constitution was only established by a small majority.

Definition of "Forest": In the first as well as in the last text, the definition of "forest" contains three parts: the definition of the term; what can be considered as a forest; what cannot be considered as a forest. In phase three of the draft, part three was omitted. The content of the different parts continuously changed. The definition of "forest" was greatly simplified in the last phase, and thus made clearer and improved. It contains four elements for definition which are a ground area, trees and woody shrub vegetation, a specific fauna and flora and one or multiple functions.

Reference to specific fauna and flora was due to the politicians. But there was no mention of a specific forest climate. The most remarkable change however, is that, under the pressure of the political agricultural representatives, the following wording was included: "All temporary plantations with woody crops, in execution of the regulations of the European Community concerning the set-aside of arable land, are not covered by the Forest Decree".

Definition of Domanial Forest: The expression "domanial forest" was not defined in the first two phases. It had still the same meaning as in the unitary Belgian period, viz. a state forest. After the regionalisation of forestry matters, it became clear the term "state forest" should be replaced and that the term "domanial forest" should be newly defined. However, this appeared very difficult, taking into account the complex state structures of Belgium. Finally, the following definitional compromise was approved: "Public forest, of which the full management is entrusted to the Forest Service." As a consequence, this definition means that, on the one hand, not all forests, owned by the Flemish Region, should be considered as dominial forests, whereas, on the other hand, local public forests can be considered as dominial forests, provided full management is entrusted to the Forest Service.

Forest Functions: Although the multifunctionality of forests was always stressed, some remarkable evolutions can be noticed.

- In the last phase, five functions are elaborated: economic, social and educational, protection, ecological, and scientific (the latter in combination with forest reserves). The flora and fauna management functions were mentioned in the introduction, but were not subsequently worked out.
- In the first draft, "ecological function" was not considered, although nature conservation and landscape functions were mentioned. In the second phase the ecological function was mentioned, but not elaborated upon. It was worked out in the third phase under pressure from nature conservation groups.
- From the second phase on, the landscape function was not mentioned anymore, for reasons that are unclear.

It is obvious the Forest Decree does not treat the chapter on forest functions in a scientific way. This is partly due to great differences in opinion among different interest groups. It is also due to inadequate scientific knowledge and misuse of the terms ecology and ecological function.

Long-term Planning: Although foresters are familiar with long-term planning, the drafters did not pay attention to it in the first phase. That article was introduced, fortunately, by the rural planning group. Nowadays it appears to be very worthwhile, especially in competition with other sector plans. Once introduced, the content of the provision has been continuously changed. In this respect, it is obvious that many people have problems with this subject. It is striking that in the course of time:

- the terminology used has been changed;

- beside long-term planning, there is also mention of implementation plans;
- the importance of all kinds of advisory committees has increased strongly;
- the period for the validity of the implementation plans has been extended from ten to twenty years;
- the link with the decree on rural planning has been stressed more strongly;
- the Flemish Executive has to approve or reject long-term forest plans; it was also decided to announce that planning to the Flemish Council.

The Economic Function: For the public forests it was stated, from the third phase on, that the level of growing stock together with the average annual felling quantity should be in tune with long-term planning. This provision was contentious with the Forest Service. No reference to it is contained in the ordinance on management planning. Neither the growing stock level nor the felling quantity has to be determined. This must be considered as a weak point. For private forests over 50 hectares, it was also stipulated in the first two phases to determine in the management plan the growing stock that should be aimed at and the average annual felling quantity. Afterward, these obligations were omitted.

The Protection Function of the Forest: Although the main features of this subject have not changed, some points are worthy of discussion:

- the objective has been extended to consider “water winning” areas (areas that are sources of subterranean water which are kept in forest cover);
- initially, only existing forests were mentioned, whereas from the third phase on “forests to be established” were also mentioned;
- in the first phase, implementation was exactly determined; later on, the competence of the Flemish Executive increased and advice had also to be solicited from the Flemish High Council for Nature Conservation;
- it was initially foreseen that a compensation “must” be given; in the second phase, however, a compensation “could” be given.

Ecological Function: The ecological function was elaborated in the third phase under pressure from nature conservation groups. The content was taken over, for the greater part, from existing articles concerning forest reserves.

In the last phases, the Commission introduced more refinements:

- there is reference to other existing acts or decrees;
- the prohibitions are linked with the management plan;
- more attention is paid to “plants;”
- legal action is foreseen for offenses concerning the use of biocides.

Forest Reserves: There have always been fierce discussions about the forest reserves. Before the Forest Decree, there were no forest reserves in Flanders. Certain forests, however, were classified as nature reserves.

- The title “forest reserves” and its incorporation in other chapters of the Forest Decree have always been a matter of discussion. Forest reserves have been, more or less, associated with the scientific function of the forest. In the first phases of the Decree, only the scientific function was mentioned, but finally the title of the chapter became “scientific function and forest reserves.” This

combination is acceptable, as it is recognized that forest reserves have mainly a scientific function. Nevertheless, it would have been better to separate the two subjects.

- Only in the first phase was it clearly stated that all forests can fulfill a scientific function. Criteria for scientific value were also determined at that time.
- The management objectives have always been the same: either spontaneous development or aiming at specific forest types.
- The impact of nature conservation (and of hunting) became increasingly greater.
- The designation and recognition of forest reserves is vague. In the first phase, state forest reserves and recognized forest reserves were clearly mentioned. In subsequent drafts of the Forest Decree, designation and recognition are mentioned but without a precise description. Also, the implementation provision is confusing.
- The accessibility and the degree of protection were clearly determined in the first phase. Later on this competence was left to the Flemish Executive.
- The terms for forest reserves were initially not fixed. In the following phases the terms were ever-changing in relationship to the forest owner. Only the forests owned by the Flemish Region remain forest reserves for an indefinite time.
- In a first phase no period was determined for the establishment of a management plan. Later on it was fixed at three years. Also, the specific objectives, which must be aimed at in the management plan, were indicated from the second phase onward.
- The management of all forest reserves is mainly entrusted to the Forest Service. In the second phase, however, this was only the case for public forest reserves.
- The spatial competence and the assignment of the advisory committee evolved. The first one becomes greater, whereas the assignment is not clearly described in the later phases.
- The possible measures in the immediate vicinity are clearly described from the third phase on; e.g. use of biocides, regulation of water levels, and of land use.
- Prohibitions become increasingly more severe. Deviations can be permitted in different ways. The role of the Forest Service and the management plan increases.
- Only the first draft deals with hunting. Basically, hunting is prohibited, as the Forest Decree does not mention anything at all on hunting.
- The first draft clearly fixes the minimal area of wanted forest reserves. Later, that provision is omitted.

Forests as State Nature Reserves: This is a very sensitive matter, due to the competition on competence between the administrations of nature conservation and forestry. Some nature reserves contain a certain area of forest, mainly artificial forest. In the beginning there were no problems. The forests, located in nature reserves, were managed according to the ordinances, valid for the nature reserves to which they belong. The Forest Service was in charge. The situation changed with the designation of certain very valuable forests as nature reserves and by the increasing competition on competence between the forestry and nature conservation administrations. An intense discussion took place in the Commission on this matter. Finally, it was decided management plans for these forests had to be in accordance with the provisions of the Nature Conservation Act. The problem, however, is not solved, as some of the provisions involved are very vague and unclear.

The Forest Service: Unanimity exists on most points concerning the general organization of the Forest Service. Small changes were proposed such as taking the oath, statute of personnel, conditions of recruitment, assignments of staff members, specific compensations, acting as judicial expert, incompatibilities and position of private forest guards. In the Commission, however, an intensive discussion took place on assignment of the Forest Service. Before, it was generally accepted that it should take care of the application of the forest regulations in all forests. However, during the discussion in the Commission, an amendment was submitted for withdrawing a series of forests (viz., nature reserves; see above) from forest regulation. Finally, it was decided that all forests should remain under the supervision of the Forest Service unless the Flemish Executive issued a specific ordinance.

The Flemish High Forest Council: It is notable the Commission has determined that at least half of the members of the Flemish High Forest Council must be forest owners or representatives of other forest groups. This happened, of course, under pressure of the private forest owners. The assignment of the Flemish High Forest Council became even more restricted. In the beginning, the minister had to ask advice about 19 articles. This is reduced in the Forest Decree to seven articles. Also noticeable is that the influence of the Flemish High Forest Council decreases while the influence of the Flemish High Council for Nature Conservation increases. The position of the Flemish High Council for Hunting, however, remains fairly restricted.

The Management Plan: The principle of the management plan was generally accepted. Nevertheless all kinds of provisions concerning competence for establishment and approval, appeal, position of the Forest Service, alterations, and publication have been modified (figure 1).

A couple of items remain unchanged , for instance, that the group of private forest owners has to make a management plan, and that private forest owners may prepare and establish their management plans themselves. The following changes concerning local public forests are especially remarkable. Drafting of management plans can be done by the public owner, eventually in collaboration with a committee, as well as by the Forest Service. And they can be approved by the Forest Service as well as by the owner himself. It is also striking that in the first phase, private owners could entrust drafting of the management plan to the Forest Service. In the second phase, however, all forest owners, both private and public, have to make a management plan. The obligation to set up a common management plan for joined forests existed from the beginning for private owners, but was only introduced in the last phase for local public forests.

Private Forests: The basic principles were already determined in the beginning. Yet, in the course of time, some important changes were introduced.

- In the first two phases all fellings, including those approved in the management plan, had to be reported to the Forest Service. To the contrary, in the last two phases, the fellings already foreseen in the approved management plan did not need to be reported.
- In the last two phases, all communal and provincial ordinances, which are conflicting with the Forest Decree will be suspended.
- From the second phase on, it is stated that a provincial official will deal with the private forests.
- Initially the very small forest owners (< 5 ha) can only enjoy a few benefits. Later on, they benefit more from incentives.

Figure 1: Comparative Survey of the Provisions on the Management Plan

	phase 1	phase 2	phase 3	phase 4
1. Domanial Forest				
establishment	committee	cfr. public forest	cfr. public forest	Forest Service
approval	Forest Service	--	--	Flemish Executive
2. Local Public Forest				
establishment	owner and committee	owner	Forest Service	owner (?)
approval	Forest Service	to be determined by the Flemish Executive	Forest Service and owner	owner, on advice of the Forest Service
appeal	by owner to the minister	to immediate higher level	--	by Forest Service to Flemish Executive
3. Private Forest				
which forests?	- at least 5 ha	idem	idem	idem
	- joined areas of ha			
establishment	owners	idem	idem	
approval	Forest Service	to be determined by the Flemish Executive	Forest Service	Forest Service
appeal	- to (provincial) deputation	to immediate higher level	to committee	to committee
	to Flemish Executive	--		
4. Help of Forest Service				
	private owner	owner	advice to private owner	advice to private owner
entrust to Forest Service	private owner can	owner can	--	--
changes	same procedure	--	approval	- approval
		--		- appeal for public forest owner

- The amount of incentives was originally similar to those for public forests. Later on, the amount was no longer mentioned.
- Especially striking are the strict conditions, imposed on plantations in agrarian zones. Whereas in the beginning, no special licenses were required, the unanimous advice from both the Agricultural Service and the Forest Service is required in the latest phase.
- Also remarkable are the facilities, accorded in the last phase, for uprooting of plantations in agrarian zones within a term of twelve years.
- Noticeable, too, is the provision, only taken up in the Forest Decree, concerning the afforestation in nature zones and ecologically valuable zones. Afforestation in these regions is, under pressure from nature conservation groups, only permitted after advice of the Nature Conservation Service. The Commission, however, was not of the opinion that this provision was necessary for reafforestation.
- In the first phase, the possibilities of appeal for private forest owners were much greater. Later on, appeal was only possible for the approval of the management plan.
- In a first phase a right on previous sale was assigned to the Flemish Region in case of the sale of forests. Later on this was rejected.
- In the second phase, under the pressure of the private forest owners, the possibility was foreseen for the establishment of regional central for private forests. The Forest Service opposed this provision.

Forest Protection: Specific protection against sale of the public forests was only introduced in the third phase. Provisions about changes of physical conditions of the soil were introduced during the third phase under the pressure of nature conservation groups. In the first two phases deforestation was strongly hampered. In all cases authorization by the Flemish Executive was required. Later on, however, these provisions were weakened.

To prevent a further forest fragmentation, it was foreseen in a first phase that a permit of the minister was needed for a forest split up for areas less than 10 hectares. In the second phase, that permit had to be issued by the Forest Service, while in the third phase the areas was reduced to 5 ha. But, finally, this provision has been omitted entirely. From the third phase on, a series of prohibitions were imposed on private forests. Possibilities for a regulation of occasional forest uses were introduced during the last phase.

3. REVISIONS OF THE FOREST DECREE

7 years after the adoption of the Forest Decree the new Nature Conservation Decree was issued. It contains several important provisions which changed certain provision of the Forestry Decree. In 1999 the Forestry Decree itself was revised with the objective to foster more suitable forest management.

The provisions of the Nature Conservation Decree of 1997 influence considerably those of the Forest Decree. Some provisions directly alter the Forest Decree, whereas many others have a broad field of application and strongly influence the forest regulations in an indirect manner. In several aspects the significance of these provisions for forestry practices is, however, not yet clear.

The objective of the changes in legislation is to increase the nature value of the forests. It follows that the Nature Conservation direction has a greater impact on forest policy and forest management. The most important regulations deal with:

- the establishment of a “Flemish Ecological Network (VEN), mainly aiming at nature protection;
- management plans of private forests located in the Flemish Ecological network;
- management plans of forests located in nature reserves;
- control of deforestation in nature reserves (simplification);
- control of deforestation in general (strengthening);
- incentives for measures aiming at nature development in forests.

The Forest Decree of 1990 was already characterized by relatively high ecological demands and the Nature Conservation Decree of 1997 has significantly increased the nature value of the forest. However, the revised Forest Decree strengthens still more the ecological forest function and the principle of sustainable forest management in particular with regard to the following aspects:

- The ecological forest function is completely revised. It stresses much more the favouring of autochtonous trees and shrubs, a variable forest structure, an appropriate management of all nature elements, the natural water economy and the biological diversity.
- The definition of forest reserves is revised, claiming next to the scientific value also the ecological function of these forests. The prohibitions are still more strengthened.
- The management of forests, especially of public forests, must be executed with respect of the criteria of sustainable forest management.
- The recent general principle of deforestation, i.e. deforestation is forbidden unless for works of public interest, was liberalized.

CONCLUSIONS

Drafting and approval of the Flemish Forest Decree have required fifteen years of effort. The first draft is quite different from the final decree. But nevertheless, one can state that the basic features of the decree remained constant. So the question is to what extent are those fifteen years of discussion and consideration useful. Seven important interest groups ultimately participated. With the first draft, however, only governmental and university forestry experts were really involved.

In the course of time the following developments have occurred.

- Forest Service. It has lost a part of its influence to other interest groups, but on the other hand, its position was strengthened by the introduction of a number of articles requiring an ordinance of the Flemish Executive to be prepared by the Forest Service.
- Private forest owner. His influence has steadily increased. He is better represented in the Flemish High Forest Council. The reporting duty has been abolished because of the management plan. He gets more logistic support through the provincial official for private forests. The small forest owner is better supported.

- Local authorities. Their influence increased as they are now allowed to establish and approve their management plans themselves. On the other hand, by abolishing communal felling ordinances and by hampering the selling of their forests, their position was weakened.
- Agricultural sector. They have obtained that plantations in the framework of set-aside are not covered by the Forest Decree. They also succeeded in limiting afforestation of agricultural lands and to facilitate deforestation of forests.
- Nature conservation groups. Their impact has steadily increased. They emphasized the ecological aspects of forests. The position of the Flemish High Council for Nature Conservation became much stronger.
- Rural planning groups. They enabled long-term forestry planning. Their position concerning deforestation, initially strongly limited, has increased.
- Politicians. A number of them undoubtedly made great efforts to improve the text of the decree. However, mutual discussions, stimulated by interest groups, often led to unclear provisions.
- More than fifteen years of discussion have led to some improvements in the Flemish Forest Decree. But, all kinds of compromises were involved prompting a continuing debate on forests and forestry.

Since ist adoption the Forest Decree of 1990 has been revised already twice. In 1997 the Nature Conservation Decree directly strengthened the nature value of the forests. In 1999 the revision of the Forest Decree approved the strengthening of the ecological function and focused more strongly on sustainable forest management.

CHARACTERISTICS AND ANALYSIS OF IMPLEMENTATION OF THE NEW FOREST LAW IN THE REPUBLIC OF BULGARIA *

NICKOLA STOYANOV

ABSTRACT

Since 1990, the Bulgarian economy, including the forestry sector is in a transition from centralised planning to a market economy. The Law for the Restoration of Property of Forests and Forest Lands of the Forest Fund and Law for the Forests were accepted in 1997. According to these laws, changes will occur in the regulation, organisation and practices of management in the forests, at different management levels and by different groups of forest owners.

According to the Law for the Restoration of Property of Forests and Forest Lands of the Forest Fund, about 15% of the forest area in Bulgaria will be restored to their owners or to their inheritors. These owners are physical persons, municipalities, schools, monasteries etc. The size of the average private ownership is about 1 ha. The area of forest management has changed from several decares to 1000 ha. The small average ownership size and the large number of owners will require further establishment of new forms of forest management.

The Law for the Forests regulates: ownership of forests and forest lands; organisation of management of forests and forest lands; the reproduction of forests; the uses of forests and forest lands; the protection of forests and forest lands; building in the forests; financing of forest management, and administration and penalties for violation of the law. Further experiences will be required on the organisation and management of forestry in Bulgaria in implementing the new legislation.

1 OVERVIEW ON FOREST LAW DEVELOPMENTS

In the period from the liberation from the Turkish yoke (1878) to the beginning of the 1950s, legislation concerning forests in Bulgaria has been abundant. In this period six laws were elaborated (developed) and implemented for the forests. In the six laws from this period new methods were accepted concerning the administration of forests, and new ways were established for their rational management. All of this had the purpose to make forestry enterprises more profitable and to conserve the forest for constant and uninterrupted use.

With respect to ownership and property, the laws divided the forests into state, municipal and private properties. Nevertheless, problems about property rights of forests and forest lands did not find a complete solution. In this period, there were many legal arguments about the property of forests and forest lands between private persons and the state or between private persons and municipalities. Nationalisation (1946-1951) changed the status of the forests with respect to ownership. In the Law of 1958 (the seventh law for the forests), the questions about ownership were solved in a totally different way: all forests and forest lands were considered as national property.

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (1999): 69-75.

Since the beginning of the transition from a centralised planned economy to a market economy, forestry specialists began to elaborate drafts for new forest legislation. In the period from 1990 until 1997, more than ten variants for a Law for the Forests and for the Law on Restoration of the Property of the Forests and Forests Lands of the Forest Fund were elaborated. These draft projects were prepared with the help of specialists from the Committee of Forests, the Union of Bulgarian Engineers of Forestry, the University of Forestry, the Forest Research Institute, the Union of Private Owners of Forests. None of these drafts was accepted.

In 1997 – eight years after the beginning of political and economic changes – the Bulgarian Parliament accepted new forestry laws. They are the Law for the Restoration of the Property of Forests and Forest Lands of the Forest Fund (LRPFFLFF) and the Law for the Forests (LF). The drafts were developed by a small group of specialists from the Committee of Forestry and were debated in Parliament without further discussion among forestry specialists and scientists. Remarks on the Laws for the Forests by scientists and highly qualified forestry specialists were later included in order to correct the draft laws. After that, the laws were formally adopted.

The constitutional framework concerning the Laws for the Forests in Bulgaria are the following:

- All forms of ownership are equipoised or counterbalanced;
- All forests and national parks of national importance identified by the law are state property;
- The state inventory must be managed according to the interests of all members of society;
- Property is divided into private and public ownership;
- Private property is inviolable;
- The ways of use of state and community property are ruled by separate law;
- The Republic of Bulgaria is obliged to provide for the protection and the reproduction of environment, resource sustainability, the biodiversity of living nature and the rational uses of the resources of nature;
- The land in Bulgaria is a main source of national wealth and is protected by the state and the society.

These principles are written in the basic law of the country, the Constitution of the Republic of Bulgaria, and are preeminent over all other laws, including the Law for the Forests.

Regulations for the implementation of the LF were accepted in the beginning of 1998. Nevertheless, work for completion of the whole regulations is not yet finished. Specialists from the National Management Board of Forests, from Regional Management Boards of Forests, from State Forestry Enterprises, and scientists from the University of Forestry and the Forest Research Institute work on new instructions, rules, orders, samples of documents, which are necessary for the implementation of the new Law.

2 CHARACTERISTICS OF THE LAW FOR THE RESTORATION OF THE PROPERTY OF FORESTS AND FOREST LANDS OF THE FOREST FUND

Through the LRPFFLFF, the questions for the restoration of the property are decided. The right of property for the forests and the forest lands will be restored to Bulgarian physical and juridical persons from which they have been nationalised after 1946 or to their inheritors. According to this law, the right for property on the

forests and the forest lands will be restored in their present state by locality, area and boundaries if they are known by the date of their nationalisation. A condition for restoration of property on forests and forest lands is the existence or possibility to reestablish the physical boundaries. If it is not possible to restore the property in the real boundaries, the former proprietors or their inheritors will be compensated with other forests or forest lands from the state forest fund (in cases where the forests are exceptional state property).

The LRPFFLFF provides that the owners of forests and forest lands can only be Bulgarian physical and juridical persons, in the latter case for instance the state, monasteries, churches, mosques, schools, co-operatives, and municipalities. Foreigners cannot acquire the right of property on the forests and forest lands of the Forest Fund in Bulgaria. They can acquire the right of property only by inheritance according to the law. In this case they must sell or give as a present the inheritance to Bulgarian physical or juridical persons to the municipality or to the state.

The restoration of property for the forests and forest lands will be accomplished by special land commissions. These land commissions exist and restore the property on agricultural lands. The work began in 1991 and is not yet finished. The staff of these commissions will include specialists of forestry (engineers of forestry). The right of property is proven by written documents. According to the requirements of the Bulgarian legislation these are: notary and legal statements; notarized written agreements; management maps and management plans before nationalisation. The deadline for submission of requests for restoration of the property of the forests and forest lands was November 1998, i.e., one year from the coming of the law into force.

The owners whose properties are restored are obliged to register it with one of the state forestry enterprises. They must manage their forests and forest lands according to the requirements of the LF, the Law for the Protection of Nature, the Law for Hunting and other specific laws concerning the forest and their conditions and environment. Six months after the deadline for submission of requests for restoration of the property, the specialists from land commissions must elaborate maps with the boundaries of all kind of properties.

In the process of the restoration of property of forest and forest lands they have to solve the following problems:

- The restoration of the private property in the forests will encompass about 480,000 owners with a total area of about 590,000 ha. The proprietors and their inheritors are mainly interested in the management of their forests for profit and the benefits that they might extract from them. In the present economic state of the country, these forests will become the major or sole source of income for many of the proprietors.
- The restoration of property in the real boundaries will infringe upon the administrative units of the existing forestry enterprises. In order to create the conditions for proper management of private forests, when the ownership is restored in real boundaries, it would be most expedient for the possessors to be directed to administration of the state forestry enterprises for management of their forests or to create co-operatives, under the control and professional advice of forestry specialists.
- The lack of documents for proving the property of former owners will not allow restoration of all private property of forests and forest lands, and this will be a cause of conflicts between former owners or their inheritors and the authority.

- The lack of skilled specialists for carrying out the restoration of forests and forest lands and the lack of experience in restoration will probably not allow to accomplish this process in an effective manner.
- The restoration of the property of the communities will be a very difficult task. In the past (before nationalisation) the property of the forests and forest lands of the communities was about 56% of all forest lands. Most of them were given to the communities from the state in order to satisfy the needs of citizens for fire wood or building materials, according to the existing law, without documents. They are not in fact a community property, but many of communities would like to obtain ownership and will make efforts to prove this right in different ways. This will also lead to conflicts.

3 CHARACTERISTIC OF THE LAW FOR THE FORESTS

The LF was also adopted in December 1997. Instructions for implementation of the Law were adopted in April 1998. The structure of the LF is the following:

Chapter One – General Provisions
- Part I – Forest and Forest Fund
- Part II – Property
- Part III – Changes in the Forest Fund

Chapter Two – Organisation of Forest Fund
- Part I – Management of Forest Fund
- Part II – Arrangement and Inventory of Forests
- Part III – Employees of Forests

Chapter Three – Reproduction of Forests
- Part I – Creation of New Forests and Erosion Protection
- Part II – Implementing Thinning, Sanitary and Reproductive Fellings

Chapter Four – Uses from the Forests and Lands within the Forest Fund
- Part I – General Principles
- Part II – Concessions
- Part III – Uses of Wood
- Part IV – Non-wood Forest uses

Chapter Five – Protection of Forests and Forest Lands within the Forest Fund
- Part I – General Principles
- Part II – Protection
- Part III – Control

Chapter Six – Building in the Forests

Chapter Seven – Financing of Forestry
- Part I – General Principles
- Part II – Incomes to the Fund Bulgarian Forest
- Part III – Expenditures from the Fund Bulgarian Forest

Chapter Eight – Administrative and Penal Instructions

Additional Instructions

Transitional and Closing Instructions

Article 2 provides that a forest is land occupied by tree vegetation with an area larger than 1 decar (1000 square meters). The Forest Fund is each territory outside the boundaries of populated areas defined by building and regulation plans, intended for forests and embracing forests, bushes, lands for afforestation and non-wood production lands. The forests according to their functions are divided into three categories: forests with mainly wood production and environmental creating functions, protective and recreational forests and forests in protected territories.

The second part of the first chapter is devoted to property. Ownership rights for property on forests and lands of the Forest Fund in the Republic of Bulgaria belong to the physical and juridical persons, to the state and to the municipalities. According to Article 7, the forests that are exceptionally state property are: the forests in the protected territories, defined by special law (Law for Protected Territories); the forests belonging to the 200-meter zone along state boundaries; the forests in zones of strict protection of water, the forest shelter belts; the forests for protection of different engineering or technical buildings; seed production plantations; and geographical plantations. Article 11 of the LF regulates that the owners of forests have to use their right of property in a way, which does not violate the state of the art and does not cause damage to other owners of forests and to lands of the Forest Fund or to society. In the third part of this chapter, the rules for excluding from and for including areas of the Forest Fund are established.

According to the rules of the second chapter, the following patterns of management of forests are established:

- First level: Ministry of Agriculture, Forests and Agricultural Reform; National Administration of Forests;
- Second level: Regional Management Boards of Forestry, with 17 units;
- Third level: State Forestry Units with 176 units.

The activities and objectives of the National Administration of Forests, the Regional Management Boards and the State Forestry units are listed and described. The main activities and objectives of the National Administration of Forests are:

- The organisation of the Forest Fund;
- Reproduction of forests within the Forest Fund;
- Uses of forests and lands within the Forest Fund;
- Protection of forests within the Forest Fund;
- Building within the Forest Fund in accordance with the corresponding department;
- Financing of activities within the Forest Fund.

The Regional Management Boards of Forest accomplish the organisation, coordination and the control of activities related to:

- Reproduction of forests within the Forest Fund;
- Uses of forests and lands within the Forest Fund;
- Protection of the forests and forest lands within the Forest Fund;
- Construction within the Forest Fund.
- Collecting of means and the financing procedures within the Forest Fund.

The functions and objectives of State Forestry Units are the same as the functions and objectives of the Regional Management Board of the Forests. They are subordinate to the National Administration and Regional Management Boards of Forests. The implementation and elaboration of forest management projects, plans

and programmes are regulated in the second part of chapter two. In the last part, requirements are established for specialists who want to work at all levels of management and in the various forest units.

In chapter three the following issues are addressed: the production of reproductive materials from forests; the ways of controlling the origin and the quality of seeds and seedlings; the rules for introduction of tree and shrub species; the activities concerning the creation of new forests and erosion protection; the different categories of thinning and felling, and the main rules for carrying out such activities; the requirements for forest fellings and reforestation of forest lands.

The uses and the ways of their accomplishment are set forth in the fourth chapter. The utilisation of wood in Bulgarian forests may be carried out in the following manner: through paying stumpage prices; through auction or competition; through negotiations with potential users and through concessions. The uses in state forests will be accomplished by companies, firms, and organisations which may be private, state, or mixed. They are obliged to follow all the requirements of the laws.

In chapter five, sanitary control, protection and administrative control of forests and forest lands are clarified. These activities will be of special importance at the lowest management level, e.g. the State Forestry Units. The sixth chapter is devoted to the rules and the order for building in the forests.

Chapter seven concerns financing of forestry activities. The financing of forestry activities is accomplished through means accumulated in the special national fund “Bulgarska gora” (“Bulgarian Forest”) at the National Administration of Forests. The incomes to the National Fund “Bulgarska gora” are received from different charges (for uses from the state forests, for issuing permits or documents, for export of forest products, etc.), from selling of seeds, seedlings and other forest products and inventory of forestry enterprises, from donations, wills and sponsors, from the state budget, etc. The means from the National Fund “Bulgarska gora” may be spent for: creation of forests and erosion protection within the Forest Fund; giving assistance to private owners; implementing thinning, sanitary and reproductive fellings; protection and control of forests; building within forests; hunting and fishing activities; research and training activities, etc.

In the eighth chapter, penalty instructions and the amount of penalties are given. The penalties for different violations are from 20,000 to 500,000 BGL (20 to 500 DM).

Additional Instructions and definitions are given connected with the implementation of the Law for the Forests. They concern the following terms: “lands for afforestation within the Forest Fund”, “non-wood production lands in the Forest Fund”, “geographic cultivations” and “uses of wood”. Instructions for Implementation of the Law for the Forests specify, explain and expand the legal texts. According to the Instructions for Implementation of the Law for the Forest, the National Administration of the Forests will elaborate about 46 different rules, orders and other documents that are necessary for the application of the law.

Several documents such as the Instruction for Incomes and Expenditures and for the order of working out, application and accounting of the National Fund “Bulgarska gora”; the instruction for fellings; the instruction for licences for the forestry specialists etc. have already been adopted. Other documents such as the instructions for valuation of forests, for methods for reforestation, for utilisation of wood, and for forest protection and control activities within the forests are in preparation. Due to the large number of documents the specialists from the National

Administration of the Forests have a difficult task. The scientists from University of Forestry and from the Forest Research Institute play an active role in this process.

The main problems in implementing the LF are the following:

- The elaboration of the large number of instructions requires considerable time. However, a delay in issuing instructions leads to difficulties in implementing the law.
- The use of a large number of documents will be difficult for specialists of forestry, because they need time to get familiar with the documents and possibilities of interpretation.
- The establishment of a new organizational structure of forest management may lead to conflicts among staff at different levels. The organizational structure will be connected with changes of forest ownership, which are not clear yet. The time for establishing a new organizational structure is shorter than that for the restoration of the property.
- There is a transition from present business structure of management i.e. forest enterprises and companies for harvesting and selling the timber with 100% state share to new commercial structure, according to the Trade Law, with some share of private capital participation.
- The implementation of the Law for the Forest and of the new Law for Protected Territories may lead to conflicts between the National Administration of Forests and the Ministry of Protection of Environment.

CONCLUSION

Forest legislation in Bulgaria is complex. Eight years after the beginning of the transition to a market economy, the Bulgarian Parliament has passed new laws for the forests. This is the beginning of a new period for forestry in Bulgaria. Moreover new forest-related legislation has been adopted such as the Law for Protected Territories and the Law for Hunting. The implementation of the whole set of laws connected with forests and forest lands will lead to an improved protection and management of forest resources

CROATION FOREST LAW AND ENVIRONMENTAL LEGISLATION *

IVAN MARTINIC

1 GENERAL ASPECTS

Many challenges face countries trying to increase their economic growth. The Croatian economy is approaching and adapting itself to the institutions and trends of developed countries with market economies. In such circumstances, each segment of the economy tries to achieve a favourable position in the overall economy. Its success depends on the quality of its strategic orientation, which is determined in part by identification and attainment of a set of appropriate targets.

Nowadays, nearing the end of millennium, Croatian forestry is increasingly affected by the changed significance of the ecological, social and economic functions of forests. The economic importance of forest exploitation has been decreasing, and comprehensive forest sanitation operations cause additional expenses in managing damaged forest stands. In such circumstances, only a well-conceived forest policy can provide for implementation of all social and political tasks along with carrying out responsible market and production-oriented forestry activities.

The forests are one of the basic natural resources of Croatia. They are characterised by good preservation of their natural characteristics. Forestland includes several vegetation zones with a great variety in natural conditions and biodiversity. In the continental part of the country over 50 forest communities have been described, and in the Mediterranean part over 20 communities with many endemic plants exists.

The Croatian forestry sector, with over a two-hundred-year tradition of sustainable forest management, should focus on a sound environmental forest management in general, incorporating special treatment for particularly valuable natural features and promoting biological diversity. By signing the Rio Declaration, six Strasbourg and four Helsinki ministerial resolutions, the Republic of Croatia has committed itself to a sustainable management with special regard to protection and conservation of forests.

Forestlands cover 43.5% of the land base of the country. Having 0.51 hectare of forest per capita, Croatia may be considered a European country with a significant forest area. The State owns 82% of the forest land, and private owners, 18%. 84% of the forestland is covered with forest vegetation, while the rest includes different classes of non-covered land. In terms of production or commercial potential, it should be emphasised that a large part of the forest area is situated in the Karst region (42%).

According to forest type and stocking, 53% of the forestland is covered by high-valued forests, 31% are coppice forest, and 11.5% are different degraded forest forms (maquis, garrigue and brush wood). The remaining area is covered by cultures and plantations. Growing stock amounts to almost 300 million cubic meters (m^3), with an annual volume increment of 8.8 million m^3 and annual fellings of approximately 6 million m^3. Forests are categorised by their primary function into commercial, protective and special purpose (scientific, recreational, etc.).

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (1999): 76-88.

According to the Nature Conservancy Act, 746 facilities in Croatia are protected, of which 332 cover 447,192 ha, or 7.31% of the total area of Croatia.

Forest damage in the Republic of Croatia is almost equal to the European average. Forest condition, according to the ICP survey in 1995, has worsened in relation to previous years. The damage was recorded in 34% of the Croatian forests. An increase has occurred in damage classes 3 and 4.

2 RECENT FOREST POLICY DEVELOPMENT

The basic principles of the Croatian forest policy are ecosystem management along with the preservation of the natural structure and diversity of forests and continuous maintenance of stability and quality of industrial and generally useful forest functions. One of the general objectives of the National Forest Policy is sustainable development, and so annual felling is always below the annual increment.

In the last several years, numerous acts have been passed containing regulations relating to forestry and other activities concerning forests and forestland, as well as the sustainability and biological diversity of Croatian forests. The most important ones are: Forest Act (1990, amended in 1993), Forest Seeds and Forest Plants Act (1992, revised in 1993), Nature Conservancy Act (1994). Forestry and other forest activities are also influenced by the following laws: Environmental Protection Act (1994), the Law on Water (1995), the Law on Hunting (1994), the Law on Fire Protection (1993), and the Law on Physical Planning (1994).

The changes and amendments to the Forest Act passed in September 1990 made the legal prerequisite for a successful forestry development. The most significant provisions of the new law are the following:

- Forests and forestland within the Croatian territory are owned by the state for the most part;
- In order to provide unique management of forests and forestland within the Croatian territory, one forest economy area has been established for which one forest-economy base has been established;
- A single state forestry enterprise for managing state-owned forests and forestland has been established;
- Each enterprise and other legal entities pay a pre-set fee for the use of forest functions of general benefits.

The key objectives of the Forest Act are:

- Enhancement of multipurpose and economically sustainable use of forests,
- Protection of forests,
- Rehabilitation of degraded forests and increase of afforested areas,
- Re-establishing private forests,
- Upgrading the role played by protective forests, especially in the Karst region.

The basic goals of forest management are:

- To ensure stability of the forest ecosystem;
- To conserve and improve non-market functions of forests (ecological and social);
- To promote advanced and sustainable management and utilisation of forests and forest areas in such a manner and to such an extent as to conserve their biological diversity, productivity, regenerative capacity and vitality in order to fulfil, now and in future, their basic economic, ecological, and social functions at both local and global levels without harming other ecosystems.

With the purpose of a sustainable forest management, the Forest Act explicitly forbids uprooting of trees and clearcutting, cutting of trees in young forest stands and plantations, as well as any damage to trees and forests. In the same way, with a few exceptions, it forbids browsing, nibbling, eating acorns, gathering and taking away leaves, moss, forest fruits and medicinal herbs as well as exploiting humus, sand, stone, etc. Forests and forestland, as assets of general importance, have the privilege of special protection and are utilised under the conditions and in the manner regulated by the Forest Act. They are subject to a Forest Management Plan approved by the Ministry of Agriculture and Forestry.

State forests and forestlands are managed by a State Forestry Enterprise "Hrvatske šume". "Hrvatske šume" was established in 1991 in compliance with the Forest Act. For the first time in Croatian history, a state enterprise has been responsible for managing all the state and public forestland under control of the Ministry of Agriculture and Forestry. Private owners manage their forests conforming to the regulations prescribed in the Forest Act and in compliance with the Forest Management Plan. Management of commercial forests is based on successive regeneration felling for even-aged and selective felling for uneven-aged forests. Management practices in non-exploitable and protective forests are either limited or forbidden.

Based on a decision made by the Ministry of Agriculture and Forestry, a regulation was passed that involved changes to the regulation on forest management. The regulation contains specific national and regional guidelines for drawing up regional forest management plans. Regional forest management plans have been drawn up for all forests in the Republic of Croatia regardless of the type of ownership (2,458,000 ha). The plan includes all actions relating to regeneration, reforestation and the preservation of biological diversity of Croatian forests. A forest management plan is valid for 20 years, and a revision is made after 10 years. This regulation provides an increase in production, utilisation and marketing of all forest products.

3 INTERNATIONAL AGREEMENTS AND CONVENTIONS

The Republic of Croatia is the signatory state of the following international agreements and conventions:

- General Declaration on Protection and Conservation of European Forests
- Convention on Biodiversity
- Convention on Climate Change
- Declaration on Environment and Development
- Ecological and Developmental Program until 2000

Helsinki Resolutions:

- General Guidelines for the Sustainable Management of Forests in Europe (H1)
- General Guidelines for the Conservation of the Biodiversity of European Forests (H2)
- Forestry Co-operation with Countries with Economics in Transition (H3)
- Strategies for a Process of Long-term Adaptation of Forests in Europe to climate Change (H4)

Strasbourg Resolutions:

- European Network of Permanent Sample Plots for Monitoring of Forest Ecosystems (S1)

- Conservation of Forest Genetic Resources (S2)
- Decentralised European Data Bank on Forest Fires (S3)
- Adapting the Management of Mountain Forests To New Environmental Conditions (S4)
- Expansion of the EUROSILVA Network of Research on Tree Physiology (S5)
- European Network for Research into Forest Ecosystem (S6).

4 CROATIAN FORESTRY INSTITUTIONS

The government bodies responsible for forestry are: Ministry of Agriculture and Forestry, Department for Forestry and Hunting; Ministry of Finance; Ministry of the Interior; Ministry of Science and Technology; State Directorate for Protection of Nature and Environment; relevant councils of the Croatian Parliament; and local administrative authorities.

Apart from government bodies, there are a number of non-government associations relating to the conservation of biological diversity and management of forests, including: Croatian Forestry Association, Croatia Academy of Forestry, Croatian Ecological Association, Croatian Biological Association, Croatian Genetic Association, "Green Action", Croatian Movement of Friends of Nature "Lijepa naša" and others.

"Hrvatske šume" p. o. Zagreb - "Croatian Forests": The state enterprise for the management of forests and forestland is "Croatian Forests" which consists of a directorate, with its headquarters in Zagreb, 16 forest administrations, and 171 forest stations. It includes more than 10,000 employees, a forest area of 1,991,537 ha, almost 278 million m^3 of growing stock, an annual volume increment of 8.1 million m^3, about 4.9 million m^3 of annual allowable cut, and annual regeneration and yearly care of about 50,000 hectares of forest.

Research and Education: In Croatia, the following institutions have been established for scientific and educational purposes: the Faculty of Forestry at the University of Zagreb, which is celebrating its 100th anniversary this year, Forest Research Institute in Jastrebarsko, Institute for Forestry at the Institute for Adriatic Culture and Land Reclamation of Karst in Split and Centre for Scientific Work at Vinkovci.

Financial Instruments: According to the Forest Act, the general objectives and organisation of public intervention in the forestry sector and a new financial mechanism were introduced. The latter was the obligation for all forest owners to invest 15% to 20% of their income from wood sales for reforestation of existing forests and an additional 3% for the afforestation of new forest land. All commercial and industrial companies have an obligation to pay a fixed tax of 0.07% of their turnover to finance multiple benefits of forests, restoration of degraded forests in the karst area and forestry research. In 1996 the total investment amounted to USD 20 million. On account of utilisation of natural resources, however, the State Forestry Enterprise must pay to the local authorities the tax of 2.5% of the income realised through the sale of wood from its territory.

5 FOREST AND ENVIRONMENTAL LEGISLATION

The first regulations related to sustainable management and the conservation of biological diversity in Croatia appeared as early as the 18th century. As mentioned above, the principles of sustainability and conservation of biological diversity are a constituent part of every legal act in forestry, while regulations on environmental protection contain guidelines for the conservation of biological diversity. Croatia has a long and rich legislative tradition in the field of forest management and natural forest regeneration.

Since its independence in 1991, the Croatian government has been making great efforts to develop and implement functional and efficient ways of nature conservation. Thus forests and forestland, as resources of general importance, have the privilege of special protection and are utilised in the manner regulated by the Forest Act. The intent of the Forest Act and the Nature Conservancy Act is to conserve nature in forestland. The Croatian government, therefore, specified the provisions in the Forest Act 1990 (revised in 1993) by which forest owners have the obligation of conservation and sustainable utilisation of forest resources in their regular forest management. Based on that, they are committed to perform all the necessary activities in order to regenerate forests. It includes seeding and planting, reforestation, conversion into high-valued forests and improvement of conditions, clearing, forest guarding, etc. Thus forestry practices based on ecological principles are provided.

6 NATURE CONSERVANCY ACT (1994)

Nature preservation in Croatia is taking a leading role over other European countries. Today, it boasts that 7.31% of its area is protected within the network of national parks or by some other form of environmental protection, and it intends to double this area in the near future. Protected areas include: national parks (7), strict nature reserves (29, nature parks (6), special reserves (69), forest parks (23), important landscapes (28), natural sights (72), horticultural sights (114), protected plant species (44), protected animal species (380). Industrial utilisation of natural recourses is forbidden in national parks.

The protected areas are determined by Article 3 of the Act: The protected areas interesting for the Republic of Croatia and consequently protected under this Act are the following: national parks, nature parks, strict reserves, special reserves, park forests, significant landscapes, natural monuments, architectural park monuments, plant species and animal species.

The said protected areas are classified as follows: (1) international significance, (2) national significance and (3) local significance. National parks and nature parks are proclaimed by the State Parliament under a special Law. Strict reserves, special reserves, park forests, significant landscapes, natural monuments and architectural park monuments are proclaimed by Regional or Town Councils upon approval of the State Directorate for Protection of Nature and Environment (a13).

Plant and animal species are proclaimed protected by the manager of the State Directorate for Protection of Nature and Environment on scientific basis and taking into consideration the opinion of the minister of agriculture and forestry (a13).

The protected areas are managed by public institutions as provided by Article 17. Public institutions for managing national parks and nature parks are founded by the Government of the Republic of Croatia and those responsible for managing other protected areas are founded by Regional and Town Councils (a17).

The funds required for financing the activities of these public institutions are provided from: (1) the income earned from utilisation of protected areas, (2) State budget or district budget and (3) other sources in compliance with the Law (a18).

In order to implement a co-ordinated program of protection, maintenance, promotion and utilisation of national parks and nature parks, the government establishes the Nature Protection Council with the representative of the Ministry of Agriculture and Forestry as one of the members. (a35).

7 ENVIRONMENTAL PROTECTION ACT (1994)

The general provisions of the Environmental Protection Act are defined by Article 1:

The present law regulates environmental protection, in view of preserving the environment, reducing risks to human health and lives, ensuring and improving the quality of life, to the benefit of both present and future generations.

Environmental protection ensures integral preservation of environmental quality, protection of natural communities, rational use of natural resources and energy in the environmentally most acceptable manner, as the basic condition for a healthy and sustainable development.

The basic goals of environmental protection are subject to achieving sustainable development defined in Article 2:

- Permanent preservation of authenticity, natural communities, biodiversity and preservation of environmental stability
- Preservation of quality of both living and non-living nature and rational use of nature and its resources
- Preservation and restoring of cultural and asthetic values of landscapes
- Environmental state promotion and assurance of better living conditions.

Article 3 deals with achievement of environmental protection goals to be achieved by:

- Predicting, monitoring, preventing, limiting and eliminating adverse environmental impacts
- Protection and physical planning of particularly valuable environmental segments
- Preventing unacceptable environmental risks and threats
- Encouraging the use of renewable natural resources and energy
- Encouraging the use of environmentally most-acceptable products and of the best environmental production technologies
- Co-ordinating environmental protection and economic development
- Prevention of environmentally risky interventions
- Restoring damaged parts of the environment
- Developing awareness of the need for environmental protection through education and promotion of environmental protection
- Passing legal regulations on environmental protection
- Informing the public of environmental state and its participation in environmental protection
- Connecting environmental protection systems and institutions of the Republic of Croatia with international institutions.

Definitions of environment, its quality and ecological stability are given in Article 5 of this Act:

- Environment represents natural surroundings: air, soil, water and climate, plant and animal world, in the totality of their mutual interaction and cultural heritage as a part of the man-made environment.
- Environmental quality is the state of environment expressed through physical, chemical, esthetical and other indicators.
- Environmental stability is the environment's capacity to accept changes caused by external impacts and keep its natural properties.
- Environmental risk is the probability for a given intervention to directly or indirectly cause damage to the environment or threaten human lives and health.
- Environmental threat is an excessive risk, which, due to the high degree of probability of an event occurring or to the extent of possible environmental damage, requires specially prescribed measures.

The co-ordination of the economic development and the requirements of environmental protection are the subject of Article 8 of this Act:

- In view of achieving economic development co-ordinated with the needs of environmental protection, as well as expert and scientific basis for regulating respective issues, the government establishes the Environmental Protection Council, constituted of scientific, expert, public and other officials.
- The Council provides opinions, suggestions and evaluations of co-ordination between solving issues of environmental protection and economic development and of documents passed by the government and the Parliament.

Article 14 provides the basic principles for implementing the environmental protection and, among other things, states: When passing environmental protection strategy, programmes, intervention plans and regulations; when issuing permits, clearances, approvals, or when implementing financial policy, control or other environmental protection measures, co-operation between and joint activity of state administration bodies and local governing and self-governing units is essential.

The public right to be informed and to participate (public character and participation) is stipulated by Article 17: Citizens have the right to timely information on environmental pollution, on the measures undertaken and on the relating free access to the data on environmental state, in compliance with the present Law and other regulations.

The assessment of the impact of industrial activities on the environment (for example, construction of production activities) and the obligations of the participants in the assessment procedure are provided by Article 26 of this Act: The government determines interventions requiring environmental impact assessments, the contents, deadline and manner of elaboration of environmental impact assessments, the manner of passing the evaluation of and resolution on the intended intervention, the manner of informing the public, and sets the term for and manner of public participation in decision-making, rights and liabilities of the participants in the procedure, programme and manner of checking qualifications of the legal person elaborating the studies and prescribes penal stipulations for the contravention of regulation provisions.

Financing of environmental protection is the subject of Article 60 of the Act: The funds for financing environmental protection are ensured by the state budget, the budgets of local governing and self-governing units, and from other sources, in compliance with the Law. These sources are used for the preservation, protection and promotion of the environmental state, in compliance with the Environmental

Protection Strategy and Environmental Protection Programmes and with the consent of the basic bearers of the fund sources.

Article 71 defines cases in which legal entities and individuals are fined for breaking the law concerning the environmental protection. The fines are to be paid in the following cases:

- Unless it undertakes, without delay, measures for averting the threat and preventing further damage to the environment, and unless it so notifies the Environmental Protection Inspector or any other relevant inspector.
- Unless it undertakes measures for preventing aberrations from the use of machinery and equipment in the production technology or aberrations from production technologies.
- Unless it elaborates the Restoration Programme for Abating Environmental Damages within the deadline set by the government, i.e., unless it implements it.
- The fines for such violations of law range from $ 8,000 – 12,000.

8 FOREST ACT, 1990, 1993

Definition of Forest, Forestland and Forest Purpose: According to Article 4 of Forest Act, the forest is the land cultivated with forest trees in the form of a stand covering an area of more than 0.1 ha. Forest nurseries, windbreak belts, avenues of trees and parks in urban sites are not classified as forests. Forestland is the land grown with forest or land estimated as most suitable for cultivating forests owing to its natural features and economic conditions. When a doubt or dispute arises regarding the assessment of a particular land overgrown with trees, the local self-governing authorities have the competence to decide whether it is to be considered a forest or forestland and if the forest or forestland covers the area of several self-governing units the decision is to be made by the Government of the Republic of Croatia.

Forests are categorised by their primary function into production forests, protective forests and special purpose forests (a5). Production or commercial forests are used primarily for production of wood and other forest products, and protective forests are primarily used for the protection of soil, water flows, erosion, villages, industrial and other facilities and property.

Special purpose forests are:

- forests and forest segments registered as facilities for forest tree seed production
- forests representing special aesthetic rarity or particular scientific or historic significance (national parks, nature parks, reserves, etc.)
- forests intended for scientific research, educational training, or military requirements
- forests intended for recreation.

The forest is proclaimed a protective forest by the local self-governing authority, at the proposal made by legal entities or at personal initiative. If the forest covers the area of two or more districts, Regional Councils make the proclamation of a protective forest upon receiving mutual consent.

The Ministry of Agriculture and Forestry proclaims special purpose forests intended for scientific research and educational training at the proposal of the interested scientific organisations and other legal entities. The Government of the Republic of Croatia proclaims forests intended for defence purposes at the proposal of the Ministry of Defence and upon receiving the opinion of the Ministry of Agriculture and Forestry. The management of forest and forestland is stipulated by Article 16 of the Forest Act.

The Republic of Croatia owns forests and forestland within the territory of the Republic of Croatia, excluding forests and forestland owned by individual persons. In order to carry out the activities of managing state-owned forests and forestland, by this Act the Parliament of the Republic of Croatia establishes the State Forestry Enterprise. Some state-owned forests and forestland, not managed by the State Forestry Enterprise, can be managed by other legal entities under exception circumstances if they meet the requirements set by the Forest Act.

Special Social Interests in Managing State-Owned Forests: The realisation of special social interest in managing forests and forestland can be achieved by:

- Implementing measures for providing forest sustainability and reforestation, apart from ecological balance, in compliance with the provisions stipulated by the Forest Act
- Protecting forests and forestland as well as preserving general forest functions by taking care of forests, protecting them from diseases and forest pests, fire and construction of different facilities in the forests and on forestland by stipulating special conditions for getting building licences, etc.
- Determining special interests when separating forests or forestland from a district forestry
- Giving consent in accordance with the forest management base for the territory of the Republic of Croatia, the base for managing local governing units and programmes for forest management
- Organising surveillance of the implementation of the district forest management base, the base for managing local governing units and programmes for forest management
- Appointing part of the members of the Managing Board of the State Forestry Enterprise
- Providing funds for biological reproduction and forest protection
- Approving the statute of the State Forestry Enterprise
- Appointing and dismissing the manager of the State Forestry Enterprise.

Management of Private Forests: The owners manage private forests and private forestland in compliance with the provisions stipulated by the Forest Act. Forest owners have the obligation to provide forest protection and reforestation as specified by the Forest Act. The management of private forests and private forestland is based on the programme for forest management (a36). If forest owners do not carry out the measures or activities specified by the programme for forest management, the State Forestry Enterprise becomes responsible for implementing these measures and activities. Due to the lack of appropriate funds and financial supports or subventions, a considerable part of private forests has been left with no programmes for forest management.

Management of Protective Forests and Special Purpose Forests: In accordance with Article 38 of the Forest Act for protective forests and special purpose forests, adequate forest management and forest reforestation and regeneration should be provided in compliance with the purpose for which the forests were proclaimed and so as to meet the requirements of the Act for proclaiming protective forests and special purpose forests.

Restrictions Relating the Use of Forests and Forestland: Construction Work in Forest: In accordance with Article 48 of the Forest Act, only facilities required for

forest management can be built in the forest or on the forestland as well as facilities proposed by the regional planning of the local self-governing unit. Such regional planning can propose the construction of facilities for the needs of infrastructure, sport, recreation, hunting and defence in the forest or on the forestland, but only if due to technical or economical reasons it is not possible to plan such constructions outside the forest or forestland.

The regional office in charge of forestry activities takes part in the development of the regional planning. When setting the conditions for developing the plan, the State Forestry Enterprise, i.e. the legal entity that manages this forest or forestland, specifies the conditions for the construction of facilities in the forest and within a 50-m belt surrounding the forest. Before starting the preparations of technical documentation for the construction of the facilities in the forest or on forestland, the approval of the Ministry of Agriculture and Forestry must be provided as it contains the conditions that must be observed when developing the technical documentation.

Property-Rights Relations: Article 55 of the Forest Act states that State-owned forests and forestland cannot be estranged except in cases provided by this Law (i.e., reallocation and land consolidation) During reallocation and land consolidation procedures of forests and forestland, forests and forestland can be replaced with agricultural land and the other way round and state-owned forest and forestland can be replaced with private forests and forestland (a66). In accordance with the Article 57, state-owned forests and forestland, except forests and forestland managed by the State Forestry Enterprise, can be transferred to another legal entity with or without any payment provided that no changes of purpose or way of management are made.

For ceded rights or limited rights concerning the forests and forestland in case of proclaiming a protective forest or special purpose forest, or in cases of temporary use of a forestland, the State Forestry Enterprise has the right to a compensation in compliance with the Forest Act. Thus it maintains the level of its work conditions. The State Forestry Enterprise can use the compensation received for ceded or limited rights regarding the forests and forestland only for biologic forest reproduction of for purchasing forests or forestland within two years at the latest (a58).

If the forestland is picked out for the construction of facilities for protection of floods and if this is estimated as a matter of general importance for which the construction programme has been approved by the Republic of Croatia, the compensation is determined in compliance with the Act on Waters.

The State Forestry Enterprise, legal entities and citizens whose forest is proclaimed protective forest or special purpose forest, if their rights regarding the forest and forestland are limited by this proclamation, have the right to a compensation equal to the amount for which their income from this forest has been decreased, or equal to the increased expenses for its maintenance

Financing Forest Management: The funds required for forest management are provided from revenues of the State Forestry Enterprise. The base for setting these funds is the income realised from wood sales and at a rate of 20% in even-aged forests, 15% in uneven-aged forests and 15% in the forests growing in the Karst region. The State Forestry Enterprise sets aside an additional 3% of the value of sold wood for purchasing of forests and forestland, for reforestation of damaged forests, fire protection, construction of forest roads, etc. Private forest owners provide funds for the costs of developing and implementing the programme for private forest management from the income earned from wood sales as well as from forests and forestland income tax.

All enterprises and other legal entities dealing with industrial production in Croatia, except the State Forestry Enterprise, pay a fee for the general use of forests amounting to 0.07% of total revenues. These fees are paid on a special account of the State Forestry Enterprise, and these funds are used exclusively for financing scientific and research programmes, protection and improvement of forests on Karst, etc.

9 DISCUSSION

Forestry and Other Economy Sectors: Due to its influence on the quality of human environment and sustainability of biological diversity, the forest is protected in Croatia by the Constitution of the Republic of Croatia, Declaration on Environmental Protection in the Republic of Croatia, Forest Act, Nature Protection Act, Environment Protection Act, etc. Due to the requirements for economic development, the purpose of forests is often changed. In view of this, foresters are particularly concerned about forest crops in regions of Croatia poor with forests and in the surroundings of big towns, as well as about the change of the purposes of forests and forestland having high ecological and economic value.

When a forest is used for the construction of roads, oil and gas pipelines, transmission lines, hydro-electric power plants and similar things, after passing the usual legal procedure, the result is always a permanent loss of forest, a substantial change of ecological conditions in the area, and a lower quality of the environment. In order to take back at least part of the forests lost due to such development, a several times larger area of forest crops must be established young stands have considerably lower ecological and economic value. Of course, the cost for raising a new forest must be paid by those who caused the loss of the forests and forestland.

The compensation paid today for a change of forest purpose or for the loss of forestland are neither adequate nor sufficient for raising new forests. Therefore, in order to provide the environmental protection in Croatia, investors should be obliged by the revised Forest Act and new amendments to the Forest Act to pay compensation for lost ecological, social, and economic forest functions in the amount required for cultivating new forests. It is relatively simple to get compensation for the lost economic or timber function, but a demand for compensation aimed at re-establishing the lost forest functions of general benefit cause big dilemmas and amazement.

Today, the legal departments of the largest state companies (electric power supply, water supply, oil industry, mining industry and road communications) share the opinion that change of forest purpose is settled by compensation for the forest functions of general benefit at a rate of 0.07% of the total revenues of all industrial entities, which is the only compensation prescribed by law. Indeed, it is only partial compensation for maintenance and development of the functions of a stable forest ecosystem, and it is only symbolic compared to the actual costs required for cultivating a new forest or for re-establishing all its functions.

If forestry did not take care of the forest functions of general benefit with its own resources, the environment in Croatia would be in a much worse condition. The same thing will happen if funds are not provided for raising new forests in terms of compensation for the lost forests.

Forestry and Nature Protection: The goals set by law and those met in practice are very much the same relating to nature and environmental protection on one hand and sustainable development and forest management on the other. There are almost no disagreements between these activities. For the realisation of most nature and environmental protection goals, other activities, such as energy production, mining, road construction, and so forth present a much more serious obstacle than forestry.

From the point of view of foresters, the latest requirements of the institutions for environmental protection for an additional increment of protected areas is not acceptable. When this applies to spreading the area of national parks and nature parks, for forestry it means a decrease of production forests as well as income, which cannot be neglected in the Croatian model of self-financing forestry. The use of natural resources is forbidden in national parks and nature parks, and consequently these protected areas are excluded from the regular forest economy.

A problem by itself is the lack of money for implementing numerous measures aimed at nature and environmental protection. As the planned measures are not implemented as they should, the protection programmes are only partly realised without achieving the established goals of protection. Indeed, this problem has resulted in some protected areas regressing in terms of the desired level of ecological and social functions. Unfortunately, the public institutions in charge of nature and environment protection rarely employ forest experts.

Financial Incentives: Unfortunately, the deficiency of Croatian forest policy is particularly conspicuous in the form of lack of financial support, favorable tax treatment, and credit as well as lack of technical aid and consulting. Private forest owners, minor enterprises, forest contractors and others ask for the same kind of support. From the economic point of view, funds should be directed to the activities producing direct economic benefits (acquiring environmentally friendly forest mechanisation, construction and maintenance of forest roads, development of programmes for managing private forests, etc.). Outright grants should be directed to the activities of biological forest reproduction because it is very difficult to cover these costs from regular sources. The most important activities are the cultivation of forests on areas devastated by fire, anti-erosion and fire protection measures, thinning of young stands and logging.

In 1997 Croatia was granted a credit from the World Bank for implementation of the Coastal Forest Reconstruction and Protection Project to address: a) the reconstruction of coastal forest damaged in war and by fire, b) control of forest fire, including establishing an operation centre, measures for fire protection and measures for fighting the fire, c) supporting activities, including GIS research and development, monitoring and assessment of the development of project activities. The Ministry of Agriculture and Forestry is in charge of the project activities. The goals of the project are: 1) to establish an efficient system of forest fire control, 2) to reforest and protect forest stands in the coastal region and to improve the appearance of the landscape with the purpose of revitalisation of tourism, 3) to restore the ecological function of forest stands and their natural regeneration, 4) to develop managment and protection of the coastal ecosystems, 5) to increase employment.

Measures to Promote Sustainable Forestry and Preservation of Biodiversity: The Republic of Croatia undertook to develop the strategy of biodiversity protection during 1997. The Department for Protection of Natural Resources of the Ministry of Culture of the development of the National Strategy for Protection of Biodiversity.

Croatian forestry and hunting started immediately developing their own concept of biodiversity protection since these activities are directly connected to nature and utilisation of natural resources. The first step was to set up a special working group for forests and hunting with the charge of drawing up a strategy and action plan for the protection of the Croatian ecosystems.

Unfortunately, the National Strategy for Protection of Biodiversity was late with respect to the Strategy and Program of Regional Planning of the Republic of Croatia through which construction of future energy facilities was planned on many protected natural areas. Such plans are a great threat to the conservation of biodiversity. A discussion supported by valid arguments and a closely reasoned agreement could overcome the current conflict between the Strategy for Protection of Natural resources and regional planning for energy development in Croatia.

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DIE RECHTLICHE REGELUNG DER FORSTWIRTSCHAFT IN DER TSCHECHISCHEN REPUBLIK *

MARTIN CHYTRÝ UND JIRÍ STANEK

Die rechtliche Regelung der Forstwirtschaft auf dem Gebiet der Tschechischen Republik hat eine sehr lange Entwicklung hinter sich. Die ersten historisch belegten rechtlichen Regelungen der Bewirtschaftung von Wäldern reichen bis ins 14. Jahrhundert (1379) zurück, auch wenn diese Regelungen nur ein begrenztes Gebiet betrafen oder, als Teilbestimmungen, Bestandteil anderer Rechtsvorschriften waren. Die erste moderne abgeschlossene Kodifizierung ist das kaiserliche Patent Nummer 250 von 1852, mit welchem das Forstgesetz für den österreichischen Teil des damaligen Österreich-Ungarn herausgegeben wurde und das, mit gewissen Anpassungen, bis Ende 1960 auf dem Gebiet der heutigen Tschechischen Republik galt.

1. GRUNDBESITZ

Die Tschechische Republik besitzt eine Fläche von 78.864 km2, d.s. ca. 7.886 tausend ha. Davon sind ca. 4.280 tausend ha (54%) landwirtschaftliche Nutzfläche und ca. 2.630 tausend ha (33%) Waldboden. In der Tschechischen Republik kann Boden Gegenstand von Privateigentum sein d.h., daß nicht nur der Staat Boden besitzt, sondern auch natürliche Personen (Bürger), Gemeinden und andere juristische Personen. Das Eigentumsrecht aller Eigentümer hat den gleichen gesetzlichen Inhalt und genießt den gleichen gesetzlichen Schutz.

Der Grundbesitz ist durch die Verfassung, das Bürgerliche Gesetzbuch und durch weitere Gesetze geschützt, z.B. durch Gesetz Nummer 229 aus dem Jahr 1991 über die Regelung der Grundbesitzverhältnisse und der Eigentumsverhältnisse in bezug auf anderes landwirtschaftliche Eigentum (Bodengesetz). Der Grundbesitzer ist innerhalb des gesetzlichen Rahmens berechtigt, Boden zu halten, zu nutzen, die Erträge und den Nutzen des Bodens zu genießen und über den Boden zu verfügen. Neben dem Eigentümer dürfen andere Personen nur aufgrund eines Vertrags mit dem Eigentümer den Boden nutzen.

Der Grundbesitzer ist Eigentümer der auf dem Grundstück wachsenden Waldbestän-de. Durch die Ausübung des Eigentumsrechts dürfen die Rechte anderer Personen, gesetzlich geschützte allgemeine Interessen, sowie Umwelt und Natur nicht geschädigt werden. Als Bestandteil der Umwelt ist der Boden durch besondere Gesetze geschützt. Das Gesetz Nummer 334 von 1992 schützt die landwirtschaftliche Nutzfläche, d.h. landwirtschaftlich genutzte Grundstücke, Ackerboden, Hopfengärten, Weinberge, Gärten, Obstplantagen, Wiesen und Weiden. Das Gesetz Nummer 289 von 1995 (Forstgesetz) schützt den Waldboden, den dieses Gesetz als „Grundstücke zur Erfüllung der Funktionen des Waldes“ bezeichnet. Hierzu gehören nicht nur Grundstücke mit Waldbewuchs, Waldschneisen und unbefestigte Waldwege bis zu einer Breite von 4m, sondern auch weitere Grundstücke wie z.B. befestigte Waldwege, Grundstücke, die sich über der Baumgrenze befinden, Wildweiden, kleinere Wasserflächen und weitere Flächen, sofern sie mit dem Wald zusammenhängen oder forstwirtschaftlichen Zwecken dienen.

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (1999):89-93 (revised)

2. EINGRIFFE IN GRUNDBESITZ UND GESETZLICHE EINSCHRÄNKUNGEN

Ein Eingriff in Eigentumsrechte am Boden darf nur auf gesetzlicher Grundlage und gegen Entschädigung erfolgen. Eine Enteignung im öffentlichen Interesse ist aus folgenden Gründen möglich:

- Realisierung von Bauten, die dem Gemeinwohl dienen;
- Schaffung von Hygiene-, Sicherheits- oder anderen Schutzzonen und Schutzgebieten sowie Gewährleistung der Bedingungen für diese;
- Schaffung der Bedingungen für den notwendigen Zugang zu einem Grundstück oder Bauwerk;
- Schaffung der Bedingungen für die Erstellung oder den ordnungsgemäßen Betrieb von Einrichtungen des staatlichen Umwelt-Überwachungsnetzes.

Das öffentliche Interesse an einer Enteignung muß in einem Enteignungsverfahren, in dem der Grundstückseigentümer seine Einwände vorbringen kann, nachgewiesen werden.

Einige Gesetze enthalten Bestimmungen über die Einschränkung von Eigentumsrechten. Das Gesetz Nummer 114 aus dem Jahr 1992 über Landschafts- und Naturschutz bestimmt, daß jeder verpflichtet ist, die aus diesem Gesetz hervorgehenden Einschränkungen bei der Nutzung der Natur und der Landschaft zu dulden. Das Gesetz erwähnt in diesem Zusammenhang jedoch keine eventuellen Entschädigungen für solche Einschränkungen.

Später erlassene Gesetze z.B. das Landwirtschaftsgesetz oder die Novellierung des Wassergesetzes enthalten dagegen eine Bestimmung, daß dem Grundstückseigentümer eine Entschädigung von Verlusten zusteht, die durch gesetzlich angeordnete Bewirtschaftungsweisen entstehen bzw. auch eine Entschädigung für eine nachweisliche Einschränkung der Eigentumsrechte. Auch das Gesetz Nummer 289 von 1995 (Forstgesetz) enthält eine Bestimmung, der gemäß einem Waldbesitzer das Recht auf Entschädigung von Verlusten zusteht, die durch eine Einschränkung der Bewirtschaftung des Waldes entstanden sind. Dieses Recht besteht gegenüber demjenigen staatlichen Organ, welches die Einschränkung angeordnet hat. Das staatliche Verwaltungsorgan kann daraufhin die Entschädigung auf diejenigen Personen abwälzen, in deren Interesse die Einschränkung angeordnet wurde.

Das Forstgesetz bestimmt des weiteren, daß Besitzer von Schutzwäldern oder Wäldern mit besonderer Funktion verpflichtet sind, die aus dem Forstgesetz oder aus anderen Rechtsvorschriften hervorgehenden Einschränkungen bei der Bewirtschaftung hinzunehmen. Gleichzeitig bestimmt dieses Gesetz freilich auch, daß den Eigentümern dieser Wälder eine Erstattung erhöhter Kosten zusteht, sofern diese wegen der eingeschränkten Bewirtschaftungsweise entstehen. Die Waldeigentümer haben dieses Recht jedoch bisher nicht zu nutzen gelernt.

3. DAS FORSTGESETZ

Seit dem 1. Januar 1996 gilt in der Tschechischen Republik das Gesetz Nummer 289 aus dem Jahr 1995, das Forstgesetz. Zweck dieses Gesetzes ist die Bestimmung der Voraussetzungen für die Erhaltung des Waldes, für die Pflege und Erneuerung des Waldes als nationaler Reichtum und als unersetzlicher Bestandteil der Umwelt.

Als wichtigste Begriffe definiert das Forstgesetz insbesondere:

- den Wald als Waldbewuchs und dessen Umfeld sowie die Grundstücke, die für die Erfüllung der Funktionen des Waldes bestimmt sind;
- die Funktionen des Waldes als Beiträge, die mit der Existenz des Waldes zusammenhängen und die sich auf produktive und außerproduktive Funktionen beziehen;
- den Waldbewuchs als Waldbäume und -sträucher, die unter den gegebenen Bedingungen die Funktionen des Waldes erfüllen;
- die Bewirtschaftung des Waldes als Erneuerung, Schutz, Erziehung von Waldbestände, sowie die Erfüllung der Funktionen des Waldes gewährleistende Tätigkeit.

Das Forstgesetz bestimmt des weiteren die Grundstücke, die der Erfüllung der Funktionen des Waldes dienen (Waldgrundstücke und übrige Grundstücke) sowie deren Schutz.

Das Recht der allgemeinen Nutzung des Waldes hat in der Tschechischen Republik Tradition. Jeder darf den Wald auf eigene Gefahr betreten, gleichgültig wem der Wald gehört d.h., ob der Wald staatliches Eigentum, Gemeindeeigentum oder in Privatbesitz ist. Jeder darf dabei Waldfrüchte und Reisig für den eigenen Bedarf sammeln. In diesem Umfang ist das Recht der allgemeinen Nutzung des Waldes kostenlos. Eine Umzäunung von Wäldern zur Grundstücksabgrenzung oder zur Einschränkung des Rechts der allgemeinen Nutzung des Waldes ist gesetzlich verboten.

Das Forstgesetz enthält ferner folgende Regelungen und Definitionen:

- Einteilung der Wälder in Kategorien (Wirtschaftswälder, Schutzwälder, Wälder mit Sonderfunktion);
- Wirtschaftliche Regelung der Wälder und Forstwirtschaftsplanung;
- Pflichten der Waldeigentümer bei der Bewirtschaftung des Waldes;
- Lizenzpflichtige Tätigkeiten in der Forstwirtschaft;
- System der Organe der staatlichen Forstverwaltung und ihrer Zuständigkeit;
- Sanktionen (Strafgelder) für Verletzungen des Forstgesetzes.

4. REALISIERUNG DER POLITISCHEN ABSICHTEN IN DER PRAXIS - MOTIVATION UND FÖRDERUNG

Im Jahr 1994 verabschiedete die Regierung der Tschechischen Republik die Grundsätze der staatlichen Forstpolitik. Eines der grundlegenden Instrumente zur Realisierung der staatlichen Forstpolitik ist das Forstgesetz. Dieses Gesetz enthält nicht nur generelle Bestimmungen über die Forstwirtschaft, sondern auch weitreichende Bestimmungen über staatliche Förderungsmassnahmen.

Der Staat fördert die Forstwirtschaft durch Dienstleistungen oder durch finanzielle Maßnahmen. Die finanzielle Förderung dient insbesondere folgenden Zwecken:

- Schutz und Pflege des Waldes;
- Maßnahmen zur Wiederaufforstung immissionsgeschädigter oder durch andere anthropogene Einflüsse geschädigter Wälder;
- Maßnahmen zur Gewährleistung der außerproduktiven Funktionen des Waldes;
- Unterstützung von Waldeigentümerverbänden und Unterstützung der gemeinsamen Bewirtschaftung kleinerer Wälder.

Im Jahr 1997 gab der Staat über das Landwirtschaftsministerium ca. 400 Mio. Kronen für die Förderung der Forstwirtschaft aus.

Die Forstwirtschaft wird außerdem aus dem Staatlichen Umweltschutzfonds sowie mit Steuererleichterungen unterstützt. Gegenstand der Immobiliensteuer sind z.B. nur Wirtschaftswälder. Wälder der Kategorien Schutzwald und Wälder mit Sonderfunktionen sind von der Immobiliensteuer befreit.

5. AUSWIRKUNGEN DER UMWELTSCHUTZGESETZGEBUNG

Nach 1990 wurden in der Tschechischen Republik mehrere bedeutende Gesetze zum Schutz der Umwelt und ihrer Bestandteile erlassen, so vor allem das Umweltschutzgesetz Nummer 17 von 1992. Dieses Gesetz definiert die Grundbegriffe und legt die Grundsätze des Umweltschutzes und die Pflichten natürlicher und juristischer Personen beim Schutz und bei der Verbesserung des Zustands der Umwelt sowie bei der Nutzung der natürlichen Ressourcen fest. Das Gesetz geht dabei vom Prinzip der nachhaltigen Entwicklung aus.

Sehr umfangreich ist das Gesetz Nummer 114 von 1992 über den Natur- und Landschaftsschutz, dessen Zweck Erhaltung und Erneuerung des natürlichen Gleichgewichts, Schutz der Vielfalt der Lebensformen, Erhaltung der Werte und Schönheit der Natur und ein verantwortlicher Umgang mit natürlichen Ressourcen ist. Dieses Gesetz betrifft die Forstwirtschaft in bedeutender Weise insbesondere in folgenden Punkten:

- Alle Wälder werden den sog. wesentlichen Landschaftselementen zugeordnet, die gegen Beschädigung und Zerstörung geschützt werden müssen. Für alle Eingriffe, die zur Beschädigung eines wesentlichen Landschaftselements führen können, muß zuvor die verbindliche Stellungnahme der staatlichen Umweltschutzbehörde eingeholt werden.
- Die Umweltschutzbehörden sind an der Erstellung und Freigabe der Forstwirtschaftspläne beteiligt, um eine ökologisch angemessene Bewirtschaftung der Wälder zu gewährleisten.
- Die verbindliche Stellungnahme der Umweltschutzbehörden ist bei der Rodung oder Aufforstung von Grundstücken über 0,5 ha, beim Bau von Forstwegen und Hangstraßen sowie bei Forst-Meliorationssystemen erforderlich.
- Die absichtliche Verbreitung geographisch fremder Tier- und Pflanzenarten (d.h. auch Waldpflanzen) ist nur mit Genehmigung der Umweltschutzbehörden möglich.

Zu den Regelungen, die den Umweltschutz betreffen, gehören des weiteren das Gesetz zur Bewertung des Einflusses von Bauten, Tätigkeiten, Technologien und Produkten auf die Umwelt (Nummer 244/1992 Gbl.), das Gesetz zum Schutze der Luft (Nummer 309/1991 Gbl.), das Abfallgesetz (Nummer 238/1991 Gbl.), das Wassergesetz, das Gesetz zum Schutz des landwirtschaftlich genutzten Bodens und selbstverständlich auch das Forstgesetz.

Das Forstgesetz ist so konzipiert, daß ein Ausgleich zwischen den Interessen der Waldeigentümer an der Nutzung des Waldes als Eigentum und den Interessen des Staates an der Erhaltung des Waldes als öffentlichem Gut und bedeutendem Bestandteil der Natur erreicht werden soll.

Konflikte zwischen den durch das Forstgesetz und den durch die Umweltgesetzgebung geschützten Interessen treten nicht auf. Es ergeben sich jedoch Konflikte in Bezug auf bestimmte durch Umweltschutzverbände vertretenen

Ansichten, die sich um eine regionale Erweiterung kleinerer geschützter Gebiete oder Landschafts-schutzgebiete ohne Berücksichtigung der Grundstückseigentümer-interessen bemühen. Diese Streitfälle müssen dann durch die Forstverwaltungs-behörden und durch die Umweltschutzbehörden gemeinsam geklärt werden.

Den Umweltschutz und somit auch den Schutz des Waldes betrifft auch das Gesetz Nummer 282 aus d.J. 1991 über die Tschechische Umweltschutzinspektion und ihre Zuständigkeit im Bereich des Forstschutzes. Durch dieses Gesetz wurde die Tschechische Umweltschutzinspektion als staatliche Verwaltungsbehörde, die dem Ministerium für Umweltschutz der Tschechischen Republik untersteht, gegründet. Die Umweltschutzinspektion wacht über die Einhaltung der Rechtsvorschriften und Beschlüsse in bezug auf die Erfüllung der Funktionen des Waldes als Bestandteil der Natur. In bestimmten Angelegenheiten überschneidet sich die Zuständigkeit der Umweltschutzinspektion mit der Zuständigkeit der Forstverwaltungsbehörden, die dem Landwirtschaftsministerium unterstehen.

Insgesamt sind Umwelt- und Naturschutz und der Schutz des Waldes in der Tschechischen Republik durch ein komplexes System von Rechtsvorschriften geregelt, die ihren Zweck gut erfüllen und die vergleichbar sind mit ähnlichen in den Ländern der Europäischen Union geltenden Vorschriften.

VORBEREITUNG DER NOVELLE DES TSCHECHISCHEN FORSTGESETZES *

MARTIN CHYTRÝ UND JIRÍ STANEK

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

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

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

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

Die Tatsache, dass Waldeigentümer ihre Wälder nicht bewirtschaften können oder wollen bzw. versuchen, ihren Waldbesitz zu veräussern, wird von bestimmten

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (2000): 25-27.

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

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

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

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

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

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

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

verpflichten, sofern begründeter Zweifel besteht, dass das genutzte Waldstück neu bepflanzt wird. Es handelt sich um eine vergleichbare Bestimmung zu § 89 des deutschen Forstgesetzes.

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

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

Die finanziellen Mittel erhält der Fonds:

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

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

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

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

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

THE DANISH FOREST ACT OF 1996 *

Finn Helles

The article examines the Forest Act 1996 which revised the Forest Act 1989. In order to provide an understanding of the current legislation, some background information is given on forests and forestry in Denmark and the development of forest policy, emphasis being on the development that led to the issue of the 1989 Act and its revision in 1996. No general distinction is made between which provisions were changed and added 1989 - 1996. Some experience from the implementation on this legislation is presented.

1. THE LEGAL AND POLICY FRAMEWORK

According to the 1990 national forest inventory (Forest and Nature Agency and Statistics Denmark 1994), Denmark has a total forest area of 445,000 ha, of which 417,000 ha is under tree cover. The forest area comprises 10.3 % of the country's land area. An estimated 85% of the forest area is forest reserve under the Forest Act. It is estimated that 10% of the area is protection forest and non-intervention forest, and that 5% is exclusively used for production of Christmas trees and greenery (*Abies spp.*). In addition come near-urban forests which are less intensively used for production purposes. Since 1990 the forest area has increased by > 20,000 ha from afforestation of farm land (Helles and Linddal 1999).

The annual removals are about 2 mio. m^3, two-thirds of which is softwood. The annual consumption of wood and wood-based products amounts to about 7.5 mio m^3 roundwood equivalents or an average of 1.4 m^3 per capita. Forestry's gross factor income in 1997/98 was DKK 1.1 billion (Statistics Denmark 1999) with more than one-third originating from Christmas trees and greenery. Forty-five per cent of forestry's production value goes to domestic economic sectors, 15% to domestic consumption and 40% is exported (80% of Christmas trees and greenery). The total number of forest estates (> 0.5 ha) is about 20,500 ha, of which 96% is < 50 ha and covers 24% of the total forest area. Most forest estates are owned in connection with farm land. The distribution of the forest area to ownership categories is: (i) private forest property 45%, (ii) foundations, associations, etc. 23%, (iii) public forests 31% (the Forest and Nature Agency managing 26%).

The data on forest cover, production and economic importance reveal that it is a small sectorof the economy. This implies that formulation and implementation of a comprehensive policy meets with obstacles compared to, e.g. agricultural policy. The conflicts are less and a consensus on forest policy is feasible. Furthermore, one third of the forest area is public land. In general terms the Danish forest sector encompasses few contemporary conflicting topics relevant to forest policy intervention.

The following two claims are possible explanations why the context of forest policy formulation in Denmark is smooth: (i) The forests are well managed and comply with existing regulations, and the public perception of nature corresponds to the managed high forests, and (ii) the forest sector is of no significant macroeconomic importance and the stakes are therefore small in terms of timber production, and the provision of

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* Source: IUFRO Research Group 6.13; Submitted Paper, March 2000.

non-timber goods and services in return for public grant schemes could emerge as a supplementary management objective.

Table 1. Problems, responses and objectives in Danish forest policy (adapted from Linddal 1996).

Policy problem	Policy response	Policy objectives
(1750-1800) Over-exploitation and fear of timber shortage (1st Forest Act 1805)	Forest Reserves Sustained timber management 'Good forestry'	Non-declining forest area Non-declining timber yield
(1930-1960s) Increasing timber demand (2nd Forest Act 1935)	Improved infrastructure and production 'Good forestry'	Focus on timber yield
(1970-1980s) Conflicts over forestry practice (3rd Forest Act 1989)	Multiple-use forest management 'Good and multiple-use forestry'	Focus on forest output
(1990s) Biodiversity, conservation and nature preservation (4th Forest Act 1996)	Ecosystem management 'Good and multiple-use forestry' from an overall consideration	Focus on forest functions
(21st Century) Possible scenarios: Adapting to international forest policy efforts and responding to symbolic importance of forests Forests a source of renewable natural capital (5th Forest Act 20xx)	Social forestry Renewable resources for fibre and energy	Focus on public participation (aim rather than means) Focus on natural capital and renewable energy

Table 1 gives a brief overview of the development of Danish forest policy. The Forest Act 1805 introduced the concept of 'forest reserve', which could, in principle, not be converted into other land uses and management should apply good forestry practices, primarily aimed at wood production. The Forest Act of 1935 elaborated upon the 1805 Act. The principle of 'good forestry' was expanded, but even if it was deliberately made adaptable to developments in forest science and practice, its focus remained on wood production. With regard to non-market outputs, the legislative process revealed that environmental values should be considered but not at the expense of market outputs to any significant degree (Helles 1969). In State and other publicly owned forests, some non-market outputs were to a certain extent taken into consideration, e.g. recreation services.

The need for revision of the forest policy emerged in the late 1960s. With the increasing affluence of Danish society outdoor recreation had become popular, resulting in an increasing number of visitors in forests. The issue gave rise to heated political debates, and in 1969 an Amendment to the Nature Conservation Act was passed, granting public access rights to private forests, which were slightly more restrictive than access to publicly owned forests. This is the first instance of the multiple-use concept being deliberately applied in Danish forest policy.

The 1980s was a decade of transition, not only in forest management but also in the perception of the role of forests in Society. A National Forest Inventory 1976 seemed to indicate that the area of beech was declining, not only in private but also in State Forestry. Beech being Denmark's 'national tree', the risk of having in a few years to change one verse of the national hymn made the fate of beech a front page issue in newspapers and politicians became concerned accordingly. Stands of mainly Norway spruce in heathland plantations showed red needles, a fact which 'green' interest organisations immediately related to 'bad forestry practice'.

A new Forest Act was passed in 1989. The Act maintained production objectives similar to those of its predecessor, but more importantly the objectives were extended to include multiple-use forestry. The management principle of 'good forestry' was changed into 'good and multiple-use forestry'. In the comments on the Bill it was claimed that Danish forests were already characterised by multiple use, a principle which is now followed by the introduction of a management principle. One might have expected that politicians would ask for a thorough updating of forest management. This was what 'green' organisations had fought for only a few years prior, and the forestry sector had been completely on the defensive. A possible explanation is that in 1987, two conflicting governmental offices had been merged to form the Forest *and* Nature Agency, covering the entire multiple-use spectrum. The Bill drafted by this Agency was, with a few odd exceptions, accepted by the relevant interests inside and outside the forestry sector, because even if immaterial outputs were emphasised, a new grant scheme was also introduced and other support for forestry increased. In line with a general trend, the new Forest Act was very much based on the 'carrot method', contrary to the 'stick method', which had dominated the previous Acts.

In Denmark, the 1990s might be identified as the 'decade of forest policy'. The Government was very active in the follow–up to international policies or strategies. The Strategy for Afforestation 1989 was a result of EU regulation, but its implementation is marked very much by later international policies that initiated the other strategies shown in Table 2: The UNCED Forest Declaration and Conventions on Biodiversity and Climate, as well as resolutions from the Helsinki Conference.

Table 2. Main forest strategies (adapted from Helles and Linddal 1999).

Strategy	Objective and description
'Afforestation' (1989)	The Danish forest area should increase by 100 % over a period of 80-100 years, with an annual public and private afforestation of 5,000 ha.
'Natural forests and other forest types of high conservation value' (1992)	The main objective is to preserve the biological diversity of forests, including their genetic resources. Before 2000, at least 5,000 ha should become non-intervention forest and 4,000 ha managed with original practice, e.g. coppice with standards. Before 2040, no less than 40,000 ha must be designated.
'Conservation of genetic resources of trees and bushes' (1992)	The main objective is the conservation of genetic variation of trees and bushes, with 1,800 ha nominated by 2040.
'Sustainable forest management' (1994)	A national strategy as a follow-up to the Rio summit 1992 and the Helsinki conference 1993.

The Strategy for Sustainable Development 1994, one of the first of its kind, was not only a national follow-up to the international conferences. The objective was also to demonstrate the implementation of a strategy on sustainable forestry to the inspiration of other nations.[1] On the basis of this strategy, the Government made a forest policy statement in 1994 listing the major policies:

- Forests must be preserved, and within one rotation (80-100 years) the nation's forest area should be doubled by state afforestation and by economic support to private afforestation.
- The area of deciduous forest should be increased by economic incentives.
- A public forestry and a profitable private forestry shall be maintained.
- All forests should be managed according to the principle of 'good and multiple-use forestry', implying that economic outputs as well as non-market values will be considered.
- Public forestry has a particular obligation to consider landscape, nature and recreation, etc.
- Support for forest improvement in private forestry will be provided with regard to economic output and furthering of 'near-natural' management.
- For biodiversity reasons a certain area of state and private forest will be turned into 'non–intervention' forest.
- The property structure should not deteriorate by splitting-up of forests into small, non-sustainable management units.

These issues are included in the Forest Act of 1996 which retains the objectives of the Forest Act of 1989, but changes the fundamental principle of 'good and multiple-use forestry' from an intention to an obligation for all forest reserves. All essential state grant schemes in forestry were incorporated in the Act:

[1] The Strategies for Afforestation and for Sustainable Forest Management have been analysed by Helles and Linddal (1996; 1999).

- Establishment of broadleaved stands, management planning, specific management practices, and recreation.
- Conversion of stands into non–intervention forest.
- Private afforestation of farm land.
- Development of more economic or environmental friendly production processes.
- Professional assistance to small woodland owners associations.

2. GENERAL PROVISIONS OF THE FOREST ACT 1996 [2]

Administration: In 1994 all forestry assignments under the Ministry of Agriculture were transferred to the Ministry of the Environment and Energy which now has the sole responsibility for forestry. The executive institution is the Forest and Nature Agency, its name reflecting *inter alia* the increased emphasis on the nature aspects of forests. The central administration also includes:

- The Nature Complaints Board which decides on complaints under the Forest Act.[3]
- The Forest Council which gives advise to the Minister on the administration of the Forest Act. The Board consists of 12 representatives for the forestry trade, interest organisations, forestry and nature science, and forest authorities.

The local administration of the Forest Act is handled by the regional state forestry districts.

Objectives: The objects clause introduced by the Forest Act 1989 is retained, placing environmental considerations on an equal footing with production of market resources. The objectives are to preserve and protect the forests, to improve the stability, property structure and productivity of forestry, to increase the forest area, and to strengthen guidance and information on good and multiple-use forestry.

Forest management must aim at (i) increased and improved timber production *and* (ii) considering the values of landscape, natural and cultural history, environmental protection and recreation. These values are particularly emphasised in public forests.

The concept of 'forest': There is no explicit definition of what is to be understood as a 'forest', but it is presumed (Wulff 1998) that the concept is by and large the same as that which developed under previous legislation: (i) Generally, the area must be minimum 0.5 ha and 20 m wide, (ii) the stands must be of forest tree species, (iii) the species must be able to develop into closed high forest, (iv) a stand may be established for non-forestry purposes which does not prevent it from being regarded as forest, e.g. willow for energy or conifers for Christmas trees, (v) it does not matter whether or not a stand is managed according to rational forestry principles, e.g. near-urban recreation forests fall under the Act.

Forest Reserves: It is now emphasised that the *forest reservation clause* (see sec. 3) implies a permanent binding of areas for forestry, i.e. they must 'in all future times' be used for such purpose. This is motivated by the increased pressure for converting

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[2] Section 2 relies mainly on Ministry of the Environment (1990), Ministry of the Environment and Energy (1996), Wulff (1998), Forest and Nature Agency (1999a).

[3] Until 1996, complaints were referred to the Forest and Nature Agency. This was changed to make decisions more transparent and remove any sense of prejudice.

forest reserve areas into other uses, e.g. building land. The provision cannot be taken literally because the Act also holds provisions for removing the clause (see p.13). Both before and after 1996, the clause is just a restriction of disposal rights similar to the general non-compensated regulation of ownership found, e.g. in agriculture. However, the provision implies that conflict over a particular area should as a principal rule be solved for the benefit of forestry. (Wulff 1998).

The Forest Act of 1989 initiated a nationwide registration of forest reserves and the last areas were entered into the land register primo 1999. This means that the detailed enumeration of forest reserve categories, most of which date back to the Forest Act 1805, has now little practical interest. No information on the extent of the forest reserve area has been published so far. The usual estimate is 85 per cent of the total forest area.[4]

A landowner may apply for having the forest reservation clause imposed on his land. Such imposition is a precondition for obtaining afforestation grants. Moreover, it becomes relevant if removal of the clause is conditioned on its being transferred to a *compensation area* (see p.13). An application is met if this area is found suitable for good and multiple-use forestry. The area should not be < 2 ha, unless it is covered with deciduous trees *and* specific aspects are relevant regarding landscape, environment and recreation. If the area is not under tree cover, an afforestation plan must be approved. Among the conditions for areas between 2 and 5 ha may be that only deciduous species are planted, or 75 per cent such species and 25 per cent stable conifers, while for larger areas no demands on tree species should be made apart from the establishment of outside forest edges of broadleave trees or certain conifers. Large mono-cultures should be avoided. Classified plant material must be used and a minimum number of plants established per ha. The forest authorities may impose forest reservation clause on an area which is held essential to a forest reserve. The two areas may have different owners but the non-reserve must constitute a topographic part of the forest. Among the motives for this provision is that potential damage to a forest reserve from the management of a non-reserve should be avoided.

Provisions for non-forest reserves: A few provisions of the Forest Act are common for all forests or only relevant for non-reserve forests. Non-reserve forest of minimum 2.5 ha must for the first 10 years after change of owner be managed according to the forest reservation clause. The idea is that after this period the new owner will have gained sufficient interest in the forest to practise good forestry. The provision is seldom applied. When a forest reserve or non-reserve forest changes owner, the old owner is not allowed to reserve standing trees for himself - the idea being that not two persons should decide on management.

Regulation of the property and management structure: Ninety-five per cent of the forest properties, covering 25 per cent of the forest area, is < 50 ha. Coherent forest reserves cannot be split up, i.e. areas classed together in the land register. The administrative practice is that forests with a distance between them of up to 0.8-1.2 km are considered 'coherent'. It is difficult to obtain grant of exemption - criteria are that management is not deteriorated and that each woodlot is sufficiently large for forestry business.[5] The starting point is that splitting-up is not permitted, the intention being that forest enterprises should remain sustainable.[6] It is a forest policy objective

[4] According to the Forest Act 1989, a national forest inventory must be made every ten years, the next being initiated in 2000.

to unite small woodlands for better management, but there has never been an efficient way to do this. Woodlands which are divided among several owners give rise to particular problems and the forest authorities should aim at having such estates united or managed together.

3. THE FOREST RESERVATION CLAUSE

The forest reservation clause implies prohibition against using forest reserve land for other purposes than forestry and demands on forest management.

Prohibition against purposes other than forestry: In a forest reserve area it is prohibited to build, make installations or change terrain if this is not necessary for forestry in a broad sense, i.e. more than wood production is considered.[7] The prohibition against *building* comprises: (i) Private habitation, i.e. a forest owner has no right to build a house for himself unless this is warranted by the forest management; (ii) public institutions, restaurants, kiosks, etc.; (iii) hunting lodges, shelters, etc. *Installations* comprise roads and railways, waste deposits, camping sites, parking grounds, etc. *Change of terrain* comprises extraction of raw materials, e.g. gravel. Excepted from prohibition are such undertakings necessary for forest management, e.g. residence for the forestry staff inclusive of the owner, roads for transport of timber etc., drainage, nurseries, buildings for machinery. Further, reasonable undertakings for the benefit of recreation, e.g. parking areas, paths, simple camping sites. In general, such undertakings are more acceptable in public than in private forests. Deer farms cannot be established without permission.

Good and multiple-use forestry: Forest reserve areas must be used for 'good and multiple-use forestry,' which implies that the forest management must aim at (i) increased and improved timber production *and* (ii) taking care of the values of landscape, natural and cultural history, environmental protection and recreation. Wood production potentials and biodiversity must be maintained or improved, and the surrounding environment cannot be negatively affected.

By this, the market and non-market values are put on an equal footing since the Forest Act of 1989. This is emphasised in the Forest Act of 1996 by stating that the principle of 'good and multiple-use forestry' must be applied on the basis of an *overall consideration*, implying that it is the forest owner's duty to take all the above factors into account, whereas this was previously only aimed at. The overall consideration is seen as a central element for securing a sustainable development of the forests. Not all forest reserves should be managed for the same objective or with similar weighting of the different values. The management should reflect the forest's potentials and historic background. It is recognised that it is impossible to comply with good and multiple-use forestry on every single area unit, but all values should be included in decision–making on the management of the forest estate. In other words, if the entire estate is managed according to one objective only, then the basic principle is not complied with.

Forest reserve areas must be kept under such tree cover that forms - or will within reasonable time form - a closed high forest. This has been a central provision of the

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[5] There are other provisions aiming at protecting a specific class of large forest estates.

[6] Since the Forest Act 1989 no fixed limits for a sustainable forest enterprise have been applied.

[7] This is an extension caused by the Forest Act 1996 making good and multiple use a claim on all forest reserves.

forest reservation clause since the Forest Act of 1805. In the closed high forest there may be glades or areas with scrub. However, there are specific exceptions from the provision:

- Areas may be kept without tree cover if necessary for forest management, e.g. buildings and roads, fire breaks, forage areas for game, non-permanent forest nurseries. The overall consideration is applied, i.e. areas may be held uncovered to the benefit of recreation and landscape.
- Areas may be kept without tree cover or in another specific use when determined by preservation according to the Nature Conservation Act 1992 (see sect. 6).[8]
- Fields and dunes in forest reserve may be kept unforested as long as their use is not changed. Under 'fields', e.g. areas which are used by forestry staff as part of their salary, the implication is (Wulff 1998) that such area cannot be utilised in ways that impede forest management or complicate potential afforestation. If no longer used, fields may remain unforested for landscape considerations.
- Christmas trees and greenery in short rotation are permitted to a maximum 10 per cent of each topographic forest unit, i.e. the limit does not relate to the estate area. By this permission, the Forest Act considers that such production is often essential to the owner's income.
- The immaterial objectives of the Act imply that it is legal not to afforest - and perhaps clear - small forest reserve areas if the aim is to consider solitary trees and relicts of the past, provide a scenic view, or plant fruit trees for birds or bees.
- Biotopes in forest reserves - lakes, moors, water courses, heaths, tidal meadows - which because of their small size are not protected by the Nature Conservation Act,[9] may not be cultivated, drained, afforested or changed in other ways.
- Permission may be granted to maintain areas managed as coppice with standards, the intention being to preserve examples of this old management practice.
- Domestic animals are as a general rule not permitted in forest reserves. However, exception may be granted for forestry, nature or cultural reasons. Forestry reasons would be making pigs further natural regeneration, or sheep weeding young cultures. Cattle or sheep may be used to maintain nature, e.g. forest meadows. Such practice may be subsidised (see sect. 5). Existing deer parks are in general permitted.

Good and multiple-use forestry at *stand level* is specified:

- Uncovered (clear felled) areas must as soon as possible[10] be replanted or re-sown with suitable plant material unless natural regeneration is feasible. The regeneration must aim at producing high-quality timber. Practice is that at the height of 1 m there must on good sites be a minimum 4,000 deciduous plants or 3,000 coniferous plants, on poor sites 3,000 and 2,500 plants, respectively. Blanks < 0.2 ha are usually acceptable, more so on poor than on good sites.
- The new stand must be tended to ensure its growth, e.g. weeded or fenced against deer.

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[8] Or the Buildings Listing Act 1986.

[9] The Nature Conservation Act applies a common minimum area of 2,500 m^2 for all protected nature types, except for lakes 100 m^2.

[10] Delay of more than 2-3 years is not accepted.

- The stands must be properly thinned. The 1996 Act added the possibility to apply near-natural management. Permission may be granted to establish stands for self-thinning, e.g. Sitka spruce.
- Regeneration cannot take place until the stand is mature and must be made with due consideration to the stability and variability of the forest. In multi-age or multi-storey stands, the maturity criterion pertains to single-tree level. No rotation ages are prescribed, the general rule being that the stand must reach the rotation age/diameter which is usual for the locality. Applications for regeneration of immature stands are rather frequent, but permission is seldom granted. An overall consideration is the building-up and maintenance of a stable and diversified forest, and regeneration of the individual stand must take into account, recreation and environmental factors.
- Old trees and dead wood may to a reasonable extent be left in the forest for natural decay and as habitats for fauna and flora.

Choice of tree species: In general, the choice of tree species is free. However, there are exceptions:

- Outside forest edges of broadleaf trees and bushes are preserved because of their landscape value and biodiversity. Clear felling is not permitted, but appropriate thinning and regeneration must be made. No minimum width is provided because forest edges as a characteristic landscape element vary from one region to another. Anyway, the practice is that if a forest edge has no natural delimitation, a minimum width of 20 m in the north and west and 10 m in the south and east is applied, and maximum 40 m.
- Oak scrubs are protected and must be registered. That is, such scrub cannot be cleared and substituted for, e.g. coniferous plantation, but the owner is not obliged to actively maintain the scrub and prevent it from developing into high forest.
- In the case of an area being imposed the forest reservation clause, the forest authorities may demand that a certain part be afforested with broadleaves.
- If the owner neglects to afforest his forest reserve area, he may be instructed to use deciduous tree species.

As stressed by Wulff (1998) these provisions may seem vague when considering that a main reason for revising the Forest Act in 1989 was the decline in the area of deciduous forest (cf. sect. 1). In 1923, such forest covered 150,000 ha, of which 120,000 ha were in private ownership. At present, the private deciduous forest area is 106,000 ha. In line with the ‘spirit’ of the Act, it was decided to apply incentives to promote the use of deciduous tree species (see sect. 5).

Non–intervention forest: A forest owner may sign an agreement on turning a forest reserve stand into non-intervention forest, implying that the stand is not managed. The owner commits himself to leave the stand for natural decay and not replant or in other ways interfere. Usually he is compensated for the economic loss (see sect. 5). This deviation from the general demand of good and multiple-use forestry is based on the 1992 Strategy for Natural Forests (cf. Table 2). For an area to be accepted as non-intervention forest, it must possess substantial biological potential. The owner may similarly put a preservation order on single trees and groups of trees. This provision has been little used.

The forest owner's legal status[11]*:* As mentioned, the Forest Act of 1996 puts material and immaterial considerations on an equal footing and this makes it relevant to investigate the private owner's legal status. It is a problem what freedom the owner has with regard to the management of his forest and under what circumstances the forest authorities can issue orders.

A major implication of the forest reservation clause is that forest reserve area must be kept under cover of trees which form - or will within a reasonable time form – a closed high forest. The owner cannot refrain from afforesting by claiming that by this he maintains a beautiful scenic view or a fine outside forest edge, unless it is about small areas. Neither can an owner without permission clear a forest reserve area in order to establish a camping site for visitors, nor can he reestablish wetlands or forest meadows, etc. And he cannot without permission turn a stand into non-intervention forest.

Apart from the above, it is not evident if the owner may take non-production into consideration in the forest management. On the one hand, he is obviously obliged to manage the forest with due regard to nature and landscape - to apply an overall consideration. On the other hand, there must be narrow limits for his free downgrading of forest management to the benefit of other considerations in a forest reserve which is suited for production forestry and which has so far been managed according to economic principles.

The forest owner is not legally bound to maintain a deciduous forest if conifers are more profitable. And the Forest Act does not provide support for forest authorities to prevent an owner from managing his forest with the aim of maximum profit, even if aesthetic and landscape considerations are disregarded to some extent. It seems as if immaterial considerations primarily play a part in connection with applications for financial support and infringement of regulations as well as in general, non-committal guidance and information.

Altogether, the Forest Act is not precise with regard to the owner's legal status. It is not obvious if the increased emphasis on the forest's non-market values has changed the owner's rights to dispose of his forest.

Deviation from the forest reservation clause: Deviation from the forest reservation clause may take two forms: cancellation or limited exemption. The forest reservation clause may be cancelled on an area which is not suitable for good and multiple-use forestry. Generally, cancellation is only relevant for areas < 2 ha and with no connection to other forest reserve. The practice is that woodlots should be preserved unless they have neither production potential nor non-market values. In such case it will be considered if the woodlot should be converted into a nature area.[12]

The forest authorities may cancel the clause on areas which will be turned into another use, e.g. built-up area, main road and big raw material extraction. If the planned new use is of major social and business economic interest, and no important nature and/or forestry values are lost, then permission should be granted. It must be the intention to permanently convert the forest into other use or it must be difficult to reestablish forestry after completion of the works.

Permission may be granted to temporarily convert a forest reserve area into another use. Granting will normally be for a period of 10 years, rarely 25 years. Relevant

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[11] Based on Wulff (1998, pp. 36-38).

[12] Under the Nature Conservation Act.

uses are raw material extraction, camping sites, picnic areas, waste disposal sites, etc. Permission may be granted for keeping domestic animals (see p. 10), establishing deer parks and for postponement of reforestation, e.g. after a major wind throw. On poor sites it may be permitted to downgrade production to the benefit of other interests. Exemption from reforestation may be granted for reestablishing forest meadows and wetlands, etc. or to maintain scenery.

Compensation forest: Exemption from the forest reservation clause may be conditional on the clause being imposed on another area as 'compensation forest'. This principle dates back to the Forest Act of 1805 an has no doubt contributed substantially to prevent the forest area from being reduced (Wullf 1998).

As a principal rule, compensation forest is a condition for permission to cancel the clause on areas that are permanently converted into other uses, cf. above. There are some exceptions: compensation forest may not be demanded if, e.g. the area is unsuitable for forestry or is very small, i.e. < 0.5 ha, or < 0.1 ha, as close to an urban centres. General administrative practice is that the compensation area must be non-forested, but within reasonable time will become afforested in compliance with the demands of the Act. However, it has recently become possible to accept a forested, but non-reserve area if this forest is valuable from a nature preservation or landscape point of view, or because it is naturally connected with near-by forest reserves. The size of the compensation forest must as a starting point be 10 per cent larger than the area it is substituting, but 200 per cent may be demanded. A forestry assessment is made, including the reserve area's size, age and tree species composition.

The forest authorities may make conditions with regard to the situation of the compensation forest, e.g. if the clause is exempted for an area close to an urban centre, then the compensation forest must be close to the same. The authorities may prescribe the choice of tree species, inclusive of what part must be deciduous forest. The owner may fulfil his obligations for compensation forest by paying into a project on establishment of public or private forest reserve, the amount being assessed according to the actual afforestation and tending costs. It is often difficult to find areas suitable as compensation forest and therefore it has now become possible to establish a 'pool area'. The owner must within a certain time period use this area for complying with future demands for compensation forest, or he may give others access to this pool.

4 AFFORESTATION [13]

The target to double the Danish forest area: A Government Action Plan of 1987 for marginalised farm land included afforestation among its focus areas. A Notice of 1986 from the Ministry of Agriculture recommended an increased afforestation effort and pointed to the requirement for a specific designation of afforestation areas. The policy on afforestation includes both state and private afforestation. Since 1989 funding for state afforestation has been granted, while subsidy for private afforestation was implemented in 1991. The Nature Conservation Act forms the legal basis for funding of state afforestation, while the Forest Act has been the legal basis for private afforestation since 1996. The afforestation initiative has amalgamated to a target of doubling the forest area within one forest rotation. This target would require an annual afforestation on former farm land of about 5,000 ha. The afforestation

[13] The Strategies for Afforestation and for Sustainable Forest Management have been analysed by Helles and Linddal (1996; 1999).

effort is assumed to maintain the present balance between private and public forest land area (2:1).

Afforestation has been substantially promoted by the Ministry of the Environment and Energy. However, it is not evident that an overall evaluation of the need for more forest in Denmark has been made, and the focus of the Ministry has been on ambiguous environmental benefits. The investments are considerable in terms of land and capital, while neither the need for increased timber production nor the external value of forestry above agriculture have been delineated. Forests are to a large extent considered an implicit "good" because of the institutional framework rather than because the investment is profitable in terms of both material and immaterial outputs. The beginning of the afforestation period seems to have been influenced by conflicting interests between the two sectoral ministries. The Ministry of Agriculture seemed rather reluctant to promote private afforestation. It was probably a concern of this Ministry and influential agricultural organisations that subsidies for afforestation would convert good farm land into plantations.

The designation of afforestation areas: Much of the debate on afforestation was triggered by the national designation of afforestation areas in 1990-1992. This designation was required according to EU regulations, but the Danish designation is unique with regard to detail compared with other EU member states.

Under the Zoning Act of 1989 the county councils were charged with producing mapped land-zoning plans for afforestation based on existing structural plans for agriculture and nature protection. The maps show the following categories of land-zoning:

- *Minus areas* where afforestation is normally not allowed (with or without grant aid). These areas were designated primarily according to nature protection requirements, although landscape and cultural values were included as well. The total minus areas were intended to be about 10-15 per cent of the non-urban area, but ended up being close to 25 per cent (about 750,000 ha).
- *Other (neutral) areas* where afforestation is allowed but the grant is at a lower level than in the *afforestation areas*.
- *Afforestation areas* were designated with reference to, e.g., ground water protection, recreational interests and poor soil quality. These areas make up about 6 per cent (about 180,000 ha) of the non-urban land. Afforestation is encouraged within these areas.

The designation was made with the intention of minimising conflicts between different land uses, e.g.:

- Recreational needs in urban fringes would justify afforestation even of high-quality farm land.
- An increase in the protection of ground water reserves, but a reduction of the contribution of forests to the acidification of surface water.
- The structure of farm ownership. A preference for creating larger units of forests for economic and environmental reasons.
- The sites already designated for power-generating wind mills reduce the potential for afforestation.
- Gravel resource deposits might be located in an afforestation area but afforestation postponed until after the exploitation.

Land-zoning will be revised in 2001. For afforestation areas the main considerations will be ground water protection and furthering of near-urban recreation and 'green networks', i.e. habitats for flora and fauna and ecological connections between them. Existing minus areas will in general be maintained and, on the basis of specific assessment, supplemented.[14] (Ministry of the Environment and Energy 1999a). It is probably a positive feature that the division between neutral and afforestation areas is not rigid, allowing for adjustments according to the variability in the relative advantage of afforestation. The boundaries of the minus areas appear more rigid and an important restriction on the future land use in these areas.

The designation of afforestation areas was useful in showing that afforestation is a sincere option to landowners. State afforestation should primarily take place in the afforestation areas, but this has not been the reality. For private afforestation the designation was used to differentiate the subsidy. From a policy perspective it was important not only to do a designation of areas not suitable for afforestation. It would have been a negative signal to designate only minus areas which would not elucidate the aim of the policy, which is increased afforestation.

Experience with State Afforestation: State afforestation is implemented by the Forest and Nature Agency. It includes completion of state forests and establishment of near-urban as well as traditional forests. The land is acquired by purchase in the open market and, in rare cases, on the basis of first refusal, according to the Nature Conservation Act. When farm land is purchased it is considered that farms in the area are not deprived of the possibility of land acquisition for the deposition of manure.

Helles and Linddal (1996) make some tentative observations from a large amount of state afforestation projects, most of which are small:

- The projects are mainly based on the initiative by the regional state forest districts.
- There is no mechanism to assure that the funding is spent efficiently, i.e. whether there is a need for the particular projects, and at least–cost.
- The projects are not subject to an *a priori* ranking.

However, so-called 'effort areas' have been identified which form the primary basis for larger state afforestation projects, i.e. projects amounting to more than DKK 3 million[15]. Here afforestation must comply with the criteria set up by a Nature Management Committee. The basic considerations are furthering of near-urban recreation, protection of ground water, and the biological variety of landscape. Moreover, a 'negative list' identifies which nature management project types are not supported under the Nature Conservation Act. (Forest and Nature Agency 1998, 1999b).[16] (See sect. 6)

Experience with Private Afforestation: Until 1997, the barriers against afforestation were reflected in the unwillingness of private landowners to embark on afforestation projects. Two insufficient schemes resulted from 1991 to 1996 in grants being paid and affirmed for only 895 ha. A new scheme proved significantly more attractive and 1997-1999 grants have been paid and affirmed for 4,834 ha, the average level of 1,600 ha being forecast for the next four years. The total expenditure 1997-1999

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[14] For the protection of the surroundings of churches, and landscapes with exceptional geology.

[15] 1 USD = 7.5 DKK.

[16] That is, not only state afforestation.

DKK 375 million[17] (Forest and Nature Agency, pers. comm.). Only farm land is eligible for subsidy. The forest reservation clause is imposed on the area which must be at least 2 ha.

Subsidies are granted for sowing or planting of forest trees on private farm land and for establishment of outside forest edges adjacent to a coniferous forest belonging to the same owner. The subsidy is flat-rate, bigger for broadleaf trees than for conifers, and bigger in afforestation than in neutral areas. Subsidy may also be granted for tending. A bonus is granted if establishment and tending are made without the use of pesticides. Apart from subsidy an income compensation may be granted for 20 years in afforestation areas.

There are still some 'drawbacks' in the scheme:

- The requirement in the Agricultural Act remains that the owner must reside at the estate. Only estates over 35 ha can have this claim removed and only after 20 years. Capital owners planting forest may not wish to receive the grant, while landowners have low access to capital.
- The grants are taxable income.
- The expenses are not completely deductible in the year in which they occur, as is the case in forestry.

It is assumed that at least 1,000 ha is planted each year by private landowners without a subsidy. The reason why these landowners do not apply for a grant is probably the requirement of residency at the estate. These forests are most likely not intended very much for timber production but rather for, e.g. hunting.

5 SUBSIDIES FOR PROMOTION OF GOOD AND MULTIPLE-USE FORESTRY

The grant schemes for promotion of good and multiple-use forestry have been extended and included in the Forest Act of 1996. They apply to private forest reserves and in some cases also non-reserves. Applicants must, of course, comply with specific demands. Subsidies may be granted for making 10- or 15-year management plans.

Regeneration: Subsidy may be granted for:

- Planting/natural regeneration of beech, oak, ash and lime. The subsidy is increased in the case of the owner agreeing with the forest authorities on making a long-term plan for the conversion of conifers into the above deciduous tree species. A bonus is paid for keeping 5 trees/ha of the old stand and for not using pesticides.
- Establishment of outside forest edges of broadleaf trees, on poor soils also interior belts of such species.
- On poor soils, a subsidy may be granted for planting of fir, Scots pine, larch, Douglas-fir and Abies grandis. Natural regeneration of (these) stable conifers is also subsidised.

Subsidies are higher for: (i) planting than for natural regeneration, (ii) conifers than for broadleaf trees, (iii) highest for outside edges/interior belts.The 1999 Budget for subsidies of this kind was DKK 30 million.

[17] Current values, as in the following.

Special Forestry Uses and Recreation: subsidies may be granted for tending and maintenance of forest areas that are valuable from a nature point of view; nature areas forming an integral part of a forest, and tending of relics of the past in forests. As per 1997, management agreements on 'nature forest' (cf. Table 2) comprised 1,809 ha: multi-storey stands, non-intervention stands, forest meadows, coppice with standards (Arentzen and Rasmussen 1999).[18] The 1999 Budget amounted to DKK 30 million. Subsidies may be granted for projects on improving the public's understanding of forests and quality of visits and improving public access to forests.

Support to small woodland owners associations, Production Duty and Product Development: Support for forestry consultants, dating back to the early 20th century, was included in the Forest Act of 1996 and in 1998 changed into an activity-based subsidy for guidance of owners of forests < 250 ha with regard to general forest management. The 1999 Budget was DKK 10 million.

Forest owners pay a production duty for areas of *Abies nordmanniana* and *A. procera*, at present DKK 125/ha/year. The money goes to the Production Duty Fund for Christmas Trees and Greenery and is used for joint efforts regarding furthering of the sale of Christmas trees and greenery, research and experiments, product development, guidance, etc.

Subsidies may be granted for the development of products from forestry and the wood processing industry. In forestry, eligible projects must aim at the development of products and production processes, new and more environmental friendly or profitable production methods, and new products which are suitable for forestry. The scheme has so far had limited success. The 1999 Budget was DDK 15 million.

6. NATURE MANAGEMENT UNDER THE NATURE CONSERVATION ACT 1992.[19]

The objectives of the Nature Conservation Act of 1992[20] are to conserve and tend values of landscape and cultural history, to conserve or improve the conditions for wild flora and fauna, to increase the forest area through state afforestation, and to improve the opportunities for public outdoor life.

The Act is administered by the Forest and Nature Agency assisted by an advisory Nature Management Committee consisting of representatives from a wide range of interest organisations. The budget is mainly spent on:

- Acquisition of areas where the Agency undertakes nature tending and re-establishment, and afforestation.
- Subsidies to councils, municipalities, private landowners and non-profit organisations for conservation, tending and re-establishment of nature areas and improvement of possibilities for outdoor life on private land.
- Voluntary, binding agreements with landowners on nature management and once-and-for-all compensation.

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[18] In State Forestry, a total area of 10,117 ha had been assigned for or converted into 'nature forest', at an opportunity cost of DKK 475 million, 1993 values.

[19] Based on Ministry of the Environment and Energy (1999b).

[20] Replacing the Nature Management Act 1989.

Table 3. Nature Management under the Forest and Nature Agency 1989-1998, ha

Areas	Outdoor life	Nature	Afforestation	Total
Old	156	1,917	248	2,321
New	451	7,778	6,129	14,358
Total	607	9,695	6,377	16,679

Expenditures 1989-1998 amounted to DKK 888 million: outdoor life 40%, nature 15%, afforestation 45%. Total expenditures under the Act as DKK 1,371 million, i.e. DKK 483 million spent For the two last of the above categories.

CONCLUDING REMARKS

In Denmark, strong efforts have been made in the 1990s in restructuring the institutional and legal framework of forest policy. Helles and Linddal (1999) point at two key reasons why the forest policy is well-functioning, coordinated and comprehensive. Firstly, it has become a policy priority due *inter alia* to the international process on forests, and a highly qualified civil service. Secondly, it is a small sector from a macroeconomic point of view, i.e. opposing interests and large sector costs do not prevail.

It could be added that managed forest results in few conflicts, as the point of reference is not a natural forest but intensively managed farm land. Despite being managed, the forests are considered nature, and the forestry sector has adopted an environmental profile almost competitive with interest groups formerly considered to have extreme views. The application in practice has been less evident due to budget constraints in State Forestry and a strained economic situation for private forestry. Conversely, however, it may be argued that the budget constraints in State Forestry and strained economic situation in private forestry have been instrumental in fostering the environmental profile in anticipation of additional transfers. (Helles *et al.* 1997).

In the outlook for future forest policy, the concern may be with the regulation of the forestry sector through economic incentives. The forestry sector is occasionally arguing for a capitalisation of the substantial non-market benefits from forestry by means of state subsidies and other means of financial transfer. The justification is that the environmental benefits are available to society free of charge. However, scrutinising the economic justification may reveal that the benefits are to a large extent provided in joint production at few or no opportunity cost. And an income transfer has so far not been the declared political objective. (Helles *et al.* 1997). As indicated in Table 1, two possible scenarios are outlined which may cause a revision of the Forest Act within foreseeable future: (i) A demand for social forestry where focus is on public participation in deciding how forests should be managed. There is already a trend in that direction. (ii) For economic reasons the emphasis on immaterial forestry outputs may be downgraded and focus shift to forests as renewable resources for fibre and energy.

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THE FOREST ACT 1999 OF ESTONIA *

PAAVO KAIMRE

GENERAL FOREST POLICY OBJECTIVES

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

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

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

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

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

THE BACKGROUND OF THE FOREST ACTS

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

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

- the guidance of forestry (administration);

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (2000): 28-32

- state control over private forests.

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

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

OWNERSHIP PATTERN AND INTEREST GROUPS

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

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

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

SCOPE OF THE FOREST ACT 1999

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

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

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

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

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

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

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

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

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

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

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

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

IMPLEMENTATION OF THE FOREST ACT

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

Private forestry shall be supported by the following activities:

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

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

The following duties shall be performed by the state:

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

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

ENVIRONMENTAL ASPECTS

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

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

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

FINAL REMARKS

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

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

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REFORM OF FINNISH FOREST LEGISLATION AND THE NEW FOREST ACT OF 1996 *

OLLI SAASTAMOINEN

ABSTRACT

The paper deals with the reform of forest legislation in the 1990s, discusses the change of forest policy preceeding and contributing to the reform, and reviews major changes in forestry related legislation. Most of the discussion is devoted to the new Forest Act, as the core of the reformed legislative network on forests.

1. OVERVIEW ON FOREST LEGISLATION DEVELOPMENT

”The destruction of forest, in which the Finns have developed considerable skills, is furthered by the unregulated grazing of cattle, slash and burn agriculture and the highly destructive practice of burning over. This can be viewed indifferently only with the greatest stupidity. The Finns live from the forest and in the forests, and like the old woman of the fairytale their stupidity and greed makes them kill the hen that lays the golden egg". These words were written by a well-known German forest expert Edmund von Berg and published in his report (Berg 1859) after being invited to survey the state of the Finland's forests. His often cited conclusion was more straightforward than the diplomatic language of contemporary development agents.

Many people are inclined to think that our ancestors with their forest uses have lived in harmony with nature, but that is not the view produced by the historians. "People living in the wilderness could not understand why forests should be saved and protected. For most of them, forest was threatening and fearful place, the abode of wild animals and unknown spirits. When forest was cleared, the sun warmed the soil and it was possible to grow grain and other plants" (Michelsen 1995). The attitude of early industrial interests was none better: iron industry and early lumbering were in conflict with each other for raw-material acquisition but united in their careless use of forests. "Where timber is felled, it is done only for profit and not to grow new timber or to save existing forest” Edmund von Berg reported.

The attempts to restrict forest destruction by legislation have long traditions in Finland. Nevertheless, it is evident, that the early forest legislation from 1647 created under the Swedish rule was not able to notably limit forest destruction, although one must understand that people living in the forests perceived as development what from the point of view of the interests of the king, nobility and mining industry was called devastation. Such legal provisions were concerned for saving wood resources for mining, mast trees for the navy and fruit trees for all people, and tried basically to limit the burning of forests. However, at the end of 18th century the mercantilist state intervention gave room to more liberal economic ideas and the forest use of farmers – including woodland burning - gradually became totally unconditional (Uitamo and Pohjolainen 1997).

When Finland in 1809 became the Grand Duchy of the Russian Empire, the rules inherited from Sweden remained in force. The new forest provision of 1851 still protected the interests of mining and the strict regulations of saw-milling were

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* Source: IUFRO Research Group 6.13; Submitted Paper, March 2000

maintained. ”It is not possible to be a saw-miller and a honest man”, was a known phrase of one of the founders of the saw-milling industry. On 1861 the strict restrictions for saw-milling were released. Economic liberalisation connected with the growing demand in the European markets led to the rapid development of saw-milling and also pulp and paper industries. The latter especially met the demand of the Russian Empire.

The years after Edmund von Berg’s mission evidenced an increasing extent of forest destruction, leading to the Forest Act of 1886, which in its simple but famous wording “Forests shall no be devastated” laid ground for the development of new thinking in forest legislation. Although the Forest Act was yet ineffective due to the lack of proper supervision, its successors from 1917 and those enacted during the independence of Finland, particularly the Private Forest Act and the first fixed-term Act concerning state funding for forest improvement works, both from 1928, finally consolidated the development path to sustainable forestry. The course of this path includes, for example, the new versions of the Private Forest Act and Forest Improvement Act in 1967, the period of intensified silviculture and forest improvement from early 1960s to the early 1980s, the gradual decline in forest improvement activities in 1980s and the more drastic drop of state funding for that purpose during the economic depression of the first half of the 1990s. Besides these phenomena, the environmental concern and criticisms against forestry continuously was growing, resulting in major changes in forest policy and forest legislation in the 1990s.

2. THE ENVIRONMENTAL TURN IN FINNISH FOREST POLICY

The preparation of the new Forest Act started in mid-nineties, as a part of the process which is to be seen as an essential environmental turn in the Finnish forest policy. The reasons behind the turn include international processes, the pressures from national and international environmental movements on existing forestry practices and especially for the preservation of old forests, as well as the changing attitudes of European consumers and major business clients of the Finnish forest industries, reflecting genuine environmental concerns but also reacting on the impressive environmental media operations of the international environmental movements.

Other important factors were the sensitiveness of the Finnish forest industries on the environmental pressures while building the new green imago for the industry, the growing role of the Ministry of Environment with regard to forest matters, and finally, but not the least, the leadership of the Forest Department of the Ministry of Agriculture and Forestry to re-orientate the forest policy to correspond to environmental challenges (e.g, Saastamoinen 1996). Possibly, to some extent, forest policy research (Palo 1993 in particular) contributed to the attitudes of change.

The impact of the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992 was evident also in Finnish forestry. The section dealing with forests in the action plan for global sustainable development (Agenda 21), the Forestry principles, the biodiversity convention and the climate change framework got much publicity and, what was essential, brought environment and forestry issues in a legitimate way into the administration. The fact that a year after UNCED, Finland hosted the European ministerial conference on the protection of European forests, strengthened without doubt the political willingness for changes.

In Helsinki, the resolutions passed by UNCED were discussed at European level. One of the achievements of the Helsinki process was the drawing up and agreeing on pan-European criteria and indicators for sustainable forestry.

This international development contributed to the preparation of the Environmental Programme for Forestry, jointly elaborated by the Ministry of Agriculture and Forestry, and the Ministry of Environment in 1994 (Maa-ja metsätalousministeriö 1994). It brought the concept of ecological sustainability to the forefront of the forestry agenda, and discussed in Rio and Helsinki spirits many basic concepts and principles related of sustainable development. The programme represented the consensus of the two ministries, often having been in hidden or open conflict with each other, and therefore it has often been used as the basic document of future policy actions. No doubt it is among the major documents constituting the environmental turn of the Finnish forestry in the 1990s. It envisaged and strengthened both need and political will to renew forest legislation.

As a result Finnish forest legislation has undergone a comprehensive reform during the 1990s. All major forest laws were revised and rewritten to reflect the new focus of sustainable forestry, including not only economic but also ecological and social aspects. Most important of these is the new Forest Act. It maintains the economic sustainability of forestry while giving an adequate response for the environmental challenges forestry is facing. As discussed in the next it might have been more concrete in social dimension of sustainability.

3. A REVIEW OF REFORM ELEMENTS IN THE 1996 FOREST ACT

Differences with the earlier Private Forest Act 1967: The new Forest Act came into force in January 1997. Although it follows the tradition of earlier forest laws declaring in varying formulations the principle “forests shall not be devastated” first given as in 1886 Forest Act, it deviates in many respects from previous texts, the latest of which was the Private Forest Act of 1967.

First, to mention the most obvious, the new Forest Act now concerns all forests, not only the private ones. The Private Forest Act of 1967 applied in fact only to private non-industrial forests, to industrial forests owned by companies, to municipal and ecclesiastical forest and to jointly owned private forests. State forests managed by the Finnish Forest and Park Service had their own legislation (latest given in 1993, and still in force), which was merely an organisational-administrative law that besides very broad goal formulations, did not include substantial regulations concerning forest management. Until 1997, the state forests were practically only under the internal control of the professional state forest organisation. Since 1997 all forest management (cutting and regeneration) is under the statutes of the Forest Act and the outside control activities provided by the professional forest personnel of the Forestry Centres and the specific authoritative legal officers of the Forestry Centres.

The second important change in the New Forest Act is that it now includes provisions concerning the large northern protective forests and other minor protective forest areas, which earlier were included in the specific Protection Forest Act, in force between 1922 and 1996. The forest use in the zone of northern protection forests which largely concerns state owned but also private forests are under strict control to maintain the timber line forests. The third major novelty in the Forest Act is that the principle of sustainability in forestry has a much broader scope than earlier. Reflecting the declarations, conventions and the Forest Principles of UNCED, and especially the resolutions of Helsinki 1993, the formulation of the purpose of the law

is given in the following way*: "The purpose of this Act is to promote economically, ecologically and socially sustainable management and utilisation of the forests in such a way that the forests provide a sustainable satisfactory yield while their biological diversity is being maintained."*

The meaning of social sustainability: The new Forest Act of Finland, being the result of post-Rio and post-Helsinki processes, was among the first forest laws to include the three dimensions of sustainability which are economic, ecological, social into its goal formulation. Already in the purpose article both the economic dimension ("a sustainable satisfactory yield"), and ecological dimension of sustainability ("while their biological diversity is being maintained"), were further clarified and made more operational.

However, it is interesting to state, that this is not the case for the social dimension. It is not clarified in any other part of the act, and furthermore, the word "social" is not mentioned in any other paragraphs of the law. In fact, the report of the state committee, which prepared the draft forest act, did not consider social sustainability. This is a bit strange as in setting up the committee the Ministry of Agriculture and Forestry explicitly asked the committee to take into consideration all three dimensions of forestry. On the other hand, "non-consideration" was logical in the sense that the committee itself did not propose explicitly social dimension to be mentioned in the purpose paragraph (Table 1) but rather assumed that "sustainable management" implicitly includes all the three aspects. However, as the two other dimensions have been given further specifications in the act, this argument is not quite valid. The issue of the social dimension of sustainability in the Forest Act may bring to one's mind the former Prince of Denmark. Considering the two alternatives, "to be" is no doubt superior to "not to be". The goal formulations in any law have not only their substantial and operational components but also a declarative character. At least in that sense, the notion "socially sustainable management" represents a worthy contribution.

The principle of multiple use: One of the major principles in the modern forestry is that of multiple use. It belongs to the core of the social dimension of forestry, although as evidenced by the Criteria and Indicator processes, it also is part of the production functions of the forests. Finland is a country with a long tradition, keen citizen interest and rich practical experience in multiple use forestry, especially so in state and city forests. However, this situation is mainly due to customary rights. The traditional rights of public access in Finland allow every citizen to walk, ski, overnight and practise other non-motorised forms of outdoor recreation, pick berries, mushrooms and some other minor forest products not only for their own use but also for commercial purposes irrespective of the form of ownership of the forest estate. Picking berries, for example, is free of charge and no permission from the landowner is required. However, these "everyman's rights" as they are often called, in case of forests are not directly written in any law, although the Criminal Code, for example, defines those forest products belonging to the land owner. An argumentation for the forest products to be excluded from the forest property rights – such as berries and mushrooms – was based on social reasons (Laaksonen 1999). These old usufruct rights safeguard the access of people, not owning forests, to many important multiple uses (e.g. Saastamoinen 1999).

Table 1. Some Features of the Process of the Formulation of the Purpose Statement in the New Finnish Forest Law

One of the five draft versions for the formulation of the first paragraph for the purpose of planned new law (Metsälakitoimikunta 23.5.1995) *"Forests as a renewable natural resource are a national asset and an important part of the environment. The purpose of this law is to maintain and promote sustainable management and use of forests.* *Sustainable management and use of forests means the maintenance of the biodiversity, productivity, regeneration capacity and vitality of the forests as well as safequarding the conditions for multiple use of forests (and environmental management in forestry)".*
Final suggestion of the state preparatory committee for the core formulation of the first paragraph of the new forest act (Metsälakitoimikunnan mietintö 1995). *"The purpose of this law is to maintain and promote sustainable management and use of forests so that forests sustainably give good return while maintaining their biological diversity"*
The final formulation of the Forest Act of 1996 *The purpose of this Act is to promote economically, ecologically and socially sustainable management and utilisation of the forests in such a way that the forests provide a sustainable satisfactory yield while their biological diversity is being maintained.*

The principle of multiple use was not explicitly included in the new Forest Act, although section 5 concerning ”felling at special sites”, states that ”if the site where felling is to be carried out is of special importance from the point of view of maintaining the diversity of the forest, or for scenic or multiple forest use purposes, then the felling may be carried out in a manner presupposed by the special nature of the site”. Of course, one can claim that the principle of multiple use is implicitly included in the modern concept of sustainability, especially when the social dimension is mentioned. However, this interpretation hardly sustains the juridical examination as the laws should be clear and unambiguous. Yet one may raise a question, what does it matter if the principle of multiple use is not written in the law, if in the practice multiple use can still be realised in a satisfactory manner? The question is a valid one, but one of the problems is that the present “non-existence” of the principle does not encourage active promotion of multiple uses.

The explicit exclusion of the principle of multiple use from the new forest law cannot be regarded as an accident, because the committee has discussed several alternatives for the goal formulation and one of them included multiple use principle. It has been the deliberate decision of the committee to exclude the principle. In none of the differing opinions included into the committee report, the need to include the principle is mentioned. Another reason may be found in the interests and attitudes of the association and the representatives of forest owners, which traditionally have had much to say in public forest policy. Understandably, their mission is to fight against everything that sounds to endanger the rights of forest owners. "Social" sounds dangerous and multiple use does not any better. Every interest group should defend their own interest but one may wonder whether to cope with the needs of taxpayers

would be in the long term a more farsighted policy also for private forestry (Saastamoinen 1996).

Regional Forestry Programmes: A novelty in the Forest Act is that each regional Forestry Centre is obliged to draw up a forestry target programme for the area covered by its activities and follow up the implementation of the programme. In drawing up the programme, the forestry centre shall co-operate with the parties representing forestry in the area and with other relevant stakeholders. The programme shall be revised when necessary. The programme shall include the general targets set for promoting the sustainable forest management, the targets set for the measures and their financing as specified in the Act on the Financing of Sustainable Forestry (1094/1996), and the overall targets set for the development of forestry in the area. Detailed information concerning individual holdings shall not be included in the programme.

Regional forestry programmes are supposed to be useful tools in promoting forestry and strengthening the regional interests and public influence in forest development. However, one may wonder why the law does not mention national forestry target programmes? That should have been logical, and even more so as Finland has a long tradition in national forestry planning and programming. Certainly, the law does not prevent such a vital activity. The first round of regional forestry programmes were completed in 1998. In the same year the government decided to make a national forestry programme, in concordance with the recommendation of the Intergovernmental Panel on Forests, IPF. When compiling the national forestry programme, the regional forestry programmes served as information sources. Following the approval of the National Forest Programme by the Government in 1999, the regional programmes will be revised by the end of 2000.

Felling and Regeneration of Forest: Regulations concerning felling and regeneration in forest stands play the central role in the economic sustainability of forestry. Following the tradition of earlier laws, Forest Act states that fellings may be performed in a manner that promotes the growth of tree stands that is left in an area (*intermediate felling*), or in a manner presupposed for the formation of new tree stands (*regeneration felling*) (section 5). Intermediate felling shall be made in such a way that sufficient trees of satisfactory growth potential are left in the felling area. Regeneration felling may be carried out when tree stands have reached a sufficient size or age, or if there are other justifiable reasons for doing so. Regeneration felling may be carried out as natural regeneration if the conditions, as assessed beforehand on the basis of the tree stand, soil and ground vegetation in the area, are suitable for the formation of a natural seedling stand.

Kivilaakso (1997) argues that ”sufficiency” is difficult to make operational as the law does not define whether the criterion should be financial (forest owner’s profitability), economic (national economic view) or be based on the long term productivity of the site. However, the Act states that the ministry responsible for forestry matters may issue more detailed regulations about the minimum size and quality of the tree stand to be left in intermediate felling, and about the preconditions required for regeneration felling. According to Kivilaakso (1997) the Act should have been more explicit in the basic criterions, also due to reason that the offence of section 5 is criminalized.

After regeneration felling, a seedling stand which has economic growth potential and whose development is not directly threatened by the other vegetation, shall be established in the area within a reasonable period of time. Measures associated with the establishment of a seedling stand shall be completed within the time limit quoted

in the forest use declaration (specified in section 14), however within five years of the start of the regeneration felling or within three years of the completion of the regeneration felling. The responsibility for ensuring the establishment of a new tree stand and notification about the measures concerned, shall lie on the landowner.

Biodiversity: The goal of maintaining biological diversity in forests is a key element in the ecological sustainability promoted by the Forest Act. The major instrument is the definition of habitats of special importance in the Act and the provision of guidelines as to how these habitats may be managed. Altogether, the Act lists seven habitat groups where demanding and endangered species may occur. Sites covered by the Act include, for example, minor water bodies and forest stands adjacent to them, small swamp-woods, patches of herb-rich forest, and forests under cliffs. If such a site is small with virgin forest or practically virgin forest, the forest owner may not take any actions which might affect the site. As it is difficult for the land owners to identify habitats that might be covered by the Forest Act, the Forestry Centres have carried out a survey of potential sites. According to the survey, less than one per cent of the private forest area contains such habitats.

A Brief Summary: Compared to the earlier law, the control of forest owners has been liberated in the sense that there is more flexibility in felling criterions, the forest use declaration is more simple than the earlier cutting permit procedure, more room is given for the natural regeneration, and the financial collateral for regeneration, removed already from the previous law in 1991, was not reintroduced. On the other hand, the new environmental rules for biodiversity protection increase regulation and the offences against the law are tighter than previously. The arguments for the changes include the more liberal economic ”climate”, the increased educational level of forest owners, and the increased role of biodiversity protection due to international concern and conventions.

4. THE ACT ON FINANCING SUSTAINABLE FORESTRY 1996

Since 1928 there has been temporary and from 1967 permanent legislation to provide financial aid mainly for non-industrial forest owners to support forest improvement activities. This concerns mainl silvicultural measures and infrastructure investments which have been considered to be useful from the national economic point of view but not financially attractive for private forest owners without subsidy. In some cases, such as forest road construction and peatland drainage, subsidies are needed to organise joint planning and effective implementation of the projects extending to the forest lots of several private owners.

In concordance of the new Forest Act the former forest improvement regulations were substituted by the Act on the Financing of Sustainable Forestry (1094/1996). According to the Act, the measures which promote the sustainable forest management in accordance with the Forest Act (1093/1996) receive financial support from the annual appropriations included in the State budget in the form of aid and loan as provided in the Act. The following measures are specified in the Act:

- ensuring the sustainability of timber production;
- maintenance of the biological diversity of the forests;
- forest ecosystem management undertakings; and
- other promotional measures supporting these activities.

Financial support may be granted to private landowners based on application. Financial support may also be granted to parties other than private landowners if the

measures to be supported promote the sustainable management of privately owned forests. A private landowner refers to a natural person, and to a company, co-operative body or other community comprising such persons, or to a trust, the main purpose of which is the practising of agriculture or forestry, and to the shareholders of a jointly owned forest and to the shareholders of a communal area as specified in the Act on Communal Areas (758/89).

There is a planning obligation, stating that financial support for the measures specified in the Act shall be based on a properly drawn up plan. However, financial support cannot be used for work that has resulted from the devastation of forests, neither may financial support be used for work or for measures which have been prescribed as the responsibility of the landowner in earlier forest improvement acts or in the Forest Act. In order to ensure the timber production sustainability and vitality of forests, financial support may be granted for the following types of work that promote the forest management: forest regeneration; prescribed burning; tending of a young forest; harvesting of energy wood; forest remedial fertilisation; renovation ditching; and forest road construction.

For financial support the country has been divided into three zones, based on timber growing possibilities. The share of subsidy depends on the zone and on the type of work, and varies usually between 20 and 70 percent of the implementation costs (Decree 1311/1996). If the maintenance of biodiversity or ecosystem management or other non-wood use causes forest owner greater than minor damage, additional costs and economic losses can be partially or wholly be covered by state funds. This environmental subsidy is one of the novelties of the new Act, as is the possibility to finance, for example, also regionally important projects to promote management of forest nature, multiple use, landscape, cultural and recreational values.

5. SPECIAL LEGISLATION REFERENCING TO STATE FOREST MANAGEMENT

The stipulations of new Forest Act concerns state forests as well. However, in Finland there has a long time been a special legislation on the organisation and administration of state forests, and that piece of legislation is as valid as earlier. State owned forests with some minor exceptions in Finland are managed by Forest and Park Service. The Forest and Park Service Act (1169/1993) states that it is state enterprise operating within the administrative sector of the Ministry of Agriculture and Forestry. The tasks of the Forest and Park Service is to manage, use and protect in sustainable way and successfully natural resources and other property under its control. The conservation and improvement of biological diversity must be taken account sufficiently as an essential part of sustainable management of natural resources together with other aims set up for forest management and protection. It has to be noted that this act was the first forest act to include the principle of biological diversity.

The Finnish Forest and Park Service manages nature conservation areas established under the nature Conservation Act and carries out other nature conservation tasks given to it. In this mission it works under the Ministry of Environment. Also it manages the authority given in the Fishery Act (286/1982), Act on Skolt Lapps (611/1984), Act on Nature-Based Economic Activities (610/1984), Act on Terrain-vehicle Traffic (670/1991), Hunting Act (615/1993), Outdoor Recreation Act (606/264/1961) and the other authority duties entitled or ordered. In addition the Finnish Forest and Park Service takes care of tasks related to outdoor recreation and employment and other social duties given to it in connection of defining its service and other activity targets and performance targets.

The Forest and Park Service comprises five commercial business units and two business units that perform social duties. Most of its turnover is generated by timber sale but business operations are related to nurseries, nature tourism, estate business and consulting as well. The social and public authority duties are financed by the state. The Forest and Park Service is responsible for the greater part of Finland's protected areas. Altogether 8.8 million hectares of land and 3.2 million hectares of lakes and waterways are under the management of the organisation, most of the areas situated in Eastern and Northern Finland.

6. THE ACT ON FORESTRY CENTRES AND THE FORESTRY DEVELOPMENT CENTRE

The Act on Forestry Centres and the Forestry Development Centre Tapio came into force early in 1996 and streamlines and lightens the administration for promoting and controlling of private forestry. The forestry centres get state funding for certain basic activities (state-funded activities) while the centres also have separate business activities such as selling mainly services to any customers and also providing planning and supervising service for the projects financed by the Act on the financing of sustainable forestry.

The Forestry Centres are organisations for promoting forestry within their regions. The new tasks of forestry centres besides the traditional importance of wood production, emphasise the care on forest nature management and conservation of its biodiversity as well as development of entrepreneurship based on forests. Among the tasks of forestry centres are the preparing in wide consultation with the stakeholders regional forestry target programmes, and implementing the programmes. They are also in charge of implementing the Forest Act and the Act on the financing of sustainable forestry. For law implementation concerning directly single persons or community a special unit was established separated from the other duties and tasks of the centre. The forestry centres are now directly subordinated to the Ministry of Agriculture and Forestry. As said above, the state funding does not cover all the tasks of the centres, and they remain to be juridical persons although their possibilities to make agreements and carry on business are restricted. The boards of centres present forest owners and other stakeholders in forestry and are nominated by the ministry.

The status of the former central organisation of the forestry centres called Forestry Centre Tapio was altered to an independent role of consulting and development organisation. The new Forestry Development Centre Tapio provides expert services to all organisations and institutions operating within forestry, the forestry centres being their principal clients.

7. THE FOREST MANAGEMENT ASSOCIATION ACT 1998

Already the Forest Act of 1886 included an idea of co-operation between private forest owners, but voluntary co-operation spread very slowly until early 1930s as the state began give some financial aid to the forest owners' associations. In 1950 the Act on Forest Management Associations was enacted in order to get their financing secured through a forest management fee (Linnamies 1970). The fee was obligatory for all forest owners having calculated (for taxation purposes) wood production capacity over 20 m3 annually, although the membership of the association was voluntary. Since that time, the forest management associations have been the core field level operators in private forestry.

When the act was reformed in 1998 the issues debated in preparation were same as earlier: whether forest management fee should be obligatory, how to maintain sufficient freedom of activities of the association from the point of view of forest owners, how to secure competitive professional aid for the forest owners and what should be the role of wood trade related activities of the associations? The latter aspect had always been a matter of concern for the wood buying industries. The changes in the new Forest Management Association Act (534/1998), coming into force in 1999 were finally not radical. The forest management fee was maintained, although its base was changed, and the administrative structure was reformed. The timber trade activities allowed without the written agreement of forest owners were defined to include fuelwood and wood for local small scale processing. The neutrality of associations concerning the major wood buying companies was clarified. The associations remain to be controlled by the Forestry Centres.

Forest management associations continue to be association of forest owners, the purpose of which is to promote the profitability of forestry of forest owners and their other forestry targets and also support economically, ecologically and socially sustainable management of forests.

The general task remains to provide forestry services and professional aid to forest owner also in the future.

8. THE NATURE CONSERVATION ACT OF 1996 AND FOREST RELATED ENVIRONMENTAL ACTS

One of the key features in the Finnish forest legislation reform was that the new Forest Act and the new *Nature Conservation Act* (1096/1996) were prepared purposefully at the same time and so that they were co-ordinated and in close accordance with each other. The goal of the act is to maintain biological diversity of nature, care natural beauty and landscape values, support sustainable use of natural resources and natural environment, improve knowledge on nature and nature hobbies and promote nature research. Protected areas are created and managed under the Nature Conservation Act. However, there are many small nature conservation objects, located also on forestry land. One of the co-ordination efforts resulted in the list of nature types protected under Nature Conservation Act, and another list of ”particularly important habitats” included into Forest Act as mentioned earlier.

Separate natural monuments, protected animal and plant species usually have only marginal impact on forestry while specially protected endangered species may have more significant impacts on forestry, in case the forest owner can have a compensation. Little is known yet on the impacts of landscape areas established under nature Conservation Act on wood production (Kiviniemi 1997). Nature Conservation Act allows the creation of nature protection programs to safeguard nationally significant nature values. Those programs must be accepted by the Government. Measures endangering the protection goals are prohibited and this concerns also forestry land.

There are about 1.5 million hectares of wilderness areas mainly in Northern Lapland, designated in the Act on Wilderness Reserves (62/1991). Road construction is prohibited in these areas but according to management plans, there is a possibility to apply nature-based management methods in selected areas using mainly winter roads.

The Act on *Environmental Impact Assessment Procedure (EIA)* (468/1994) came into force in 1994. Its aim is to further the assessment of environmental impact and the consistent consideration of this impact in planning and decision-making, and at the same time to increase the information available to citizens and their opportunities to participate in decision-making. Certain projects always require an EIA procedure. These include pulp, paper and board mills. In forestry, only the large (over 200 hectares) permanent alterations of forests (by land use change or using exotic species for reforestation) or peatland (by drainage, or for peat energy production) require EIA (Kuusiniemi et al 1998). In practice, these kind of changes for forestry purposes are rare.

The environmental impact of programmes, policies and plans by the authorities must be assessed and taking into account as well. Here is an interesting example in forestry. When a new Finnish National Forestry Programme was adopted in 1999, an EIA was required. EIA was done by the independent experts. Interestingly. the EIA seemed to be more critical to the allowable cut calculations of the programme and to profitability of suggested increased cut than to the ”direct” environmental impacts of the programme.

9. THE CONSTITUTION AND SOME CONCLUSIONS

Pushed forward by UNCED in Rio 1992 and Helsinki ministerial conference on forests in 1993, but also due to many other internal and external factors, there has been a rather substantial change in the Finnish forest policy. The essence of the change can be characterised by naming it into the environmental turn in Finnish forest policy, although another touch of the spirit of age was also important, namely the somewhat neo-liberal reliance on the functioning of the markets in forestry. These two major influences may seem to be a bit contradictory ones, and perhaps this can be seen in the outcome. The economic behaviour of the private forest owners in cutting and regeneration gained some additional “free space” but at the same the environmental regulation of the forest owner was increased.

It is too early yet to evaluate the performance of the comprehensive reform and review of the Finnish forest legislation as it is only recently completed. There are fears expressed, that the quality and quantity of timely forest regeneration might be degraded to some extent, that environmental regulations and recommendations are becoming too costly to forest owners, and restrict the allowable cut too much also from a national economic point of view. On the other hand the environmental movements are still presenting more environmental demands on forestry, particularly in the issue of saving old forests especially in the southern part of the country.

In 1995, Finland’s Constitution was amended. Section 14 a of the Constitution stated (a corresponding section is included in the new Constitution, which came into force March 1, 2000): “Responsibility for nature and its biodiversity, for the environment and for our cultural heritage is shared by all. Public authorities shall strive to ensure for everyone the right to a healthy environment as well as the opportunity to influence decision-making concerning the living environment.”

In the same constitutional revision, where environmental right was amended, another obligation in the Constitution was removed. It was a notion “that the labour force of the country is under special protection of the Government”. No doubt the “employment concern” of the Constitution seemed to be quite powerless in the prevalence of rocket high unemployment during the last years of the economic

depression in mid nineties, but nevertheless the removal reflected the new attitude to the responsibilities of the state and/or the faith in its capacity to fulfil those responsibilities.

Forestry legislation and the Constitution share another common feature besides both being influenced, to some extent at least, by the “Gheist der Zeit “. Both legislative actions should express and protect the long-term interests of the nation, and the proper evaluation of their success might therefore require a time scale too long to the impatience of human nature. Fortunately, changes if regarded necessary after the accumulation of the sufficient experience, are far more easier to implement in the field of forest legislation than in the constitutional arena.

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FOREST LEGISLATION IN A CONSTITUTIONAL STATE – THE EXAMPLE OF THE FEDERAL REPUBLIC OF GERMANY *

STEFAN WAGNER

1 GENERAL STATEMENTS

In Germany, forest law is bound to a large number of constitutional requirements. One of the most important constitutional principles to be observed with all legislative and administrative activities concerning forest lands is the general principle of constitutionality. In the following, this principle's features and its significance for the further developement of forest law shall be described. The term "forest law" when mentioned in the following means all legislative and administrative acts that have any kind of impact on forestry.

Aspects and Significance of the Principle of Constitutionality: The principle of constitutionality is a fundamental principle in the German Constitution, it is the basis for all public acts and measures. Legislature is directly bound to the constitutional rights, i.e. the individual liberties guaranteed under the German Constitution. They define an individual sphere free of state interference. Consequently, the principle of constitutionality is designed to control and restrain governmental authority (Scheuner 1978, pp. 185 et seq.).

In addition to these substantial requirements for all state actions, the principle of constitutionality contains other general premises, such as the requirements of legal certainty and legal lucidity. Connected to these are the requirement of predictability of state action and the privilege of reliance on the stringency and continuity of state action. Finally, there is the principle of commensurability.

Substantive constitutionality is procedurally realized through the principle of the separation of powers. Additionally, there is the principle of legality of administrative acts and comprehensive judicial review by the courts against governmental interference and by the Constitutional Court to guarantee the constitutionality of all state measures.

Separation of Powers: The principle of the separation of powers is based on the desire to safeguard against any arbitrary state measures by separating the governmental powers and constituting a system of mutual checks and balances. However, separation of powers does not intend a strict segregation, but a complex system of functional interrelations and mutual dependances: On the one hand, legislation may delegate legislative power to administrative agencies to issue regulations. On the other hand, legislation may exert specific executive power by passing legal provisions in particular cases. Both, legislative and executive acts, are controlled by the judiciary (Badura 1986, D 48).

Legislative power means the power to promulgate generally binding legal provisions, whereas executive power is the power to execute the laws (Hesse 1991, notes 502 et seq.). Execution mainly means administration, performed by state authorities and agencies (Stern 1980, § 41 I). The judiciary is strictly separated from the other two branches of government, entrusted to independent justices and enforced by the courts, which are entirely separated from other governmental authorities (Stern 1980, § 43 I 4).

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (1999): 41-48.

2 STRUCTURE OF THE LEGAL SYSTEM

Constitutionality means governmental action within the framework of the legal order and the guarantee of the legal system being the framework and the basis of society. The legal system is founded on the Constitution and consists of legislative acts and provisions as well as regulations and ordinances passed by administrative agencies and local entities. All these levels of the legal system may bear upon forest law.

Constitution: The legal framework of society is based on the Constitution which defines the general form of government, protects individual rights and liberties, and determines the branches of government, the fundamental procedures (such as legislation) and the delegation of powers. The Constitution may only be changed in a special proceeding and has priority over all other legal provisions (Hesse 1991, notes 17 et seq.).

From a forest law point of view, the delegation of legislative power in the fields of timber management, nature conservation and game law is of particular importance: Federal legislature has to determine the framework within which the states have to develop and promulgate their own law. Accordingly, there exist federal as well as state laws concerning these fields of law. In this context, the constitutional right to property is of major consequence as it protects private forest owners from too extensive restrictions on timber management. However, it also stresses the social responsibilities connected to the property of real estate. The recent addition of environmental protection as a constitutional objective correspondingly obliges all branches of government to consider at all times the concerns of nature conservation and environmental protection at the enactement and enforcement as well as the interpretation of the laws (Murswiek, NuR 1996, pp. 222 et seq.).

Legislation: Laws are abstract and general provisions, addressed to a multitude of individuals in order to govern an indefinite number of cases. In terms of procedure, they must be passed by federal or state parliaments to which the power of legislation is granted under the Constitution. The number of laws which have an impact of forestry and timber management has grown in a very large scale, no longer comprehensible to a non-lawyer. Environmental protection law is becoming more and more important; the numerous acts, bills and regulations - including and modifying those of forest law - are supposed to soon yield into an integrated Environmental Protection Act (BMU 1998).

Delegated Legislation - Administrative Regulations: Under the provisions of the Consitution, legislature may authorize administrative agencies to issue regulations. This is one of the modifications of the principle of separation of powers, an interconnection of responsibilities. Regulations are generally binding legal provisions issued by executive authorities and therefore without the formal proceedings of legislature. Since the administrative agencies thus exercise original legislative functions, an explicit legal authorization is needed. Such an enabling law must be sufficiently defined, which means that legislature may not delegate unlimited legislative power. The enabling law has to prescribe and define the conditions and objectives for the employment of the authorization, as well as the possible contents of the regulation. Even though executive authorities are generally granted free discretion, it is still up to legislature to decide whether a legal provision needs to be issued or not (BVerfGE 56, p. 12; 78, pp. 272 et seq.).

Administrative regulations are of paramount importance for forest law, especially when they construe and design the states' environmental protection laws and their demands on timber management and agriculture. Their number has increased in all fields of law concerned, which is due to the also increased number of enabling

clauses in the nature, water, soil and clean air conservation acts as well as the forest land acts. These clauses usually relate to the conservation and protection of ecologically valuable lands and areas. Also lately, authorities seem to be more willing to make use of enabling clauses. For instance, the number of nature reserves in Bavaria has doubled since the 1980ies. At the same time, the regulations have become more and more detailed and relate to a greater number of timber management techniques. Actually, the states' nature and water conservation agencies have begun to attempt influencing timber management as early as in the planning stages. This is clearly a departure from the former policy of restricting only very particular measures such as large-scale clear-cuttings and deforestations (Wagner 1996, pp. 75 et seq.).

Delegated Legislation - Municipal Ordinances: As opposed to administrative regulations, municipal ordinances are not required to meet the strict demands of enabling laws or clauses. Municipal ordinances are issued by city councils or local governmental entities and do not depend on any federal or state authorization, but are the consequence of the local entities' right to autonomy granted under the German Constitution.

The communities' right to legislative autonomy is restricted to matters and concerns subject to local resonsibility and jurisdiction only. Therefore, statutory regulations with any kind of relevance to constitutional rights must always be promulgated by state or federal parliaments, never by local governmental entities. The latter are nevertheless also bound to the proviso of legal authorization for all intervening measures and regulations. With respect to forest law, municipal nature conservation or zoning ordinances must therefore correspond with the large number of state and federal statutory provisions.

Municipal zoning ordinances and landscape planning have recently gained great importance for timber management: On the one hand, communities proceed to designate outlying districts as recreation areas, trying to influence the distribution of forest lands and open areas by issuing detailed afforestation provisions. On the other hand, the communities have lately been authorized under the newly amended Federal Zoning Act to prescribe and enforce compensation measures for the detrimental effects of construction activities on nature and the landscape. Compensation measures will usually be implemented on forest or farm lands with sufficient potential for an ecological development. These areas are also chosen for their relatively low market value in case that monetary compensations must be paid to the owners (Nies 1998, pp. 194 et seq.).

European Law within the Context of the German Constitution: In the course of the European unification, the legal order of the German Constitution is gradually being superimposed and substituted by the statutory provisions of the European Union. The transference of jurisdiction and governmental powers to the EU as well as the substantive and procedural general regulations for the harmonization of national and European laws are provided under Art. 23 of the German Constitution. In case of a conflict of laws, European legislation has priority over national law.

Unlike farming and agriculture, the EU has no authority to promulgate laws in the field of forestry and timber management. Still, an immeasurable number of European statutes and acts have been issued, some of which have an excessive impact of forestry, for instance with respect to the protection of endangered species and ecosystems. They greatly influence national legislation as well as they define the scope of executive authorities in forest law (Schroeder, NuR 1998, pp. 1 et seq.).

Currently, the European directives on the "Protection of Birds" (Vogelschutz-Richtlinie) and the "Protection of Wildlife" (FFH-Richtlinie) are in the focus of interest. Both require great quantities of lands and prescribe an extremely high level of protection, without granting any significant discretion for modifications to national legislatures. In fact, both directives prohibit any kind of interference with the protected species and habitat in these areas - not even the necessary cultivation and utilization measures of due farming and timber management (Fisahn/Cremer 1997, pp. 268 et seq.).

3 LEGALITY OF ADMINISTRATION

Another element of constitutionality, governed under Art. 20 III of the German Constitution, is the tenet that all administrative acts must be in accordance with the laws and that all interfering administrative acts must have a legal basis ("Legal Proviso").

Legal Proviso for Interfering Acts: Pursuant to the prinicple of legal proviso, administrative agencies may only issue and enforce interfering acts when thus authorized by the law. Hence, the legal proviso absolutely requires a legal basis for all administrative acts and measures which impair individual and public rights and liberties. It does not matter whether the legal authorization is a federal or state law or a provision issued by executive agencies or local governmental entities, as long as the latter was correspondingly enacted in accordance with and on the basis of a federal or state law. Actually, many ordinances and regulations based on the nature conservation, forest lands or water protection acts contain a large number of clauses which may entail detrimental effects on timber management and which make a seemingly harmless ordinance a most powerful device.

Legal Proviso for Beneficial Acts: The general tendency to sharpen and intensify the environmental protection laws is accompanied by a policy of extended subsidizing in order to promote ecologically beneficial cultivation and utilization methods. This way, authorities manage to avoid conflicts and litigation while at the same time prompting farmers and forest owners to use ecological cultivation techniques on a voluntary basis. Recent environmental protection laws often give voluntary agreements combined with subsidies priority over interfering administrative measures.

It is still being disputed whether the tenet of legal proviso must be applied to beneficial administrative acts such as subsidizing certain cultivation techniques, which make a great part of the administrative activities in the field of timber law. Still, there is consensus that it is sufficient to provide for the necessary financial means within the state budget which in turn must be enacted as a law. Apart from that, administrative agencies enjoy free discretion - directed only by the principle of constitutionality and particularly the equal treatment clause, governed under Art. 3 of the German Constitution (BVerfGE 6, p. 282).

4 CONSTITUTIONALITY AND LEGAL CERTAINTY

Constitutionality means the enforcement of governmental powers within the framework of the legal order and consequently the protection of public and individual rights and liberties from unlawful state interference. Such are the conditions for the constitutionality of all statutory provisions, the lawfulness of administration and the protection of the people's reliance thereupon: The citizens' individual rights must be clearly defined so that everyone may arrange his or her conduct accordingly. It is this principle's objective to ensure the citizens' freedom of action. Legal certainty,

therefore, requires a clear definition of all legal provisions, that is as well with respect to the wording as to the lucidity and stringency of the legal system as a whole. Moreover, stringency of legislature signifies continuity of legislative action, of the protection of people's reliance thereupon and especially the safeguard for all dispositions made in due reliance thereupon (Degenhart 1991, note 303).

How difficult it is to realize all these tenets can be seen by example of the provisions in the federal and state nature conservation acts on the protection of wetlands and other valuable ecosystems: While they practically claim absoluteness, they often collide with other tenets and values of the legal order. Unlike for instance nature reserve ordinances, most valuable ecosystems, especially wetlands, are immeadiately protected under the nature conservation acts with no need for any additional administrative action. Exceptions are hardly ever granted from so strict a protection provision, if at all, only in connection with compensation measures.

With respect to the principle of constitutionality, conflicts may arise in either of the three following constellations:

Clear definition of the provision: In general practice, it seems almost impossible to define the exact confines of a biotope - as well with regard to substantive requirements as to the actual boundaries of the protected area. Specialists in agriculture, forestry or nature conservation may still be able to find adequate criteria - although their evaluation standards will most probably differ widely. For farmers and forest owners, however, it is usually out of the question to allocate a biotope just on the basis of the wording of a statutory provision (OVG Muenster, NuR 1995, p. 301).

Clarity and stringency of the legal order: Known as an ecologically reasonable way of land use, especially when compared to intensive farming, afforestations are being subsidized on a large scale, and they are subject to far-reaching nature conservation planning activities. Even under the nature conservation acts, afforestations and due forestry are considered ecologically adequate. Nevertheless, the afforestation of wetlands or other ecosystems is generally impossible, because other nature conservation provisions prohibit any kind of alteration of the ecosystems, without leaving room for a discretionary decision and a balancing of interests. There may be no comparison of future ecological impacts of an afforestation, no consideration of the further development of the area at all (Wagner 1996, pp. 90 et seq.).

Privilege of reliance: Statutory provisions for the protection of ecosystems may even be the legal basis for a compulsory abolition of formerly admissible cultivation measures. They may, for instance, prescribe the removal of nonnative tree species or the premature conversion of forests for reasons of improvement of the ecosystem. Even though remedial payments for such interferences will be granted, these will usually not suffice to compensate for the forest owner's loss of reliance on the stringency of the legal order (Wagner 1995, p. 1250).

5 PRINCIPLE OF COMMENSURABILITY

The principle of commensurability requires an adequate ratio of means and ends of governmental acts. In order to inquire into the commensurability of a particular act one must always consider all aspects of the specific case: the individual person concerned as well as the rights and privileges affected by the particular act. There are three fundamental features of commensurability: statutory provisions and administrative measures issued to promote certain legal objectives have to be suitable, the least intrusive means, and proportionate.

Governmental action must be suitable, that is, it must be fitting to achieve its object. Furthermore, authorities always have to chose the least intrusive of all suitable means.

Finally, the suitable and least intrusive measure must be proportionate - the burden inflicted upon the individual addressee may not be out of proportion to the objective pursued, even if it is the least intrusive means. Governmental action may never be unreasonable for the individual person concerned (Wagner 1995, p. 1080).

Both, legislature and executive authorities are bound to the principle of commensurabilitiy, although on different levels: While administrative agencies are bound to the objectives of the legal basis they are acting upon, legislative bodies are empowered to freely determine their ends within the framework of the constitution and their general responsibility for public welfare. They are limited only by the consititutional rights and liberties which may be affected.

Suitability and Least Possible Intrusion: The criteria for suitablity with regard to legislative and administrative action differ as well. The suitability of administrative measures to achieve their ends can be reviewed and scrutinized in every respect by the courts. Legislative bodies, however, enjoy discretion: A law will only then be ruled unconstitutional for lack of suitability, when legislature has blatantly misjudged the further development and the repercussions of the law in question (Degenhart 1991, note 328).

Especially ordinances on water and nature protection or on forestry issued by adminstrative agencies affect highly relevant concerns of timber management. On the one hand, the agencies must comply with the requirements of the legal authorization they are acting upon. On the other hand, they need room to assess and estimate the possible impacts and effects of the provision to be issued. The area's or the species' need and worthiness of protection pursuant to the ends of the underlying environmental protection act must be determined, since the particular protection objective will define the admissable degree of future restraints on timber management. Lately, executive authorities tend to even subject areas and regions not needful nor worthy of protection to the jurisdiction of nature reserve and water protection ordinances.

The tenet of the least intrusive means does only apply to measures equally suitable. Therefore, the assessment and evaluation of the suitability necessarily bears upon the subject of the least possible intrusion. Only then must the least intrusive legal provision be chosen when it is as fitting and appropriate as the more rigorous. However, again, legislature is granted free discretion with respect to the assessment, limited only by the Consitution (Degenhart 1991, notes 329 et seq.).

In practice, the tenet of the least intrusive means has lost its importance: it has been generally accepted that the abstract endangerment of a species or habitat is a sufficient reason for the issuing of a nature or wildlife reserve ordinance. And abstract endangerment may be presumed as early as an alteration of the natural conditions of an ecosystem seems at least possible and is not yet prohibited under the law.

Proportionality: Proportionality is the third and most relevant feature of the principle of commensurability. A legislative or executive act which is both suitable to achieve its ends and the least intrusive means can still be inadmissible, when it is out of proportion, considering its objectives. At this point, a balancing of interests must be performed. The impact of the act in question on the individual person concerned has to be assessed in two steps: First, the affected legal rights must be valued by abstract standards in order to assess their general significance under the

constitution. The second step is to estimate the individual consequences of the particular act.

The scrutiny of proportionality therefore consists of the general evaluation and the individual estimation of the colliding claims and prerogatives. Whenever public interests are concerned, they need to be assigned to their particular legal or constitutional basis. Legislature's objectives, as they are freely determined, are to be classified and related to the particular statutory provisions of the constitution. The administrative goals may be inferred either from the enabling law upon which the act is issued, or from the constitution. Colliding claims and interests have to be balanced and compensated, violations of constitutional rights to be kept proportionate: dogma of "practical concordance" (Hesse 1991, notes 317 et seq.).

6 RIGHT TO JUDICIAL REVIEW

The task of maintaining and protecting constitutionality, that is to safeguard individual rights and interests against arbitrary and unlawful state interference, is incumbent upon all branches of government. The judiciary being the "Third Power" has a distinctive role, however, as the courts have the duty and the power to review and adjudicate governmental acts. Administrative measures and regulations are subordinate to the federal and state courts' scrutiny, whereas legislative acts are subject to the jurisdiction of the constitutional courts.

Standard of Review, Standing: Judicial review of administriative acts is guaranteed under Art. 19 IV of the German Constitution as an individual right. In contrast to that, judicial review of federal or state legislature can only be granted by the constitutional courts. Consequently, Art. 19 IV of the German Constitution guarantees judicial review by the regular courts only against administrative acts and only to those who may rightfully claim a violation of his or her individual rights (standing) (BVerfGE 45, p. 334).

The possible injury to individual rights (standing) is an important requirement for filing an action against administrative acts and must be measured by the standards of substantive law: whenever substantive law grants individual rights, standing is provided under Art. 19 IV of the German Constitution. In case a third party wants to file a law suit in order to challenge a permission granted to another, the question of a possible injury to the third party's rights is of paramount importance. When enacting the legal conditions for a particular project (such as afforestation or deforestation) legislative authorities must therefore decide, whether the individual provisions should also provide third party privileges. Only then would a third party have the chance to seek judicial review under Art. 19 IV of the German Constitution against administrative acts addressed to another (BVerwGE 98, p. 118).

Legislature is granted free discretion to decide whether legal provisions should also involve third party privileges. However, of course the constitutional rights must be considered at all times. When there is no third party privilege, they may give an immediate claim to judicial review.

Proceedings and the Principle of Efficiency of Judicial Review: Judicial review by the courts is generally gurantee under the German Constitution. Legislature, however, is obliged to lay down the procedural rules. In doing so, legislature is again given free discretion, as the Constitution contains no particular rules for proceedings. The only prerequisite is to keep judicial review within the range of the individual, not to make it unreasonably complicated. Legislature is obliged to chose an efficient and fast mode of proceeding in order to protect the individual from being confronted with

accomplished facts. Both, the suspensive effect of most legal remedies and the right to an interim order, are therefore indispensable under Art. 19 IV (BVerfGE 49, p. 340).

The principle of efficiency of judicial review is even more important where the citizens' constitutional rights are concerned. Recent constitutional court decisions have developed a mode of proceedings to safeguard constitutional rights, that is, not only the judicial but also the administrative proceedings must be efficient, because relief in court against interfering governmental acts often comes to late and is not effective. Consequently, the individual rights of the persons concerned must already be considered in the administrative proceedings, especially when substantive law does not provide for any definite evaluation standards (BVerfGE 53, pp. 62 et seq.).

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TRANSITION IN FORESTRY - RECORDINGS IN THE NEW GERMAN FEDERAL STATES *

VOLKER SASSE

1. THE PROCESS OF TRANSITION

Reorganisation of society in the new German federal states can be characterized by the following features, which are denoted by various authors (1, 2, 3, 4, 5) as general elements of social transition processes:

- democratization of social structures,
- privatization,
- liberalization of domestic and foreign trade,
- restructuring of the economy along with high rates of unemployment.

The path of transition in the new German federal states is unique among the variety of transition paths followed the eastern European countries.

While difficult and prolonged processes of decision-making are taking place in other eastern European countries, an efficient and uniform legal and administrative system, grown in the old German federal states, has been quickly introduced to the former GDR as a result of the German unification. Shared traditions, the same language as well as the financial power of the old German federal states, made it possible to create a political framework of a social market economy as a basis for rapid establishment of efficient economic structures.

Return of assets expropriated since 1949 is preferred over financial compensation. This principle of dealing with property rights delays the process of privatization in the eastern federal states of Germany. As the clarification of property claims is very complicated, this principle hampers privatization and delays capital spending and creation of jobs.

The above mentioned elements of the general transition process in the new German federal states affect the process of reorganisation in forestry. This paper analyzes the progress of transition in the forest sector of the new German federal states. A particular emphasis thereby forms the development of the ownership of forest land. Furthermore, a short description of reorganisation of the forest administration and authorities is given, as well as a description of the economic situation in the forest sector.

The specific path of transition in the forest sector is hardly comparable to the conditions in other East European countries, because of unique forest political objectives, the specific site conditions for forest growth as well as the infrastructural situation in the new German federal states. Experiences from the German process of transition in forestry are only interesting from a methodological point of view.

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* Source: IUFRO Research Group 6.13; Pushkino Conference Proceedings (1996): 192-200

2. REORGANISATION OF FOREST OWNERSHIP

Situation at the Beginning of the Transition Process. By the end of 1989, about 29% of the total forest area in the former GDR were in non-public ownership (Cooperative, private and clerical forests), and 71% in public ownership (so-called public forests). Of the 2,209.3 thsd. ha of public forests, about 86% were managed by state forest enterprises (StFE), whereas the rest was managed by military forest enterprises of the national army of the GDR (MFE) and the west-group of the army of the former Soviet Union (WGS, *Table 1*).

Table 1: Structure of Forest Ownership and Management Organs in the Former GDR

	Ownership classes					
	Public forests	Cooperative forests	Private forests	Clerical forests	Total	
Managed by:	Thsd. ha	Thsd. ha	Thsd. ha	Thsd. ha	Thsd. ha	%
StFE	1850.8	722,5[1]	34.8[1]	-	2608.1	84.2
Private enterprises	-	5.2	59.5	-	64.7	2.1
Cooperative enterprises	0.3	20.9	-	-	21.2	0.7
Clerical enterprises	-	-	-	37.0	37.0	1.2
MFE, WGS	246.4	-	-	-	246.4	8.0
others	111.8	-	4.7	-	116.5	3.8
Total, Thsd. ha	2209.3	748.6	99.0	37.0	3093.9	-
%	71.4	24.2	3.2	1.2	-	100.0

[1]so called „Contract managed forests“

Source: Organisationsschema der Forstwirtschaft, Status 01.01.1990; Forstflächeninventur 1991/92, Treuhandanstalt, 1992 (for MFE, WGS)

Management by state forest enterprises was not only common in public forests (1,851 thsd. ha), but also in private forests (35 thsd. ha) and forests of Cooperatives (723 thsd. ha). To a limited extent, the StFEs were also managing forest land in ownership of the westgroup of the army of the former Soviet Union.

The Cooperative forest land (24,2%) originated from the more or less compulsary collectivation of forest land during the fifties and sixties. It consisted of 318 thsd. ha (43%) former farm-owned forests, and 430 thsd. ha (57%) forest land, transferred to smallholders during the land reform of 1945-1949[1] (see also Schwartz 6). Considering jurisdictional principles, these forests never had the status of state property. Based on contracts with the agricultural cooperatives, which had been negotiated during the end of the sixties till the end of the seventies, 96% of the Cooperative forests was managed by the StFEs without cost and profit compensation (so-called contract-managed forests). Thereby, the single farmer as well as the Cooperative were increasingly alienated from their properties. The contractionally managed Cooperative forests form the main portion of the contract-managed forests, i.e. 95%. The rest of the contract managed forests (approx. 1% of the forest area) was privately owned and also managed by the StFE.

[1] 800 thsd. ha of the forest area of the landreform of 1945-1949 (1.05 Mio. ha) originated from expropriation of war criminals, Nazi leaders and big land owners by occupational laws. 430 thsd. ha were given to smallholders and roughly 620 thsd. ha had been declared as public forest.

Private (3.2%) and clerical forests (1.2%) had been of minor importance.

Privatization of Cooperative Forest Properties: The basic political framework for the restructuring of the Cooperative forest properties (750 thsd. ha) were developed comparatively fast. In 1990, all existing contracts of the management of Cooperative and privately owned forests were cancelled. Furthermore, the Cooperative forests were re-given in private hands based on the Agricultural Adjustment Act from 29.06.1990 and its revision of 30.07.1991, respectively.

The share of private forests at the total forest land of the new German federal states was therefore increased from 3.2% to 27.5% between 1989 and 1992.

The Assets of the Former State-owned Forest Enterprises (StFE): At first, the State Property Trustee Act of the GDR from 17.06.1990 excluded the property of the state-owned forest enterprises from privatization. Only based on the Reunification Act from 31.8.1990 and the 3. Regulatory Decree to the State Property Trustee Act, the assets of the state-owned forest enterprises and forest inventory offices were temporarily handed over to the Federal Trusteeship Office. In § 2 it is said: "As far as a transfer of managing facilities into property of the federal states and municipals is not planned yet, its privatization is to be conducted on basis of §1 (2) of the State Property Trustee Act".

On this legal basis, all the public forest land was handed over to the Federal Trusteeship Office for privatization, together with 1000 auxilliary forest enterprises and approximately 10,000 StFE-owned dwellings.

Forest Land Inventory by the Federal Trusteeship Office: In order to elaborate operative documents for a regular transfer of former public forests to the federal, state and municipal authorities, and for restitution or sale, respectively, all the public forest land has been recorded by inventories (7) except military forest enterprises of the former national army of the GDR and forest land of the former west-group of the army of the Soviet Union.

Table 2 gives an overview over the results of this analysis for the new German federal states. Approx. 774 thsd. ha, (37,4%) are so-called Trusteeship forests, i.e. forest land which is designated for privatization (restitution and sale respectively).

Table 2: Results of the forest land inventory by the Federal Trusteeship Office according to its original property form and its new proprietary assignment (thsd. ha.)

Original Property form:			Proprietary assignment:			
			Trusteeship forests	State forests	Municipal forests	Others
Land reform forest		672.2	604.6	60.9	5.3	1.4
Unsolved propriatory origin		29.8	29.8	-	-	-
Expropriated land after 1949		139.3	139.3	-	-	-
Federal State forest before 1949		949.7	-	949.7	-	-
Municipal forest		249.4	-	-	249.4	-
Others		27.4	-	-	-	27.4
Total	Thsd. ha	2067.8	773.7	1010.6	254.7	28.8
	%	100.0	37.4	48.9	12.3	1.4

Table 3 lists the results by federal states. In Brandenburg and Saxony-Anhalt the highest share of the trusteeship forests with 46% and 43%, respectively, has been recorded. In contrast, only 22% Trusteeship forest has been designated in Thuringia. Simultaneously, the highest share of municipal forests (roughly 23%) was recorded there.

Table 3: Results of the Forest Land Inventory by the Federal Trusteeship Office According to Federal States and Property Classes (thsd. ha)

	Property class				Total
	Trusteeship forests	State forests	Municipal forests	Others	
Inventory results (total)	773.7	1010.6	254.7	28.8	2067.8
of that: Mecklenburg-Vorpommern	132.8	219.5	38.0	3.9	394.2
Brandenburg	301.1	269.7	73.7	9.4	653.9
Saxony-Anhalt	131.7	138.7	25.2	8.8	304.4
Saxony	129.6	184.3	35.1	3.1	352.1
Thuringia	78.5	198.4	82.7	3.6	363.2

Management of Former Public Forests: Since the transfer of former public forests to the Federal Trusteeship Office in 1990, new state Forest Offices are responsible for its management. Deficits from the management of trusteeship forests (*s. table 4*) were compensated by the Federal Trusteeship Office (735 thsd. ha future municipal forests and private forests, clearing basis 1991, data not updated with results of the forest land inventory of the Federal Trusteeship Office). Altogether, deficits from forest management, amounting to approximately 211 Mio. DM, had to be taken over by the Federal Trusteeship Office. In Thuringia and Saxony-Anhalt, the financing also includes auxilliary forest enterprises, which have caused losses of 17,9 Mio. DM in 1991. After that, the largest deficits originated from Saxony-Anhalt (without auxilliary forest enterprises, -325.38 DM/ha), the lowest losses in Thuringia.

Table 4: Subsidies of the Federal Trusteeship Office for Management of the So-called Trusteeship Forest and from Running Auxilliary Forest Enterprises by State Forest Offices in 1991

Federal state	Revenues public forests	Costs public forests	Losses public forests	Subsidies Federal Trusteeship Office Mio. DM		
	Mio. DM	Mio. DM	DM/ha	forest management	auxilliary enterprises	Total
Mecklenburg-Vorpommern	78.5	183.1	286.00	23.7	-	23.7
Brandenburg	83.4	252.6	279.20	80.7	-	80.7
Saxony-Anhalt	41.9	139.6	325.38	33.8	7.0	40.8
Saxony	34.2	130.2	293.61	32.9	-	32.9
Thuringia	55.8	150.8	267.95	39.4	10.9	50.3
Total	293.8	856.3	287.90	210.5	17.9	228.4

Status and Problems by the Reorganistion of Forest Ownership: According to the Forest land inventory by the Federal Trusteeship Office, the future federal state forests will consist of nearly 50% (1010.6 thsd. ha) of the public forest area, which was handed over to the Federal Trusteeship Office (s. *table 2*). 94% of this forest land had been already federal state forests before 1949. 6% (60.9 thsd. ha) of the future federal state forests were not designated to smallholders after the land reform of 1945 but reverted to public forests. There is no doubt about the restitution in favour of the new federal states. This restitution process of the former federal state forests into the ownership of the new federal states began county by county at the end of 1992.

The Federal Trusteeship Office founded the Company for the Land Utilization and Administration of Land Assets. This company is responsible for the Trusteeship forests, which are facing privatization via restitution or sale to former land owners.

Analysis of the privatization of the Trusteeship forests should distinguish among 29.8 thsd. ha forest land with unsolved property rights, 139.3 thsd. ha of land expropriated after 1949, and, as mentioned above, 604.6 thsd. ha of forest land expropriated by occupational laws during the land reform 1945-1949. According to instructions of the Federal Trusteeship Office, it is now planned to also privatize by sale those forests (604.6 thsd. ha), which were expropriated by occupational law.

Roughly 50% of all purchase applications, which are filed by now, have been submitted by former land owners (Wötzel 8). In connection with the above mentioned judgement of the Federal Constitutional Court, the legislator was requested to legally regulate existing restitution claims. For such restitution claims it is planned to implement federal subsidized options of purchase as well as financing models, which contain benefits guaranteed by the state. Up to a corresponding decision of the legislator, forest land with filed applications of former land owners is temporarily excluded from privatization.

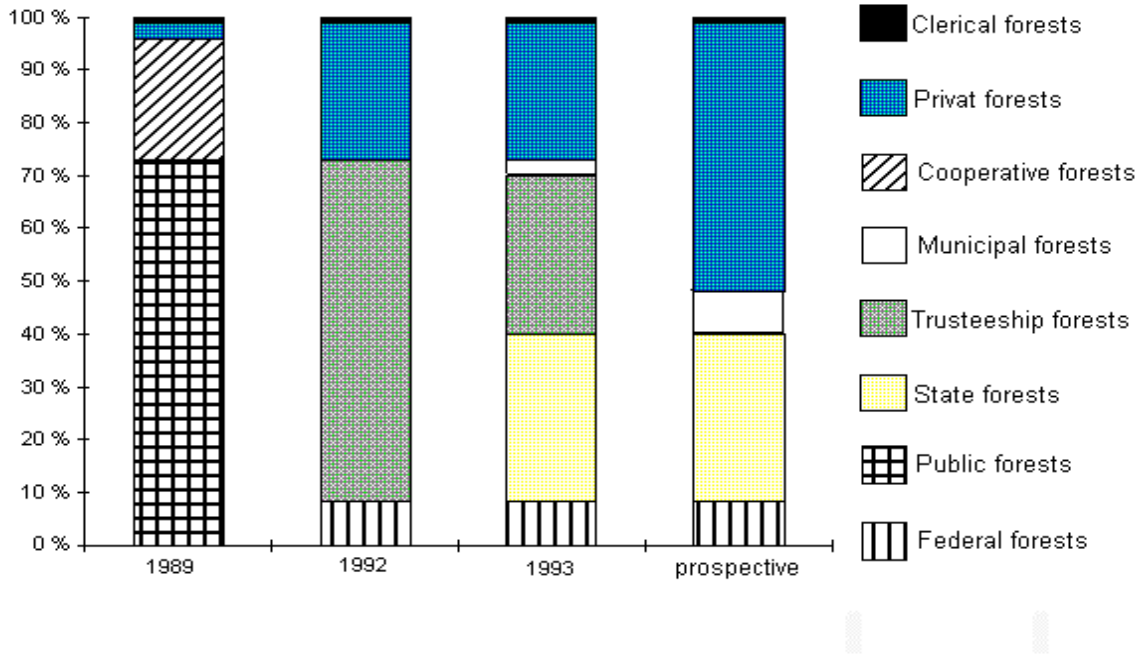
In correspondence with the National and State Forest Law, the Federal Trusteeship Office strives to form productive and competitive forest enterprises with a size of at least 500 ha. In contrast, the submitted applictations reflect - considering the bad earnings and profits of East German forestry - largely other goals like fiscally profitable investments, hunting, and others.

Because of the above mentioned reasons, no privatization in the Trusteeship forests took place yet, besides some exceptional cases in execution of the Investment Support Act. Further forest political studies were planned to accompany privatization of the Trusteeship forests.

The return of municipal forests began relatively early. 35 thsd. ha, 14%, were restituted by June 1992.

Figure 1 gives an overview of the structural development of forest properties in the new federal states. The development of private forests appears to be a striking phenomena. While only about 3% of the total forested area had been in private hands by 1989 (including private management), 51% is expected after completion of privatization. In comparison to that, roughly 45% of the forested area was privately owned, in the earlier territory of the Federal Republic of Germany. Also remarkable is the share of federal forests, amounting to 8% in the new federal states compared to 2.2% in the old German federal states.

Figure 1: Structural Development of Forest Properties in the New Federal States as Percentage of the Total Forest Area



Management of Private Forests: Currently private forests in the new federal states essentially only exist in form of former Cooperative forests with its typical patchiness in property structure. According to Niesslein (9) each owner manages an average of 1,5 ha forest land.

Patchiness of property structure and lacking experiences of owners lead to considerable problems in running these forests and require close attention and support by the state forest service. In this context, Niesslein investigated advantages and disadvantages of various kinds of forest cooperations considering typical east German structures. The work covers the complexity of legal regulations in this particular area, and supports - next to suggestions of specific forms of forest cooperations - an attempt for a necessary simplification of the tax law.

Moog (10) sees a way out in the formation of larger property units and, therefore, suggests several measures for the promotion of such private property units.

3. RESTRUCTURING PUBLIC AUTHORITIES AND ADMINISTRATION

More than 90% of the forest area in the former GDR was managed by state institutions according to uniform authorized principles. 84% of those forests were managed by 78 State Forest Enterprises (StFE), with an average size of roughly 31,000 ha forest land.

No specific national forest law had been developed in the former GDR. Compared to present forest political principles, very far-reaching public and authorative tasks were exercised through the StFE´s rather than by Cooperative or private forest owners (s. also GBL. (law gazette) of the former GDR part II, 1966, Nr. 20). Therefore, the StFEs could issue regulations for afforestation, timber harvest, forest road construction, etc., and impose fines against violations of those regulations. The main tasks of the StFEs consisted of maintenance of sustainable forest production, primary processing of raw timber, and supply of other forest products (e.g. resin), and of continuous improvement and increasing utilization of geo-cultural functions of

the forests. Therefore, the list of forest products started with seed production, included all different elements from forest protection to wood processing, and also included side productions, such as dredging gravel.

The restructuring of public authorities and administrations was oriented at the federal structure of the forest service of West Germany. After foundation of the new federal states in October 1990, the state parliaments and governments have - according to their task of forest conservation (§1, §5 ff. BWaldG, i.e. Federal Forest Act) - elaborated drafts for state forest acts, which in some cases have already been dismissed. The existing Forest Acts of the old federal states, thereby, served as pattern for the new federal Forest Acts.

The structure of the new federal state forest services is based on the model of the so-called „combined forest office“, which means, that besides the management of the state forests, also authorative tasks are performed and assistance to the management of non-state forests is offered. With the exception of Brandenburg all new federal states, have installed three-level administrations for the new federal forest service. Criteria for the regional structure are partly forest specific and partly political-administrative.

The new local offices of the federal state Forest Service were based on the so-called "Oberförstereien", which are subordinate former forest administrative units. The size of the state-managed forests ranges from 6,800 ha in Saxony-Anhalt and 8,800 ha in Thuringia. As an exception the local offices of the state Forest Service in Brandenburg were organized on basis of former GDR State Forest enterprises, with a average size of roughly 60,000 ha.

For the management of state forests and for the fulfillment of authorative tasks, the state forest enterprises have employed 2.6 persons in the higher and technical services per 1000 ha forest area. Compared to the period before 1990, the staff was reduced by approx. 20% of its former level.

The re-structuring of management and administration offices of the Forest Service in the new federal states was mostly completed by the end of 1992.

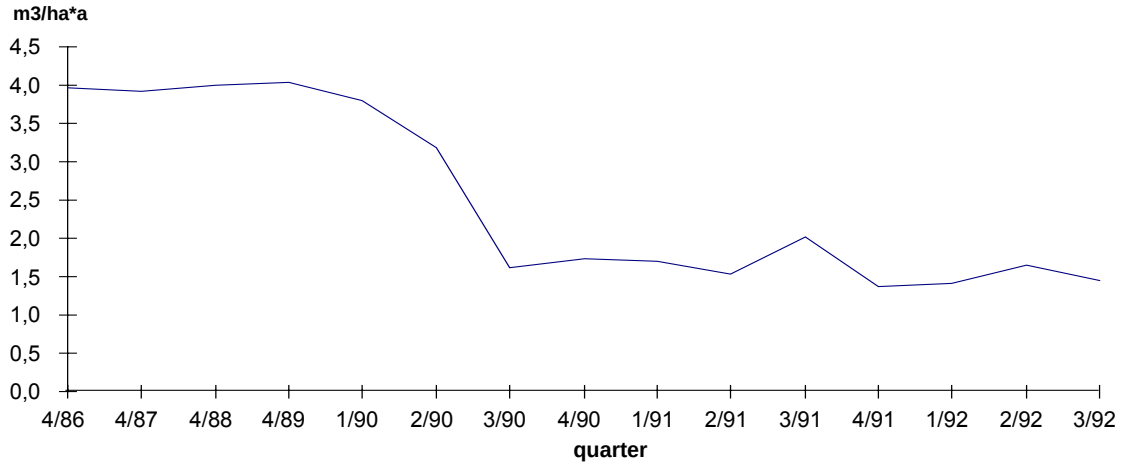
4. ECONOMIC DEVELOPMENT OF FORESTRY

The timber market in the new federal states has been completely liberalized since mid 1990. This process led to the breakdown of many obsolete wood processing companies. In this context, the timber market by the end of 1990 has collapsed down to a third of the level of 1989 and did not yet recover.

The average revenues per m³ raw timber in 1991 only reached 62% of that in the old federal states. Mainly responsible is the disadvantageous assortment structure, the current restructuring of the wood processing sector, and - directly connected to it - the lacking demand for raw timber.

During the transition process in the forest sector of the new federal states, approximately 75% of the working capacities have been lost due to the shutdown of production units (e.g. resin production), general decrease of capacities, and privatization of single production branches (e.g. Forest techniques and auxiliary enterprises) (11). A large portion of those losses of working capacities were socially covered through job creation and early retirement programmes. The average wage of an employee in the regular working staff has almost doubled between second quarter 1990 and second quarter of 1991. Till now, it only amounts to 40% to 50% of the average wage in the old federal states.

Figure 2: Development of the Annual Outlet of Raw Timber of the Federal State Forest Services in the New Federal States in m³/ha per Quarter of a Year



Accountancy in the state Forest Service was shifted from double entry to budgetary book-keeping. This led to problems not only in execution of new planning and clearing regulations, but also in dealing with the new financing system.

In 1991, the state Forest Services of the new federal states has brought in total revenues amounting to approximately 230 DM per hectar forest land in contrast to 506 DM spent. The difference of 276 DM/ha has had to be compensated by financial contributions from federal state households.

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ALLOWABLE INTERVENTIONS IN FORESTS AND FOREST LANDS IN GREECE *

CHRISTOS B. GOUPOS AND ANASTASSIOS C. PAPASTAVROU

1. THE CONSTITUTIONAL AND LEGAL FRAMEWORK

The consequences of forest degradation, erosions and floods, the disturbances in agriculture, handicrafts, communications etc., resulted in suggestions and decisions for new measures of forest protection (Papastavrou and Makris, 1985).

The physical and cultural environment has been characterised by the Constitution of Greece of the year 1975 as an object of great interest, and consequently it is in need of special adjustment. According to article 24 of the Constitution, which is only a directing provision and not an imperative rule of law, change of public forests and public forest land allocation is prohibited unless the national economy or agricultural require exploitation for the benefit of the public. (Tahos, 1987 and Vavouskos, 1983).

Hence, in exceptional cases the common legislator has the ability to allow interventions in public forests. These interventions can cause deterioration or alteration in forest character but they are acceptable if they take place for the achievement of another purpose concerning the public interest. The terms and conditions for such interventions have to be enacted by special law, e.g. extradition of settlement acts by an authorized law. (Alivizatos and Pavlopoulos, 1988). The procedure for the realization of interventions has to be defined in every case.

According to article 117 of the Constitution, public or private forests and forest areas, that have been destroyed by fire or have been or will be deforested due to other causes, do not loose the character they had before the disaster. Moreover they are declared to be under compulsory reforestation, they cannot be given for other use and their disposal for purposes of public interest is prohibited until reforestation and development of forest formation has taken place (All Member State Council) (A.M.S.C. 2778/1983) , (State Council) (S.C. 664/1490).

There is a divergent opinion from the above, according to which lands submitted to paragraph 3 of the article 117 of the Constitution do not enjoy a higher degree of protection provided that the use of these lands does not harm reforestation (Androutsopoulos, 1981 and Vavouskos, 1983). In opposition to paragraph 1 of article 24 of the Constitution, paragraph 3 of article 117 of the Constitution is a perfect provision (S.C. 3569/1983) and does not leave room to a common legislator to set restrictions or exceptions with regard to compulsory reforestation (S.C. 3682/1987 and 377/1988).

Allowable interventions in forests and forest areas are basically regulated by Law 998/1979 "on the protection of forests and forest lands of our country in general" (Government Newspaper) (G.N. 289, vol. A'). It is completed by the following legislative and presidential decrees:

- P. D. 1144/1980: "on granting of public forests and forest areas for arboriculture and agricultural exploitation" (G.N. 290, vol. A').
- P. D. 189/1981: "on permits for installation and expansion of industries in forests and forest areas and granting for the creation of industrial areas" (G.N. 54 vol. A').

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* Source: IUFRO Research Group 6.13; Report VI (1996): 112-121 (revised).

- P. D. 190/1981: "on the permissions for installation of stock breeding stations, poultry and other relative installations, as well as bee-breeding in public forests or forest areas (G.N. 54, vol. A').
- N. 1512/1985 "Modification and completion of provisions, on urbanization, adjustment of relative matters and subjects of lawyer fund" (G.N. 4, vol. A').
- N. 1734/1987 "on range lands and arrangement related to livestock rehabilitation and other land allocation as well as matters concerning forest areas" (G.N. 4 vol. A').
- N. 1790/1988 "Organizing and functioning of the organization of Greek agricultural insurances and other provisions" (G.N. 134, vol. A').
- N. 1822/1988 "Constitution of company of salt marsh exploitation and other provisions" (G.N. 272, vol. A').
- N. 1878/1990 "Modification of the provisions of second grade local authorities (Law 1622/1986) and other provisions" (G.N. 33, vol. A').
- N. 1947/1991 "Simplification of taxation procedures and other provisions" (G.N. 70, vol. A').
- N. 2040/1922 "Arrangement of matters subject to the Ministry of Agriculture and corporate bodies and other provisions (G.N. 70, vol. A').

2. INTERVENTIONS ON FORESTS AND FOREST AREAS

Interventions in forests and forest areas may be classified into following categories: 1) deforestation, 2) granting of public forests, 3) granting of public forest areas and 4) granting for installation and various activities according to the provisions of legislation.

When, for the purposes for which the interventions take place, other lands can be granted or can be given or can be used, then, it is not possible to allow interventions in public forests and forest areas. The construction of military projects is excepted if the project is related directly to the defense of the country, as well as the opening of public roads and the construction and installation of gas pipelines, provided it is required in the project.

If the interventions are of great significance or extension, the document submitted for approval must be accompanied by a project study, evaluating consequences for the environment and the measures needed to compensate these consequences and to protect the environment. Interventions of great importance or significance refer to the following cases: a) for cities and urban areas, b) for areas of construction associations, c) for tourism installations, d) for industries, e) for mines and quarries, f) for important public works, and g) for athletic parks and installations.

In forests and forest areas which have been or will be destroyed or which have been or will be deforestated by any kind of action, no intervention is allowed. These areas are declared to be compulsory under reforestation. However, there are exceptions concerning military projects, extention of large-scale public projects for infrastructure and the installation of networks for electricity and gas.

2.1 Deforestation of forests and forest areas

Public and private forests cannot be deforested. However, public forests can be used by the state in specific cases such as arboriculture, parallel cultivation of wild trees and trees for fruit production, for vineyards, for plantations of aromatic plants and for the domestication of wild fruit trees or productive trees. Private forests can be used

by their owners only to plant fruit trees or to domesticate wild trees. Such interventions, in public as well as in private forests, require a study which proves that the soil and ecological conditions in these areas are suitable for the anticipated uses.

Public forest areas can be deforested and used by the State for the same purpose and under the same terms as applicable for private forests. Interventions can take place under the term that the areas:

- are not included in the category of national parks, aesthetic forests, aquatic ecosystems, protected natural monuments, protected public forest areas and public recreation forest areas,
- are not located in a zone of 1,000 m width from the sea, 500 m from lake boundaries, 200 m from river sides, 1,000 m along national highways, 2,000 m along country roads and in a range of 3,000 m around the center of tourism areas, bathing resorts, archaeological and historical sites and monuments or traditional villages,
- are not located in industrial zones or within the boundaries of industrial areas and not inside a zone of 1,000 m from the periphery of an industrial area,
- are not located in the region of Attica.

Private forest areas can be deforested and be used by their owners. Interventions can only take place for arboriculture or agricultural exploitation and under the same terms, as for public forest areas. With the same terms, public forest areas can be deforested and granted, to permanent inhabitants of a community or municipality for arboriculture or agriculture, provided that their main profession is agriculture.

2.2 Granting of public forests

Public forests are not allowed to be granted. However, in specific cases, there are exceptions and the granting of public forests is possible. These cases are the following: installations for climbing and other winter sports, as well as inns and huts to serve these installations. Interventions can also happen for use and for property (proprietary capacity) when it is needed for mines and for the installation of campgrounds and children resorts.

2.3 Granting of public forest areas

Public forest areas can be granted according to the provisions of the Agriculture and Forest Legislation under the term that they are not declared to be under reforestation and are not of protective significance.

Granting according to Agriculture Legislation: Public forest areas can be granted according to the Agriculture Law either permanently of temporarily. Permanently, areas can be granted, if they have been judged from urban planning to be suitable for new villages or for the extension of already existing ones, provided that this use is imposed for the public benefit. With regard to the suitability of the area, a common report is issued from the Ministry of Agriculture and the Ministry of Environment, Urban and Public Projects.

The temporary granting covers the period required for the purpose of the undertaking and concerns two cases: a) public forest areas judged suitable for agriculture, taking into consideration the morphological and edaphic properties and the importance of agriculture for the national economy. For the suitability of the seelands, a common report is issued from the Administrations of Forests and Agriculture. The granting can only take place after having heard the opinion of the Forest Administration. b) public forest areas, which according to the opinion of the Chief Forester of the area are judged to be the most sterile. Their granting can only happen for the following uses:

the installation and expansion of various country industries or smaller enterprises; the installation and expansion of stock breeding or for the collection and dispatch of oxes for reproduction; and the building of installations for stock-breeders or farmers, who have to remove their installations from inhabited areas for reasons of common health or who need agricultural expansion.

Granting according to Forest Legislation: Public forest areas can be granted according to the provisions of Forest Law for use or property (proprietary capacity). It concerns the granting of these lands for the following installations and activities:

- granting according to article 13 paragraph 2 of Law 1734/1987
- granting for mines and quarry works
- granting for touristic installations
- granting for general reasons
- other grantings

Granting according to article 13 paragraph 2 of Law 1734/1987: Public forest areas can be granted for a specific period of time for use or for property (proprietary capacity), provided they are judged appropriate with regard to location and if it is compulsory for functioning of the following installations:

- campings and children resorts
- mountain climbing huts
- school buildings
- hospitals
- health stations
- reformatories
- markets
- cheese-making or dairy facilities
- areas for waste disposal
- skiing centers
- sport parks
- municipal and communal shops
- churches and monasteries
- medical centers
- cemeteries
- butcheries
- fish ponds (vivariums)
- installations for irrigation

The granting may only occur if agricultural exploitation is of a great importance to the national economy or if the uses are imposed in the public interest.

Granting for mining and quarry works: Exploration can take place in forest lands for trace minerals and quarries, either with the approval of the forest authority and or without such permission. If research methods are geological, geophysical, geochemical for mineral deposit, then a permission or approval is not needed. If the research uses drilling and excavation of tunnels or pits, an approval of the forest authority is needed. It is given by decision of the Prefect, having heard the opinion of the Forest Prefecture Council[1] and provided that the Ministry of Industries qualifies the research to be especially beneficial to the national economy. If the Prefect

[1] Forest Prefecture Council. A six-member body for giving opinion at the prefecture level. It consists of: a) the Forest Director, b) a forester, c) the Agriculture Director, d) the Technical Services Director, e) an economic inspector, and f) a prefecture councillor.

refuses, an approval may be given by decision of the Ministry of Agriculture having consulted with the Forest Policy Council.[2]

If the permission is given, the exploration can take place under the condition that forest vegetation is not devastated. An additional approval is required in case of exploration in:

- national parks
- aesthetic forests
- aquatic ecosystems
- protected natural monuments
- protective forests and forest areas
- forests and forest areas in tourism areas, bathing resorts, archaelogical and historical places, monuments and traditional villages and around these areas in a range of 3,000 m from the centre
- forests and forest areas, situated in the region of Attica.

Public forests and forest areas can be granted for mining and quarry projects, for use or for property (proprietary capacity). The granting for use concerns areas in which research is carried out with drilling or with opening of tunnels or if it is indispensable to approach roads, or if the areas are used for the exploitation of minerals and the construction of temporary installations. The granting, for property (proprietary capacity) refers to lands which are needed for the construction of permanent installations.

Granting for tourism installations: With decision of the Minister of Agriculture following the suggestion of the Greek Tourism Organisation (G.T.O.), supported by a program or study on the tourism development of the area, a public forest area may be granted. The granted area is under the Administration of G.T.O. for the purpose of tourism development of the specific area.

The granting is made under the term that forest formation in the area are maintained and G.T.O. accepts the obligation for conservation, protection and further development of forest vegetation. The area that will be given for construction, may not exceed 10% of the granted area and the construction factor may be at most equal to 1. Buildings, installations etc. remain state property.

Public forest areas, which have a special scientific, aesthetic, ecological or geomorphological interest or protected forest areas cannot be granted. These categories of forest areas and forests can, however, be granted exceptionally for the establishment of pavilions, kiosks and huts in order to serve as installations for winter sports and climbing. The centres in national parks are not covered by this exception.

Granting for general reasons: A forest area, till 300 stremmas, can be granted for use or property (proprietary capacity), with or without compensation by a decision of the Council of Ministers in the following cases: a) for the installation of services for various institutes or organisations of national character, b) for the development of cultivation by the persons, on behalf of which the granting of the area is made, c) for the promotion of tourism by creating buildings, and d) generally for the promotion of the national economy or in the interest of international relationships.

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[2] Forest Policy Council. At least 14 members with a consultative role for matters of protection and development of forests and forest lands and implementation of national forest policy.

Other grantings: Forest areas may be granted for different purposes and in particular:

- For the creation of an industrial perimeter if forest areas are surrounded or part of major industrial areas. It can only happen in favour the Greek Bank of Industrial Development (G.B.I.D.) or for other public services.
- For urban purposes by transferring forest lands to owners under the term that this area is included in a wider urban area. Moreover, public forest areas can be granted for property (proprietary capacity) to Greeks that live abroad or to enterprises of the public sector, provided that these lands are necessary for the creation of urban residence areas (small villages). A condition is that the areas have to be enlisted as an urban area.
- For military purposes. It is possible to grant for use forest lands for the construction of military installations to serve the defence of the country, provided that it is necessary for the construction of military works and installations, which serve the military services.
- For campgrounds and children resorts. It is possible to grant public forest lands to the Organisations of Local Authorities (O.L.A.) for the installation and functioning of campgrounds and children resorts. This granting should be in harmony with the main forest function which is life of man in his natural environment.
- Granting is made in favour of chestnuts areas in public forest areas, with a density of more than 5 chestnutttrees per stremma, domesticated or not. The granting for use can occur only for permanent inhabitants in the region with a profession in agriculture of stockbreeding under the term, that they have had possession of these lands for at least 20 years, prior to the validity of Law 1734/87.

Public forest areas in which granting for use has taken place, may also be subjected to the granting for property if connected with the installation of a viable enterprise of the public sector, an enterprise or company of agricultural associations and municipal-association enterprises.

2.4 Grantings for installation and functioning of various activities

Forest and forest areas can be given in emergencies for the installation of various activities, which concern almost all aspects such as socio-economic cultural, political, national defence, etc.

Installation of industries: With the permission of the Prefect, given after a positive opinion of the Forest Prefection Council (E.P.C.) the consent can be given in forests and forest lands to establish for the installation of industries that use wood as raw material or other forest products, as well as of milk and milk products' industries.

Installation of industries cannot take place in forest and forest lands, if these forests and forest lands are part of the following categories:

- national parks
- aesthetic forests
- aquatic ecosystems
- natural monuments under preservation
- protective forests
- recreation forests
- forest parks inside a city or an urban area

- tourism areas, archaeological and historical areas, bathing resorts, monuments and traditional areas in a range of 3,000 m
- the region of Attica

The installation of shipyards or refineries or other industrial groups can take place with the permission of the Ministers' Council. This installation is possible in forests and forest lands subject to the same regulations as above. However, installations are not possible in forests and forest areas in the region of Attica.

When it is not possible or advisable to use neighbouring lands, then it is allowed to expand industrial units in private forest lands. This use can take place with the permission of the Ministry of Agriculture, after the opinion of the Technical Forest Council.[3](1)

Archaeological research and excavations: Excavation and archaeological research can take place freely in forests and forest lands, after the forest authority is informed by a common decision of the Ministries of Agriculture and of Civilization and Sciences, with the opinion of the Forest Policy Council. It is possible to create in forests and forest lands museums, archaeological colleges, intellectual centres, and installations serving cultural happenings. The above cannot take place in the centres of national parks.

Road construction: The permit to open a public road in forests requires a construction plan that respects the preservation of the protective character that have probably been established for these forests. When the construction of public roads is engaged the necessary measures for the protection of forest vegetation and the preservation of natural environment have to be stated. The opening of public roads, through the centre of a national park, is not allowed.

If the purpose of openings in forests and forest lands is to serve industries, mines or quarries, permission has to be issued and the opening has to be carried out according to the plotting of the Forest Authority. If the purpose for the opening of these roads no longer exists, they remain as forest roads.

The opening of forest roads can take place in public forests and public forest areas. In private forests and forest areas the owners or joint-owners have the right to engage in road openings with the permission of the Forest Director. Various technical projects can take place based on approved forest plans or on programmes of the Forest Authority.

Installation of campgrounds and children resorts: By common decision of the Ministries of "Agriculture", and "Healthy, Care and Social Security", the installation and functioning of campgrounds and children resorts in public, private and communal forests may be allowed provided they are not in national parks, aesthetic forests, aquatic ecosystems, natural monuments in preservation and protective forests. If a community (city, village) owns these forests, a decision is also needed from the community council. If the forest is private, the consent of the owner is obligatory. Permanent buildings and the campgrounds and children resorts should not exceed 15% of the total area. The forest character of the area should not be changed due to the granting or the installation permission.

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[3] Technical Forest Council: 5-members' opinion body for matters of management and carrying out of forest projects and hunting economy by the Ministry of Agriculture.

Installations for serving visitors: The Forest Service can set up specific areas to serve visitors in appropriate places in public forests and public forest areas. These places should be in a range of 200 m along a public or forest road.

Tourism installations: For tourism installations private forests and private forest areas may be used with the permission of the Ministry of Agriculture, under the same terms and the requirement as for the granting of public forest lands.

Construction of fortifying works: It is allowed to construct fortifications in public forest areas, with previous information to the Forest Authority.

Construction of public municipal and communal projects: For the construction of large-scale public projects such as airports, artificial lakes, flood gates the occupation and deforestation or the cover of forests in the specific areas is possible. These activities should be supported by the existing specific law and take place according to the special terms required by that law. A project plan of a state service justifying the need for execution of the specific project, as well as the selection of the specific location are required. Based on such a study there will be a proposal of the Ministry of Agriculture and there must be given the approval of the National Council for Urbanisation and Environment must be obtained.

The construction of low-scale public, municipal or communal projects such as watershed works, draining works, works for the collection, storage and transportation of water, and water pumping is possible in forests or forest lands with the permission of the Prefect. The construction of infrastructure works and the installations of pipes-network for transportation and distribution of gases is subject to approval of the Ministry of Agriculture.

Mining and quarrying works: For exploration of minerals and ores, research can be undertaken in private forests and forest lands, under the same terms as for public forest and public forest land.

Urban activities: Following the construction of a set of buildings in public forest lands a tracing plan may be approved, provided that such lands have not been declared national parks, aesthetic forests, aquatic ecosystems, preserved natural monuments or protective areas.

Private forests and private forest lands can be enlisted as part of an urban area or can be characterised as "urban" under the terms certified by the forest authority, provided that they are not classified as national parks, aquatic ecosystems, preserved natural monuments, or aesthetic and protected forests.

Stock breeding and relative installations: Installations for breeding sheep, cattle, poultry or apiaries are allowed to be constructed in public forests and public forest lands. The permission is given the in preferential order to:

- agricultural associations or groups of producers located in a close city or village,
- permanent inhabitants of a determined village or city practising a related profession,
- agricultural associations or groups of producers in other locations, and
- to non permanent inhabitants of determined communities practising a related profession.

SUMMARY

Many interventions are allowed in forests and forest lands and they refer to deforestation, installations for various activities. If the purpose of such interventions is agricultural exploitation, they must be important to the national economy. If these interventions take place for a different use, then they must be of benefit to the public.

Forests cannot be deforested. However, they can be used, under certain terms, for arboriculture or certain activities such as the installation of campinggrounds and children resorts, the installation of various military works, the installation of various cultural works, the construction of public projects, the installation of industries, the installation of stock-breeding stations, various tourism facilities, mining and quarry works, road openings, installations for serving visitors in the forests. The granting of public forests is allowed for the construction of installations for climbing and winter sports, for mines and quarries, for campinggrounds and children resorts, and for military installations.

Forest lands can be deforestated under certain conditions. Moreover, they can be subject to demands for installations of almost all activities. Public forest lands can be granted to physical or corporate bodies, under public or private law, for almost all uses, and in accordance with the terms of the applicable legislation in force.

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LEGAL RESTRICTIONS ON FOREST OWNERSHIP IN GREECE *

CHRISTOS B. GOUPOS AND ANASTASSIOS C. PAPASTAVROU

1. GENERAL RESTRICTIONS IN OWNERSHIP

Different kinds of ownership are the result of the interaction of political, social, economic and historical circumstances. During the last 20 years the exchange of forest lands for other non-forestry uses has increased (Alig et al., 1983). Forest lands (forests, forest lands, forested areas) are usually acquired by inheritance (Barbier 1982, Mascees 1986), and forest management is not often practiced (Benner 1982). Loss of forest land is the reason for serious efforts to avoid opportunistic clearing of land and arbitrary acquisitions of fragile natural environments.

The social functions of forest are gaining importance due to population increase, industrial progress and the elevation of social life-style in our country (Papastavrou and Makris 1985, 1986). The country was pressed and is still pressed by social circumstances to grant forest lands for other uses, mainly agriculture and livestock breeding. Lately, large areas of forest land have been purchased by construction companies in order to build summer lodges. Social and economic development necessitates the planning and implementation of proper policies with regard to various kinds of forest ownership. This may require appropriate measures of control in order to safeguard the protective value of forests and their role as a beneficial natural resource (Papastavrou and Makris 1985).

Ownership restrictions were established for many reasons such as the sharpening of the absolute character of ownership with general provisions, social needs, intentional pleasure of goods or good neighboring. The content of ownership keeps changing locally, temporally and objectively. But there is always a remaining unchangeable and inviolable kernel that is protected constitutionally (Dagtoglou 1978, Georgiadis 1975, Balis 1961).

An important difference exists between restrictions established by law and the Constitution and restrictions set up by the existence of liens. The latter subtract some utility from the property object and are practiced as a lien right of possession against everyone, whereas law restrictions change the meaning of ownership by limiting the authority in use, usufruct and disposal as well as the authority of possessors to block acts of third persons. New obligations may be created for the owner without necessarily producing a private right.

Restrictions are set by the Private Law (Law of Neighbours, decrees 1003 and next of A.K.) and Public Law with regard to public interests (reasons of security, hygiene, building alignment, etc.) (Vavouskos 1979, Georgiadis 1975, Balis 1961, Furkioti 1949, Stimfaliadi 1954, Tousis 1966, Kassimatis 1972). Article 17 of Constitution protects the liens (ol. S.E. 1094/1987, Nom. b. 35/1987). A law that imposes restrictions by defining the content of ownership as related to its social content is compatible with article 17 of Constitution, even if the value of ownership is decreased due to the interference of the legislation or due to administrative regulations (S.E. 37/1988, Nom.b. 37/1989, ol. S.E. 695/1986, Nom.b. 34/1986) provided that the restrictions do not imply the annihilation of ownership (S.E. 1743/1985, Nom.b. 34/1986).

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* Source: IUFRO Research Group 6.13; Report V (1992): 119-127 (revised).

2. RESTRICTIONS IN OWNERSHIP OF FORESTS, FOREST LANDS AND FORESTED AREAS.

Restrictions in forest ownership are imposed either by the Constitution or by law. They aim at serving the public interest, the preservation and reestablishment of forest lands. The protective provisions concerning forests and forest lands are related to the real nature of the property or local relationships (Kasimatis 1972). The main restrictions in forest ownership are: prohibition of changing the forest character, prohibition of division control and supervision of management, the privilege of the State for first refusal, compulsory formation of associations of forest owners for protection, transactions in forests destroyed by fires, boundary marking, declaration of lands as reforested after burning by forest fires, and opening of forest roads.

Prohibition of division: Division of a forest property either by distribution or by sale or by any other action is prohibited without the permission of the Minister of Agriculture (Article 60 par. 1 D.K.). The Minister of Agriculture has a unique role and may grant such permission if forest development and preservation is facilitated (S.E. 284/1960, 1306/1971, 1826/1979, 4220/1980).

A transaction that would contravene article 60 of D.K. (A.P. 540/1965, 908/1972, 606/1976) is invalid. Permission is necessary, too, in a judicial partition, when the State is a joint-proprietor (S.E. 284/1960) in a situation of approval or modification of building alignment (S.E. 762/1967, 2760/1975). In case of expropriation, the consent of the Minister must be declared, except cases where the Minister co-signs the alienation (Gn. N.S.K. 426/1962). The donation of a part of a forested area (Gn. N.S.K. 457/1961) and the previously agreed purchase of a defined proportion of the property are invalid if permission for the partition has not been claimed and granted by the Minister of Agriculture (A.P. 540/1965). This does not concern the acquisition of parts of forests and forested lands with usus fructus (A.P. 540/1965, 606/1965, S.E. 1251/1975).

Right of State preference (State privilege): If a proprietor intends to sell a forest or forested land either totally or in fictitious shares, he is obliged to notify the chief forester in a written statement. The application is then forwarded to the District Forest Council, which decides whether the State intends to acquire the land. If the procedure is not followed, the transaction can be annulled by bringing an action of the State to the Competent District Court within two years. Notaries have to verify whether the procedure is followed, to make a mention of it in the contract and to forward a copy to the Chief Forester. In case that a month has passed since the submission of the statement or in case that the proof of ownership (deed of property) is judged inadequate by the Forest Council, the deed of property is forwarded to the Ownership Council. The latter can proceed with the sale within a time limit of two years, and with a purchase price at least equal to the price indicated in the statement to the Chief Forester.

The State privilege is not valid in the following cases:

- if the area is less than 50 strems,
- if the forest is enclosed in an urban area or has already been an urban area.
- if the forest belongs to a construction company and the transfer concerns only part of a forested area among members of the company provided that there are no different provisions in relevant town-planning legislation.

Compulsory constitution of forest owners associations and protective associations: More than seven proprietors or possessors of forest lands, jointly or with a restricted right of usufruct, have to form an association either of ownership or possession or

usufruct of limited forest privileges, provided the forest area is larger than 100 acres. Owners of forests and forest lands, with independent parts or fictitious shares, have to create protective associations if the following conditions concur:

- they are more than 7 in number,
- the forests and forested areas are situated in the same district of a community or within the same district of several communities (border line),
- the area has been designated as dangerous due to the special kind of vegetation, specific climatic conditions or other reasons according to the article 25 of Law 998/1979 “about the protection of forest and forest-lands in general in our country” (F.E.K. 289/1979, vol. A).

If a compulsory forest owners association had already existed, it obtains the character of a compulsory protective association. Owners of private forest lands situated in a designated urban area have to create a compulsory protective association in any case.

Transfer of burnt forests and forested lands: Private forests and forested lands which were destroyed or will be destroyed after 11 July 1975 cannot be transferred in parts or fictitious shares by contracts *inter vivos* for 30 years from the date of the disaster. Contracts *inter vivos* are invalid if they concern transfers of private forests and forested lands in total or partially or in fictitious shares and if there is no certificate of the competent Forest Authority that indicates the transferred property has not been destroyed by a fire after 11 July 1975 and in any case during the last 30 years, starting on 11 July 1975. The transfer concerns only the burnt part of forested area and not the whole forest (Gn. syn. N.S.D.K. 1195/1984). A valid transfer of a forest part requires, in addition, a permission of division, issued by the Minister according to the article 60 of D.K. enacting the State privilege concerning forest sales.

Control and supervision of private forests management: The control, approval, modification and revision of management reports and forestry plans are the responsibility of the competent District Forest Authority. State control and supervision in exploitation and management of private forests cannot be expanded to matters of disposition of permanent products (S.E. 1120/1939) and cannot impose other terms on existing rights of third parties on the return of a forest (ol. S.E. 2144/1966). The Minister of Agriculture can condition the approval of usufructs on non-private forests upon the agreement of forest owners to employ professional foresters (Article 183 D.K. par. 5).

Grazing prohibition in reforesting areas: Grazing of livestock is prohibited in an area declared to be under reforestation. This declaration is made by “ex officio” action of a forest regulation, edited by the competent Chief Forester (article 105 of D.K.). This forest regulation does not presuppose the procedure of article 113 par. 1 of D.K. (S.E. 1262/1975).

Opening of temporary forest roads: According to article 15 par. 3, the proprietor or the joint-owners of forest land are obliged to allow the opening of a temporary forest road necessary for the transport of forest products from neighboring or distant forests. Such an opening requires compensation be paid to the owner or joint-owner of the ground, by the owner, possessor or transporter of the products. The compensation covers only the loss (not the unrealized gain) due to the destruction of objects or an increase of liabilities. The local courts decide if there is disagreement on the matter.

3. PROHIBITION OF MODIFICATION OF AREA AND USE OF FORESTS AND FORESTED LANDS

The Constitution of 1975 has designated the natural and cultural environment as an object of great interest and special concern. The relevant provisions in article 24, par. 1 and article 117 par. 3 and 4 read in part: “the change of forest land is prohibited unless the national economy or agricultural exploitation or other uses are necessary for the welfare of the State.” Continuing, “public or private forests or forested areas destroyed by fire … do not lose their forest character which they had before the disaster, and such lands are considered as being compulsory for reforestation and their allocation for other than forest purposes is prohibited.”

Compulsory alienation (expropriation) of forests or forested lands belonging to a person or a corporate body under private or public law, is only possible by the State and in accordance with what is defined in article 117 as the public interest. Its forest character may not be altered.

Article 24 par. 1 of the 1975 Constitution is only a directing provision which imposes on the Legislature an obligation to take measures for the protection of the environment. It is not an imperative rule of law (S.E. 810, 4576/1977 and Tahos 1987). Article 24 predominates by the nature of article 17 of the 1975 Constitution (S.E. 1527/1981, Nom. b. 30) and jurisprudence tends to recognize existing imperfect provisions to perfect ones (Tahos 1987).

Changes of the role of forests and forest lands are only allowed in state forests and state forested areas and not in private ones (S.E. 4884/1987), provided they are required for the satisfaction of the public interest and only when they cannot be accomplished otherwise, provided the forest character is not being altered, except where the national economy or agricultural exploitation excels in importance (S.E. 3754/1981, S.E. 2453/1982).

Paragraph 3 of article 117 of the 1975 Constitution is a perfect provision (S.E. 3569/1983, Nom.b. 33). It does not leave room to a common legislator to set restrictions about dates or other exceptions in compulsory reforestation. Consequently provision 38 par. 1 of Law 998/1979 (S.E. 2453/1982, S.E. 3682/1987, S.E. 377/1988) does not have any constitutional power. The declaration of land as being under reforestation is not left to the judgment of a local authority but is compulsory. It also engages the responsibility of the owner and concerns the following areas of forests:

- partially forested or completely unforested areas, provided their current status is a result of overgrazing, illegal cutting, bygone fires, etc. (S.E. 1621/1927)
- colonizing areas, as well as areas granted under the livestock code, provided they used to have a forest character before the fire (S.E. 990, 991/1978) and
- lands granted to peasants without property, provided they were forests or forested areas at the time of granting or were changed into forests later (S.E. 2848/1979).

Lands declared to be under reforestation are considered according to provision 117 par. 3 and maintain the character they had before the fire or deforestation and enjoy the same degree of protection as before with the additional term that the reforestation of the area may not be harmed by the prevailing use (Androutsopoulos 1981).

Expropriation (compulsory alienation) of private forests is allowed with full compensation if acquired by the State in the public interest.

Constitutional protection is not extended to lands that are not covered with forest vegetation but are declared as “green zones” or public areas by urban projects (S.E. 89/1981).

SUMMARY

Because of its important social role, forest ownership is subject to a number of restrictions beyond the ones of the Civil Code which are in force for all categories of real property. The main provisions that enact legal restrictions in forest ownership are dispersed within laws and decrees addressing forests and forested areas.

Legal restrictions in forest ownership refer to the use, to the usufruct or to the disposal of property. The principal aim for setting legal restrictions is the conservation of the character and use of forests and forest lands. Most of the legal restrictions in forest ownership do not create an obligation charging the owner for the benefit of third persons but create an obligation of the public authority. The implementation of such obligations requires an increase in the number of forest employees, proper organization of the forest service, supervision in the application of provisions of forest legislation, an increase of criminal penalties, reinforcement of the police in the area of forest administration, and mainly, political stability in forest policy and in forest ownership.

In compensation for restricted forest ownership it is necessary that the state takes measures in favor of the owners such as tax releases (preferential treatment), subsidies, etc. in order to increase and preserve forests and forest lands in our country.

ABBREVIATIONS

A.K.	=	Civil Code (Astikos Kodikas)
A.P.	=	Soupreme Court (Areios Pagos)
C.R.P.F.	=	Centre Regionale de la propriete Forestiere
D.K.	=	Forest Code (Dasikos Kodikas)
Gn.	=	Opinion (Gnomodotisi)
I.N.R.A	=	Institut National de la Recherche Agronomique
M.A.S.C.E.E.S.	=	Ministere de l' Agriculture Service Central des Enquetes et Etudes Statistiques
N.	=	Law (Nomos)
Nom.b.	=	Legal Tribune (Nomiko bima)
N.D.	=	Legislative Decree (Nomothetico Diatagma)
N.S.Dk.	=	Legal Council of Administration (Nomiko Symboulio Dioiki-sis)
N.S.K.	=	Legal Council of the State (Nomiko Symboulio tou Kratous)
ol.	=	Plenary, Assembly (olomelia)
R.F.F.	=	Revue Forestiere Francaise
S.E.	=	State Council (Symboulio tis Epikratias)
Syn.	=	Assembly (Syneleusi)

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FOREST LAW AND ENVIRONMENTAL LEGISLATION IN HUNGARY *

TAMAS SZEDLAK

ABSTRACT

Hungary is one of several central European countries, whose political and economical systems have changed. The centrally planned system was replaced by a market economy. Since 1990, forestry has been adapting to a market economy. Cooperative forests have been given back to their former owners, and part of the state forest has been privatized together with some technical services and wood processing plants. These changes are coinciding with changes in the international community on environmental and forest policy. In accordance with increasing public awareness of environmental issues, non-wood-producing functions of forests have a higher priority, and sustainable forest management is interpreted in a much wider context, in which conservation of biological diversity and sustainable development of the natural and human environment are equally important criteria.

1 THE LEGISLATIVE PROCESS OF THE NEW HUNGARIAN ACT ON FORESTS AND THE PROTECTION OF FORESTS

From a central - European perspective, a special momentum has occurred in connection with global and pan-European forest protection and conservation. In several countries in the region with economies in transition, the heritage of more than 200 years of sustainable forest management has been safeguarded during the current period of social and economic transition. As a result, sustainable forest management is interpreted now in a broader sense than ever before, and while recognizing that wood production is, and should remain, a basic element of forestry as a source of sustainable development, the importance of other forest functions has increased, and the forests are now seen, as sources of biological diversity, ecological stability, human well-being, and cultural, spiritual and aesthetic values.

Hungary has 1.87 million hectares of forest cover (19% of the land area), and the state decided to keep more than 50% of it, mostly semi-natural and natural forests, in public ownership, with the aim of preserving biodiversity and providing a wide range of forest goods and services for society through multiple-use forestry. At the same time, an equally important task was to establish an economically and professionally sustainable private forestry which contributes to rural development. These tasks called for a transformation of the legal and institutional framework. Reformulating the nation’s forest policy was a long and difficult process which culminated in the new Act on Forests and the Protection of Forests, passed in 1996 by the Hungarian Parliament.

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (1999): 99-108.

2 THE MAIN INFLUENCES IN THE LEGISLATIVE PROCESS

International background:

- UN conventions, recommendations, principles, declarations
  - UNCED Earth Summit 1992, Rio de Janeiro,
  - UNCSD IPF Session 1995, New York,
  - UNFAO COFO Session 1995, Rome,
  - UNECE ICP Forests Monitoring Programme 1987, Geneva,
- OECD regulations and recommendations 1990, Paris,
- OSCE recommendations 1993, Montreal,
- Pan-European Ministerial level Resolutions 1990, Strasbourg, 1993, Helsinki.
- EU regulations and recommendations 1966, Brussels

Historical legal sources:

- first comprehensive Hungarian Forest Act 1879,
- Forestry Act of 1935 which also regulated nature protection,
- Act on Forests and Wildlife Management 1961

New, simultaneous challenges:

- market economy oriented rules,
- regulations concerned with private forest property
- new ecological challenges

Answers, legal tools:

-implementation of criteria and indicators for sustainable forest management adapted at the pan-European level,

-comprehensive and compulsory forest management planning and supervision system (State Forest Service),

-National Forest Database (a permanent monitoring, observing and evaluating activity)

Harmonization:

- in different fields:
  - with international regulations, recommendations,
  - with different internal interests:
    - needs of society,
    - environmental and nature protection,
    - forest owners,
    - forestry managers,
    - forestry administration
- on different levels:
  - national,
  - regional,
  - local management unit

3 THE BASIC IDEA OF THE ACT ON FORESTS AND THE PROTECTION OF FORESTS

Forests are the most complex natural (ecological) systems occurring on mainland, the existence of which is one of the fundamental prerequisites of healthy human life, due to the impact they have on the environment.

In addition to their dominant role in the protection of arable soil, the atmosphere and climate, and in the regulation of the quantity and quality of waters, forests

- define the character of landscapes, enhance the quality of the environment,
- provide opportunities for physical and mental recreation,
- preserve the variety of species of the living universe,
- produce raw materials, energy sources and food as renewable natural resources, in addition to continuously improving the status of the environment.

The present area and condition of our forests has evolved over the course of several centuries of human activity. Due to their sporadic regional distribution and the environmental hazards affecting them, we can only expect the indispensable survival, protective effects and products (yields) of forest biocoenosis if such biocoenosis are managed professionally and protected from harmful influences, excess exploitation and misuse, and if we ensure the diversity and proper harmony of their flora and fauna, and the dynamic and natural unity of the forest biocoenosis.

The maintenance and protection of forests serve the interests of all of society; their social services are due to all human beings, therefore forests should be managed only in harmony with the common interest.

Bearing in mind all these things, the Hungarian Parliament created the Act No. LIV of 1996 on Forests and the Protection of Forests.

There was some harmonization among the three important Acts, which have fundamental effects on forests and the environment. These Acts were prepared and negotiated at the same time in order to be harmonized. But, of course, there were some collisions among different interests. The order of their enactment by Parliament indicates their influence on the others:

- Act No. LIII of 1996 on Nature Conservation;
- Act No. LIV of 1996 on Forests and the Protection of Forests; and
- Act No. LV of 1996 on the Protection of Game, Game Management and Hunting.

4. THE OBJECTIVE AND PRINCIPLES OF THE ACT ON FORESTS

Article 1. The aim of this Act is:

a) to facilitate the continuous survival and propagation of forests as an biocoenosis and habitat subject to natural factors and human intervention, as an indispensable part of the natural environment and at the same time as a renewable natural resource,

b) to define the framework within which all of the above aims can be achieved, and furthermore

c) to ensure the establishment of harmony between the long-term existence of forest resources and proprietary and management interests.

Article 2. (1) Forests should be used and exploited in such a manner and at such a rate, which allow the prospects of management to endure also for future generations [hereinafter referred to as: sustained (sustainable) forestry], so that the forests

preserve their biological diversity, naturalness, fertility, ability to regenerate, viability, furthermore, that they satisfy the protective and economic needs in harmony with the requirements of society, and fill their role serving the purposes of nature conservation and environmental protection, health and welfare, tourism, research and education.

(2) The provisions of this Act shall be applied in harmony with the provisions of other legal regulations on the conservation of nature, the conservation of arable land, soil conservation, and plant protection as well as on the exercise and use of hunting rights.

(3) In respect of forests located in protected natural areas, the provisions of this Act shall be applicable together with the deviations set forth in the Act on the conservation of nature.

(4) In respect of forests owned by the state and constituting a part of the treasury assets, the provisions of this Act shall be applicable together with the provisions of the Act on the public budget pertaining to the administration of treasury assets.

Article 3. (1) In the interest of increasing national forest assets and improving the condition of the environment, the state supports the planting of new forests, and the maintenance and conservation of existing forests.

(2) In respect of state-owned forests, the state shall attend to the performance of its tasks specified in Clause (1) in accordance with the provisions of a separate act, and shall enforce public interests more strongly.

(3) In order to enforce public interests in the field of forestry, the state shall operate an institutional system suitable for performing the tasks set forth in this Act.

(4) In order to ensure the professional nature of forestry activities the state shall support joint forest management by forest owners.

5 TITLES TO LAND: STATUTORY BASIS, DEFINITION AND PROTECTION, SCOPE OF TITLES, OWNERSHIP AND OTHER INTERESTS IN LAND

(With reference to the paragraphs of Act on Forests and the Protection of Forests: §6-10, definitions; §13-14, ownership; §15-22, primary purpose of forests; §50-52, other interests; §65-71, utilization of forest land; §72, reforestation in case of utilization of the forest land; §73, determining the branch of cultivation of the forest; §74-75, Section IX, division of the forest land; §76-85, utilizing the forest land for the purpose of transportation and visiting the forest; §95, forest authority. Act on Nature Conservation: §7/2/d and 7/3, changing titles to land; §39, other interests on the land. Act on Game Management and Hunting: §3-5, rights to hunting on the fields and land ownership; and §15-18, leasing.)

The arrangement of land ownership started in 1991 by Act XXV (and II/1992) on about 733 thousand hectares. The change of ownership has not happened yet on 222 thousand hectares during the last seven years. The main reason is the delaying of hand over of the former cooperative fields to the members of cooperatives as proportional property. The forestry authority does not have the official function to accelerate this process.

Table 1. Smallholder Structure Change, 1996-1998

		1996.I.1.	1998.III.31.	4/3
		1000 ha		%
1	Individual farming	22	43	195
2	Common farming	31	40	129
3	Former closed gardens*		3	
4	All individual forest manager	53	86	162
5	Joint forest tenure	41	85	207
6	Other economic association	11	21	190
7	Former cooperatives	121	56	46
8	Forest cooperatives	7	13	185
9	Other new cooperatives	39	67	171
10	Common agent		39	
11	All associated forest managers	219	281	128
12	All active structure (4+11)	272	367	134
13	Before association	137	144	105
14	Disordered property	294	222	75
15	Non functioning structure(13+14)	431	366	85
16	All private forest(12+15)	703	733	104
17	Number of forest owners (thousand)	117	285	244
18	Specific forest estate (ha/owner)	2,3	1,3	56

*former specific category

6 DEFINITION OF FOREST LAND AND OF FOREST MANAGERS

In case of forest land, the forest authority determines the branch of cultivation. For example, during forest management planning of a forest situated on a grassland, the authority can change the latter category into forest, considering the definition of forest land (§8). In case of afforestation, the afforestation plan must contain all the necessary information for branch of cultivation changing after the first planting year.

Article 8. (1) For the purposes of this Act a forest-land area shall be considered:

a) an area of land measuring at least one thousand five hundred square meters which is covered with woods, also including forested land area and land areas utilized temporarily, together with the rides and fire-belts located in such area;

b) an area of land measuring at least one thousand five hundred square meters where afforestation (seeding, planting of seedlings, planting cuttings) has been performed;

c) an area of a tree plantation measuring at least one thousand five hundred square meters covered with tree species not indigenous in the natural geographic environment of the country for the length of a production cycle, but not to exceed thirty years, planted following this Act entering into force without using state subsidies (hereinafter referred to as: tree plantation).

(2) In respect of tree plantations only the provisions of this Act on regulations on forest management planning, afforestation, forest register and protection against harmful effects shall apply.

(3) In respect of a forest-land area smaller than five thousand square meters which is surrounded by real estate not registered in a forest-land-use category the rules pertaining to tree planting shall apply.

§13(1) states in the application of this Act, the forest manager shall be the forest owner or the lawful user performing forestry activities (hereinafter referred to as: forest manager). The forest managers and their data shall be registered by the competent forest authority, namely, the State Forest Service. Tasks of the forest manager cover all part of obligations.

(4) In the event that a physically contiguous forest-land area is owned by several owners, the owners shall

a) conduct joint forestry activities and assign a forest manager to perform these tasks, if the conditions set forth by the Minister in a decree exist, and on the basis of the resolution of the forest authority,

b) bear joint and several liability for the performance of obligations related to the protection and maintenance of the forest, if there is no forest manager.

(5) In the absence of any provisions of legal regulations to the contrary, state subsidies available for forest management activities may only be claimed by forest managers which are registered by the forest authority. The rights and obligations, as set forth in legal regulations, resolutions of the authorities or the court, or otherwise specified in contracts, of forest managers shall not affect the proprietary rights and obligations of the owner of the forest-land area.

7 INTERVENTIONS AND STATUTORY RESTRICTIONS ON PROPERTY

(§14, Section III, rights and obligations of the forest manager; §23-31, Section VII system of forest planning and administration; §58-64, forest usufructs; §69, forest land withdrawal; §69, temporary utilization §70.)

One of the main preconditions is that the forest manager be registered by the forest authority. The forest authority has a control over forest management through the application of an annual forest management plan. All the activities in the forests have to be registered at the forest authority, the forest inspectorate. The forest inspector takes into consideration the forest management plan (ten years in reach) and makes a decision about the annual plan of work. All the subsidies and contributions depend on the forest authority.

§59(1) states: The exercising of the forest usufructs may not damage and/or endanger the surface and subsurface waters, the soil, the regeneration of the forest and the forest biocoenosis.

(2) The forest manager may exercise the forest usufructs with the conditions set forth in this Act. In respect of the forests located in a protected natural area the preliminary consent of the expert authority of the nature conservation authority is required for licensing the exercising of the usufructs.

8 SCOPE OF THE FOREST LAW AND DEFINITION OF FORESTS

§4(1) This Act shall be applicable to:

a) forests, their biotic and abiotic elements, their area, and land areas naturally related to them which support the survival of the forest biocoenosis and directly serve forestry activities, as well as land areas used temporarily on the basis of this Act;

b) trees, rows of trees, tree groups and wooded pastures (hereinafter jointly referred to as: tree plantings) located outside the boundaries of settlements;

c) fixed structures directly serving forestry activities (hereinafter referred to as: forestry structures).

(2) This Act shall not apply to the following land compartments with tree stands: a) collections of live trees located inside the residental areas (arboretum); b) public parks; c) tree plantings at industrial plants, farms and farmsteads; d) land compartments located outside forest blocks and serving to produce Christmas trees, ornamental branches, wild fruits and twigs; e) wooded areas serving for the disposal and utilization of waste water, waste water sludge and liquid manure; f) tree plantings constituting an appurtenance of roads, railway lines, and other technical structures, g) tree groups in the bed of rivers, on river shallows, furthermore, if such qualify as independent land compartments, in the bed of streams, channels, and tree plantings bordering on such.

Definition of a forest: Article 5. For the purposes of this Act a forest shall be considered an biocoenosis formed of woody plants of a species determined in a decree by the Minister of Agriculture (hereinafter referred to as: Minister) and the associated living community (hereinafter referred to as: forest biocoenosis) together with its soil, irrespective of whether an element of the tree stand or the biocoenosis is temporarily missing.

9 REALIZATION AND TRANSLATION OF POLITICAL IDEAS INTO ACTION: ENFORCEMENT MEASURES, INCENTIVES AND SUBSIDIES, AND OTHER LEGAL PROVISIONS

(Act on Forests: §13/5, rights and obligations of the forest manager; §14, section III, system of forest planning and administration: the planning structure of conducting the forestry activity; §23, the district forest plan; §24-25, the operational plan; §26-28, the annual forestry plan; §29-30, section IV, forest plantation and forestation; §34-39, ordering forest plantation and forestation in the public interest; §40, section V, afforestation, forest cultivation, and the transformation of the forest structure; afforestation; §41, forest cultivation; §42, supervision of the completed afforestation; §43, transformation of the forest structure; §44, section X, professional management of forestry works, guarding of the forest; §86-89 and §90-91, respectively, section XI, forestry administration; §92, rules of procedure; §93-95, responsibilities of the Minister; §96-97, responsibilities of the state forestry service; §98, National Forestry Board; §99, section XII, forest maintenance contribution, forestry penalty and forest protecting penalty; §101, forest maintenance contribution; §102, forest penalty; §103, forest protecting penalty,)

The introductory provisions state in §3(1) In the interest of increasing national forest assets and improving the condition of the environment, the state supports the planting of new forests, and the maintenance and conservation of existing forests

§92(1) The various tasks of direction, organization and authority related to forestry administration shall be performed by: a) the Minister, b) the National forest authority, and c) the regional body of the national forestry authority, the State Forestry Service.

There is an Executive Order 29/1997(IV.30.) by the Minister of Agriculture on the Act on Forests and the Protection of Forests to ensure the necessary legal background for the realisation of political ideas.

As was mentioned in the second question, the forest authority takes overall control of forestry activities. The forest inspectorates supervise, and if case of need, contribute to the process of annual management planning for the private forest managers and the state forestry as well.

The annual budgetary plan is a part of annual forest management plan. The annual budgetary plan consists of the payment obligations derived from forest maintenance contribution and interim payment in advance, and the paying off means equivalent of forest maintenance works and paid forest maintenance contribution in advance. The subsidies for the forestation, nursing of young stands and cleaning depend on the tree species and their origins.

10 SCOPE AND REACH OF NATURE CONSERVATION AND ENVIRONMENTAL PROTECTION LAWS: EFFECTS AND IMPACTS ON MANAGEMENT AND PRESERVATION OF FORESTS

(Act on Nature Conservation: §2-3, §7(2)d, §16, habitat protection, §32-33, §72. Act on Forests §62-63, wood-felling and cutting, collecting of forestry propagation stock, utilization of forest land considering the rules of nature conservation; §66, 68, 70, visiting the forest land for the purpose of recreation and sports in case of nature conservation; §80/1, §81/c-d, rules of procedure; §93/2, §48/4, forest on nature reserve area.)

Biodiversity and Usage of Indigenous Species: The Act on Nature Conservation (No. L III. 1996) states in §4(f) that a “living organism” means species, subspecies and varieties (hereafter referred to jointly as species) of micro-organisms, fungi, plants and animals. §4(i) defines “biodiversity” as the multiformity of flora and fauna, including the genetic (introspecific) diversity and the multiformity of the various species, their communities and natural ecosystems. Pursuant to paragraph §8(2) “native organism” means any wild creature which lived or still lives in the natural geographic region of the Carpathian Basin in the last two thousand years, and not as a result of introduction (intentional or not).

The Act contains regulations for preserving and enhancing biodiversity and about obligatory usage of indigenous tree species. However, statutory basis exists to use subspecies and varieties and using up the results of forestry research. It is not possible to prohibit the use of subspecies or varieties of an indigenous tree species in order to produce better quality and greater quantity wood in forests situated in protected natural areas, and even they should be promoted in order to increase the biodiversity.

Restriction of the Preparation of the Soil and Burning of Residues in Cutting Areas: The Act states in §33(2) that burning of residues in cutting areas and ploughing shall be avoided in forests situated in protected areas. Although the conditions of these activities were drafted in other acts, this Act contains unconditional restrictions. In a particular case, these two activities might be performed by permission of nature conservation authority. It should be noted that the successfulness of the transformation of the forest structure decreases with inflexible rejection of forest management tools.

Choosing of Tree Species for Reforestation in a Nature Protected Area: There is explicit direction in choosing of tree species for reforestation in §33(3). In protected natural areas, reforestation shall be exercised exclusively with native tree species in a species composition typical to the habitat type and using nature-friendly methods. In this case, there is no possibility for examination. The effects will probably appear during execution of the national reforestation programme. Considering the case of

extreme sites, it may be a hard task to achieve the intentions of reforestation, using only indigenous species.

Restriction of Logging During the Growing Season: According to the §33(4) logging during the growing season in forests situated in protected natural areas shall only be executed in exceptional and justified cases (e.g., for purposes of plant protection) with the approval of the nature conservation authority. This clause means that the decision about exceptional and justified cases shall fall within the competence of nature conservation authority.

The idea of growing season being used as the basis for planning logging operations needs refinement. Limiting logging to a time outside of the growing season may have the effect of increasing cost of forestry.

Harvest Restrictions: §33(5) restricts the use of the use of clear-cutting in protected natural areas to: a) clear-cutting may only be authorised in forest stands not being able to naturally regenerate or consisting of non-native species and being of a maximum block size of 3 hectares; and b) the block size of final cutting following gradual reforestation must not exceed 5 hectares. §33(6) specifies that the permitted size of final cutting or clear-cutting areas determined under paragraph (5) sections a) and b) may be exceeded in exceptional cases for purposes of plant protection, to ensure survival of natural regeneration or for nature conservation reasons.

§33(7) states that in forests that consist of non-native tree species which are located in protected natural areas, efforts shall be made to establish close to natural conditions by replacing, complementing, restructuring such forest stands, by changing the tree species and by regulating the species composition, thus, eliminating monocultures. Consequently, restructuring of non-native forests is an unconditional nature conservation interest. In these cases, an exemption should be given to the restriction on clear-cutting above 3 hectares.

§33(8) requires that, with the exceptions specified under paragraphs (6) and (7) above, final cutting may only be executed when forests have approximated their biological maturity. Accordingly, clear-cutting may be used for restructuring and for ensuring the survival of naturally regenerated native trees. A broader examination of the effects of this provision is not possible because the Ministerial Order and Executive Decree are under preparation.

The Act prescribes in §36(1) that nature conservation management techniques, restrictions, prohibitions and all other liabilities applying in protected natural areas shall be laid down in the provision of law declaring protected status.

(2) “Nature conservation management” means any activities aiming at surveying, registering, conserving, guarding, maintaining, displaying or rehabilitating protected natural values or areas.

(3) A management plan shall be made for each protected natural area, which shall oblige every person engaged in activities in the area. The management plan shall be revised every ten years.

(4) The Minister shall provide by decree for the preparation, content and approval of the management plan and for the person in charge of preparing it.

Considering that the above mentioned decree has not been published yet, there is a great responsibility upon the forest authority to keep the nature conservation interests and forestry interests in a sustainable manner.

Collision Between Regulations in Forest Laws and Environmental Protection Legislation: As was mentioned earlier, the Act on Forests and the Protection of Forests and the Act on Nature Conservation were passed at the same time, and the Act on the General Rules of Environmental Protection was passed a year earlier (Act No. LIII of 1995). In this way, there is a good harmonization between the Act of Forest and the Protection of Forests and the Act of Environmental Protection.

A more important question is the connection between the Act of Forestry and the Protection of Forests and Act of Nature Conservation. A general opinion among the "field" foresters is the Act of Forest and the Protection of Forests too "green" from the traditional forestry viewpoint. The traditional viewpoint is that the first rule on nature protection was born in the scope of Act on Forests in 1935. Hungarian foresters have spoken about sustainable forestry at least since 1961 with passage of the Act on Forest and Wildlife Management. Essentially, the word "long lasting" has the same meaning as "sustainable".

The main emphasis is on the possibility of long-term or sustainable forestry, because there is a very important claim to various forest products and closely connected with this is a fundamental demand by those who make a living on the forested area. Another important aspect, especially considering elevated levels of carbon dioxide in the earth's atmosphere, is that the half of air-dried wood is carbon. In this way, forest products can contribute to carbon storage and be a substitute for use of products made from fossil fuels.

Other Relevant Regulations Concerning Forest Law and Environmental Legislation:

(Act No. LV of 1996 on the Protection of Game, Game Management and Hunting: §27, §75-80, §83(e); Executive Ministerial Decree 29/1997(IV.30) for Act on Forests and the Protection of Forests)

Finally, my experience over the past two years is that the legislative process of the new Act on Forests and the Protection of Forests is a good example of successful implementation and harmonization forest management and environmental protection activities.

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EVOLUTION OF ITALIAN FOREST POLICY AND LEGISLATION IN THE EUROPEAN UNION CONTEXT *

PAOLO GAJO AND ENRICO MARONE

1. INTRODUCTION

Our contribution is intended to provide a critical analysis of the evolution of the interventions and choices that have characterized Italian forest policy in the twentieth century. Particular attention is given to the influence that European Union policy has exerted over Italian domestic policy choices. To put the scope of the legislation covered in this century into a better perspective, we found it useful to give a description of the condition of our forest resources over the last thirty years. Particular attention has been given to imported wood raw material prices and their influence on the formation of domestic prices in the flow of wood raw material necessary to satisfy the needs of the wood furniture industry.

After the introduction of the situation of the available forest resources and of the growing need of wood raw material, we analyze the interventions of the first forest policy with particular attention to those like, for example, land reclamation, that can be considered the first and most important land-planning intervention of our century. The effectiveness of the legislation in land reclamation, specifically the “Forest Law” of 1933, is indicated by the fact that it still forms the structure upon which forest legislation has been developing to the current time.

Concerning European agricultural policy, we underline that at the beginning it was totally devoted to the agricultural sector. Forest policy measures were linked in terms of their direct utility for agriculture. In recent years the European Union legislation took interest in forest problems, due to the growing importance of wood. During the first years of the century, forests were evaluated almost exclusively for their capacity to furnish wood raw material and incomes to populations that lived nearby. Little importance was given to its hydrological, environmental and recreational values. In contrast, the trend nowadays is to consider and value all the functions of forests. So intervention policy for forests is no more determined by agricultural policy choices, and the present purpose is to show its polyfunctionality.

In the final part of the paper, we examine new directions of forest policy, focusing on the need to ensure forecasted interventions succeed and have a positive effect on the development of the forest economy.

2. THE STATE OF THE FOREST RESOURCES DURING THE LAST THIRTY YEARS

The Italian forest area, which amounts to more than 6,750,000 hectares according to ISTAT statistics (ISTAT, 1994) covers 22% of the productive land area. During the last thirty years, the forest coefficient has been increasing in a remarkable way, but, in the European Union’s ambit, Italy remains in a below-average position in the availability of forest area per inhabitant. The distribution of forest cover is not homogeneous across the nation, for the forest coefficients of the regions range between 6% and 53%. The composition of forest cover is divided between plantations and natural forest. Private property includes about 60% of the forest area

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* Source: IUFRO Research Group 6.13; Research Report VI (1996): 97-111 (revised).

and is characterized by a high level of fragmentation and small tracts. The average property is not over 3 hectares. Moreover the location of forests is mostly in mountainous and hilly terrain (87% of the plantations and 95% of the natural forest), and this is one of the main causes of the low degree of utilization of Italy's forests. Following this situation, the annual yield possibilities increase (3-3.5 cubic meters for hectare), and are nowadays superior to the utilization level of about 1.3 cubic meters for hectare.

In 1991, wood removals amounted to 8.4 million cubic meters, which is an average figure for the last thirty years. While the volume of wood removals has not changed much during this period, there is an important variation in the composition of end users. As a matter of fact, fuel wood predominated up to the end of the 1960s. In subsequent years, fuel wood use decreased in comparison with industrial roundwood use and finally reached parity with it.

During the last ten years, removals of industrial roundwood have remained constant, but it is interesting to notice that the assortmental destination has changed. As a matter of fact, the relationship between sawlogs and veneer logs at the beginning of the 1960s was 10:1. It has changed in recent years to 3:1. This probably shows a trend in the transformation of the industry concerning sawlogs, toward working of local valuable timbers that can be competitive with imported ones. The supply of wood raw material in our country seems to follow two different trends. On the one hand, we have a supply of fuel wood that satisfies the local demand. On the other, industrial roundwood supply, has not yet met demand, which indeed is increasing, because of international competition.

The imbalance between the supply of domestic roundwood production and increasing demand is well expressed by the quantity and value of imports that have increased in the last thirty years, passing from more than 12 million cubic meters in roundwood equivalent in 1961, to about 38 million of cubic meters in 1991. As far as imports are concerned, the assortmental composition has also changed during the last thirty years. In particular, we have a reduction in imports of roundwood and of sawn wood (43% of imported wooden material in 1961 to 31% in 1991), and an increase in imports of pulpwood, paper, and paperboard. However, sawn wood remains the most important assortment in quantitative terms, while in value terms it is paper and paperboard.

Looking to the reported data, we can affirm it would be possible to reduce imports of pulpwood necessary to satisfy the demand for paper with an increase in the domestic supply of wood chips and of the picking of waste paper. The low monetary value of these products and high transport costs should put the domestic product in a competitive position with the imported material. But there is a constant increase in our dependence on foreign countries. This situation can be explained with the necessity of our industries to realize large-scale economies that need constant and sure supplies. Unfortunately our domestic suppliers can not provide these guarantees because of the reduced size of sawmills and the plywood and veneer industries, and wood chips represent only a manufacturing by-product. For these reasons we have a tendency to look for trade agreements with foreign tradesmen that can guarantee a sure and constant supply and quality. Moreover, many countries, especially countries of Southeast Asia, put into effect policies that supported the export of processed wood in order to increase value added of their export products. This creates further inconveniences, partly of a financial nature, to our country.

The growing demand for wood products has not found an adequate response in domestic supply. This makes the supplying rates for all wood and uses smaller, and in certain cases, such as for sawn wood and for pulpwood, they have been reduced to half. During the last years, we saw replacement of wood as a material by alternative products with a higher value added. The changes of domestic demand and of international supply urge a close examination of import replacement with domestic products where possible. Particular attention should be given to the increase of production that is possible with the financial incentives offered by European and national legislation, in the ambit of improvements in forest management and of creation of forestation installations.

The observation of the evolution of timber supply in our country shows that it was not sensitive through the years to changes in the demand for wood raw material from the wood furniture industry. It was more linked to the state of the economic system, and in particular, to average personal incomes and production costs. It created a wood furniture industry characterized by stable commercial relations with foreign states, which at the same time showed a lacking link between raw material transformation and product utilization. The causes of this phenomenon are to be found in the general imbalance in the wood sector of the Italian economy due mainly to the marginalization of internal areas with inadequate infrastructure, to inefficient public sector management, and to the splitting up of productive private forest lands. This situation had as its consequence the non-utilization or sometimes even the complete abandonment of vast forest areas. The result was scant care of forest resources with negative consequences from a hydrological, environmental, and recreation point of view, as well as from a strictly economic one.

The recent National Forest Plan indicates that among its most important aims is the increase of wood production, environmental protection, and the development of the social functions of forests. The multifunctionality of forests has been discovered, and efforts are being made to match utilization of forests for productive purposes with social purposes. While the new forest legislation has followed this direction, the European Union legislation has given it a real impetus. From the consequence of multiplicity of forest functions, it follows that every forest intervention must consider the possible effects in other sectors of the economy.

Past experience shows it is not sufficient to create an involvement and coordination between relevant economic sectors. For example, in the ambit of the Exceptional Intervention in the south of Italy, Special Project n. 24 had the objective to afforest about 400,000 hectares with fast growing species. The project, which has succeeded in establishing about 96,000 hectares, did not always favor productive afforestation. It showed it is not the deficiency of the financial incentive measures that was the cause of the failure, but frequent technical errors (installations ill-suited for areas, use of species unsuitable to the site, leaks, high installation cost, etc.). Scant information on the availability of incentives for productive afforestation, the fear of possible restrictions on the future productive destination of the afforested ground, and the non-connection between the sectors at the beginning and at the end of the productive cycle had particular impacts. The active intervention of the public operator was inadequate and scarce. More incisive action of connection and assistance to the private entrepreneurs should have been provided.

The growing demand of wood raw material and the contemporary need for a better utilization of forests present the problem of programming a more efficient, sustainable use of domestic forest resources. This would lighten our dependence on imports. In spite of the substantial increase in the use of timber that has reached 41 million cubic meters in roundwood equivalent, we have not achieved a concomitant

increase in forest utilization, which has caused a dependence on foreign countries for wood raw material amounting to four-fifths of our needs. In the same period, in some regions, it has signaled a farther degradation of surface soils due to the action of fires that have devastated vast forest areas of the country.

3. FIRST FOREST POLICY INTERVENTIONS

The preceding assessment of the state of forest resources helps to understand the evolution of the forest policy from the unification of Italy to the current time. At the end of the century the forest situation of our country was critical because inadequate and unclear legislation had impoverished our forest resources.

During the first ten years of national life, the action of the State was almost exclusively directed toward measures of hydrological protection and forest police. In the years immediately following unification of Italy, discussion of various legal means of constraining forest land activity for purposes of hydrological protection led to the Majorana-Calatabiano proposition, put into effect by the law n. 3917 or 1877 (*Cfr*. SINATTI D'AMICO f., 1991). Though the aims of the law are hydrological protection, it still is a very private perspective of the role of forest resources, far from their social reality and with little attention to their environmental role. As a matter of fact, it was not common to consider safeguarding a region as a whole from any perspective.

At the beginning of twentieth century, scientific debate on forest policy was initiated through a series of conferences (*Cfr.* ROMANO D., 1987) that led to the acceptance of the Luzzatti law of 1910 (L. 2/10/1910 n. 277). This law, among other things, created the State Administration for the State Forest, which has as its purpose economic forest management as well as safeguarding the forest environment. It also establishes also some incentives for private initiative in forestation and afforestation, recognizing that forest protection cannot be achieved by police measures alone.

The adopted legislative text provides for land reclamation as the main objective in order to safeguard the regional economy and for land reorganization in the forestry sector. The first measure is contained in the law of 13 July 1911 n. 774 and relates to hydraulic reclamation with subsequent agricultural utilization. The outbreak of the First World War interrupted the realization of the first forest programmes. In the post-war period, the need was felt to reorganize all forest regulations. So, Seriperi gives rise to the first real "Forest Law" (l. 30/12/1923 N. 3267), that is still the foundation of legislation currently in force, which can be considered the first organic public intervention in the sector (*Cfr*. SERPERI A., 1926). From that moment, the forest policy inspired by the Seriperi Law becomes an inseparable element of economic policy. It aims at economic development of forests to foster the fundamental productive role in the economy, to provide for a stable workforce in the region, to minimize the phenomenon of forest land abandonment, and to guarantee hydrological and environmental protection.

This innovative vision of the role of forests is based on the premise that efficient land management can only occur through application of scientific knowledge and efficient, sustainable use of its resources. This is possible only through a healthy regional economy providing income levels high enough to provide for an acceptable standard of living for forest workers and agriculturalists alike. The link between rural environments, agroforestry activity, and the totality of the interests involved, define the role of the "land regime" in sound economic development of a region. The principal aim of the Forest Law is therefore to find an appropriate balance between the "national good" and the "particular good". In this context, forests have the characteristics of both public and private goods (*Cfr*. MERLO M., 1987). The State

has an important function in this vision, where environmental values cannot be separated from the economically productive ones, which is to promote and coordinate initiatives for economic and social development. Public engagement for the proper exploitation of the regions with the help of various productive activities helps to overcome the policy constraints of the previous period. It requires a global and harmonic vision of the environment in which the State promotes coordination among public and private interventions.

The Forest Law becomes the expression of this new concept and its major points can be summarized as follows:

- general prescriptions that ensure land stability;
- financial encouragement for forest production and related activities; and
- improvement of the organization of forest production.

The provisions related to the first point refer to measures for the protection of the public interest with regard to settlement and reforestation of mountain lands. This is achieved through prescription of constraints on utilization when it could alter the hydraulic stability of the region. The impacts of hydraulic forest settlement in mountain basins must be addressed by the State and at its expense. An indemnity is necessary for the landowners in areas where these settlements occur.

As far as financial support is concerned, there are several dispositions to encourage silviculture and mountain agriculture. The aim is to realize reforestation and improvement of mountain pastures and to oblige the owner, or the possessor of the land, to accomplish governmental operations following the directions of the cultural and preservation plan established by the forest authority. The measures, apart from carrying out hydrological and environmental protection, guarantee economic development and provide income that favor permanence of the population.

Other measures relate to forest instruction and assistance in silviculture since financial means are not sufficient to achieve adequate economic development of mountain lands. Technical assistance and consultation initiatives are explicitly mentioned in the “Forest Law” and include the protection of small properties through creation of associations and unions for the prevention and putting out of fires, protection against parasites, utilization of wood, and the sale of the forest products. Other objectives are more efficient use of equipment to increase production, to introduce new ways of utilization that are more economically rational, and to develop trade of forest products.

Protection of the region, and therefore of forests, remains one of the cornerstones of Seriperi’s legislation, but it can only become operative if it gives forest activity an economic dignity that allows “mountain people” to continue their activities. Lack of adequate income and poor living conditions favor abandonment of land or its extreme exploitation, which both cases, causes serious damage to forests and people. We stress therefore the role of the forest operator as the best ally if he is convinced that in saving the forest, his livelihood is also saved and that improvement of his economic and social conditions results from a diligent utilization of resources and not their indiscriminate exploitation. It is therefore necessary that every intervention in the agricultural-forest sector consider the totality of the interests involved. Attention must be given to the study of the land regime as “the combination of the characteristics of the region that define and influence the ways of life and economic activities”. Land development, from Serpieri’s point of view, has to be accomplished by increasing the productive capacity of land as well as improving the

conditions of people living in those areas (*Cfr.* BELLUCCI V., 1976). Economic and social aims are inseparable.

We thus arrive at a definition of an integrated reclamation as an effective instrument of intervention for regions characterized by physical, structural and social unbalances, surmountable only by both technical and social interventions (*Cfr*. SERPIERI, A., 1926; TOFANI M., 1930; ROSSI DORIA M., 1943). For the first time in the history of our country, a project is studied linking both public and private interventions. The region is defined by similarity in socio-economic conditions, a central element of the reclamation plan. This is the base unit of analysis with it, it is possible to develop plans developing and using natural and social resources. We try to apply a flexible regional policy approach as an effective way to consider different needs with the varying conditions typical of Italy. Moreover, land reclamation appears as a public intervention not alien to the interests of single operators, formed by a series of actions taken to improve the general conditions of the region involving all interested people. The interventions are considered as instruments of regional safeguard and not only as extraordinary measures. Therefore, inside the “general plan of reclamation," different works of an exclusive public character and works of private character can be accommodated. The realization of public works at the expense of the State is an important instrument of the concession, and the owners of the land involved in the reclamation project put into effect the works of transformation, both in the public and private interest.

Integrated reclamation has had some problems due to the limited availability of financial capital and inadequate technical competence of the institutions responsible for their implementation. Inadequate technical skills and social maturity of the owners have also been a problem. In any case, interventions of this kind can be considered the most important realizations of regional planning and development ever made in Italy, and the legislation that promoted it represents the basis for interventions with social and environmental aims. The present situation is more complicated than the one at the beginning, since regional planning and development is no longer exclusive to the rural sector, but subject of many other interacting economic interests. The conception of integrated reclamation, considered as a systematic and complex intervention in a region, is particularly pressing and creates the basis for regional policies.

4. THE EUROPEAN AGRICULTURAL POLICY IN ITS RELATIONSHIP WITH FORESTS AND FOREST LANDS

Even if a large number of legislative interventions have followed the “Forest Law” of 1923, they have not succeeded to obtain significant results either in terms of reducing the deficit of timber or in terms of hydrological and environmental protection. In the European context, even if the situation in other countries is different, the deficit is growing. At the end of the 1970s, the Committee of the European Community reports, for the first time, difficulties in the supply of wood raw material (*Cfr*. FRATINI R., 1995). Since the heading “wood” does not appear among the products regulated by the Treaty of Rome, the first direction of the Community concerns silvicultural actions in the scope of programs for agriculture and of rural development. From the need to respond to the growing requirement for timber, the protection and increase of forest areas becomes also important for environmental reasons. We must remember that such themes, mentioned in the Treaty of Rome of 1957, have only been considered during the summit of the Heads of State of 1972, which established a specific environmental policy. These first legislative measures aimed more at curative than preventive policy. Only in the 1980s did environmental

policy became more global and integrated in various sectorial policies. Programs of collection, coordination and harmonization of information on the environment and natural resources were elaborated. An important step is the adoption of the environmental impact assessment with the aim of providing favorable treatment of projects that restrict negative externalities. The proposition of a program of forest action, produced by the Committee in 1988, combined environmental needs with forest protection, improved utilization and the enlargement of forest cover. Moreover, particular attention is given to pollution, fire control and afforestation, to the improvement of existing forests, and to measures for undeveloped regions. For the latter, the Mediterranean Integrated Program's aim to put into effect specific actions for improvement of backward structural conditions.

The discovery of worrying environmental emergencies like, for example, the phenomenon of acid rain and the damage it causes to forests, gave a new momentum to EEC policy. European Actions for Environment were developed and the Council of the Community deliberated that environmental policy must become the central point of economic, industrial, agricultural and social policies (*Cfr*. PASCA R., 1992; STROPPA M., 1992). With the European Unique Act, a new title in the Treaty of Rome has been introduced, that defines the conditions and aims of the Community. Following the Unique Act there have many provisions concerning environmental protection.

The changes in the agricultural sector were increasingly influenced by factors external to the agricultural world and by the growing importance of international markets. These elements brought the need to reform the PAC, making it conform to the requirements of a free market. The result was the abandonment of price support policies that had created so many problems inside the Community. The high monetary returns related to the use of antiparasitics, herbicides and fertilizers and the intensification of production processes lead to overproduction, one of the main failures of the European agriculture policy. With the new orientation, the aim was to find remedies for surplus production, for the high cost of price supports, for the need of market liberalization coming from the extra-Community partners, an aim that can be linked to the global need of environmental protection. The new measures of income support were not linked to the productive level of agriculture, but considered the cultivated land surface area, its compulsory reduction, and environmental safeguards.

In Italy, there has been an increase in attention toward the environment, and some initiatives reflect application of European directives. For example the law of 8 August 1985 n. 432 (Law Galasso) imposes a landscape constraint over all wooded areas classified as "natural beauties." This statue, even if it does not exclude totally the utilization of surface soils, aims to preserve forests as structural elements of the landscape. However, even if it represents an important step, the law, a much-discussed one, created a lot of doubts and problems concerning the possibility of intervention on the surface soils.

5. THE NEW DIRECTIONS OF THE EUROPEAN POLICY

The main problems of the old PAC were extreme protectionism, the non-protection of the consumer, the persistence of pockets of chronic low incomes in the agricultural sector, and the high cost of policy implementation. Even if the main direction of European policy was to protect income through incentives for production and raising of non-tariff barriers on imports and exports, many European countries succeeded in

restructuring their agricultural sector. Not so in Italy, where the structural situation of our agriculture remains in arrears (*Cfr*. AMADEI G., 1993).

However, we must underscore that the goals of the PAC (increase of the incomes of agriculturalists, greater competition in the agricultural sector, stabilization of the markets, etc…) have not been completely reached in the other countries of the Community. The scanty efforts of Italian agricultural policy can be described as:

- a price policy that has protected mainly the products of prevailing interests for other European partners, sacrificing national ones;
- a policy of price supports not sufficiently linked to a socio-structural policy;
- a trade policy toward other countries that has remarkably facilitated their exports.

The reasons for the non-achievement of the aims for Italian agriculture are to be found not only in a European policy that has not been always favorable for us, but also in the ineffectiveness of our own policy.

We must keep in mind that the lines of the Italian agricultural policy that characterized the years from the post-war period to the present, led essentially to the creation of a network of small cultivating properties, with the main aim of protecting agricultural employment for political stability and for social balance. Only during recent years does the policy aims prefer farmers to the rural property owners. So search for a better efficiency in the agro-forestry sector, in spite of the statement contained in the plans of agricultural programming of the last ten years, has not shown success yet.

Other elements that have not permitted European policy to find a place in our country can be found in the following motives:

- non-conformance of the system of technical assistance;
- inefficiency of the instrument of agricultural credit, always waiting for radical modifications;
- inadequacy of research and experimentation activity;
- too many political interests in the cooperative system;
- scanty care of innovative companies.

Because of a widespread tendency toward forms of protectionism, a bureaucratic-legislative apparatus often delayed the acceptance of European norms, including a prolonging of the periods to obtain their anticipated benefits.

Moreover, the bureaucratic rigidity and the long delays in the execution of previewed integrations, together with the financial inability of our country, were another constraint in reaching agriculture competitors, and they have often made useless the measures obtained with difficulty from the Community. Data in the last census of Italian agriculture for land structure confirms what has been said. There are still more than 3 million farms with an average surface of 7.5 hectares. The disappearance of more than 1 million farms happened in the last thirty years is due more to phenomena of abandonment than the process of concentration. From the analysis of census data, we can check the permanence of phenomena of fragmentation of our land structure together with an aging of farmers. All this confirms the various interventions in Italy have been particularly ineffective. So, competitiveness has been sacrificed for economic subsistence, for the sake of a social consensus. Apart from the structural stagnation that characterizes Italian agriculture, changes have been made with respect to productive factors and, more recently, toward products, markets, and relationships with other economic sectors. Agriculture, traditionally

considered separate from the rest of the economy, is now more integrated with the industrial world.

The changes in process in the agricultural sector have received a big impetus from economic powers external to agriculture. Moreover, the national agriculture and the agro-alimentary system became more dependent on international market performance. The orientation of production should therefore necessarily consider the evolution of consumer behavior and of intermediate buyers. This new market structure, with the new PAC, will bring a further reduction of prices and heavy reduction in production subsidies. To defend income will require the adoption of cost-reduction measures reached through extension of productive processes and realization of scale economies. Moreover, the new GATT agreement promises liberalization of markets (*Cfr*. AA.VV., 1994B).

In this general picture, forestation has an important role, even if European directives have ignored it for a long time. Only from regulation 797 of 1985 does forestation become part of the reform of European agricultural policy, caused also by the concern over degradation of forests of the Community. In Italy the measures of “set-aside,” different from the other countries of the Community, had a big outcome (in the campaigns of 1988-89, 1989-90, 1990-91, the land area retired from production was about 50% of the 1,300,000 hectares retired in Europe as a whole) and affected lands with a modest productive capability. In content, reforestation has been completely neglected (only about 3% of the surface withdrawn from production has been assigned to reforestation). The reason for this failure is to be found in the distrust of agriculturalists for cultivation of a polyannual type with postponed incomes. Moreover, recent landscape restraints imposed by law 431 create uncertainty on the possibility of future utilization and of future changes of the productive designation of the land. The utilization of marginal lands, not always suitable for the planting of high quality tree species, and the typical uncertainty of forest investments, represent other reasons for the limited acceptance of reforestation programs.

Recent regulation 2080 of 1992, concerning forest measures in the agricultural sector, accepted by some Italian regions, tries to find a solution to the problems that have prevented Italy to fully accept the benefits of previous programmes. As a matter of fact, there are important contributions that cover a big part of the productive circle and that offer compensation for the non-incomes coming from the exercise of previous agricultural activity. Moreover, it is interesting to notice that the principles that promoted its promulgation express a particular attention for the need to put into effect reforestation policies linked to environmental protection, including what was established in the Conference of Rio de Janeiro. But, even if these regulations include some promise for an effective reforestation policy, doubts on its real effects are linked to the period of financing that, if they are too long and not accompanied with an adequate technical assistance about the choices of land, suitable tree species and of silvicultural treatments, they will remain only good intentions.

The EEC Reg. 2078 proposes agricultural development that can be compatible with environmental protection. Environmental protection is no longer separated from production choices, but are part of them. Particularly, incentives are foreseen for agriculturalists that adopt cultural practices that limit use of fertilizers, antiparasites, herbicides and the quantity of livestock per hectare. Incentives are also provided for agriculturalists who, for at least twenty years, set-aside retired lands for the creation of preserves and natural parks. The real innovation of the policy of the Community is however the involvement of all the productive sectors, that will have to follow a development line that protects natural resources. Agricultural and forestry activities

which occupy a land surface equal to 80% of Europe are particularly important subjects of the new policy. The trend toward the cultural extension, incentives for quality production and the support of a policy of protection and development of forest resources are the most significant orientation of the new PAC. The support for little and middle-sized farms that work in the territory also represent a valid instrument for safeguarding the environment. We can thus confirm national legislative attention toward forest resources has reached a satisfactory level with passage of recent European and Italian national legislation. It is at last based on the concept of wood as a natural resource with multiple uses. But implementing regulations are still lacking to address the extreme fragmentation of competencies, inefficient bureaucratic structure and insufficient economic forest programming.

CONCLUSIONS

The new PAC had to respond to new needs caused by changes in international agreements on trade and the evolution of agricultural policies that support a substantial reduction of production, more attention toward the quality of products, and emphasis on environmental protection. But it is important to notice that the new PAC introduced the principle of separation of price policy from income support. The new measures of income support are no more linked to the productive level reached by agriculture, instead they are determined by cultivated land surface area and their compulsory reduction.

These measures aim to improve the efficiency and competitiveness of agriculture and to reduce various forms of support gradually, and as a result to lessen the incidence of agricultural expenses on the European budget. In this way we should achieve more balanced markets, including a contemporaneous reduction of surpluses. European policy has placed an emphasis on the environment which can become a propulsive element for a new productive capacity. It has indicated the importance of preservation of an adequate number of small and middle-sized farms that represent valid regional protection. So, the aim of agriculture must, on one side, facilitate the selection of a limited number of farms that are economically efficient and with the ability to create satisfying incomes and, on the other, warrant the preservation of a wider number of farms that perform different functions from productive ones (*Cfr*. AA.VV., 1993a).

The current structure of Italian agriculture is not adequate to accept the recent innovations, and it is therefore necessary to reduce the number of farms and employees through concentration. Other uses of land can be a valid solution if we consider the possibility of such changes as incentives for forestation, afforestation, and productive silviculture. Therefore, we must tend toward concentration of supply both in agriculture and forestry. Moreover, the organization of the production and distribution systems of agricultural and forest products must be reconsidered so the two systems can be better related.

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REVIEW OF THE FOREST AND ENVIRONMENTAL LEGISLATION IN LATVIA *

LIGITA PUNDINA AND JANIS DONIS

1 FORESTRY RELATED LEGISLATION

Latvia has a legislation system that is based on a mix of legislation of Soviet times, the previous Republic, and the current Republic. Some laws have been revised two or more times since restoration of independence. This paper gives an overview on the main forest and environmental legislative acts in force in Latvia, followed by a summary of their discrepancies and imperfections.

Ecological rights in the Latvia are an important legal issue which helps to maintain and protect land, forests, waters, plants, etc. Ecological rights have a very integrated character and contain norms of different branches of rights. Therefore looking on forestry-related legislation, one has to take environmental protection legislation into account.

Table 1: Basic Legal Acts Related to Forest Sector

Forest Acts	Environmental Acts
Law on Forest Management and Utilization	Law on Environment Protection
Law on Utilization of State Forests	Law on Particularly Protected Nature Territories
Law on Hunting	Law on Protected Belts
Set of regulations issued on the basis of these laws by Cabinet of Ministers	Set of regulations issued on the basis of these laws by Cabinet of Ministers

2 FOREST LEGISLATIVE ACTS

The Law “On management and utilization of forests, 1994” is the main forestry act which describes basic principles of forest management, utilization and protection. The object of the law is forest-covered and non-covered lands awarded for use or into property for the needs of forestry (Forest Fund). Main goals of the law are:

- to provide protection of the forest as an ecosystem and renovation of forest as a resource.
- to regulate basic principles of forest management and utilization.
- to protect the rights of forest managers and users.

* Source: IUFRO Research Group 6-13; Ossiach Proceedings (1999): 109-116

It is written in the law that forest utilization restrictions depend only upon forest ecology and economic factors not on who has forest utilization rights. There is, however, a number of statutory differences for private and state forests in other legislative acts.

Maintenance of forest cover is described in the sections that regulate principles of the forest management, utilization, regeneration and protection. The law prescribes three categories, depending upon the economic and ecological significance of individual forests. More detailed descriptions are given in the regulations titled “On forests inclusion into categories and selection of particularly protected forest areas, 1994.” These regulations determine how Latvia’s forests are divided into categories and how particularly protected forest areas are selected.

Category I – protected forests:

- forests in the nature reserves, national parks and nature-restricted areas (in compliance with lists approved in legislation acts and other normative acts);
- anti-erosion forests in 1-5 km wide belt along the Baltic Sea and the Gulf of Riga following natural borders of erosion-endangered soils;
- green zone forest parks (urban forests), forests around all Latvian cities, forests within cities administrative borders and forests adjacent to cities.

Category II forests – restricted management forests:

- forests in the protected landscape areas and green zone forests (suburban forests)
- forests around largest Latvia’s cities and ecologically unfavorable cities (environment protection forests)
- forests in those forestry supervised territories that are located at the Baltic Sea and the Gulf of Riga and are not included in category I

Category III forests – commercial forests – are the rest of the forests of Latvia.

In forest category II and III can be singled out the particularly protected forest areas – forest groves, forests on valley slopes, forests along banks of rivers and lakes, etc. There are totally 26 different titles.

Final Felling Regulations, 1996 and Intermediate Cutting Regulations, 1996 were developed to execute Latvia’s international commitments on sustainable forest management, to increase amount and value of wood obtained from unit of area, to increase ecological stability and stability against unfavorable environmental conditions and to determine a unified forest management and utilization procedure. These regulations set restrictions for utilization rights depending upon forest protection category (subcategory and kind of particularly protected forest area).

In these regulations are followed the principle found elsewhere in environmental protection legislation – the strongest management restriction should be observed. For instance, if in the restricted management forest there is identified a particularly protected forest area with a stronger cutting restriction, this stronger restriction should be observed.

Utilization of State-owned forest is regulated by the Law on Utilization of State Forests, 1995. Application of the law relates only to state forest fund. The objectives of this law is to preserve and enlarge national forests as a guarantee of forest cover and to provide a legal basis for ecological properties protection and utilization in relation to forest resource utilization. Under this law, the Latvian Government ensures execution of principles provided by international agreements binding upon Latvia in the utilization of state forests. This law restricts the procedure of alienation of protected and restricted management forests.

3 LAW ON ENVIRONMENTAL PROTECTION, 1991

This act provides an “umbrella” for environmental protection. Its objective is to create a mechanism governing interactions between human society and nature, ensuring environmental protection, a productive economy and the people’s right to enjoy a high quality environment. Basic principles of the law are ensuring favorable life environment, coordination of society’s economic and environmental interests, coordination of territorial, national, state and international interests in environmental protection and natural resource utilization. Thus, the law regulates natural resource utilization and the requirements for environmental protection.

The object of the law is environmental protection, including nature resources: land, subsoil of the earth, soil, water, atmospheric air, flora and fauna, and particularly protected nature objects and territories. Forest are treated as renewable natural resources.

The law determines that natural resource utilization are included in the branch of environmental protection laws. Therefore the aforementioned law “On forest management and utilization” is to be included as such. If a forest, as a renewable natural resource, is managed by the State Forest Service competence, then the competence of Ministry of Environment Protection and Regional Development (mainly) in forest environmental protection and utilization is to elaborate and submit to the Cabinet of Ministers proposals on national significance nature reserves, national parks, regional nature protection complexes (systems), establishing of cultural and historical and other particularly protected territories and objects.

In the chapter on nature protection, the law defines particularly protected territories. The procedure of management and utilization is further regulated by the law “On particularly protected nature territories.” The law “On environment protection” determines that the state especially protects endangered and rare species and biotopes both in the national and international scale, in order to fulfill obligations of international agreements in which Latvia is a participant. However, the biotope is not an object of the law “On particularly protected nature territories.” One could conclude that protection of biotopes, likewise the legal protection of particularly protected forest areas currently in the legislation, is an unsettled issue.

The goal of the law “On particularly protected nature territories, 1993” is: to determine basic principles of the particularly protected nature territories and an order of their establishing, ensuring of existence, procedure how these territories are managed and controlled. The aim is to unite state, international and regional and private interests in protecting natural territories establishment, preservation, maintenance and protection. Objects of the law are particularly protected nature territories (hereinafter referred to as protected territories). Protected territories are divided into the following categories: nature reserves; national parks; biosphere reserves; nature parks; nature monuments; nature preserves, and protected landscapes areas. Nature reserves, national parks and biosphere reserves are established by the Parliament by passing a law. Protected landscape areas, nature preserves, nature parks and nature monuments are established by the Cabinet of Ministers. Nature preserves (nature restricted areas), nature parks and nature monuments, which are significant for nature preservation in the relevant territory, can be established also by local governments.

The law provides that for every protected territory, regulations should be developed to ensure its protection and to not admit decreasing its value. Protection and utilization regulations of the protected territories define necessary, admissible and prohibited activities. There are general plans for protected territories protection and

utilization, and they are approved by Cabinet of Ministers. Individual protected territories protection and utilization regulations are elaborated for each protected territory on the basis of peculiarities of the particular area and the objectives of establishment. Protected territories with various aims can be divided into functional zones. They have different protection and utilization regulations.

The law states that the landowner or user has the right for tax relief or any other privileges stipulated by the law, if observing protected territory protection and utilization regulations that cause an economic loss to him. Losses caused to the owner due to the restrictions of utilization rights upon establishing particularly protected forest compartments are envisaged to be covered also by the Cabinet of Ministers regulations "On inclusion of forest into categories and selection of particularly protected forest areas." In the State Forest Service there is no information that the state had compensated the owner for restrictions of such utilization rights. The problem might be in the fact that particularly protected forest compartments (areas) are not coordinated with the protected territories categories which are envisaged by the law "On particularly protected nature territories." The legal protection regime of these areas is unclear likewise biotopes, which are not objects of the law "On particularly protected nature territories."

In protected territories, the land property rights of the former landowners or their descendants can be restored and the land can be given to the property of physical and legal persons only, if these persons undertake to observe protected territories protection and utilization regulations and nature protection plan. In this case a special entry is made in the resolution on granting of the land in property, by securing utilization rights restrictions in the land book. To note, in compliance with the civil law, utilization rights restrictions can be set only on the basis of the law or agreement, and forest utilization rights restrictions are set in laws on forest management and utilization.

The law says that in establishing protected territories in Latvia, recommendations of international conventions and international environment protection organizations should be taken into account. The *Regulations of General Protection and Utilization for Particularly Protected Nature Territories, 1997* set a general order of particularly protected nature territories and of the admissible and forbidden kinds of activities.

The major restrictions of utilization are in the *nature reserves*. Nature reserves are untouched by human activities where uninterrupted operation of natural processes is ensured to protect and investigate rare or typical ecosystems and their components. In the nature reserve territory the following functional zones can be determined: core zone, restricted zone and buffer zone.

National parks are vast localities characterized by natural formations of outstanding national significance, little-changed landscapes and culture landscapes of untouched human activity, diversity of biotopes, abundance of cultural and historical monuments and peculiarities of cultural environment. Functional zones can be determined in the national park territory, if needed for nature protection, recreation, educational and scientific purposes.

Biosphere reserves are vast territories where one can find landscapes and ecosystems of international significance. The target of establishing biosphere reserves is to ensure preservation of nature's diversity and to promote sustainable social and economic development of the territory. The following zones can be determined in the biosphere reserves as follows: natural restricted area zone (one or several), landscape protection zone and buffer zone.

Nature preserves (nature restricted areas) are territories representing nature complexes which are little changed by human activities or are changed to different extent, deposits of rare or endangered wild plants, culture landscapes which are unique or characteristic for various Latvia districts, places of exceptional beauty. In nature restricted areas economic or other kinds of activity are permitted that do not contradict the goals and tasks of establishing the given reserve and envisaged by individual protection and utilization regulations and nature protection plans.

Nature parks are territories representing natural and cultural historic values for a definite locality and suitable for society's recreation and education. Functional zones can be determined within the territory of nature parks, if it is needed for nature protection, recreation, educational and scientific purposes. Clear cutting and reconstruction cutting are forbidden in nature park forests.

In *protected landscape areas (localities),* if needed, functional zones can be determined. Protected landscape localities are territories with greater area than nature restricted areas and are distinguished by a peculiar and multi-sided landscape. Sustainable economic activity not harming nature is permitted. In protected landscape localities any activity is forbidden that changes culturally and historically established landscapes, landscape elements of ecological and aesthetic significance and culture environment peculiarities, and diminishes nature versatility and ecological balance or promotes environment pollution.

Nature monuments are separate, lonely standing formations of nature: trees, dendrological plantings, caves, springs, valleys, rocks, water falls, stones and other rarities having scientific, cultural, historic, aesthetic or ecological value. As protected geologic and geomorphologic nature monuments are determined detrition of bedrock, subsoil fresh water and mineral water springs, big boulders, as well as typical or rare relief forms. Regulations enumerate specific activities forbidden in the nature monument territory.

4 LAW ON PROTECTIVE BELTS 1997

The law on environment protection under the objects of special nature protection provide for protective zones of various importance. The law on protective belts defines them areas the task of which is to protect different types (both natural and artificial) of objects from undesirable outer influence and exploitation or to protect people from harmful impacts of any object.

The object of this law is to provide for and protect different types of protective belts and zones, determined in laws and other normative acts. The law sets the following types of protective belts and zones:

- Protective belts for environmental and natural resource protection;
- Exploitation protective belts are set along both transportation, communication and other lines, as well as around objects ensuring operation of various state services;
- Sanitary protective belts are set around objects requiring higher standards of sanitary safety;
- Safety protective belts, whose purpose is to ensure human safety from high risk activities.

Protective belts for environmental and natural resource protection are established around objects and territories of importance from the perspective of environmental and natural resource protection and rational utilization. Their purpose is to diminish or eliminate anthropogenic negative impacts on objects for which protective belts

have been established. There are the following types of protective belts for environmental and natural resource protection:

- Protective belts along the Baltic Sea and Gulf of Riga;
- Protective belts along water reservoirs and water courses;
- Protective belts (protection zones) around cultural monuments;
- Protective belts around places for drinking water taking;
- Protective belts around health resorts;
- Forest protective belts around cities (green zone forest parks).

In cases where several types of protective belts overlap, stronger requirements and the larger minimal width are valid. All restrictions on utilization rights become valid upon their being entered into the land book.

5 COMMENTS ON PRESENTLY OCCURING PROBLEMS

In Latvia, like in many places in Europe, natural resource legislation is related to environmental protection legislation. This refers fully to forest legislation and in particular with regard to important forest environmental protection requirements that are relevant in forest management and utilization regulating acts. Sources of ecological rights can be divided into two groups: a) legislative acts regulating the protection and use of separate natural resources laws such as the laws “On forest management and utilization,” and “On state forest utilization”, and b) legislative acts regulating all natural environments, where economic activities are restricted or forbidden such as the laws “On environment protection,” and “On particularly protected nature territories.” However, norms regulating forest environmental protection are rarely coordinated with environmental protection legislation. For example, legal protection of biotopes and particularly protected forest compartments is currently an unsettled issue in the legislation. The problem lies in the fact that the mentioned specifications (terms) are not coordinated with the protected territory categories envisaged by the law “On particularly protected nature territories” and therefore not being objects of the law “On particularly protected nature territories.” Another example is the coastal area of the Baltic Sea (see Table 2).

The mutual non-conformity of the acts can be settled by applying the principle that if there is a stated contradiction between general and special norms of rights covered by normative acts, the general norm of rights is effective as far as it is not restricted by a special norm of rights. If a contradiction between the norm of general rights and that of special rights occurs, the norm of general rights shall apply as long as it is not restricted by the norm of special rights. Norms of special rights in relation to forest protection categories are contained in the law “On forest management and utilization” and on that basis the Cabinet of Ministers issued regulations.

Such a situation causes problems in application of restrictions set forth by the forest legislation. Due to Civil Law, paragraph 1082, the restrictions on property utilization rights are set by law, by court resolution, or private will through testimony or agreement. The restriction can relate to both granting of some rights to other persons, or the owner abstaining from the exercise of certain rights of utilization. Since social interest is mainly related to utilization of the property, then the major part of the property restrictions relate to the rights of property utilization. Restrictions on property utilization rights are especially dominating in society’s public interest, for instance, by preserving the forest as a large renewable wealth of Latvia’s nature.

However, restrictions are to be interpreted in a narrower sense. With this is connected the presumption of property inviolability. Any restrictions should be proven by the one in whose favour these restrictions exist, in this case, by the state. Until any concrete restrictions is proven, it should be assumed and acted in such a way, as if such a restriction does not exist.

Table 2: Example on Coastal area of the Baltic Sea

Protected Belt along Baltic Sea and Gulf of Riga	*Anti-erosion Forest*
Main goal of area	
Reduce impact of pollution on sea	
Maintain anti-erosion function of forests	Prevent soil erosion
To prevent development of erosion	
Protect coastal landscape	
To ensure balanced and long-lasting use of the coastal nature resources including recreational and tourism resources	
Criteria and indicators for establishment	
Dune protection belt: At least 300m wide starting from line where is uninterrupted vegetation	Up to 1-5 km wide belt on soils threatened by erosion
Restricted management belt up to 5 km taking into account natural conditions	
Methods for marking out elaborated by	
Ministry of Environment coordinating with Ministry of Traffic	State Forest Service? (not clearly defined in laws)

Thus, in the legislation by defining restrictions on utilization rights, requirements of legal technique should be observed, otherwise their application becomes problematic. One could refer to State Forest Service, local government or forest inventory specialist rights to determine a particularly protected forest area. Other cases occur if by means of a lower level normative act issues are regulated which are compulsory not only for the relevant state institution. For instance in compliance with Cabinet of Ministers equipment law the state institution can substantiate its concrete action towards outside by Satversme (Constitution), law or regulations rather than instruction or suggestions.

The forest is one of the most common and important biogeocenosis (ecosystems) in Latvia, where united in one complex are land, subsoil, trees and other plants, animals and waters. These objects are dependent upon each other and only their common coordinated protection is preservation of forests guaranteed as an important ecosystem. Therefore in an ideal condition forests as a renewable natural resource would be subordinated to nature resource legislation, but forest nature object protection systems would be established and coordinated with environmental protection legislation.

To conclude, the main problems in Latvia at the moment in the field of forest and environmental protection legislation are:

- Insufficient co-operation among state institutions responsible for environmental protection,
- Lack of clear motivation for protection of specific territories, as well lack of real (economical) mechanisms for providing it, and
- Insufficient cooperation among interest groups (state-society-individual).

SCOPE AND COVERAGE OF LATVIAN FOREST LAWS *

LIGITA PUNDINA

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

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

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

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

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

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

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

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

However, it must also be said that the aforesaid terms, "biological diversity" and "sustainable utilisation of forest resources" are not used in Articles of the law, except for Article 1, where they are listed as terms used in the law. The sustainable management of forests is partially included in Chapter 3 of the law, "Protection and Utilisation of Ecological Values of the State Forest" and Chapter 4, providing the

* Source: IUFRO Research Group 6.13; Ossiach Proceedings (2000): 39-42

annual allowable cut for state forests. Not withstanding the aforesaid, the general objective of the forest policy of a sustainable forest management must be incorporated in the law.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ROMULDAS DELTUVAS AND JUOZAPAS MAZEIKA

FOREST COVER AND OWNERSHIP

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

Table 1: Components of Lithuanian Territory

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

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

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

* Source: IUFRO R. G. 6.13; Ossiach Proceedings (2000): 43-53

REGULATORY FRAMEWORK OF FORESTRY

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

Table 2: Regulatory Framework

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

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

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

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

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

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

STRUCTURE AND CONTENT OF THE FOREST LAW 1994

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

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

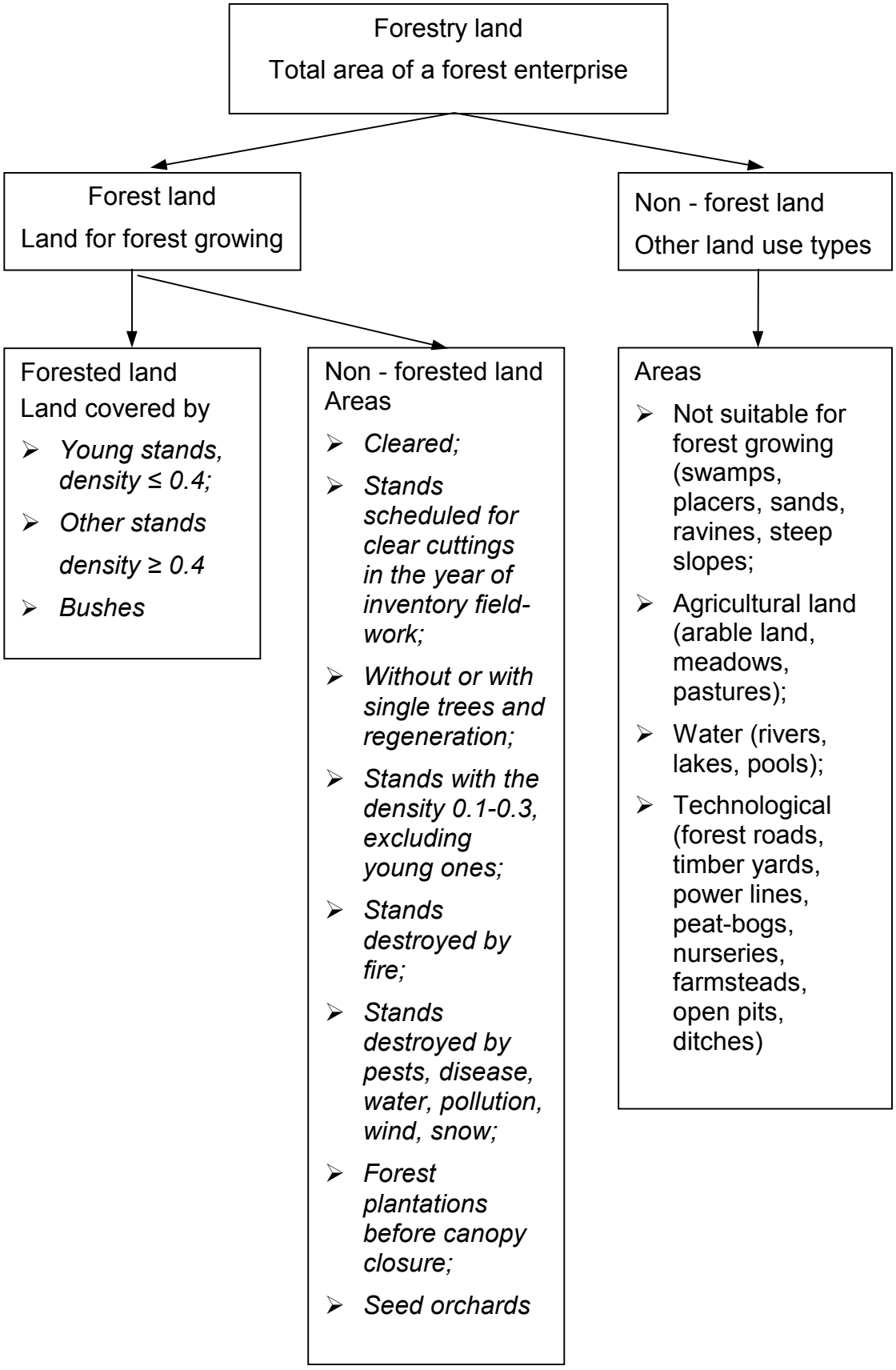
1. General items, covering main definitions, forest policy goals, forest protection classes, forest ownership, forests administration and economic regulation of forestry.
2. Forest use, covering the rights and obligations of forest users, cancelation of the use right, conversion of forest land to other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

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

According to Lithuanian Forest law the following definitions apply:

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

Figure 1: Forestry Land Classification



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

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

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

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

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

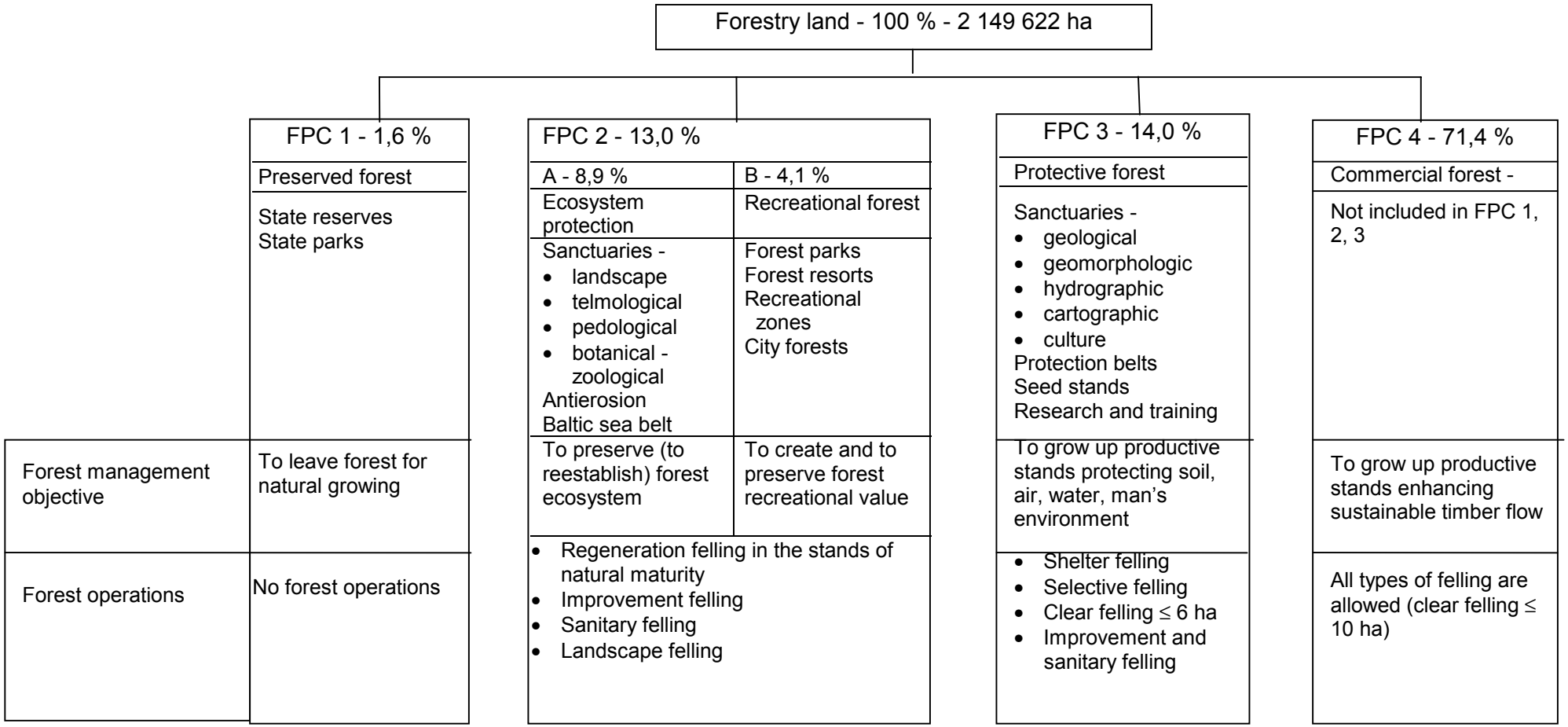
The Forest law intends to rule out the possibility of further splitting the forest holdings, that's why a private forest parcel shall not be disunited in the case when the area of new holding becomes less than 5 ha. There is no limitation in Forest law concerning maximal area of a forest holding. There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

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

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

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

Figure 2 Forest Protection Classes (FPC) in Lithuania



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

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

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

Forest Regulations and Rules

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

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

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

- Department of forests and protected areas [23];
- forest work safety [24];
- forest sanitary protection [25];
- forest final felling [26];

- forest intermediate felling [27];
- forest regeneration [28];
- forest visit [29];
- use of secondary and subsidiary forest products [30];
- estimation of stumpage prices [31];
- afforestation of abandoned land [32].

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

Structure of the Legal Framework of Environment Protection

There is no system of legal documents concerning environment matters in Lithuania fixed by some specific law. The matters of environment protection in Lithuania are regulated by the following set of laws:

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

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

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

Environment Protection Laws

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

- General items, covering main definitions, object, principles and administration of environment protection.
- Rights and obligations of citizens and social organisations.
- Use and register of natural resources, covering object of use, users and conditions of use.
- Regulation of commercial activities, covering objects not related to the use of natural resources, however impacting the environment, requirements related to production and use of dangerous chemical and radioactive materials, requirements to vaste treatment.
- System of environment state monitoring, covering requirements related to the environment state monitoring and estimation of the negative impact on environment.
- Economic protection of environment, covering
    - taxes on use of natural resources;
    - taxes on environment pollution;
    - regulation of credits;
    - state subsidies;

    - prices policy;
    - economic sanctions and damage compensation;
    - others ecological taxes and measures.
- Responsibility for violation of Environment protection law, covering legal responsibility, forms and order of damage compensation.
- International cooperation in the field of environment protection, covering the areas and aims of international cooperation and the relation of Lithuanian law to international agreements.

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

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

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

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

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

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

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

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

CONCLUSIONS

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

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

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CHANGES IN THE FOREST SECTOR

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

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

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

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (2000): 54-68.

OVERVIEW ON RELEVANT INTERNATIONAL AND NATIONAL REGULATIONS

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

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

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

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

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

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

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

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

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

RELEVANT PROVISIONS OF THE FOREST LAW

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

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

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

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

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

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

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

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

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

Protection of forests from illegal activities listed in Article 20, eliminates a possibility to use prescribed burning as one of the management options. Considering the recent research in forest disturbance regimes and effects of fires in unmanaged forest

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

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

RELEVANT PROVISIONS OF THE SECTOR PROGRAMME AND FOREST REGULATIONS

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

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

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

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

Optimization of the shape and size of forest sites, suggested in the Regulations, can be favourable only from the commercial forestry positions (Regulation 3). Increases in the size of single age forest stands may make it easier to carry out silvicultural

activities. However, they are not welcomed from the landscape diversity perspective, where a landscape matrix with forest patches of different species composition and age structures is essential for maintaining biological diversity.

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

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

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

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

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

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

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

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

Source: Department of Forests and Protected Areas, 1999.

A positive example of regulating impacts of forest management practices on biological diversity is the reference to site conditions in planning a cutting type (Regulation 8). However, flexibility is left to define a cutting type based on the planned forest stand composition, and on technical and economical conditions

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

Table 2. Maximum Allowable Widths of Clear Cutting Sites

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

Source: Department of Forests and Protected Areas, 1999.

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

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

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

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

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

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

National Regulations on Forest Regeneration, were adopted in 1993. They contain obligations and recommendations regarding forest regeneration on State or privately owned land. As stated in Regulation 2, '*establishment of forest stands shall be aimed at maintenance of valuable wood yield and other non-timber production at sustainable level in order to satisfy the needs of the country's industry and public sector by establishing and maintaining productive and stable forest stands on the*

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

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

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

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

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

As stated in Regulation 5, forest management activities are chosen based on forest distribution in protection Classes, and along with the management principles outlined in these Regulations. Regulation 6 indicates, that forest protection and use for individual forest compartments are in forest management plans, drafted along with

the requirements of these Regulations, the regulations of protected areas, and other legal and territorial planning documents.

RELEVANT PROVISIONS OF ENVIRONMENTAL AND NATURE PROTECTION LAWS AND REGULATIONS

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

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

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

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

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

The *Law on Protected Plant, Animal and Fungi Species and Communities*, adopted in 1997, defines and regulates activities of legal and private persons, related to conservation of protected wildlife, vegetation and fungi species and their habitats, and activities required to maintain and increase the number of these species and their habitats. Article 4 defines the Lithuanian Red Data Book, which is the list of rare and threatened fauna, flora and fungi species. The list is updated at least every 10 years. As indicated in Article 8, legal and private persons in the owned territory

containing protected species and their habitats bear a responsibility for the implementation of the following requirements – (1) maintain conditions favorable for protected species and their communities; (2) assure conservation of protected species and communities, and maintenance of their habitats. According to Article 12, if the individual territory contains protected species and their habitats, in the planning documents for this area (e.g. forest management plans) measures for conservation of protected species habitats must be indicated. As stated in Article 15, species protection, habitat conservation and maintenance activities are to be financed from the financial resources of the landowner.

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

CONCLUSIONS

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

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

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

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

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

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

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

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

ANNEX II: FOREST LEGISLATION IN LITHUANIA

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

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

ANNEX III: FOREST RELATED LEGISLATION IN LITHUANIA

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

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

ANNEX IV: ACTION PLAN FOR THE PROTECTION OF FOREST ECOSYSTEMS

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

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

AN OVERVIEW OF NEW FOREST AND ENVIRONMENTAL LAWS IN POLAND *

KRZYSZTOF KACZMAREK AND SLAWOMIR WENCEL

1 RELEVANT LEGISLATION

Laws in force on forestry and the protection of the environment and nature are:

- The Forest Law of 28 September 1991 (updated on 24 April 1997);
- The Protection of Nature Law of 16 October 1991;
- The Environmental Protection Law of 31 January 1980 (updated on 29 August 1997);
- The Protection of Arable and Forest Land Law of 3 February 1995; and
- The Land Development Law of 7 July 1994.

The most important issue in forestry in Poland today is reprivatization of forest holdings, a process that is still under much political discussion. The scale of returning forests to former owners amounts to 4,891 thousand ha or 56% of the total forest area in Poland.

2 TITLES TO LAND: STATUTORY BASIS, DEFINITIONS AND PROTECTION

Forms of forest ownership in Poland are of two general types:

1) Public Forests: owned by--
   a) The State Treasury: which are managed and used by--
      i) Panstwowe Gospodarstwo Lesne “Lasy Panstwowe” (State Forest Enterprise or ‘the State forests”) supervised by the Minister of Environmental Protection, Natural Resources, and Forestry;
      ii) Nature protection units (national parks);
      iii) Organization units controlled by other ministers or voivodes as well as by Angecja Wlasnosci Rolnej Skarbuy Panstwa (the State Treasury Agricultural Agency).
   b) Local governmental administrative units (communes)
2) Private Forest Ownerships: owned by--
   a) Individuals;
   b) Community common land, land that is the property of a village or part of a village;
   c) Agricultural collective farms and agricultural cooperatives that manage the land and use it free of charge;
   d) Other legal bodies, e. g., churches and religious organizations, social organizations, political parties, labor unions, and companies.

The amount of land under the various ownerships is summarized in Table 1. There are about 900,000 private forest ownerships in Poland, and their average size is 1 ha.

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (1999): 117-127

Table 1. Forest Ownership in Poland, 31 December 1997

Ownership Type	Amount (in thousand hectares)	Percent
Public Forests		
The State Treasury	7,205	82.1
State Forests	6,881	78.4
National Parks	177	2.0
Other	147	1.7
Communes	77	0.9
Subtotal	7,282	83.0
Private Forests		
Individuals	1,397	15.9
Common land	68	0.8
Collective farms	12	0.1
Other	20	0.2
Subtotal	1,497	17.0
Total	8,779	100.0

The Forest Law defines an owner of the forest as a "natural or legal person who owns the forest or is granted a perpetual usufruct of the forest as well as a natural or legal person or an organization without a legal status which owns the forest in a natural way and uses, manages or leases the forest." Forests owned by the State Treasury with the exception of

- National parks;
- of the Agencja Wlasnosci Rolnej Skarbu Panstwa (The State Treasury Agricultural Agency);
- or perpetually leased in accordance to separate regulations;

are managed by the State Forests. Among other things, the State Forests run the forest economy, manage forest land and other real estate (as well as movable property connected with the forest economy), draw up a register of the property of the State Treasury and determine its value. As an organization of the state, the State Forests do not possess separate legal status, but represent the State Treasury with respect to the property it administers.

3. INTERVENTIONS AND STATUTORY RESTRICTIONS ON PROPERTY

Forests constituting property of the State Treasury are supervised by the Minister of Environmental Protection, Natural Resources, and Forestry, and forests that are not such property are supervised by a voivode or by a director of the governmental local administration unit.

By means of agreement, a voivode can entrust his supervisory duties, including issuing administration decisions of the first stage, to the director of the Regional Directorate of the State Forests. By means of agreement, a director of the

governmental local administration unit can entrust his supervisory duties, including issuing administration decisions of the first stage, to the director of a local State Forest district. The director of the Regional Directorate of the State Forests and the director of a local State Forest district can perform duties entrusted to them by a voivode or a director of the governmental local administration unit after funds for the given purpose have been provided by those who have delegated the task.

Forest management in forests constituting nature reserves and parts of national parks shall abide by principles and regulations of nature protection law.

In order to provide common protection of forests, forest owners are obliged to control and maintain balance in forest ecosystems, enhancing the natural immunity of forest stands, and in particular to:

- Provide preventive and protective conservation safeguarding the forest from fire;
- Prevent, detect and eliminate pests and their excessive proliferation; and
- Protect forest soil and water.

Should the above obligations be neglected in forests that are not State Treasury property, the forest owners' tasks shall be at the discretion of a governmental local administration official who shall specify them in an official decision.

Forest owners are obliged to maintain constant conservation of forests to provide continuity of forest use, and in particular to:

- Maintain forest vegetation (forest stands) and natural swamps and peat bogs;
- Restore forest vegetation (forest stands) within two years after logging and within five years after damage caused by fire and other natural disasters;
- Conserve and protect the forest (including protection from fire);
- Restructure the forest stand when it does not meet the objectives of forest management included in a forest management plan or an administrative decision;
- Use the forest in a rational way, providing for its continuous and optimal functioning by ensuring that: (a) wood is removed within the limits of the productive capacity of the forest; and (b) raw materials and by-products are obtained in a way that secures biological reproduction of the forest and protection of ground cover.

The modification of a forest into arable land is permitted only in case of individually justified needs of the forest owner. The decision on developing the forest into arable land shall be issued:

- In the case of forests owned by the State Treasury, by the director of the Regional Directorate of State Forests in response to the application of the local forest district director;
- In the case of forests that are not owned by the State Treasury: (a) by a governmental local administration official in response to an application of an forest owner for forests up to and including 10 ha, and (b) by the voivode in response to the application of an owner of forests greater than 10 ha.

Wood taken from the forest is subject to marking. It is the forest owner's obligation to mark the wood. Wood obtained from a forest that is not State Treasury property shall be marked by the governmental local administration official, who will issue a document to the owner certifying the legal origin of the wood.

4 PUBLIC ACCESS TO FORESTS

Forests owned by the State Treasury, with exception of the those covered in items 1 and 2 below, are accessible to the people.

1) A permanent admission ban applies to the following areas

- Young forest stands up to 4m high;
- Experimental areas and forests producing seeds;
- Wildlife sanctuaries;
- Headwaters of rivers and streams; and
- Areas in danger of erosion.

2) The director of the local State Forest district can impose a temporary ban on admission to forests owned by the State Treasury in case of:

- Loss or substantial damage to trees and decaying undergrowth;
- Fire danger; and
- Work under progress dealing with tree harvesting or forest protection.

Forests owned by the State Treasury are available for picking fruits of the undergrowth for:

- Individual use; and
- Industrial purposes, if an agreement on picking fruits of the undergrowth has been concluded with the local State Forest district, and the director of the local State Forest district has not refused to sign an agreement because picking fruits of undergrowth would endanger the forest environment.

An owner of a forest that is not property of the State Treasury has the right to deny admission to the forest by posting an appropriate sign.

Traffic by motor vehicle, carriage and motorized bicycle in the forest is permitted only on public roads and on forest roads marked by signs allowing such traffic. This does not apply to disabled persons using vehicles adjusted to their needs. Horseback riding is allowed only on roads indicated by the forest inspector. Parking of vehicles is allowed on forest roads only in places marked for this purpose. This regulation does not apply to a person on duty or conducting forestry work.

Holding sporting events or public events of any sort in the forest requires the permission of the forest owner.

It is forbidden in forests to pollute soil and water; litter; dig; destroy mushrooms and mushroom spawn; destroy or damage trees, bushes and other plants; devastate equipment, objects of economic, recreation or technical use, and signs and signboards; pick fruits of undergrowth in places marked as forbidden; move and collect bedding; graze cattle; bivouac or camp; pick eggs or take nestlings; frighten, chase, and kill wild animals; set dogs free; and make noise or to use a horn except for an emergency. Regulations forbidding digging and destroying mushrooms and mushroom spawn do not apply to forest management activities, and regulations forbidding frightening, chasing and killing animals, setting dogs free, and making noise do not apply to hunting.

In forests and on midforest areas, as well as within 100m from the forest edge, it is forbidden to behave and act in a way that may pose a danger, especially to:

- Light a fire in different places than places selected for this purpose by the owner of the forest or the director of State Forest district;
- Use an open flame; and
- Burn the outside layer of the soil and remains of plants.

5 SCOPE AND REACH OF THE FOREST LAW

Definition of Forest Land: The Forest Law defines the principles of preservation, protection, and growth of forest resources as well as basic rules of forest management linked to environmental protection and the economy of the country. These regulations apply to forests regardless of their ownership.

Under the Forest Law, the following definitions are used. A forest is land which:

1. Has a compact area of at least 0.10 ha covered with forest vegetation - trees, bushes, and undergrowth - or temporarily devoid of it and (a) is selected for forest production, or (b) constitutes a nature reserve or part of a national park, or (c) is registered as a monument of nature;
2. Is related to the forest or is used for forest management activities such as buildings and structures, drainage systems, forest division network, forest roads, land under power lines, forest nurseries, log yards, as well as parking areas and recreation objects.

Forest management concerns management and use of forests, forest protection and silviculture, maintenance and enlargement of forest resources and stands, game management, harvesting of wood, resin, Christmas trees, stump wood, bark, needles, game animals, and the fruits of undergrowth as well as sale of all those products, and using other non-productive functions of the forest. Sustainable forest management is an activity to develop forest structure and to use it in a way and rate which ensures preservation of forest biological diversity and abundance, productivity and regeneration potential, vitality, and ability to perform both at present and in the future, all important functions: protective, economic, and social, at local, national, and global levels, without harmful impact on other ecosystems. A forest management plan is the basic document prepared for forests owned by the State Treasury, containing a description and evaluation of forest condition as well as objectives, prescribed tasks, and methods of forest management. A simplified forest management plan is a plan prepared for forests not owned by the State Treasury and of at least 10 ha in size, which includes a general description of the forest or the land selected for afforestation as well as specifying the main purposes of forest management. A nature protection program is a part of a forest management plan, containing a thorough description of nature condition, tasks needed for nature protection, and methods for their implementation. It refers to the territory in a State Forest district**.**

Objectives and Principals Forest Management: Sustainable forest management is based on the forest management plans or simplified forest management plans and is focused on the following purposes:

- To maintain forests and their beneficial influence on climate, air, water, soil, environment for people’s life and health, and ecosystem balance;

- To protect forests, particularly forests and forest ecosystems that constitute natural fragments of local nature or forests of particular significance due to their: (a) natural variety, (b) preservation of forest genetic resources, (c) landscape quality, and (d) ability to meet certain scientific needs;
- To protect soil and areas that are in particular danger of pollution or damage and areas of considerable social significance;
- To protect surface waters, underground waters, the integrity of river basins, watersheds and areas supplying water to underground lakes; and
- To produce wood, raw materials, and non-timber products, based on principles of rational forest management.

Forest management is based on the following principles:

- Common protection of forests;
- Consistent conservation of forests;
- Continuity and balanced use of all forest functions; and
- Enlargement of forest resources.

Forest Promotional Areas are functional areas of ecological, educational, and social importance, their functioning to be determined by a consistent economic and protective program prepared by the respective director of the Regional Directorate of the State Forests. For each individual Forest Promotional Area, the general director summons the scientific-social council in the area responsible for projects and their implementation.

In order to promote sustainable forest management and protection of the forest, the general director of the State Forests has the right to establish Forest Promotional Areas by decree. Forest Promotional Areas are comprised of forests under supervision of the State Forests. Forests that belong to other landowners can be included in Forest Promotional Areas provided the owners have applied for inclusion.

Protective Forests: Forests shall be classified as“protective forests” if they:

- Protect the soil from getting washed away or prevent the ground from subsiding or rocks from collapsing and avalanches;
- Protect surface and underground water reserves and maintain the hydrological balance in the water basin;
- Limit the occurrence and expansion of shifting sand;
- Are permanently damaged as a result of industrial activity;
- Constitute seed forests, habitat for wild animals, or is an area of which the vegetation is threatened;
- Is of particular scientific and nature significance or is essential for the defense and security of the country;
- Are located (a) with the administrative borders of a city and within 10km from administrative boundaries of cities with over 50 thousand inhabitants, (b) in protection zones around spas or health resorts, (c) in the upper belt of mountain forests.

Forest management in forests constituting *nature reserves or parts of national parks* is based on regulations of the nature protection law. Forest management in forests registered as nature monuments requires consultation with the conservator of monuments in the province with respect to regulations on culture protection and musea.

6 REALIZATION AND TRANSLATION OF POLITICAL IDEAS INTO ACTION: INCENTIVES, SUBSIDIES AND TAXATION

The Forest Law stipulates that the State Forests (Lasy Panstwowe) shall be granted *subsidies* for assignments indicated by the administration, in particular for:

- Purchase of forests and lands for afforestation and recultivation as well as purchase of other forest land in order to preserve its nature quality;
- Implementation of the national project to enlarge forest areas as well as the related project for conservation and protection of young forest stands;
- Development and protection of forests in danger;
- Making regular, global inventories of forests, updating information about forest resources, and maintaining a database on forest resources and forest condition;
- Preparing projects for protection of forest nature reserves managed by the State Forests, including implementation of the project for protection of selected species of flora and fauna;
- Providing funds for educating society about forests through creation and managing Forest Promotional Areas, designing paths for nature walks, etc.

Under the Forest Law, it is also possible for private forest owners to receive financial *subsidies* from the state budget or the State Forest budget. Subsidies can be granted for such activities as:

- Sanitary and preventive treatments of pests endangering the existence of the forest, to be at the expense of the respective State Forest districts;
- Forest development, improvement, and protection when the tree stand has to be rebuilt or reconstructued and when identifying the culprit is impossible such as the case of damage caused by gases and industrial dust or in case of fire or other nature disasters caused by biotic or non-biotic factors, to be financed by funds from the state budget;
- Afforestation of land whose owners or users have been granted perpetual usufruct, who have applied for a subsidy which has been approved by the board of governmental local administration, to be paid through funds from the state budget;
- Preparation of simplified management plans for forests not property of the State Treasury, which are owned by individuals or communities, to be prepared at the voivode's request and at the expense of the state budget;
- Inventory of scattered forests up to 10 ha in area that are not the property of the State Treasury, to be prepared at the voivode's request at the expense of the state budget;
- Seedlings of trees and bushes in particularly justified cases, after application by the owner of the forest that is not the property of the State Treasury and approval has been given by the governmental local administration.

The state budget for 1998 includes expenses for forestry amounting 156,771 thousand zl ($46,109,000 US), which is an increase to the anticipated expenses for forestry in 1997 by 53%. (Editor's note: the Polish currency is the zloty which is abbreviated zl. While the exchange rate to the U.S. dollar used here is approximately 3.400, the current exchange rate on January 2,1999 is 2.705.) In the budget of the Ministry of Environmental Protection, Natural Resources, and Forestry, the amount of 60,275 thousand zl ($17,727,000 US) has been allocated for implementation of tasks provided for in the Forest Law.

Task	Amount (in thousand zl)
Purchase of forests	1,500
Afforestation	48,000
Reforestation of areas damaged by natural disasters such as fire	5,500
Managing nature reserves and protection of flora and fauna	1,200
Inventory of forest resources	4,000
Supervision of private forests within national Parks	75

In the 1998 budget for the voivodes, funds totaling 21,476 thousand zl ($6,316,000 US) have been allotted to finance tasks provided for in the Forest Law, including:

Task	Amount (in thousand zl)
Afforestation of unarable land not property of the State Treasury	3,254
Works resulting from the “National Afforestation Program”	731
Other tasks, mainly supervision of forests not belonging to the State Treasury	14,160
Forest development	3,058
Other	273

In general, 81,751 thousand zl ($24,044,000 US) have been allocated in 1998 from the respective budgets of the Ministry of Environmental Protection, Natural Resources, and Forestry and the voivodes to accomplish the tasks provided for in the Forest Law.

Forest Taxation: All forests are subject to taxation with the exception of (a) areas unrelated to forest management, (b) land under resorts, construction, or recreation, and (c) land excluded by administrative decision from forest administration and allocated to non-forest purposes. Forests with trees less than 40 years old, and those in the monuments register are also excluded from forest taxation.

The basis for forest taxation is the number of conversion hectares, determined by the area of prevailing tree species in the forest as well as the stand quality classification for the main species of trees, which results from the forest management plan or the simplified forest management plan. The forest tax per one conversion hectare per fiscal year shall be the money equivalent of 0.20 cubic meters of wood calculated on the basis of the average sale price of wood in the first three quarters of the year preceding the fiscal year.

The forest tax for the fiscal year for protective forests, forests which are part of nature reserves or national parks, and forests which are uncovered by any forest management plan or simplified forest management plan, shall be the money equivalent of 0.30 q of wheat per one physical hectare of forest as determined in the land inventory.

7 SCOPE AND REACH OF ENVIRONMENTAL LEGISLATION

The *Environment Protection Law* establishes principles for protection and rational control of the environment and preserving its quality, in order to provide current and future generations with favorable life conditions and the capability to use environmental resources. Environment is defined in the law as the combination of natural elements, in particular the earth's surface, soils, minerals, water, air, flora, and fauna as well as the landscape either in its natural condition or transformed by human activity. Environmental protection is defined as the activity preserving or re-establishing balance in the environment. Environmental protection takes the following forms:

- Rational influence on the environment and managing nature resources in accordance with the principle of sustainable development;
- Prevention of harmful impacts on the environment which cause its destruction, its pollution, change in its physical qualities, or change in the elements of nature; and
- Restoration of elements of nature to their natural condition.

Arable land of high quality and forest land cannot be designated for other purposes than agricultural and forest use. This rule can be waived only in particularly justified cases that have been defined in regulations.

Organizations and individuals who use the land are obliged to protect the earth from erosion, mechanical devastation, and pollution from toxic substances. and if their individual activities are related to agriculture or forestry, they are obliged to use proper cultivation methods. Organizations and individuals who use the land and operate in the field of agriculture or forestry shall apply chemical and biological substances directly to the soil in such quantities and in such ways that they do not disturb the natural balance in the environment, do not cause soil and water pollution, do not do harm to fauna, flora, and ecosystems or cultivation conditions.

The administration of forests and other organizational units operating in the field of forestry as well as owners of forest land that is not State Treasury property, have the obligation to manage their forests efficiently and rationally, keeping them in balance with nature and of appropriate environmental quality.

Protection of nature under the *Nature Protection Law* is to be understood as the preservation, proper use, and renewal of resources and nature elements, especially vegetation and wild animals as well as nature complexes and ecosystems. Nature is protected to:

- Maintain ecological processes and promote the stability of ecosystems;
- Preserve species diversity;
- Preserve the geological heritage;
- Provide continuity of existence of species and ecosystems;
- Create a proper attitude of human society toward nature; and
- Restore the appropriate condition or resources and elements of nature.

Protection of nature takes the following forms:

- Establishing nature parks;
- Recognizing selected areas as nature reserves;
- Establishing landscape parks;
- Designating areas of protected landscape;

- Introducing protection of wildlife and plant species; and
- Introducing protection of other individual sites through recognition of: (a) monuments of nature, (b) scientific sites, (c) ecologically developed land, and (d) nature-landscape complexes.

Any activities taking place within the territory of a national park are to comply with the nature protection law, and nature protection has priority over all other activities. Nature reserves situated on the territory owned by the State Treasury shall be supervised by organizational units of the State Forests and, in particular, by the directors of the State Forest districts.

Arable land, forests, and other landed properties situated within borders of landscape parks may be engaged in their economic use. On territories of State Forests located within borders of landscape parks, nature protection tasks are performed by the director of local State Forest district in accordance with the project on landscape park protection included in the forest management plan.

Management of wildlife and plant resources should provide for their continuity, their possible abundance, and maintenance of genetic diversity. These tasks are to be implemented by (a) protection, preservation, and rational management of natural vegetation complexes such as forests, peat bogs, swamps, meadows, dunes, salt pans, and water shores as well as other habitats for plants and animals; and (b) reproduction and expansion of endangered species of flora and fauna, protection and reproduction of habitats of unique animals, and protection of migratory routes of animals.

In national parks and nature reserves, protected species of flora and fauna are either under strict protection or limited protection when there is either no human interference or when there is human influence on ecosystems, by conducting protective, cultivating, and curable treatments.

8 OTHER RELEVANT REGULATIONS CONCERNING FOREST AND ENVIRONMENTAL LEGISLATION

The protection of forest areas under the *Protection of Arable and Forest Land Law* means:

- Restricting their designation for purposes other than forest management and use;
- Preventing degradation and devastation of forest areas, damage to forest stands, and deterioration of forest production from activities unrelated to forest management;
- Restoring the economic value of the forest land that has lost its forest features as a result of activities unrelated to forest management; and
- Enhancing the economic value of forest lands and preventing decreases In their productivity.

Designation of forest land for other purposes requires the permission of the Minister of Environmental Protection, Natural Resources, and Forestry in the case of State Treasury land and the permission of the respective voivode in the case of other public land. A person who has been permitted to exclude forest land from production is obliged to pay the basic fee and annual fees as well as a one-time compensation in case of premature forest stand fall. Payment of the basic fee and annual fees for exclusion of the forest land from production in case of a protective forest is 50 percent higher than regular fees and payments.

MODERNISING THE POLICY AND LEGISLATIVE FRAMEWORK OF THE FORESTRY SECTOR IN PORTUGAL *

LUIS COSTA LEAL AND VÍTOR BARROS

1. HISTORICAL OVERVIEW

Few sectors give rise to such a wide variety of opinions as the forestry sector. Certainly the long duration of the forestry cycle contributes towards this, as does the wide gap this causes between the table, bed, door, table and cork stopper, all typical forestry products, and the trees and forests from which they originate. The area under forest is vast and the wide range of goods and services that forests provide and that we use. Throughout our schooling we develop diverse feelings towards forest that we will carry along our lives. It is against this widespread background of reactions resulting from the interaction between objective and subjective variables that a series of legislative, regulatory and institutional measures have been developed along time to organise the management of forests and their products.

Along the Portuguese history forests played an important role in the country's development. Its importance can be assessed in the large number of forest related texts and legislation that has passed over the last 850 years, since the beginning of Portuguese nationality (1143). The first dated reference to forest issues is from 1188 by the second King of Portugal, D. Sancho I. Other legislation, produced during the first century of Portuguese independence, is related to hunting rights and to forest protection against over exploitation, fires and damages linked to wood collection. References to the economic and environmental importance of forests can be found in legal documents from the end of the XIII° century. In fact this legislation is so comprehensive that one can consider it as the first Portuguese forest act, covering hunting and harvesting regulations, forestation of littoral sandy areas and river margins, forest fire prescriptions and incentives for ship building.

During the XV° and XVI° centuries, wood and other forest products played a key role in the Portuguese economy. Hundreds of boats were constructed for the overseas discovery campaigns and the newly established maritime commercial route to India. The need for increased amounts of wood caused a shift in terms of policy objectives. As a response to strong deforestation, particularly of pine and cork oak stands, various forest texts and legislation have been produced that focus on the need to increase the forest cover on public and private lands, to maintain existing wood stocks, to reduce forest fires and to regulate hunting activities.

In 1824 the General Administration for National Woodlands is created under the Ministry of the Navy. This is a landmark in Portuguese forest history and the foundation of the today's Forest Regime. Afforestation of the coastal sand dunes starts and bare land in the mountains of the interior part of the country is restocked. Forest management plans and regulated practices are introduced. The public forest administration is gradually improving. In 1865, forestry became a special graduation within the Portuguese university system. As a result of these developments a new Forest Act is entered into force in the beginning of the XX° century. In 1938 a National Forestation Plan for the public domain including communal lands was adopted and implemented. In 1945 a special public fund to support and increase

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* Source: IUFRO Research Group 6.13; Submitted Paper, March 2000

afforestation on private lands was established. Special regulations to protect cork and holm oak stands (*Quercus suber* and *Quercus rotundifolia*) and trees of public interest were introduced and two institutions to regulate cork and resin were created. In general terms the underlying philosophy of forest policy developed over centuries was rather conservative. Portuguese forestry legislation focused on protection measures, which includes afforestation, particularly against erosion and fire both critical issues in Mediterranean countries.

Nowadays, the increasing concern of society on environment degradation and the recognition of the role of forests for maintaining life on earth has led to a new era of forest policy. The building of partnerships and broad participation in debates and policy development, the establishment of integrated planning instruments and the need to introduce innovative thinking and to apply sound technologies are key elements for a new approach in forest policy formulation and implementation.

2. PRESENT IMPORTANCE OF THE PORTUGUESE FORESTRY SECTOR

Although fundamentally influenced by man, the forest is an indispensable element in Portuguese landscapes. It covers around 37% of mainland Portugal (five times larger forested area than in 1874), and is responsible for maintaining around 7,000 manufacturing firms providing 160,000 direct jobs. It also provides a large number of jobs that are difficult to calculate, because they involve both farming and forestry, and because there are many temporary jobs in work connected with forestry and in the services sector, survival of which is closely determined by the continuation of regular forestry activities, particularly in depressed areas. The forest contributes very significantly to national and regional development, particularly within the framework of rural development.

On mainland Portugal forests cover an area of 3.3 million hectares, 44% of which are softwoods and 56% hardwoods. Approximately 58% of that area is used predominantly for timber production and is composed mainly of maritime pine (*Pinus pinaster*) and blue gum (*Eucalyptus globulus*). Around 79% of these forest stands are pure, that is, they have only one tree species. This type of composition prevails in all districts, with the exception of some regions in the South.

Forests used predominantly for producing other non-timber products (42% of forested area), are particularly important today economically, physically and ecologically. These areas are occupied mainly by the cork oak (*Quercus suber*), holm oak (*Quercus rotundifolia*), sweet chestnut (*Castanea sativa*), and stone pine (*Pinus pinea*). An analysis of successive national forestry inventories reveal that the forests made of the three traditional species of greatest economic interest which are maritime pine, eucalyptus and cork oak, are, as a rule, under-stocked which means a loss in efficiency and profits.

The private sector prevails in terms of ownership (87%), community areas (10%) and a low State presence (3%). Portugal has the smallest area under public forest of all the European Member States. Forestry holdings are predominantly small scale, that is, more than 85% of the 400,000 holdings with forests are less than 5 hectares, and only 1% of holdings have 100 hectares or more. However, the concentration of forests in large holdings is high, considering 1% of holdings represent 55% of total forested area. The result of this structure is that a large part of timber production comes from private property, and most timber is sold standing, with the producer relinquishing any responsibility and gains from making own harvesting.

Despite structural aspects being important for efficiency and the competitiveness of forestry work, the attitude of the forest owner is also important, as is his readiness to agree to the an emerging movement creating forestry associations. In recent years significant steps have been taken to establish solidly based institutions grouping forestry owners into larger scale units, with a more varied cultural background, using better technical means and increasing the capacity for dialogue and negotiation. From the point of view of developing and promoting the rural world, active and technically advanced organisations of forest owners are indispensable for ensuring their interest and motivation in forestry production. They are important for promoting the circulation of efficient information addressing real production needs, and for guaranteeing the logistic support and advice required promoting sustainable forest management. Owner associations also have a vital role to play in ensuring that small owners can benefit from gains in productivity, new technologies and new market opportunities. The multiple use of the forest, particularly by increasing activities associated with tourism, recreation and externalities like protection of the landscape, water and soil, can and should assume a fundamental, determining role in forestry policy.

Portugal, within a European, and even a world, context, is a country highly attached to forestry and with recognised potential in the field of forestry. The importance of the forestry sector in Portugal, places it high within the European Union, both in terms of added value and employment. Currently it is estimated that the sector accounts for around 3% of Gross Added Value in the economy, with practically the same figure for employment. Forest goods and services form the basis for an important, integrated industrial sector using renewable natural resources, and acting as the support for a sector heavily geared to exports. In terms of foreign trade, the sector guaranteed exports of around PTE 450 billion/year from 1995 to 1998, and PTE 480 billion in 1998, mostly to the European market. It underlies a positive balance of around PTE 160 billion/year, cork and pulp and paper being of particular importance. However, in recent years, there has been a rise in imports and, consequently, a decreased importance of the forest sector in diminishing the deficit in the national trade balance.

3. PRINCIPLES AND OBJECTIVES OF MODERNISED FOREST POLICY AND LEGISLATION

Although Portugal has by tradition been concerned for long with forestry affairs, rarely were political instruments designed and developed to be co-ordinated and integrated in a consistent strategy aiming at sustained global development for the sector. In 1988, an attempt was made to establish and apply a series of provisions to achieve this aim. However, some years had to elapse until work done on forestry matters in 1994 and 1995 within the context of an initiative called “Forum for Competitiveness”, led to effective conditions for understanding, and then for pursuing, the work of modernising the legal framework and for preparing a new model for forestry policy.

In 1996, a new Government had taken office and, assuming a strong compromise to forestry matters, with the social partners, in the context of the Agreement for Strategic Consultation for 1996-99, agree to prepare a National Promotion Plan for the Development of the Forestry Sector. The interest expressed by the XIII Constitutional Government, was initially reflected in approval of the Forestry Policy Act, in August 1996.The Forestry Policy Act, approved unanimously by the Portuguese Parliament, establishes the general principles of forestry policy and is a solid framework of reference for guiding public and private options, and necessary monitoring. Based on the specific objectives of sustainable forestry management, the

Act is a central element in modernising the legislative framework for the forestry sector. With the support and collaboration of most of the social partners and economic agents involved a Sustainable Development Plan for Portuguese Forestry was subsequently elaborated. The plan has been approved in the Council of Ministers in March 1999. With the promulgation of the new Forestry Law followed by the adoption of the Sustainable Development Plan a new cycle in national forestry policy has started.

GENERAL PRINCIPLES OF NATIONAL FORESTRY POLICY

I MULTI-FUNCTIONAL APPROACH TO FOREST AREAS FROM AN INTEGRATED POINT OF VIEW

The diversity and amount of goods and services that forests provide should be viewed consistently. This potential should be fully utilized, although respecting and following the guidelines laid down in national development policy and in a co-ordinated manner with the priorities defined for each geographical area and sector of activity.

II OPTIMISE THE USE OF FOREST AREAS

With a view of multiple uses of forest resources and respect for the principles that lead to their sustainability, forests should be managed in such a way as to make the production and use, for both forest goods and services, compatible and optimal.

III - SUSTAINABLE FOREST MANAGEMENT

Bearing in mind the renewable natural resource that forest are recognised to be, and aware about their essential role for maintaining all forms of life, forests must be managed in a sustained way - not impoverishing existing assets but improving and even increasing them - to respond to the needs of present and future generations.

IV EFFICIENCY AND RATIONALISATION OF THE SECTOR'S PRODUCTIVE CAPACITY

The work of the sector should be done in line with options and processes that minimise losses within the productive systems, particularly those resulting from the inadequate scale of productive units, lack of information from holders of forest areas or the lack of information from those conducting activities at different levels.

V VALUATION OF FOREST GOODS AND SERVICES

The development of the forest sector and the protection and improvement of forest areas should be gradually supported by economic valuation of forest goods and services provided in such a way that adequately provides compensation to legitimate owners of forest areas.

VI RESPONSIBILITY FOR FORESTS

Owners of forest areas are responsible for implementing sound forestry practices and management systems, while all citizens are also responsible for the conservation and protection of forests.

The Plan for the Sustainable Development of Portuguese Forest, prepared within the context of a process that is open and receptive to participation, encouraged by the

administration, with a view to establishing commitments among the different players in the forestry sector, forestry and environmental protection organisations, is based on the general principles of the Forestry Policy Act. It conforms perfectly to international principles and agreements underwritten by the Portuguese State. Developed around the concept of sustainable forestry management, the Plan includes a vision for the sustainability of Portuguese forests. This vision reflects the global nature of sustainable forest management and identifies the need to agree on converging objectives for the management of resources, so as to ensure: that needs in forestry goods and services are met; the vitality of forest industries; and maintenance of employment and wealth.

VISION FOR THE SUSTAINABILITY OF PORTUGUESE FORESTS

- The legacy of a healthy and biologically diversified forest heritage is assured.
- The unique nature of national forests is enhanced as well as the special features of Mediterranean landscapes and cultural values.
- Public and community woods are managed in an exemplary way and serve as guidance for private producers, who ensure adequate management of their resources, and in turn receive appropriate returns for the goods and services they provide to society.
- The balanced development of forest industries is ensured, based on excellence and innovation, underscoring the three main clusters: cork, pulp and paper, and timber.
- The forested area is increased, with forests established according to the criteria of sustainability, with improved diversity and defended against biotic and abiotic agents, particularly fire, ensuring market needs of forest goods and services and in respect of the environmental, social, cultural and landscape values of each region.
- Opportunities are provided for recreation, leisure and the enjoyment of nature for the whole population, bearing in mind the specific features of public and private forest areas.
- Status of forest work is enhanced at different levels, with equal opportunities provided for men and women.
- Portuguese forests contribute positively to climatic amenities, the carbon cycle and conservation of soil and water.
- Wild resources associated with forests, particularly hunting and fishing resources, are sustainable managed and utilised in a rational way.
- Society has a positive understanding of the value of the forests and of sustainable forest management.

Furthermore, based on an analysis of the opportunities and restrictions recognised in the way in which the Portuguese forestry system functions, the plan identifies a series of strategic and practical objectives. It envisages a system for monitoring and assessing forest policy instruments and recognises the responsibility of the State, and other players with an interest in the forest sector, for creating the conditions for applying, implementing and revising the Plan. Through this Plan the Government

reinforced previous international commitments to promote forest development in a sustainable manner and in line with economic, environmental, social and cultural values.

Special relevance for the development of forest policy is also attached to Community positions and decisions regarding the European Union's strategy for the forestry sector, following approval of a Resolution by the European Parliament voted in January 1997, and the presentation of a Commission Communication in November 1998. In this respect the forest component and the approach given to it in the new regulation approved in the context of the European Union's Agenda 2000 is of particular importance and opportunity. The Regulation on European Agricultural Guidance and Guarantee Fund (EAGGF) support for rural development recognises that forestry is an integral part of rural development and that forestry measures should be adopted based on the international commitments assume by the Community and member states, and be based on the forest plans of those commitments. It also establishes that Community support for forestry should contribute towards maintaining and developing economic, ecological and social forest functions through management and sustainable development, increasing forested areas and maintaining and improving forest resources.

4. A FORESTRY STRATEGY FOR THE TWENTY FIRST CENTURY

The Strategic vision for the twenty first century, that aims to provide the foundations for the political options established within the National Plan for Economic and Social Development, and consequently the Regional Development Programme for 2000 - 2006 which, in principle, will determine the Community Support Framework for the same period, defends the need to make better use of natural forest resources and to improve the competitiveness and value of the forest 'cluster'.

STRATEGIC OBJECTIVES

- Developing and ensuring the competitiveness of the forestry sector
- Protecting nature and improving the environment of forest areas
- Co-ordinating forest strategy with industrial development strategy
- Optimising and rationalising the management of hunting resources
- Optimising and rationalising the management of inland fishery resources
- Promoting sustained economic and social development
- Modernising administration

The diagnosis underlying the options outlined in the Plan for the Sustainable Development of Portuguese Forest identifies, in its turn, a series of opportunities and weaknesses in the national forestry sector.

OPPORTUNITIES

- High rise in demand for forest products
- Growing social and ecological importance of forests
- Strategic importance of forests for rural areas
- Favourable natural conditions and soil availability
- Existence of specific products of high quality

WEAKNESSES

- Competition from alternative products
- Competitiveness of foreign markets
- Small size of holdings
- Weakness of commercial organisation
- Insufficient social-mindedness
- Forest fires
- Under-developed information system
- Weak technical knowledge and training
- Scattered, unclear legal framework
- Inappropriate incentive schemes

Within the framework of the strategic vision, weighing the need to promote opportunities and overcome the weak points of the sector, and, finally, taking account of the forest support measures envisaged in new Community regulations, a series of policy instruments was defined to give public support to forestry intervention.

5. NEW INSTRUMENTS TO FOSTER REGIONAL DEVELOPMENT

The instruments are outlined in the Regional Development Programme (RDP) and in the Rural Development Programme (RuDP), being complemented by national programmes for protection against forest fires.

As part of "Agriculture and Rural Development", which is part of the Regional Development Programme, the following work is involved, and is aimed directly and specifically at the forestry sector:

- Forestation and forest improvement;
- Harvesting, processing and trading in forest products;
- Promoting and qualifying forest products;
- Setting up forest producers' organisations;
- Developing forest services;
- Preventing risks caused by biotic and abiotic agents;
- Valuating and protecting forests areas of public interest.

Within the Rural Development Programme there is an instrument directed towards the afforestation of agriculture land and, particularly for traditional oaks (*Quercus suber*, *Quercus rotundifolia*, and *Quercus pyrenaica*), agri-environmental measures are foreseen.

Also part of the Regional Development Programme are measures to improve some of the components of the forest industrial sector (education, training and technical and vocational improvement, information systems, applied research, experimentation and demonstration, as well as information and disclosure) and in modernising and improving the competitiveness of the manufacturing sector and marketing of forest products. Consequently, the main elements for forest and forestry development involves not only increasing productivity throughout and aiming for quality. It means also increasing afforestation and maintaining forested areas, encouraging association, promotion and more professional forest management, increasing the use of timber and other forest products, striving for quality and adapting to increasingly more demanding certification systems in a market for excellence, stressing environmental issues and bringing territorial concepts into practice.

For the development of these instruments, particularly relevant is the experience acquired with previous instruments and programmes in areas as visible as, for example, increasing afforestation and improving forested areas. Here it has been possible to increase the average annual afforestation rate from around 23 thousand hectares prior to 1996, to more than 38 thousand hectares/year from 1996-1998 and contracting close to 32 thousand hectares a year for forest maintenance and improvement. Certainly contributing to the efficiency of the measures described, new regulations have been introduced for the fundamental element of the Forestry Policy Act - Regional Forest Management Plans and for Forest Management Plans. These two legal instruments are, in effect, the framework of reference essential for guaranteeing, at strategic, regional and local levels, that the sustainable development of the sector will be promoted, improving competitiveness and proper valuation of forest production and developing the forest cluster, as well as planning for improved and more professional management of forested areas. Despite problems in conducting a process that requires participation and transparency for laying the grounds for the provisions required to regulate the Forestry Policy Act, the result achieved to date has had a highly dynamic effect on forest agents and other organisations in society as a whole, for whom it is essential the existence of the legal and institutional conditions for a sound and balanced development of forest resources and the sector.

However, it should be emphasised that together with the introduction of new measures and with the application of the policy instruments referred to above, several institutional approaches will continue to be prepared and implemented with a view to making administration simpler, more rational and effective, and the work of agents easier and more efficient. Included in this approach is the revision of forestry legislation, with a view to simplifying and rationalising the forest regime, to adjusting to the specific features of forestry work the fiscal and accounting framework, setting up special funding for forestry investment and doing more to improve and consolidate the system for preventing and combating fires. With no pre-determined formula for success, it is for us all to create and seek out the most adequate forms of participation and dialogue between society and the forestry sector, so that by strengthening forestry and integrating its functions with other land uses, forests are able to meet both today and in the future the needs of several generations.

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FOREST AND ENVIRONMENTAL LEGISLATION IN ROMANIA *

GHEORGHE PARNUTA AND ION MACHEDON

1. DEVELOPMENT OF THE REGULATORY FRAMEWORK RELATED TO FORESTS

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

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

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

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

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

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

Title II – The public property forest fund.

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

Chapter II – Administration of the public property forest fund.

- Section 1 – Planning of the forest fund.
- Section 2 – Ecological reconstruction, regeneration and care of forests.
- Section 3 – Forest protection.
- Section 4 – Security of the forest fund.
- Section 5 – Products specific to the forest fund.
- Section 6 – Exploitation of the wood volume.

Chapter III – Ensurance of the forest fund integrity and development

Title III – The private property forest fund.

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

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

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

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (2000): 69-77

Title V – Forest vegetation outside the forest fund.

Title VI – Responsibilities and sanctions.

Title VII – Final provisions.

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

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

2. TITLES ON LANDS, STATUS, AND OWNERSHIP FORMS

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

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

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

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

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

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

a) forest vegetation from afforested meadows;
b) protective forest belts of agricultural land;
c) forest plantations on degraded plots of land;
d) forest plantations and trees from the protective zones of hydrotechnical works and land improvement works as well as those along water courses and irrigation channels;
e) protective forest belts and trees along ways of communication beyond the boundary of localities;
f) green areas around towns and communes, other than those included in the forest fund, parks within the confines of localities with exotic forest species as well as alpine juniper areas;
g) dendrological parks, other than those included in the national forest fund.

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

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

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

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

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

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

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

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

3. STATUTE INTERDICTIONS AND RESTRICTIONS ON FOREST PROPERTY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

4. FORESTRY LAWS' AIM AND APPLICATION DOMAIN

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

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

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

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

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

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

It will compulsorily stipulate the following:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6. LAWS ON NATURE CONSERVATION AND ENVIRONMENTAL PROTECTION

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

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

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

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

d. “polluter pays” principle;

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

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

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

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

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

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

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

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

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

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

7. OTHER RELEVANT LEGISLATION RELATED TO FORESTRY AND ENVIRONMENT

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

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ECONOMIC AND LEGAL ASPECTS OF FOREST MANAGEMENT IN RUSSIA: PROBLEMS AND THE WAYS TO SOLVE THEM *

NICKOLAI A. MOISEEV

On the initiative of our American colleagues, for which we are grateful to them, we have gathered here to hold this already second international Conference on forest management under the market conditions. The first Conference on this problem took place here two years ago, and we thank its organizers from IUFRO, among whom there was Fred Kaiser, and all the participants from different countries of Europe, America and Asia. The Proceedings of the first Conference have turned out to be very useful for our specialists in acquiring a deeper insight into forestry problems of market economy, arising in the course of forming a system of management, adequate to the conditions in Russia.

This Conference limits the scope of discussion to the problems applied only to state-owned forests. There may arise a rightful question: what do we expect to get from the Conference - ready-made recipes for managing the forests of Russia or most comprehensive information on the available experience of managing public forests of North America, Central Europe and Scandinavian countries to improve our knowledge and to make more justified decisions, aimed at better forest management under the specific conditions, of our own country. I personally think that the latter is more important. The point is that forest management models are closely connected with the structure of political and economic systems, evolved in each country in the course of its historical development, and to a certain extent, they are inimitable. I use as an example two countries of North America: the U.S. and Canada. Inspite of their close neighborhood, they sharply differ in the structures of their forest tenure and forest management forms but it does not prevent them from close cooperation without imitating each other.

To give an idea about the general situation in the forestry of Russia, I think, I should tell our guests about the changes which have occurred here since the first Conference (i.e. for the two years), and the shifts in reforming the system of forest management under the transition to the market, though this account cannot provide you with full detailed information.

Naturally, the process of reforms in forestry is affected by the general so far deepening crisis in the country. Without thorough description of the spectrum of political opinions, we may say that in the country, there exists general understanding that the reforms are necessary and irreversible but there also remain differences in the ideas about their forms and means to implement them. The past two years (1992-1993) have obviously proved that the choice of means should be more carefully weighted. According to estimates of a wide range of experts, our first radical reformers had found themselves from the very beginning under the influence of the International Monetary Fund (IMF) which had imposed the "shock therapy" with one-sided monetaristic course. It has been shown they had underestimated the importance of governmental regulation in the complex process of nation-wide economic reforms under the transition of the government's role as an active

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* Opening Address to the Second IUFRO Forestry Conference on Economic and Legal Aspects of Forest Management in June 1994, Pushkino, Moscow Region.
Source: IUFRO Research Group 6.13; Pushkino Proceedings (1996): 3-11

coordinator of the reforms leading to the disintegration of long-term ties not only among the former Union Republics but also among the subjects of the Russian Federation itself. This lead to growing contradictions with the centre; a sharp production decline; the galloping inflation; declined living standards of the major part of the population; significantly lowered potential of industries and science and technology; a sharp growth of organized criminal activities and hence broadening impacts of criminal economy; the outflow of capital from Russia (both Russian and foreign experts estimate it to amount to 40-60 billion rubles only for the past two years (3,4), which is about ten times more than that modest economic assistance rendered to Russia); and thus, to the continuing artificial lowering of the rouble rate due to the outflow of capital. The above negative developments had their own consequences, i.e.: compelled retirement of reformers, the split in the democratic movement, its essential losses of votes during the elections; increased influence of patriotic movements, and the necessity to correct the course of the further reforms. In August 1993, the government already adopted the programme "Development of the Reforms and Stabilization of Russian Economy in 1993-1995", aimed at coming to a social and, at the same time, regulated market economy. According to this Programme, the decline in production and living standard is expected to be inhibited by the end of 1994 and by 1995 is to see a mitigation of the tax burden, presenting now an obstacle to the development of business activities under the conditions of multi-layered economy; and in 1996, economic growth is to start (2). After the December elections of 1993, the government added a number of specifying points to the programme to emphasize the system of governmental regulation measures and support of the first-priority industries and activities based on the most important federal and regional programmes with special accents on structural transformations of the production proper.

Forestry and forest industries have not avoided the impact of this prolonged crisis in the country. By the end of 1993, the volume of forest logging and production of sawn timber, veneer, paper and cardboard had been reduced by half compared to the late eighties. The lowered levels of forest logging had resulted into reduction of reforestation areas. High taxes and mutual inability to pay on the part of forest enterprises and their consumers have been preventing them from renewing their equipment an technologies. About two thirds of the entire forest machinery fleet require substitution due to its depreciation. Many large forest industrial complexes (such as the Bratsk and Ust-Ilimsk Companies) are nearly paralysed by the disintegration of both technological and productional ties among their specialized separate enterprises in the process of unwise restructuring. To mend this catastrophic situation in forest industry, the President's Decree N^{o}1002 of May 19, 1994 authorizes a number of measures "on governmental support for the development of the forest industrial complex in Russia", which include the foundation of a Government agency for coordinating the development of forest industries, involving elaboration and implementation of federal target (and among them on investment) programmes, development of normative acts, associated with the forest industrial complex, tax policies, etc.

It would be wrong to think that our experts of forestry and forest industry do not know what to do and how to lead the forest sector of Russia out of the prolonged crisis. Forest scientists and specialists had worked out definite concepts of the transition to the market conditions, which were agreed with both executive and legislative authorities. These concepts were covered at the first International Conference, and in its Proceedings, so now we can do without going into their details. However,

implementation of these concepts has turned out to be complicated by the unstable economic and political conditions in the country.

Now I shall briefly outline my ideas on the principle pattern of restructuring our forestry and forest industry, which is incorporated in these concepts. This pattern involves the following: domination of state ownership of forests; separation of the forest management function from that of commercial activities in the forests, undertaken by various forest users, including both public (state) and private enterprises; contract relations between forest management agencies and forest users, including leasing contracts for different terms, implying that the forest resources used should be paid for; accumulation of forest income from the payments for the resources used, providing thus a basis for forestry financing; in the case of leasing, the leaseholder is not only to harvest timber but also to carry out reforestation and other silvicultural operations at the expense of the lesser on a contractual basis, an order, supervision and reception of the output are imposed on the lesser. The Russian Council of Ministers issued Resolution Nº 712 of June 23, 1993, which states provisions for leasing plots of the national forest lands (forest fund) of Russia. Apart from leasing contracts, standing timber may be sold from auctions.

Restructuring of forestry enterprises (forest districts) has been intended and is accomplished according to this concepts. It involves separation from their structure their industrial units and subjecting the latter to auctioning and privatization. As a result, the forestry enterprises proper acquire the status of lower-level agencies of forest management.

In March 1993, the former Supreme Soviet of the R.F. adopted and the President signed "Principles of Forest Legislation of the Russian Federation"; this legislative act fixed the principal pattern of forest management under the transition to the market, and provided basic legal regulations for the relations between forest management agencies and forest users. As far as I am informed, the foreign participants of this Conference have got familiar with this document, and so, perhaps, there is no use to comment on all its provisions.

However, below, I shall dwell upon two of its principal provisions since they may require further specifying and development. They reflect the structure of forest ownership and sources of forestry financing. Passing over to these issues, I should point out that the "Principles..." were discussed and adopted when the peak of the so-called "parade of sovereignties" was already over, and in its time, this "parade" had affected the character of the Federative Agreement and the amendments to the previous Constitution of the R.F. (1992), i.e. put natural resources, and forests among them, into the ownership of the Federation subjects (Autonomous Republics, Regions, etc.). As for the new "Principles of Forest Legislation", they gave a "trade-off wording to the problem of forest ownership, stating that the national forest lands ("forest fund") are administered on a joint basis by the Russian Federation and its subjects, and their ownership, use and disposal should be in the interests of both people, living in the corresponding areas (territories), and all peoples of the Russian Federation. This wording is implemented through a system of vertical division of competence, characterized by implicit imbalance of the right to forest disposal in favor of local (regional) authorities. It is they who decide whom the forests will be leased to, they also define the fee for leasing, arrange timber sales, establish stumpage prices and prices for other forest resources; they levy these payments to put them into the local budget, and at the same time, they bear practically no responsibilities for financing of reforestation on cut-over areas. This distortion in the

management of federal forests favors local authorities and is fraud with undesirable consequences, associated with pursuing shorterm local economic interests. The facts available give a ground for such fears.

In the meanwhile, before the "Principles of Forest Legislation of the R.F." were adopted, some subjects of the Federation had adopted their own forest laws, reflecting their property rights to forests, thus confirming the right, given to them by the above mentioned Federative Agreement and the R.F. Constitution of 1992. So, e.g., the Komi Law on Forest, passed by the Supreme Soviet of this Autonomous Republic, states that "the forests are the Republic's property". The Bashkir, Udmurt and Mari Autonomous Republics also consider the forests to be their state property. In the Karelian Law, the forests are declared to be the Karelian people's property (7, p.107). Such divergences require that the regional forest laws should be agreed with the federal ones and come to correspond the latter.

But the current rapid changes and events put forward additional items on the agenda. The new Constitution of December 12, 1993 provides that "land and other natural resources may be in private, state, municipal, etc. ownership" (Article 9, Point 2). The following Decree of the R.F. President (No2144 of December 16, 1993) envisages that the state-owned forests should be further divided to single out within them "federal forests" on the basis of their nation-wide significance... and "mutual agreement between the federal and regional authorities".

The President Decree of December 24, 1993 confirmed the National Privatization Programme, containing a classification of property which is not liable to privatization, and federal forests are referred to the latter. This fact had provided the ground for an alternative interpretation that all existing federal forests remain within their borders. Now it is up to our lawyers to define if it is really so.

The very existence of these overlapping federal and regional legislative acts requires their coordination, which makes legal problems particularly pressing on the present stage of forest management in Russia. This situation demands solutions, based not only on present-day interests but also on long-term consequences and aimed at rational use of forests and their conservation for both present an future generations. It is obvious that the world cannot be indifferent to the destiny of Russian forests either since they are of global importance, especially in terms of ecology.

Non-evolutionary transformations of property rights had already taken place in Russian before, e.g., in 1861, when the serfdom was abolished, and in 1917 after the revolution. Inspite of the differences among them, each transformation of this kind was followed by a significant reduction of forests areas and a decline in the quality of forests, especially in densely-populated regions. It took many years and hard efforts to restore the balance of the area and quality of forests. And Russia was not an exception in this respect. Similar consequences are reported to have been observed after the French revolution (6. p.304). So any redistribution of forest ownership requires, first of all, a peaceful balanced setting, provided by political and economic stability. And in the current unstable situation, when we have not yet overcome the economic crisis, which will continue to contribute to exceedingly ambitious claims on the part of some subjects of the Federation, the new Constitution offers a possible approach to this problem: its Article 72, point 1/c, allows "the joint competence of the federal and regional authorities in the matters of ownership, use and disposal of land, mineral, water and other natural resources", including forests. It would mean that so far, at least temporarily, before the economic situation is stabilized, the frame of the present "Principles of Forest Legislation of the R.F." would be preserved as it is but necessarily complemented with a number of

amendments, including that on the vertical division of the competence between the corresponding levels of forest management to mend the distortation, favoring local authorities.

In the case the federal and some of the regional authorities fail to reach such an agreement through a political dialogue, it will be vitally important to classify the state-owned forests, first of all, to single out the forests, referred to the federal property, which, actually, had been envisaged by the President Decree of December 16, 1993. In that case, such classification could be motivated by the following considerations.

The forests of Russia may be characterized by polarization in the distribution of their areas and main consumers of forest products, which cannot be ignored when singling out forests of nation-wide, i.e. federal, importance, requiring, naturally, special attention within forest strategies. So, absolutely dominating part of the forests (at least 9/10 of their total area) is concentrated in the taiga zone, i.e. in densely-forested but thinly populated regions with comparatively low local (intraregional) needs for forest products. However dominating needs for forest products (up to 4/5 of the total demand) are found in the southern and central regions, located rather far from those densely-forested regions. So polarized allocation of forest resources and main consumers of forest products will make some part of taiga forests retain their nation-wide (federal) significance in future. Each region could be allotted such an area of the federal forests that would satisfy its local needs; preferably, the allotted forest areas should be located around cities and residential areas. Defining local needs for forest products, we should exclude the timber which is logged and processed to be delivered to remote consumers (i.e. to other regions) and abroad. Technically, it is not difficult to estimate local needs of each region and their relevant forest areas to single out state-owned forests of regional importance. So these forests deducted, the rest of the forest area should remain in the federal ownership. Another justified motive to use this approach to classifying the state-owned forests into federal and regional ones is the fact that an essential part of the densely-forested regions' forests remains to be reserved, and economically, they are nearly inaccessible for exploitation. And it is not realistic to expect the local economies to cope with intensive development of these forests, especially in connection with the continuing economic crisis. But it could be accomplished if the forest-owning regions join their efforts with the consuming regions, with the federal government acting as the chief coordinator. Participation of the government could insure legal protection for both home and foreign investments.

The way suggested does not imply a return to centralization, it means a sound combination of federal and regional ownership and competence in rational forest use on the current stage of the transitional period.

However, apart from the economic aspect of singling out the federal forests, emphasized above, we should also consider ecological, social and cultural functions of forests. E.g., the ecologically fragile strip of the pretundra forests, stretching along the Arctic Ocean, extensive areas of non-commercial forests on the perma-frost soils of Siberia and the Far East, which have vital and multifold protective functions, especially in the mountainous regions; as well as reserves, national parks, extremely valuable (as natural monuments) forest biotepes - all areas of this type taken together should exist to conserve biological diversity and natural landscapes. So today, when the cultural level is too low, and the regional resources for their protection and maintenance are too scarce, all these areas should be under special governmental supervision based on an agreement between the federal and regional authorities, referring them either to the joint competence or to the federal competence directly.

The suggested approach also implies that in the case of commercial forests (economically accessible), the share of state-owned regional forests will be larger in the densely-populated regions with low and average forest cover whereas in the densely-forested and thinly-populated regions, it will be smaller. And the distribution of the federal forests will rely on the opposite correlation.

As for private forests, their share will be larger in those regions where the share of regional forests is larger. Today, they emerge as a result of "farmerization" of the forests, owned by kolkhozes and sovkhozes, and form agroforest farms. The Karelian Republican Forest Law provides the opportunity for the citizens of the Republic to be allotted forest areas for life-time heritable possession, meant for farm management. The size of such areas is specified as 50 ha, 75 ha and 100 ha for southern, central and northern regions of Karelia, respectively (7, p.107). Since each region has its own local peculiarities, it is regional authorities who should be granted the right to allot private forests from the regional ones.

The above-said has accented one of the most important legal aspects of forest management, associated with forest ownership.

As for the economic aspects, the present stage is marked by very acute financial challenges, related to the sources and order of forestry financing. Within any system of forest management, economic measures (including financial ones) cannot work on their own, they should be integrated into an economic mechanism, aimed at implementing this system.

Currently, forestry financing remains to be an unsolved problem. The adopted "Principles of Forest Legislation of the R.F." miss the point of using forest income for forestry financing, and in particular, that part of forest income which should have been received from payments for the resources use for "forest taxes", since today they have gone to local budgets. In this connection, to substitute for the forest fund in forest legislation, there appeared another tax, amounting to a certain percent (originally about 20%) of the current market price for the timber harvested. This tax was added to the cost of forest products of the forest user, and was paid to the so-called non-budget fund for forest reproduction, protection and conservation, intended for financing the state forestry, including reforestation.

This tax for forestry, added to the stumpage collected to be paid to local budgets, had practically doubled the payments for the resources used, thus making the work of forest users very unprofitable, considering that other taxes also sharply reduced the profitability of forest logging. Therefore, representatives of our forest industry turned to the government with an appeal to abolish this tax for forestry. And the original 20% tax was cut down to 5% (R.F. Law N^{o}5453-1 of July 16, 1993) and this is an insignificant value for forestry financing.

Consequently, forestry has found itself in a contradictive situation which cannot satisfy and partner, dealing with forests, though the conditions of market demand a balance of common interests. As a matter of fact, the Federal Forest Service is to express the interests of the federal forest owner but it is deprived of the opportunity to use a part of forest income, and annually, it is forced to petition the government for funds to manage the forests. Its local agencies (forestry enterprises or "districts") are absolutely indifferent to both forest income, paid into local budgets, and the 5%-tax, paid into the governmental non-budget fund, since both of them have no direct connection with the financing of local forestry, and besides (and it does not lack importance), they are not incentive for their activity. This indifference of local forest management units, in its turn, does not contribute to complete use of the forest re-

sources available in their forests, and hence, it keeps to a minimum the income paid to the local budgets. As for forest users, the burden of taxes makes them curtail their forest logging, and at the same time, they fail to cope with reforestation operations, specified in their contracts with the lesser because they do not receive adequate funds to finance them. All this mess actually present a grave obstacle in the way of the intended reforms in forestry.

We can see that this artificially complicated bundle of problems has resulted form the deformity of economic and legal relations between forest management agencies and forest users, with local authorities standing between them and pulling the forest income to themselves and bearing no responsibility for the allocation of funds for reforestation and other silvicultural activities. Though it should be noted that in addition to the forest legislation, now we have also contract normative guidelines which state that local authorities "may" allot some portion of the forest income for the needs of forestry. But the word "may" has no juridical force since it assumes optional donations, i.e. they may give it and may not do so; and if they do, it is up to them how much money to allot, and at this point, one should bear in mind that the conditions of the nation-wide economic crisis, local budget deficits are a rule rather than an exception.

The above-said clearly show the urgency of amendments to the "Principles of Forest Legislation of the R.F." to insure the opportunity to finance forestry at the expense of forest income, including stumpage sales. And it would be only natural to assume that leasing fees should provide funds for reforestation, imposed on the leaseholder by the leasing contract. Such straightened contractual relations between forest management agencies and forest users would also regulate forest management, providing sustainable forest use.

There are other financial issues, involved into financial of federal and regional projects, integrating ecological and social objectives, but the scope of this paper does not allow to dwell upon them.

Concluding my presentation, I would like to touch upon our exchanges of information and potential trends of further cooperation as a follow-up of these Conferences on forest management.

Today, we do not suffer from lack of scientific information; what we really need is an animate exchange of opinions among specialists on those problems of economics which are so far poorly developed or remain rather debatable, but at the same time, vital for us to progress.

At the previous Conference, we were very satisfied with the informal exchange of opinions on the advantages and restrictions of the market in terms of forest management. Our foreign colleagues stressed that a market system may be applied only to those forest resources and services which can be priced by the market. But many ecological and social functions of forest, referred to public goods, have no market values whereas within the system of forest management, they should be evaluated, and the more so when their importance is constantly growing. But so far, there is no well-developed mechanism of decision-making in forest management. The books, chapters and papers, covering economic valuation of non-market benefits, give, strictly speaking, no practical relevant recommendations, they are confined to general statements and recognition of the vital importance of interdisciplinary studies, especially on the interface of economics and ecology, and elaboration of an ecologico-economic approach to the problems of forest management.

Nowadays, only the management of timber resource has a rather well-developed and adjusted theory of decision-making. But it is common knowledge that it is not flawless either, which is clear from the persistent lack of understanding between foresters and economists even in this field; and the reason for it is not the naivety of the former as some of the latter think.

So, I would suggest that we should hold the third Conference here in two years, i.e. after the IUFRO Congress in Finland (the time flies very fast), to discuss a very topical problem of forest management which may be worded as "Theory and Practice of Decision-Making in the Management of Single- and Multiple-Use Forests".

We would like to arrange such a Conference in the IUFRO framework, involving Division IV and VI, and to invite leading experts in the field of forest management planning and economics to take part in it.

I would like to hope for support on the part of Dr. Kaiser and other interested colleagues. And it would be better not only to prepare contributions but also to submit them in advance to facilitate discussions.

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ECONOMIC ASPECTS OF THE RUSSIAN FOREST CODE 1997 *

MAXIM LOBOVIKOV

ABSTRACT

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

Key words: forest code, legislation, market, transition

GENERAL ASPECTS

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

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

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

* Source: IUFRO Research Group 6.13; Ossiach Proceedings (2000): 78-82

enterprises tended to develop wood products processing operations even when it worked against their responsibilities in forest management and cultivation.

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

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

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

ECONOMIC CHALLENGES OF THE FOREST CODE

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

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

The 1997 Code declares only one kind of forest property: state-owned. Article 19 states: "The Forest Fund and forests located on defense lands are under federal state ownership." This decision was reached despite the Constitution of Russian Federation establishing four kinds of property with respect to nature resources: state, municipal, private or juridical persons, and collective property. The 1997 law is in contradiction with real life. Already collective forest property exists in the form of collective farm forests, municipal forests, and private farm forests. The extent of these forest ownerships will increase along with the development of farm movement in Russia. These forests should be managed on a sustainable, ecosystem basis along with the state-owned forests. Collective forests should not be ignored by existing forest law.

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

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

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

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

Thinning is an important function of forestry enterprises. In practice, it is easy to convert a thinning program into a logging operation, especially if an enterprise has monopoly control over production. Mass conversions occurred in 1965 and 1985 of forest enterprises becoming de facto logging enterprises and at the expense of sound forest management. With free markets and competitive timber prices, comparable conversions would have catastrophic results today.

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

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

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

Considering payments for the use of the forest fund and financing of forest management costs, Part V of the 1997 Code copied a failed attempt of taxation through payments from loggers for forest reproduction, custody, and protection introduced by Article 67 of the 1993 law. Minimum rates of stumpage (Article 103)

duplicate the former practice of taxation. A part of forest taxes and rental charges in the amount of minimum stumpage rates is to be transferred to the Federal budget and budgets of the Subjects of the Russian Federation in the following ratio: Federal budget, 40%, and Budgets of the Subjects of the Russian Federation, 60%.

The new mechanism of financing has following weaknesses:

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

CONCLUSION

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

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

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

REFERENCE

Forest Code of the Russian Federation. ARICFR, 1997.

EXPERIENCES WITH NEW FOREST AND ENVIRONMENTAL LAWS IN THE SLOVAK REPUBLIC *

VIERA PETRASOVA AND JOZEF MINDAS

1 PROPERTY RIGHTS AND RESTITUTION OF OWNERSHIP

Everybody in the Slovak Republic has a right to property. This right is laid down in the Constitution of the Slovak Republic (SR), which is the principal law of the country. In compliance with the Constitution adopted 1 September 1992, the right to property has equal legal application and protection for all owners. A property owner, within legal limits, is entitled to posses, use, dispose and benefit from his property. The ownership can be complete or limited. Inheritance is guaranteed. Property can be expropriated only when it is in the public interest and with fair compensation. Regarding SR state land, enforcement of the law is usually indirect through independent legal entities that have particular competencies. They accomplish their competencies in the fulfillment of their tasks. The state usually entrusts some competencies, especially right of disposal and control, to its top organs within the government.

The state had not interfered in the right to property in the SR until 1920. In that year, based on a political decision, the ownership of lands was modified in favor of domestic land owners. The first law on land registration was created in 1927. In compliance with this law, a system of legal records on land ownership was established. Further changes in land ownership occurred after 1945. They dealt with confiscation of land which was the property of traitors and land which was the property of German and Hungarian minorities as well as termination of the land reform adopted in 1920. Regarding forestry, these changes affected almost 400,000 ha. of forest land which is equivalent to 20% of the present forest land area. The process of restitution was started after 1991. The laws enacted after 1948 set a priority on the use of land over the right to property. Therefore the process of reprivatization in the SR is in fact the restoration of property rights.

The transformation of owner and user rights to forests of the SR is governed by Act No. 229/1991 on modification of property owner's relations to the land and other agricultural property and in the wording of later regulations, Act No. 306/1992, amended Act No. 138/1991 on the property of municipalities and in the wording of later regulations, Act No. 282/1993 on redress of past wrongs to churches and religious communities, Act No. 330/1991 on land modifications and the arrangement of land ownership and in the wording of later regulations.

On 31 March 1998, 82,778 people requested restitution of their ownership and user rights in compliance with the foregoing acts. The affected land area was 934,053 ha., while the total area of SR forest land is 1,987,909 ha.

By the end of March 1998, 15% of all request or claims were settled, representing restitution of ownership and user rights for 768,453 ha.

Ownership rights were restored to 2,953 owners deprived of their lands after 1945. This was 8.27% of the total claims settled. The area of forest land restored was 56,130 ha. representing 7.30% of the area of forest lands claimed.

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (1999): 128-134.

The property of 2,741 communities with 426,944 ha. at issue, represents a substantial proportion (55.56%) of the total area settled. It is followed by the property of 262 municipalities with 182,621 ha at issue (23.76% of the total area settled) and 535 religious communities with 52,281 ha at issue (6.80% of the total area settled).

The user and ownership rights were restored for 32,167 private owners (38.86% of the total number of claims settled). The area of restituted lands is 104,779 ha.

There are still 47,063 claimants whose claims have not been settled (56.85% of all claimants). The area of land involved is 165,600 ha. (17.73% of the total claimed area).

Forms of tenure of the forest land restored to their former owners are presented in Figure 1. The trend in reprivatization of forests is illustrated in Figure 2. The slight drop in the area of reprivatized forest land in 1997 resulted from corrections in the records on forest land ownership.

Figure 1 **Forms of management of reprivatized forest lands. State to December 31, 1997, area = 768.5 ths ha**

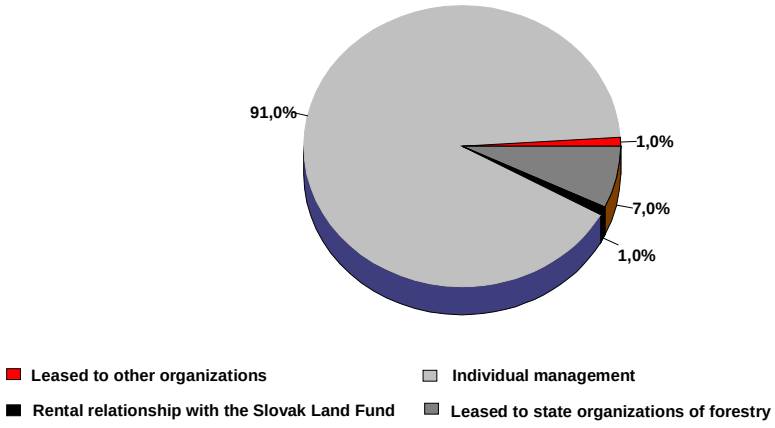
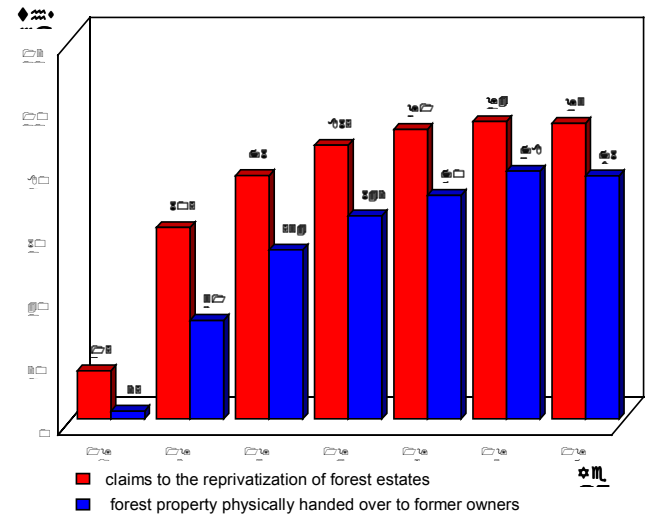


Figure 2 **Trend of the reprivatization of forests (in ths ha)**



Source: Les 4-02

It is obvious from the comparison of the data for particular years that the highest number of claims were settled in 1995 (13,435 claimants involving 65,427 ha.), but the greatest amount of land area was restored in 1992 (299,699 ha. for 2,498 claimants). It was largely influenced by the restoration of property to communities.

2 LAND FUND AND RESTRICTIONS TO LAND FRAGMENTATION

A Slovak Land Fund was established to administer agricultural lands owned by the state and to carry out restitution (indemnification) by providing compensatory lands. The Fund also deals with the reprivatization of ownership relations being ensured by the organs of state administration as well as with renewal of ownership in the land register. The activities and competencies of this fund are set forth in Act No. 229/1991 on land, Act No. 330/1991 on land modifications, Act No. 92/1991 on large privatization and others. Regarding the forestry sector, the task of the Slovak Land Fund is to represent unknown owners in administrative and legal proceedings as well as in renewal of records in the land register. Forest land of unknown owners is being administered by state organization of forestry. The Slovak Land Fund leases the land to natural persons or legal entities to conduct forestry and agricultural activities.

There are valid legal restrictions on the fragmentation of land holdings. They relate to agricultural and forest lands outside built-up areas of municipalities. In cases of land smaller than 2 ha. arising as a result of purchase, inheritance or decisions of the court, an acquirer should pay particular payment. Many controversial decisions on land fragmentation issues are being made by the court. The court can decide, for example, in favor of the acquirer of the lands that were not fragmented. The lands will acquire heirs with the best predisposition for management of these lands. The court will decide about obligations of the acquirer to settle inheritance issues with other heirs. Further restrictions refer (relate) to the change of the kind of agricultural and forest land for the purpose of building construction, recreation or other purposes. In this case the investor is obliged to pay transfers to the State Fund for the Protection of Agricultural Fund if agricultural land is concerned or to the State Fund of Forest Improvement if forest land is concerned. The public interest is preferred in the construction of highways. In this case, the owner must be compensated appropriately for being dispossessed of his land.

3 FOREST LAW AND POLICY DEVELOPMENTS

The tradition of forest legislation in the SR dates back to the 15th century. Since this time, forests and their production and public-beneficial functions have been protected by forest acts against potential exploitation.

A high level of protection and management of Slovak forests is ensured by current acts, namely Act No. 61/1977 and Act No. 100/1977 on the management of forests and state administration of forestry. Forests are defined by the law as one of the greatest treasures of the SR and as a principal component of the environment. They can provide a sustainable source of timber for the national economy. Because of all the functions forests perform, it is necessary to protect forest lands and the tree species growing on them. The obligation to care for forests in a planned way in terms of their improvement and to manage them according to the principles of progressive biology, technology and economics is contained in the acts. These acts were amended recently.

A main reason for the amendments after the year 1991 was a problem in the area of forest ownership because some forest owners had been deprived of their rights to manage and get benefits from their own forests after 1948. This right was handed over to state forestry organizations. Substantial amendments of the acts addressed the following issues:

- Modification of the administration of forest lands owned by the state,
- Obligation to pay transfers to the State Fund of Forest Improvement as a result of excluding forest land from the forest land resource base,
- Changes in applying silvicultural systems in the preferred order of shelterwood system, selection system and clear-felling system,
- Cancellation of obligations for conversion of low forest to high forest,
- Modification of obligatory data for forest management plans (working plans) and spatial arrangement of forest, and others.

Though the acts were adopted in the 1970s and have been amended, they still do not harmonize with other legislation in the SR. For example, they do not solve the issues of the competencies of state administration of forestry and the environment as well as the specific position of public benefits of the state enterprises of forestry. At the same time, the forest act under preparation should solve other issues not covered by the acts mentioned, such as monitoring and an obligation to provide information about the situation in forestry, position of forest management as a basic tool of state forest policy, ensuring (securing) sustainable development of forests and rational utilization of their functions, and the position and competence of the organization for administration of state-owned forest property, its employees and other issues.

Fulfilling the tasks of state forest policy that follow from the acts are being controlled by the organs of state administration of forestry. The organs are part of territorial units of state administration. The Ministry of Agriculture of SR, Forestry Section is the central organ of state administration. Its tasks are aimed at developing and implementing projects for the development of forestry and game management in compliance with the principles of state forest policy, at drafting proposals for legal regulations and issuing instructions for their implementation. It also cooperates with other branches of government, with forestry and entrepreneurial bodies interested in natural resource and environmental issues. It hears and decides cases stipulated by special legal regulations.

The principles of state forest policy were adopted in the SR in 1993. They express the guaranty of the Government of SR to assist forest owners in effective protection and improvement of forests for personal as well as public benefit.

Another tool of the enforcement of state forest policy is forest management. It represents a methodical regulation aimed at preparing forest management plans in compliance with the principles of state forest policy. The owner is obliged to observe the presumptions contained in the working plan.

A special supportive fund, the State Fund for Forest Improvement, has been established. It is the institution that, in accordance with the Act No. 131/1991, ensures funding for activities supported by the state to reach strategic forest policy goals. The fund also subsidizes activities supplying certain public benefits and ecologization of forest activities.

4 ENVIRONMENTAL LAW AND POLICY DEVELOPMENTS

In 1994, the Slovak National Council ratified “The proposal of a strategy, principles, and priorities for a state environmental policy” which provides for analysis of state environmental policy and establishes basic principles and goals in three time horizons. The following goals were formulated for forests and forest management:

Strategic long-term goals:

- Elimination of synergic impacts of injurious agents on forest ecosystems and increasing the resistance potential of forest tree species,
- Optimization of logging and the density of the forest transportation network for regeneration of natural forest stand composition and utilization of logging systems that enhance forest regeneration.

Strategic medium-term goals:

- Reforestation of approximately 60-80 thousand ha. of the least productive land, insect-damaged meadows and pastures, remote and unproductive plots, etc.,
- Assessment of the implementation of environmental measures included into the Strategy and Concept of State Forest Policy in the Slovak Republic (Decree No. 9/1993 of the Government of SR), the Strategy and Concept of the Development of Forestry in the Slovak Republic (Decree No. 8/1993 of the Government of SR).

Short-term goals:

- Prioritization of the reforestation of plots in areas with extremely damaged environments,
- Implementation of the Strategy and Concept of State Forest Policy in the Slovak Republic and the Strategy and Concept of Development of Forestry in the Slovak Republic, finalization of forest management plans (FMP) as worked out and approved in the years 1992-1993, in accordance with the materials mentioned above, as well as amendments of the regulations on management,
- In accordance with state environmental policy, work out and apply a proposal of the act of the Slovak National Council on forests and state administration of forestry.

The most important law in environmental legislation that significantly affects forest management is Act No. 287/1994 on nature protection. At present there are 7 national parks and 16 protected landscape areas that are predominantly situated on forest land, and they have particular degrees of protection. Although the environmental benefits of forest ecosystems will increasingly predominate over wood-producing ones, wood as a raw material, as well as from environmental viewpoint, will continue to be demanded in the future. According to available data, 95% of the total protected area (650 387 ha.) of national parks and protected landscape areas are situated on forest land. This is 35% of forest land base of the SR, and if protection zones in national parks are added, the ratio is 46.5%, a very high proportion.

Direct implementation of the goals relating to forests of the state environmental policy was worked out in the National Strategy of Biodiversity Conservation and the National Environmental Action Programme. The National Environmental Action Programme is one of the first programme documents on the condition of the Slovak

Republic following the Environmental Action Programme for Central and Eastern Europe that was approved by the Ministerial Conference for Environment held in Luzern in 1993. Its implementation was a matter of discussion of the Pan-European Environmental Ministerial Conference held in Sofia in 1995.

National Environmental Programme (NEP, 1996) was worked out mostly from data provided by particular ministries. It is divided into 10 sectors, of which sectors E and F directly relate to forest management. The E sector is aimed at Care about Nature and Landscape and Territorial Development. This sector deals with the general plan for a supraregional territorial system of ecological stability, approved by the government, with classification categories for degrees of protection for all of the SR as well as for provision of territorial systems of ecological stability of lowlands and hollows, revitalization of disturbed environment, especially with regard to 9 areas in very bad condition and endangered areas. The programme of eliminating damage to forest stands due to anthropogenic impacts, especially air pollution (8.86 thousand mil SK by the year 2010 or $241,601,221 US, using current exchange rates), under the direction of the Ministry of Agriculture is one of the most costly long-term ones. This sector includes implementation of the project on biodiversity conservation which is supported by the World Bank at $2.3 mil US.

The F sector concerns Protection and Rational Utilization of Bedrock Environment, Soil and Forest and concentrates on reduction of soils being endangered by soil erosion due to land regulation, on the implementation of the Strategy and Concept of State Forestry Policy in the Slovak Republic and the Strategy and Concept of Development of Forestry in the Slovak Republic. A substantial part of financial means of the sector is contained in recovery measures in disturbed forest ecosystems and in measures for afforestation of lands unsuitable for agriculture (9.125 thousand mil SK or $248,827,443 US). Another costly measure under the direction of the Ministry of Agriculture concerns an elaboration and implementation of a project for eliminating synergic impacts of injurious agents on forest ecosystems and increasing the ecological stability of forests (for which the anticipated budget is approximately 5 thousand mil SK by the year 2010 or $136,343,804 US). Expected funding necessary for the sector reach 17.56 thousand mil SK or $478,343,805 US.

The most important problem in the management of forests in relation to the sector of environment is management of forests in protected areas. On one side there are interests that promote forest protection and the reduction of or even prohibition of management activity, with the aim to preserve forests in their original state and to let them develop spontaneously. On the other side there are interests in the forestry sector that are responsible for forest condition, for the management and improvement of forests. Unfortunately, the conflicts between these two interests often have undesirable effects.

Present legislative modification of the relations between nature protection and management of forests is not perfect. Requirements on forest owners and forest users that follow from the Act on nature protection sometimes conflict with obligations laid down in forestry legislation.

The Act on nature protection does not perfectly solve the question of compensation for detriment due to different required regimens in the management of forest and does not grant equal rights to state-owned property and privately owned property. The owner (administrator, renter) of forest land has greater costs applying more environmentally friendly silvicultural systems that are not included in the forest management plan or usually used in given conditions. The Act puts restrictions on use of traditional systems of managing forest lands which results in lower forest

production (wood, game management products). According to the area of a territory and management regime, the greatest restrictions are in declared national parks or in protected areas and nature reservations.

The author and proposer of the Act, namely, the Ministry of Agriculture, did not take into account the impact of the restrictions on the state budget. An executive regulation capable of determining in an enumerative (quantitative) way the value of the detriment to property, is still lacking. In the relationship of reduction of routine management of a state organization, the main institutional right for granting equal consideration of all the kinds of properties is disclaimed.

In the state administration of forestry and environment in relation to the approval process of forest management plans, this Act causes considerable problems (long and duplicitive processes and adjudication). The state administration of forestry should have priority in approving of forest management plans according to valid legislation that is responsible for the observance of legal norms related to the management of forests.

The Act includes a provision on the competency of organs of state administration when it introduces a system of subordination of all administrative dealings by agreement or position of the organ of state nature protection. This system increases the administrative demands of acts (demands on professional employees, funding, and prolongation of activities). The organs of nature protection can express their interests within the framework of the approved process in developing forest management plans. Similar problems follow also from an endeavor “to provide consistent protection of nature by excluding selected parts of land resources and putting them under the administration of the sector being competent for nature and landscape protection as it follows from strategic objectives of the National Strategy of Biodiversity Conservation in the Slovak Republic.” This requirement is not realistic. Its implementation would lead to sharp conflicts in opinions, professional polarization, as well as to a possible lessening of the level of management of the areas concerned.

State support for forestry from the Department of Environment is implemented through a supportive fund. The State Fund of Environment concentrates funding, redistributes it, and ensures effective utilization in the interest of conservation and environmental protection. Subsidies for smaller regional activities, such as building forest parks, trails in forests, events aimed at ecology, etc., have been provided from this fund. Since 1 April 1998, the new Act No. 69/1998 on the State Fund of Environment has been in effect. Finances provided form this fund can be returnable on non-returnable. Financial support from this fund does not provide a basis for a legal claim. Funds can be used to support forestry activities aimed at obtaining the state environmental policy goals, environmental education, training, research, information gathering, monitoring, etc. They can also be used to compensate for losses due to restrictions on customary management of property as specified in Act No. 287/1994 on nature and landscape protection for non-state forest lands. Money from the fund can be used for revitalization of forests damaged by air pollutants as well as to purchase lands that have areas eligible for protection because of their special natural qualities.

ECONOMIC PRINCIPLES OF THE SLOVAK REPUBLIC FORESTRY POLICY AND LEGISLATION *

RASTISLAV ŠULEK

ABSTRACT:

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

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

1. OVERVIEW ON THE PRESENT SITUATION

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

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

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

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

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

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (2000): 87-91

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

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

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

2. PROBLEM AREAS IN THE ECONOMIC SPHERE

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

CONCLUSION

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

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

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FOREST AND ENVIRONMENT LEGISLATION IN SLOVENIA *

ALEKSANDER GOLOB AND FRANC FERLIN

ABSTRACT:

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

1. OVERVIEW ON FOREST CONDITIONS

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

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

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

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (2000): 92-98

Before the political changes in Slovenia, 65% of the forest had been in private hands and 35% had been state-owned. In the recent years, 7.5% of the forested land has been returned to the former owners and it is estimated that only 20% will remain in public ownership once the restitution is complete. Privately-owned forests are mainly the property of local inhabitants for whom forestry is only a rather small supplementary source of income (Table 1). The situation is different in mountainous farming regions, where the forest is in many areas indispensable to the local economy.

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

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

2. THE LEGISLATIVE FRAMEWORK

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

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

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

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

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

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

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

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

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

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

3. TRANSLATION OF POLITICAL IDEAS INTO ACTION

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

Forest management plans are designed for a period of ten years at the regional and the management unit level; there are 250 forest management units which comprise on an average 4000 ha of forest. Silviculture plans are made at the site level for the

direct implementation of work. The allowable cut, the necessary silvicultural measures and guidelines for management are essential elements and based on the ascertained state of the forest, forest functions assessment and the goals set. Forest owners and other stakeholders are invited to participate in the preparation of management and silviculture plans. The rules for preparation of the plans are laid down in special regulations.

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

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

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

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

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

- forest regeneration: artificial regeneration - total cost of plants paid, natural regeneration - 30% of the cost paid;
- forest tending: 20-40% or according to the terms of public tender for the tending of pole stands;

- forest protection: from fires - up to 70%; from game - material costs plus 30% of other costs; from diseases and phytophagous insects - 30% or material costs plus 20%;
- maintenance of wildlife habitats: 30-70%;
- conversion of degraded forests: according to the terms of a public tender;
- afforestation after fires, and restoration of damaged forests: plants plus 20% of the cost;
- maintenance of forest roads: 35% of the maintenance cost;
- investments for forest roads and tree nurseries according to the terms of a public tender.

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

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

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

4. SCOPE AND REACH OF ENVIRONMENTAL LEGISLATION

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

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

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

Under the Act, in co-operation with other competent Ministers, the Minister of Environment may prescribe rules of action for the use of natural resources. One of the regulations that has been issued on the basis of this provision is the Decree on the Protection of Mushrooms that restricts mushroom picking in the forest to two kilos per person per day.

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

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

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

5. CONFLICTS BETWEEN REGULATIONS IN FOREST LAWS AND ENVIRONMENTAL LEGISLATION

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

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

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

CONCLUSION

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

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

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PERSPECTIVE FOR A NEW FEDERAL FOREST LEGISLATION IN SPAIN *

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ABSTRACT

Based on an historical introduction to Spain's forest legislation and policy since the establishment of a modern forest service in the middle of the XIX century, the developments during the last 30 years is overviewed. Since the approval of the 1978 Spanish Constitution on the threshold of the new democratic regime, the basic framework for forest legislation in Spain has remained formally unchanged: the Forest Law of 1957 closely following the first Forest Law of 1863. This fact has to be interpret as a clear sign of the difficulties of finding a broad political consensus under the new circumstances. Growing environmental awareness, regionalisation and decentralisation, as well as europeaisation and globalisation are the three new factors emerging as key elements of forest policy. Increasingly, EU policies influence Spain's forest policy, not only in the incentive instruments, but also in the normative like environmental assessment or Natura 2000. In the discussion, the main issues to be tackled by the announced federal forest act are identified.

Keywords: Forest Law, Environmental Legislation, Nature Conservation, Regionalization in Forestry.

1. CHARACTERISATION OF THE SPANISH FOREST LEGISLATION IN THE PAST[1]

Spain's modern forest legislation started with the 1863 Forest Law together with a second law in 1877 dealing with afforestation and improvement of public forests. Both laws supposed the starting point of a modern forest service, which had been begun some years earlier by Spanish foresters trained in Tharandt (Germany). A deeper review started with the civil war.

In 1941, the State Forest Law and in 1957 a new Forest Law together with its more detailed Regulation (1962) set the foundations for the intensive forest activities during the Franco era. Together, these form a very congruent legislative package.

The four main restrictions to which the forest legislation had to adapt were:

- the negative impact of the process of privatisation, or disentailment, of the previously medieval land tenure structure (church, military orders, crown, communal, etc.) in the middle of the XIX century called Desamortización,
- the traditional lack of state owned forests[2] in which to develop reference forest management practices, especially after the privatisation period, in contrast to other central, eastern and northern European countries,
- the strong state guardianship towards local government[3], and
- the impossibility of restricting private property due to the lack of resources and the prevailing doctrine that did not foresee state intervention in private ownership.

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* Source: IUFRO Research Group 6.13; Submitted Paper, March 2000

[1]) The main federal and regional forest legislation in force may be found in Piñar & Jiménez (1997). See also ETSIM (1976), Esteve (1992), Mas (1996), Rojas (1992, 1995 and 1996a).

[2]) Only 1% in 1940.

[3]) The principle of local autonomy was firstly established in the Constitution in 1978.

Due to these restrictions and political emphasis on forest services being the driving force from the very beginning -very especially soil and water protection (externalities)[4]-, strong intervention by the forest administration started in communal forests - one third of Spanish forests[5]. Those communal forests with some prevailing externalities[6] were classified as forests of public utility and managed by the state administration. The communal owners remained so formally, are consulted in the management planning and receive 85% of the value of products sold. The other costs are invested by, and the main decisions taken, by the forest administration.

On the other hand, private forests where not intervened up to the civil war, with the exception of the Cambó decree of 1918 in the last months of the First World War[7]. On both sides, this regulation was reintroduced and remained in force up to its inclusion in the 1957 Forest Act. Since then, every felling, even thinnings or cork peeling needs the express authorisation of the forest service including tax per unit. Fast growing species and forests under management plans[8] have to inform of the fellings. These licenses were also used as the basis for wood supply statistics and to explain the marked differences between the logging and the wood chain statistics.

In 1964, Rada criticised the limitation in private forests to a single tool like felling licenses and the above-mentioned afforestation contracts as the only forest policy instruments for two thirds of Spain's forests. His proposals seem innovative even today.

Land ownership has not been obligatorily registered in a property register. Land can also become owned after 30 years of peaceful occupation. This forced the forest service to transform the register of forests of public utility (public ownership) into a special cadaster in order to assure the legal maintenance of these selected public forests. A stronger focus on the legal situation of land ownership and the one-sided position of the forest service in relation to neighbouring private owners rather than towards the real situation of the forest and its management was an understandable consequence.

The main forest activity under the Franco regime was afforestation. Even though an important land area was bought, raising state-owned forest land from 1% to 5%, most afforestation was carried out under a specific contract[9] in which the owner handed over the rights of the forests for the period of one rotation, the forest service taking over all management and financial responsibility. The economic results of the first felling are shared between owner and the forest service according to a previously fixed percentage. This figure was used in communal as well as in private forests and, in practice, allowed a significant enlargement of the state forests, even if temporarily. Contract forests have been subjected to a significantly higher fire risk than other categories[10].

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[4]) The first spatial forest service in 1901 was called Divisiones Hidrológico-Forestales.
[5]) Located mainly in the mountains.
[6]) Up to the moment 3/4 of the total communal forests.
[7]) As a consequence of Spain's neutrality, a strong export of raw materials and food to the war countries took place. Being wood an essential raw material for construction, fuel and package in that time, overexploitation in many forests in the coastal and border areas took place.
[8]) Until recent years an exception in private forests.
[9]) Convenio or consorcio (Ley del Patrimonio Forestal del Estado, 1941 and Ley de Fomento de la Producción Forestal, 1977).
[10]) See Ministerio de Medio Ambiente (1996).

As the juridical concept of social commitment of ownership has a short tradition in Spain[11], the juridical instruments for solving conflicts between private ownership and public interests are seriously underdeveloped. Traditionally, the only tool has been the declaration of public utility, an instrument designed for strong intervention like road construction. Milder instruments adapted to the characteristic synergy of forestry, as well as strongly advisable in forest policy, are completely lacking. Forest policy debate has traditionally revolved around an unfinished dialectic between those defending the prevailing value of private ownership and those advocating the prevailing public services of the forests (externalities).

2. CHANGES IN THE CENTRAL GOVERNMENT SINCE THE 70S: FORESTRY OR NATURE CONSERVATION?[12]

In 1971, the Forest Service was subjected to major changes within the framework of a profound reform of the Agriculture Ministry. The traditional sectorial division was transformed into a functional structure. The formal successor to the Forest Service was the Nature Conservation Agency (ICONA)[13]. Nevertheless, significant responsibilities where taken from this agency and given to others in the Agriculture department. These included research, health, seeds, industry, statistics and, significantly, private forests and incentives. ICONA remained responsible for public forests, erosion control, protected areas, hunting, fresh water fishery and forest fires. Following this division of tasks, forests were supposed to follow the axiom[14]:

public forests = protective forests

private forests = production forests.

In this period a specific law of incentives for private forest investment (1977) was one of the last laws to be passed by the pre-democratic Parliament and was later on strongly criticised, especially with regarding to the incentives for fast-growing species.

The regionalisation process implemented in forestry between 1980-85 and the wide political changes in this period prevented the consolidation of this model. It was not maintained by the 17 regions that now took over responsibility for forestry, but it remained formally in the structure of the national Forest Service until 1996, when the Environment Ministry took over forest issues.

In 1975, the first Protected Natural Areas Act was approved. It substituted the previous diffuse norms that dealt mainly with national parks. It was in line with the existing laws in Europe, although only focused on protected areas, and ignoring the rest of the territory, as well as access regulation, but including a general compensatory rule. It should be remembered that, whereas the reference in the Constitution to forests in the catalogue of possible regional competences (149, 1, 23) clearly used the Spanish term “montes”, the devolution decrees between 1980-85 used nature conservation, something not envisaged in the Constitution, creating confusion through the supposed identical meaning of nature conservation and forests. The main consequence of this confusion has been to limit nature conservation to forestland as well as the limiting the activities of ICONA as a national forest service to its original competences (public forests and public investment).

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[11]) It was firstly introduced in the Constitution of 1978.
[12]) See Rojas (2000).
[13]) Instituto Nacional para la Conservación de la Naturaleza.
[14]) See Ortuño & Ceballos (1977).

The main political premises under which the national Natural Areas Conservation Act was approved in 1989 were the presumed overcoming of sectorial forest legislation and the reinforcement of some of the key responsibilities of the central government, such as national parks. The law included complex planning instruments that also covered unprotected areas[15], kept the national parks under central government, introduced strong public intervention in nature conservation, maintained a strong orientation towards formally protected areas, did not enter into public access, created a strong figure in the director of protected areas, but did not foresee the developing possibilities of private nature conservation as well as the socio-economic consequences of the law.

As a consequence of this law and its effects on the regional competences, many regions went to the Constitutional Court in a legal protest against it. After 6 years, the Court, in a Solomonic decision, forced some changes that were implemented in 1997, such as shared management of national parks between the central and regional services. As an example of the legal complexity, a leading region like Catalonia has based its current law (1985) on the former 1975 law, in meantime derogated, as a framework law and practically does not apply this law in its territory.

Today, the main criticism of this law, apart from than those mentioned above, is the lack of co-ordination with Natura 2000, the EU-nature protection network[16] implemented by a decree in 1995. It should not be forgotten that Spain's proposal of 8.7 million ha (17%) of the country will suppose ¼ of the total EU area. The inconsistency of the legal framework, the strong commitment of many Spanish regions[17] and the juridical weakness of having a decree instead of a law advocate a deeper revision of this law.

With regard to incentives[18], from 1988 on, several legal reforms significantly reduced the tax pressure on forestry, starting in 1988 with land tax, following in 1995 by inheritance tax and income tax between 1996-2000. The support system for private forestry established in the 1977 law was substituted in 1993 by a Decree implementing the two basic EU regulations dealing with forests[19].

3 ADOPTION AND EXPERIENCES WITH REGIONAL FOREST LAWS

The 1978 Constitution allowed the regions to take over forestry as one of their competencies. In a few years Spain was organised into regions in a process starting as progressive asymmetric federalism where all of these regions used this faculty. In 1986, despite minor competencies such as the National Parks, all the spatial competencies and personal of the Forest service were regionalised and in some regions even further decentralised later on. The main remaining instrument of the central government was the National Forest Law designed as a framework law to act as a reference for the regional forest acts.

The second regionalization from the regions to smaller bodies should also be noted. In specific cases due to historical or geographical reasons, significant forest competencies have been passed to smaller territorial bodies like in the Bask country

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[15]) Planes de Ordenación de los Recursos Naturales (Natural Resources Management Plans).
[16]) EU Regulation 92/43.
[17]) In some like Canary Islands, Andalusia or Madrid, the proposed areas suppose some 40% of the land area.
[18]) See Rojas (1994).
[19]) 2080/1992 and 1610/1989.

in the early 80s to the historical territories[20], and recently in the Canary Islands to each island government and in Catalonia to the autonomous Val d'Aran. In the bask case it included the legislative competence used by all the three territories so that a frame bask law is not expected.

All 6 new regional forest laws[21] maintain a clear continuity with the 1957 law, interpreting it as a framework federal law, for example in the negative definition of forest land ("montes") [22], the authorisation of each single felling or the lack of regulation of public access.

Nevertheless, significant changes have been introduced. These include the mandate for a regional forest plan, the introduction of new incentive instruments[23] even if these are not yet implemented, and the possibility of managing communal forests by the communes[24]. Others are the transformation of the catalogue of forests of public utility into a catalogue of forests in Andalusia, or the definition of temporary forestland and the creation of the Private Forestry Board in Catalonia[25]. In some regions, such as Valencia, burned forests can not be reclassified for other uses and clear cutting is not allowed. Even if the felling regime is nearly identical to the previous one, the role of forest management plans has been significantly strengthened. In some cases, like Catalonia, positive administrative silence is applied to felling after 3 months[26].

With regard to public participation in forest policy, Forest Advisory Councils were created in some regions[27]. In Andalusia and Catalonia, local associations dealing with forest fire defence have been established. It is curious to observe the differences in the treatment of the consequences of forest fires. Whereas in Catalonia, the first forest fire insurance was introduced in the late 90s and has been incentived since 1999, in Andalusia part of the extinction costs may be charged to the forest owner if the conditions of the forests are deemed to be inadequate.

The experience in Catalonia with the Private Forestry Board is highly innovative. After 10 years of existence, a specific law was approved in 1999 enlarging its competencies. Today, a quarter of Catalan private forests are managed according to management plans. The board is run by a council in which the chairman and a majority of members are elected by the forest owners with a management plan, though the board is responsible for all the tasks of a forest service, except forest police, in all private forests. This case has been presented as an example for other regions in the Spanish Forest Strategy but though is not unanimously accepted[28]. A specific law was passed in 1995 dealing with the unregulated public access to forest. Even if it only regulated in a timid way the access of vehicles, it was the first attempt to deal with this issue in a law in Spain. In 1993, the forest felling taxes were abolished.

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[20]) Áraba, Gipúzkoa and Bizkaia.
[21] Catalonia (1998), Navarre (1990), Andalusia (1992), Valencia (1993), Madrid (1995) and Rioja (1995).
[22]) After the general forestland definition in Spain all the area not used for housing, infrastructures and agriculture is understood as forest lands, in the average at least 50% of the country.
[23]) Forest law of Madrid (1995) and the Act for the incentive of forests (Castile-León, 1994).
[24]) Catalonia and Andalusia.
[25]) See Ley del Centro de la Propiedad Forestal (1999).
[26]) This means that if no answer is received after 3 months, a license is understood to be have been granted.
[27]) Valencia, Catalonia or Andalusia.
[28]) See Esteve (1995).

A strong debate is presently ongoing concerning the task of the forest rangers. If vigilance, specially linked to forest fires, is priority, a police structure predominates. If, on the contrary, the forest rangers build the foundation of a forest service a more professional approach is maintained. A specific corps of rural agents on the bases of the traditional forest rangers was created in Catalonia in 1987 is now under study by several regions. It is interesting to remark that when 1999 the forest competencies there passed from Agriculture to the Environmental Department, this corps passed to the Interior Department with the intention to merge with police and fire man.

On the whole, the Catalan and Andalusian law are probably the most innovative, whereas in Navarre and Valencia, the laws show marked government intervention conditioned by nature protection that may lead to a lack of active management. During the last five years (1996-2000) no new laws have been approved. This is mainly due to the announced presentation of the project of a federal act. From side of the regions, a higher emphasis is put in Regional Forest Plans[29]. Nevertheless, drafts have been elaborated for Castile-León and Galicia, whereas projects for the reform of the two most rigid laws (Valencia and Navarre) are under discussion.

4 INFLUENCE OF THE EU REGULATIONS AND POLICIES

Although the formal impact of the EU on national forest legislation is supposed to be marginal and limited to some technical issues (among others reproduction material, phyto-sanitary products and forest product normalisation – three questions rather undeveloped when Spain entered the EU in 1986–) its main influence is found on the financial instruments and overlapping policies on agriculture, regional development, environment (Natura 2000, environmental impact assessment[30]), transport or energy.

As public financing of forestry has hardly existed for the last 30 years, a marked orientation towards EU sources to overcome this situation has been common for all the governments at central as well as regional level during the last 15 years. In the past, the main two sources of EU financing have been the CAP[31] and the Cohesion Funds. The CAP measures have been strongly orientated towards afforestation of agricultural land and forest measures in agricultural estates. The limitation of afforestation to agricultural land was dysfunctional for forest policy – half of the forest area in Spain is not forested, an important part of which should be afforested for erosion control with a much higher priority than agricultural land -, with its limitation to agricultural estates and disadvantaged areas defined by other agronomic or macro-economic non-forest criteria. The inconsistency between agronomic and forest land classification has allowed the first dysfunction to be overcome to some extent, as many non-forested forest lands were defined as “erial a pastos”, a vague definition between extensive grazing and waste lands, but which created serious disagreement between Spain and the European Commission.

With regard to Cohesion Funds, in the mid-90s important public investment was carried out in forestry. The small size of the projects in comparison with other public investment and the impossibility of transforming these into incentives for private investment led the Finance Ministry to exclude forest investment from the Cohesion Funds in 1997. This favoured disagreements between the main investing regions, such as Andalusia, and the central government.

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[29]) Navarre, Canary Islands, Castile-León, Aragón, Murcia, Extremadura, Valencia, etc.
[30]) Afforestations and deforestations are under certain circumstances subjected to environmental impact assessment.
[31]) Common Agricultural Policy.

Most of these dysfunctions were overcome by the new Rural Development Regulation of 1999. It included even a prime for agricultural fire breaks in forest areas and for forests with prevailing public interest (externalities)[32]. Nevertheless, the outcome of the Berlin Summit with insignificant cuts in the market support systems of the CAP and the enlargement of the suitable support in the framework of rural development will make it very difficult to respond properly to the expectations created.

The need to strengthen the consensus concerning a minimum identity for forest issues on a national – as well as an EU - level is a consequence of the accelerated international process[33] linked to forests, including a federal forest service, a framework forest law and a forest strategy and plan.

5 A NEW FEDERAL FOREST LAW ON THE WAY

Between 1988 and 1995, 6 of the 17 regions passed forest laws[34]. On one hand, they had to respond to the new demands on forest lands, their specific natural and socio-economic conditions and customary rights. On the other, they had to interpret which part of the 1957 law was obsolete and which parts remained as basic elements of a national framework law in force.

A second issue emerged within the regions. Customary rights have a strong position in Spain's law system being defined in the Civil Code (1889) as one of the three law sources (article 1.1). In 6 regions, specific regional civil legislation has remained after nearly three centuries of centralization, especially in family (inheritage) and rural issues strongly touching forestry. The differences in the land tenure structure and their specific characterization is mainly due to prevailing medieval regional civil laws[35]. A specific law concerning common forest ownership was approved in Galicia in 1989 in order to overcome important tenure conflicts favoring forest fires.

However, up to 1995 no special interest was shown in a federal forest law by the Central Government. The federal natural areas conservation act of 1989 was supposed to substitute an obsolete sectarian legislation such as a forest act. Today, the forest law is the only framework law included in the Constitution that remains unimplemented.

From 1995 on, the different opposition parties have put the question of a national forest law onto the political agenda, with several proposals presented in the Parliament and the repeated announcement of the submission of a government proposal. In 1995 the Conservative Party, in that moment in the opposition, presented a law proposal that could not be debated due to the dissolution of the Parliament in early 1996. During the last legislature (1996-2000), the two main opposition parties, socialists and united left, presented a law proposal each that was rejected with the argument of an imminent governmental proposal. In 2000, the socialist party has again presented a forest law proposal.

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[32]) Article 32.

[33]) Ministerial Conference on Protection of Forests in Europe (1990, 1993 and 1998), European Forest Strategy (1998), Kyoto Protocol (1997), Rio de Janeiro Summit (1992) and its Conventions in Biodiversity, Climate Change and Desertification, the IPF/IFF process as well as the certification discussion.

[34]) Catalonia (1998), Navarre (1990), Andalusia (1992), Valencia (1993), Madrid (1995) and Rioja (1995).

[35]) See Rojas (1996).

The reasons for the revival of interest in a forest law may be founded in various factors. These are the accelerated international process with regard to forests[36], the overcoming of the confusion about the substitutive character of the nature protection areas act, pressure from the regions with new laws and forest plans under development, but also the perspective of an extension of the EU CAP to forestry through the new rural development policy. The central government has been forced to strengthen its activities in forestry in order to keep a leading role both domestically and externally.

After confirming the difficulties of reaching a broad consensus, the Ministry of Environment, responsible for forestry and nature protection since 1996, presented a draft Forest Strategy as a basis for the national forest law. The document, widely debated and amended between 1998 and early 1999 consists of two main parts, a diagnosis of Spain's forests, forestry and forest sector and a proposal for key action in which the different measures to be taken should be included. The two main consequences of the Forest Strategy - approved in March 1999 - were the approval of a long term Spanish Forest Plan and a governmental proposal for a new federal forest law. Internal drafts of both have been elaborated in the Ministry but not circulated yet. After the positive experience with public participation in the elaboration of the Forest Strategy, a high profile Federal Forest Advisory Council was established in early 2000.

6. MAIN ISSUES TO BE FACED BY THE NEW NATIONAL FOREST LAW

The following have been identified[37] as the key issues to be tackled in the upcoming forest law:

- The need to harmonise Spanish forest policy and technical and legal definitions with those of neighbouring countries and international processes[38].
- The convenience of a more positive definition of forest land including sub-classifications like forests, agro-forest land, plantations, non-forested forest land, etc.
- The need to overcome old fashioned axioms like the confusion between function and ownership category, the preference for public ownership and in general, between the formal status and the real conditions of the forest.
- The need for a more comprehensive land planning that overcomes sectorial approaches (forest, nature conservation, urbanistic, infrastructures, etc.).
- Overcome the inhibitory tendency in forest and nature conservation legislation promoting proactive multifunctional management as a key instrument.
- Overcome old-fashioned forest service structures, search for efficient multidisciplinary teams and avoiding monopolistic situations, e.g. by separating those units responsible for public forests from the general units responsible for budget.
- A clear deregulation process favouring the responsibility of the parties implied rather than public intervention, e.g. by strengthening the participatory mechanism

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[36]) See European Forest Strategy (1998).

[37]) The proposed issues are included in the Spanish Forest Strategy or are a consequence of the previous text.

[38]) E. g.: forest lands or forest ownership (state, communal and private) definition or wood fellings including firewood.

in policy definition and implementation, the certification process by market forces, strengthening the forest sector associations and their responsibilities, etc.[39]

- Clear liberalisation of the private forests, strengthening the role of management plans. If the prevailing externality is of extraordinary significance, protection forest may be declared but a previous agreement has to be signed with the owner to compensate for the losses, otherwise the forest has to be acquired at market prices. This figure implies a higher legal protection than the traditional one where, in theory, the restrictions keep just before the compensation threshold which was normally defined by the processing costs and overall leads to a clearer situation in benefit of all parties implied. The announced private forest status including rights and duties strengthens this approach.
- Split the tasks of the regional forest services regarding communal forests. Whereas the management tasks may be perfectly assumed by the owners, the regulating task has to be maintained by the forest service.
- The need for a higher quality orientation of the forest industry including certification of the sustainability of the origin of the products
- Recognition of the growing importance, especially in coastal, island and mountain areas, of tourism and tertiary economy for forests and the new market opportunities that may be developed.
- Strong development of forest planning on all the levels from national (National Forest Plan) to regional (Regional Forest Plans) and estate level (forest management plans). In fact, in order to be eligible for EU funding in forestry, national or regional forest plans are expected by the EU Commission.
- The need for reasonable regulation of public access to forests, given that the traditional civil instruments are clearly inadequate for the present demands in a widening area of the country due to increasing mobility. The development of marketable products and services needs previous regulation of public access delimiting free and responsible social use from commercial use.
- The importance of training and education, especially of forest owners and farmers, the work force and forest rangers[40].
- The general coincidence on the risks and dysfunctions of a strict limitation in the incentive policy to EU funding and tax breaks.

7 CONCLUSIONS

The first conclusion to be drawn is the need for strengthening the position of the federal governments and the EU in issues like forestry with strong local powers if the opportunities are used properly due to the accelerated international processes around forests.

Forest policy - defined generally as the relation between society and forests - has to change necessarily if society changes. The frame conditions of the forests in the XIX or a significant part of XX where the present forest law was designed are completely different from those present and in the future. One main characteristic is the change of a sectorial to a cross-sectorial understanding of forests and forestry. Forest laws will have to be more flexible, proactive, comprehensive and consistence with other

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[39]) Similar processes may be follow in recent forest law revisions (Sweden, Finland) (Schmithüsen, 1997).

[40]) This issue has been also identified by the Lisbon Conference (1998) and the EU Rural Development Regulation (1999).

policies they overlap. Key issues are not any longer how to limit primary activities that may overuse the resource but how to maintain them as an instrument for assuring the public services (externalities) society demands and prevent catastrophes like fires and who is going to pay it. This is a similar challenge to the one faced by agricultural policies in developed countries.

Although nature protection and forestry are different but strongly related issues – forests defined as land use and nature conservation as a function – a harmonised policy is urgently needed. The need to review Spanish nature conservation legislation in order to include the experiences of the past and, very specially, to give Natura 2000 the formal status it requires, should also be used to achieve more consistency of both the forest and nature conservation laws. This should also overcome temptations from the past, such as sectorial views as well as isolated spatial perspectives searching for proactive management.

An increasing number of authors come to similar conclusions identifying the financial weakness and the need to overcome it as the main challenge to Spain's forest policy[41]. Positive externalities are characterised by the structural risk of microdecoupling, i.e. of private as well as public under-investment[42]. The significant opportunities shown may be wasted if the significant economic activities that profit from forests and landscape and increasingly demand relevant services do not contribute to their maintenance through market or fiscal instruments. If, especially Mediterranean and mountain forests do produce much more than wood, those benefiting from their services will have to reinvest their part in the long run in order to ensure the economic sustainability of the demanded resource. It might be interesting to remember that article 45.2 of the Constitution (1978) dealing with the environment foresees in a rather advanced and unique way the social perspective (collective solidarity) with the environmental (protection and improvement) [43]. As Folch (1996) says, the challenge of Mediterranean forests lies in overcoming the current situation of a high value with a low price.

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[41]) Alcanda (1999), Currás (1997), Rosembuj & Rojas (1995), Rojas (1995, 1996b, 1998, 1999a, 1999b), etc..
[42]) Mendes (1999).
[43]) See Rojas (1995, 1999a and 1999b).

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SWEDEN'S NEW FOREST POLICY *

GÖRAN THELANDER

General Developments: The Swedish parliament approved a new forest policy in May 1993. The former policy had been in force since 1979. It was slightly modified in the 1980's. The main features of the old policy were:

- Strong emphasis on timber production due to an anticipated timber shortage at the beginning of the next century
- Forest environment becoming increasingly important, but subordinated to timber production
- Considerable state intervention in forestry
- The Forestry Act of 1979 and associated provisions regulated and controlled forest management
- Subsidies financed by a special forest tax made a significant contribution to the funding of forestry investments, mainly regeneration in northern Sweden
- Forest inventory for compulsory management planning carried out by the state
- Extension service for forest owners and transfer of knowledge of forestry staff was an important policy instrument in the late 1980's, especially in the forest ecology and environment fields

The previous forest policy has been evaluated by a parliamentary committee, which has proposed a new policy. The committee found that the previous policy had been successful in most aspects. However, it had been less successful in the fields of nature conservation and production of high quality timber. In particular, it was pointed out that the Forestry Act had restricted positive developments in these respects. Furthermore, many types of subsidies had proved to be inefficient and the management planning inventory had been too costly.

During the 1970s and 1980s the level of knowledge in forest ecology increased considerably as a result of research. The concept of endangered species and ecosystems was introduced. Initially, researchers and nature conservation organizations noticed the threat caused by modern forestry to some species and ecosystems. Gradually, this awareness spread to the general public and to people employed in forestry.

The negative effects of airborne pollutants on forests have been demonstrated. One measurable effect is the acidification of forest soils. In the long run, pollutants are a serious threat to the health of forest ecosystems. The relationship between a new kind of forest damage and pollutants is an unproven hypothesis so far. However, there are strong indications that such a relationship exists.

The importance of the widespread benefits of forests was also highlighted at an international level, especially in late 1980s and early 1990s. Sweden has contributed actively to the UNCED process and has signed Agenda 21, the Non-Legally Binding Authoritative Statement of Principles on the Management, Conservation and Sustainable Development of All Types of Forests, and the Biodiversity and Climate Change Conventions.

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* Source: IUFRO Research Group 6.13; Pushkino Proceedings (1996): 170-175.

Equal Emphasis on Environmental and Production Goals: The new policy comprises one goal for the forest environment and another for production. The two goals have the same priority, implying that they should be given equal weight in the management of the forest resources. On the whole, these goals are not contradictory. For example, high timber production may be combined with appropriate nature conservation.

Environmental Goals: The productivity of forest land shall be preserved. Biodiversity and genetic variation in the forests shall be secured. Forests must be managed so that plant and animal species which exist naturally in the forest ecosystems, can survive under natural conditions and in vigorous populations. Endangered species and vegetation types shall be protected. The forests historical, aesthetic and social values must be defended.

Production Goals: Forests and forest land shall be utilized efficiently aiming at a sustainable and valuable yield. The composition of the forest production must be such, that is has a potential to satisfy different human needs in the future.

By far the most important forest production is timber production. Other products from the forests are game, berries and mushrooms. The environmental and production goals can be achieved by applying different strategies. The strategy chosen for Swedish forestry is clearly expressed in the new policy. The forests shall be managed so, that the needs for both high timber production and other functions of the forests are satisfied, in principle, in every hectare of forest land. This is a multiple use approach to forest management. In this way, the need to set aside forest land and protect it from forestry can be signicantly reduced. At present, the proportion of reserved forest land is 2.8 percent. This is judged to be too little and more reserves for nature conservation purposes must be set aside, mainly in southern and central Sweden.

There are several reasons behind this choice of strategy, the most important of which are mentioned in the following paragraphs. Forestry and forest industry have considerable economic importance for Sweden as a nation, but especially in many sub-national regions. Consequently, reserving large areas and protecting them from forestry will have negative effects on the national and sub-national economy. Almost all forest land has historically been affected by human activities, such as agriculture and forestry. Only small areas of old-growth forests, which are particularly valuable for nature conservation, are left.

The state owns approximately one fifth of the forest land area and the holdings are concentrated to northern Sweden, where most of the existing nature reserves are located. An establishment of new reserves in southern and central Sweden will therefore involve private forest land to a greater extent.

The strategy applies already to some extent in Swedish forestry. The results are beginning to be visible in the forest landscape. Forest wetlands, key habitats for flora and fauna, old trees and dead trees are often left, or are treated with care, when felling is carried out.

Forest Owners Responsible for Forest Environment: Gradually during the late 1980s and the early 1990s, a fundamental principle for responsibility for forest environment issues has been developed and accepted. This principle involves the multiple use strategy for management of forest resources, discussed above. Environmental considerations must be integrated into forest management. The forest owner is responsible for the environmental measures required on land used for timber

production and costs related to these measures. Leaving old and dead trees, especially when undertaking final felling, is an example of such environmental measures. Another example is setting aside from forestry small habitats, normally less than 0.5 hectares in area, with rare or endangered flora or fauna. However, if the costs are too high the state must compensate the forest owner.

The Costs for National Parks and Nature Reserves: Since environmental goals and means are integrated into forest policy, it is natural that the forestry authorities should be responsible for the implementation and follow-up of this aspect of policy as they are with the production aspect. The environmental authorities for their part are responsible for development and evaluation of the environmental aspect of forest policy although the forestry authorities also must participate in these activities.

More Emphasis on Extension Service and Less Emphasis on Law, Subsidies and Inventory: The balance between the different forest policy instruments is changed in the new policy. There are two main reasons for this. Firstly, there is a general development in Sweden towards deregulation and reduced state intervention in the economy. Secondly, many forest policy efforts under the old policy were funded by the special forest tax, which has now been abolished. Forest owners must now take greater direct responsibility, both from an economic and a management point of view.

Extension services and the transfer of knowledge are becoming more important now that the forest owners have greater responsibility than in the past. The legislation has been simplified and is generally less restrictive, thus giving forest owners considerable freedom of action.

Subsidies are only used as a policy instrument to promote the forest environment. The state commitment in forest inventory is restricted to the National Forest Inventory and inventories related to the forest environment. The National Forest Inventory is mainly used for follow-up purposes and in the development of forest policy.

The New Forestry Act: The new Forestry Act contains the basic requirements for forest management, which must be fulfilled on all land used for forestry. The main regulations are as follows:

- Regeneration must be made after final felling and severe damage.
- Regeneration must also be made on non-stocked forest land, i.e. former agriculture land, and poorly stocked forest land, except when the nature conservation value is high.
- Only suitable regeneration methods should be employed.
- Trade and use of seed and seedlings are restricted.
- Fellings must be favorable either for stand development or regeneration of the stand.
- The age distribution of the forests in each forest holding must be reasonably even. The requirement for evenness is higher for large then for small holdings.
- The forest owner must inform forest authorities about planned final felling and how nature conservation and historical aspects are to be taken into consideration at the felling sites.
- Insect damage must be prevented through proper management practices.

- The broadleaved forests in southern Sweden, consisting mainly of oak and beech, must not be converted into other forest cover types.
- Environmental impact assessments of new silvicultural and other methods, and new types of documentation for forest regeneration, must be undertaken following a decision by the National Board of Forestry.
- Nature conservation and historical aspects must be integrated into all kinds of forest management and operations. Only extensive use of forests is allowed on non-productive land.

Apart from the points mentioned above, the previous act contained regulations on the care of young stands and thinning. The regulations on fellings were much stricter and did not, for example, allow selective fellings and thinning from above. The mandatory requirement for every forest owner to have a management plan has been abolished.

Forestry is regulated not only by the Forestry Act but also by other more general legislation such as the Nature Conservation Act and the Cultural Heritage Act.

Subsidies only for Improvement of Forest Environment: As a forest policy instrument, subsidies have lost much of their former importance. Subsidies will now be available only for three purposes. Liming of forest land acidified by air pollution will be subsidised at 80 percent of the total cost. These areas are situated mainly in southwestern Sweden. The broadleaved forests in southern Sweden containing mainly oak and beech are of great importance for biodiversity. In order to preserve these forests without reserving them, active management is promoted by subsidies for silvicultural operations, such as regeneration, care of young stands and thinning. Finally subsidies are paid to forest owners to take special measures to improve nature conservation, forest recreation and forest landscaping and also to maintain cultural heritage relics in the forests.

Extension Service Partly Commericalised: Extension services will be a more important policy instrument than in the past. Under the old policy, most extension services to private forest owners were free of charge. Now a substantial proportion must be paid by the forest owner. An exception from this principle is extension service carried out in connection with surveillance of legal regulations, which is free of charge, as previously.

Information to the general public about forestry is also stressed as an essential policy instrument. Such information creates understanding for forestry as one of the most important economic sectors in Sweden, and also for the environmental importance of forests and forestry.

National Forest Inventory and Inventories of Wetland Forest and Key Habitats: The National Forest Inventory (NFI) is an annual inventory based on sampling and continues to be a major tool for collecting nationwide strategic data on forest resources. The data covers most forest resources aspects, including environmental aspects.

In a recent revision of the Nature Conservation Act, a regulation concerning the protection of small habitats of great importance for flora and fauna was introduced. Moreover, ditching of forest land is further restricted. As already mentioned, forest authorities will be responsible for the environmental aspects of forest policy. In accordance with this principle, the National and County Forestry Boards will carry out

two inventories over the next few years, chiefly in order to survey these habitats. One inventory surveys wetland forests and the other so-called key habitats.

State Production of Seed and Seedlings: State involvement in the production of seed and seedlings has hitherto been an important forest policy instrument. It has been a way of guaranteeing the supply of adequate seeds and seedlings, so that forest owners were able to fulfil the regeneration requirements in the Forestry Act. However, during the 1980s the production and market conditions changed considerably and the arguments for production as a policy instrument have weakened.

State production of seeds and seedlings currently has a market share of approximately one third. Production, distribution and marketing are organized under the auspices of National and County Forestry Boards on a commercial basis. The boards have also administrative, mainly legislative, responsibilities concerning seed and seedlings. In course of time, it has been more difficult to distinguish between the administrative and commercial aspect of this work. This is why the commercial element is now being taken over by a new state limited company. If appropriate, the company or parts of it will also subsequently have private stockholders. The company will be run on the same basis as private-sector production. Thus, state production of seeds and seedlings will cease to be a forest policy instrument.

The National Board of Forestry and the County Forestry Boards Responsible for Implementation of Forest Policy: The present forest authorities, i.e. the National Board of Forestry and the 24 County Forestry Boards, will remain and be responsible for the implementation of the new forest policy. The authorities will be given broader assignments, mainly in the forest environment field. This requires education and training of staff.

On the other hand other tasks, will be less important or will cease, for example arranging subsidies for forest owners and carrying out the General Forest Inventory. In total, it is estimated that the funds disbursed to the forest authorities have already been reduced by 10-20 percent.

The County Forestry Boards are organized into regional offices and a number of districts. The total number of districts in Sweden amounts to approximately 140, which on average corresponds to one district per eighteen hundred forest holdings. In this way, the Boards work locally close to the forest owners, creating favorable conditions for an effective use of policy instruments, mainly extension services and the Forestry Act.

THE NEW FEDERAL SWISS FOREST LEGISLATION: CONSTITUTIONAL COMPETENCIES, POLICY ACTORS, OBJECTIVES AND INSTRUMENTS

FRANZ SCHMITHÜSEN AND WILLI ZIMMERMANN

1. POLITICAL SYSTEM AND FOREST POLICY ACTORS

The Swiss Federal System: Switzerland has been a federal state since 1848 with a three-tiered political structure: the Federation, the cantons and the local authorities (Linder 1998; Federal Chancellery 1999). The division of political decisions and competencies in a federal state was established by the Swiss Federal Constitution adopted in 1848. It was the basic framework for the total revision of the Federal Constitution in 1874 which remained in force until 1999. The federal state is one of the pillars of the new Swiss Federal Constitution that was adopted by the two Chambers of Parliament in December 1998 and approved by popular vote in 1999 (Bundesblatt 1997; SR 101). The new Federal Constitution of Switzerland has been in force since the 1 January 2000.

Federal and Cantonal Constitutional Competencies: The new Federal Constitution (FC) of 1999 follows the principles of its two predecessors and determines the division of competencies between the Federation and the cantons. Powers that are not constitutionally given to the Federation remain cantonal competencies. Any new transfer of powers to the Federation requires a change of the Swiss Constitution (Art. 3 FC). The country is formed by 23 cantons, but three of them are divided into two half-cantons for historical reasons (Art. 1 FC). Each canton and half-canton has its own constitution, parliament, government and courts. The cantons are divided into representative political communes in which decisions are made by local councils (ca. 80%) or by the assemblies of all citizens (ca. 20%). The degree of autonomy given to local authorities is determined by the cantonal constitutions and varies widely. At present there are almost 3,000 communes; the number is tending to become smaller because of merging of local units.

Political Organisation of the Federal State: The members of Parliament are elected by some 4.6 million citizens. The Federal Assembly (Art. 148 FC) has two chambers: the National Council with 200 members elected by common rules valid throughout the Federation (Art. 149 FC) and the Council of States with 46 representatives elected (2 for a canton, 1 for a half-canton) by the people according to the rules of each canton (Art. 150 FC). The United Federal Assembly, i.e. both Councils together, elects the seven members of government, the Federal Council, and the Chancellor in charge of the Federal Chancellery. The 30 members and 30 substitute judges of the Federal Court as well as the 9 members of the Insurance Court are also elected by the United Federal Assembly (Art. 168 FC).

Federal Government and Administration: The government is formed by the Federal Council (Art. 174ff FC). It defines the fundamental goals of state action and determines the necessary resources for their attainment; represents the Federation within the country and abroad; conducts the preparatory procedure for new legislation; submits proposals and laws and decisions to the Federal Assembly; enacts regulations as empowered by the Constitution and by federal laws;

implements the laws and decisions of the Parliament; and prepares the budget. The administration is organised into 7 federal departments with the following competencies: foreign affairs; home affairs; justice and police; defence, protection of the population and sport; finance; economic affairs; environment, transport, energy and communications.

Popular Referendum and Initiative: In addition to the representative elements (election of the members of Parliament), the Swiss political system contains two instruments of a direct democracy: the referendum, which may be compulsory in some cases and optional in others, and the popular initiative. Both instruments are constitutionally founded and currently used in different ways in the three levels of the country's political system.

In general terms the referendum is an approval or a veto cast by a popular ballot with regard to acts of parliament and/or government (Linder 1998). A popular ballot (referendum) is compulsory for all amendments to the Federal Constitution and on agreements with international organisations or supra-national entities on collective security (Art. 140 FC). The adoption of a proposal requires a majority of the valid votes cast throughout the country as well as a majority of the cantons in which the voters have adopted the proposal. The amendments of laws and the promulgation of new laws by Parliament, and certain treaties in international law are subject to an optional referendum (Art. 141 FC). A popular ballot is held if 50,000 citizens request so with their signatures within 100 days of the official publication of the legal act. The optional referendum has the effect of popular approval or veto with regard to acts of Parliament (laws) and certain international treaties.

The popular initiative is a political instrument by which citizens may seek constitutional amendments, changes in legislation or the adoption of new legislation. At the federal level only popular initiatives aiming at constitutional amendments are possible. With a popular initiative, citizens may seek a popular vote on an amendment to the Federal Constitution (Art. 138, 139 FC). The initiative may be formulated as a general proposal or as a precise text, the wording of which cannot be influenced by Parliament or government. The federal authorities may respond to the proposal of an initiative by a usually less far-reaching counter-proposal. The launching of a popular initiative requires the collection of 100,000 supporting signatures within a time limit of 18 months.

Forest Policy Actors: In recent years new actors have appeared on the scene, which have shaped political processes leading to the adoption or reinforcement of forestry programmes (Schmithüsen 1995, 48). This refers to the role of citizens and of the mass media, which acquired a much higher sensitivity for the political impact of conservation. It also refers to the spectrum of political parties, environmental parliament groups and commissions as well as to a considerable number of non-governmental organisations.

Institutional Forest Policy Actors: At the federal level, the two chambers of Parliament and the Federal Council are the principal actors in setting federal public policy in forestry (Schmithüsen/Zimmermann 1999a). They are responsible for programme formulation and annual decisions on public funding. Since 1998 policy implementation has been the task of the Federal Department for the Environment, Transport, Energy and Communication. Within the department, the Swiss Agency for the Environment, Forests and Landscape is in charge of forest-related matters as well as of game protection and protection against natural calamities among others. At the cantonal level parliament and government play an important role in the formulation of new cantonal forest policies. Forestry matters may be implemented by

various departments such as departments for agriculture, public infrastructures and environment. A public forest service with headquarters, field districts and range units exists in all cantons. The conference of the cantonal forest directors and of the chiefs of the cantonal forest services act as liaison units between the cantons and the federal administration.

Figure 1: Institutional Forest Policy Actors at Federal and Cantonal Levels

<table>
<tr><th>Federal Level</th><th>Cantonal Level</th></tr>
<tr><td>Parliament with 2 Chambers
Federal Council</td><td>Cantonal or Great Council (Parliament)
Government Council</td></tr>
<tr><td>Department for Environment, Transport, Energy and Communications</td><td>Various Departments, e.g. for Agriculture, Public Infrastructures or Environment</td></tr>
<tr><td>Swiss Agency for the Environment, Forests and Landscape (SAEFL)
Swiss Forest Agency in charge of forest-related matters, wildlife and protection against natural hazards</td><td>Cantonal Forest Services with District Officers and Range Units</td></tr>
<tr><td colspan="2">Policy Coordination Units
Conference of Cantonal Forest Directors (Ministry – Department level)
Conference of Chiefs of Cantonal Forest Services (Agency level)</td></tr>
</table>

Source: Schmithüsen 2000, p. 141 (translated and modified)

Forest Sector Associations: The Swiss Forestry Association, the Swiss Forest Owners Association and the cantonal affiliates are the principal representatives of the forestry sector (Schmithüsen 2000). The interests of forestry personnel are represented by other specialised organisations. In the wood-processing sector a larger number of associations exists representing different branches of manufacturers and wood product traders. Joint committees and liaison groups such as the Swiss Association for the Forest, the Rio Committee on Forests and the Swiss Wood-Processing Industry Conference have been established. These organisations facilitate an exchange of information and foster cooperation among different policy actors.

Nature Conservation and Environmental Protection Associations: A significant development is the creation and consolidation of non-governmental organisations, which engage in the promotion of nature protection (Schmidhauser et al. 1993; Schmidhauser 1997). The role of these groups is important in several ways. They are not only the driving force behind articulating public concern, but they also assume a major role in the implementation of conservation programmes by using the expertise of their members. By using their rights of appeal in the courts, they are important agents in administrative decision-making (Flückiger et. al. 2000).

The conservation groups formulate criteria on sustainable forest resource utilisation and set up monitoring systems in order to evaluate policy results. Swiss environmentalist groups include approximately 10 organisations with specific nature conservation objectives. Together the four largest groups have more than 300,000 members (including double memberships on the part of some members). While

forest owners and forest industry organisations represent primarily economic interests and special-use associations tend to have rather limited objectives, conservation groups have more general concerns dealing with the environment, sustainable development, nature- and landscape protection. At the cantonal level, user groups that practise a wide range of recreational activities play an important role in influencing policy formulation and forest management planning.

Figure 2: Swiss Associations and Groups Involved in Forest Policy Development

Forest Sector Associations:	Swiss Forestry Association Swiss Forest Owner Association Swiss Association of Engineers and Architects Swiss Foresters Association Forestry Personnel Association of Switzerland Swiss Association of Forestry Enterprises
Forest Industry Associations:	Swiss Sawmill and Wood Industry Association Swiss Carpenter's Association Association of Swiss Furniture Manufacturers Swiss Association of Paper Manufacturers Association of Swiss Timber and Sawnwood Traders and others
Interest Groups Representing Specific Uses:	Cantonal Hunting and Fishing Associations Swiss Jogging Association Swiss Sports Association Swiss Union for Walking-Trails Regional Tourism Development Associations
Joint Committees and Liaison Groups:	Swiss Association for the Forest Rio Committee on Forests Swiss Forest Industry Conference

Source: Schmithüsen and Zimmermann 1999b, p. 32

Figure 3: Major Swiss Nature Conservation and Environmental Protection Associations

Nature Conservation Associations:	Pro Natura (Swiss League for the Protection of Nature) World Wildlife Fund Switzerland Swiss Association for the Protection of Birds and Nature Swiss Homeland Association Swiss Alpine Association Swiss Water and Air Protection Association Aqua Viva (National Committee for the Protection of Rivers and Lakes)
Environmental Protection Associations:	Swiss Association for Land Use Planning Swiss Environmental Protection Association Helvetia Nostra Swiss Energy Foundation Swiss Traffic Association and others

Source: Schmithüsen 2000, p. 223 ff

2. OBJECTIVES, MEASURES AND INSTRUMENTS OF THE NEW FEDERAL FOREST LAW 1991

Previous Federal Forest Legislation: Federal competencies in forest-related matters were established by the revised Federal Constitution of 1874 (Bloetzer 1978). As stipulated in Article 24, federal powers in forestry matters were limited to mountain regions. The first federal forest law was adopted in 1876. In 1898 federal constitutional competencies were extended to the country as a whole by omitting the words "mountain regions." The revised Article 24 (FC 1874) provided: "The Confederation shall have the right of supervision over water engineering and forestry police. It shall support the correction and regulation of mountain torrents and the afforestation of the areas around their source and shall take the necessary protective measures to maintain these works and the forests already there."

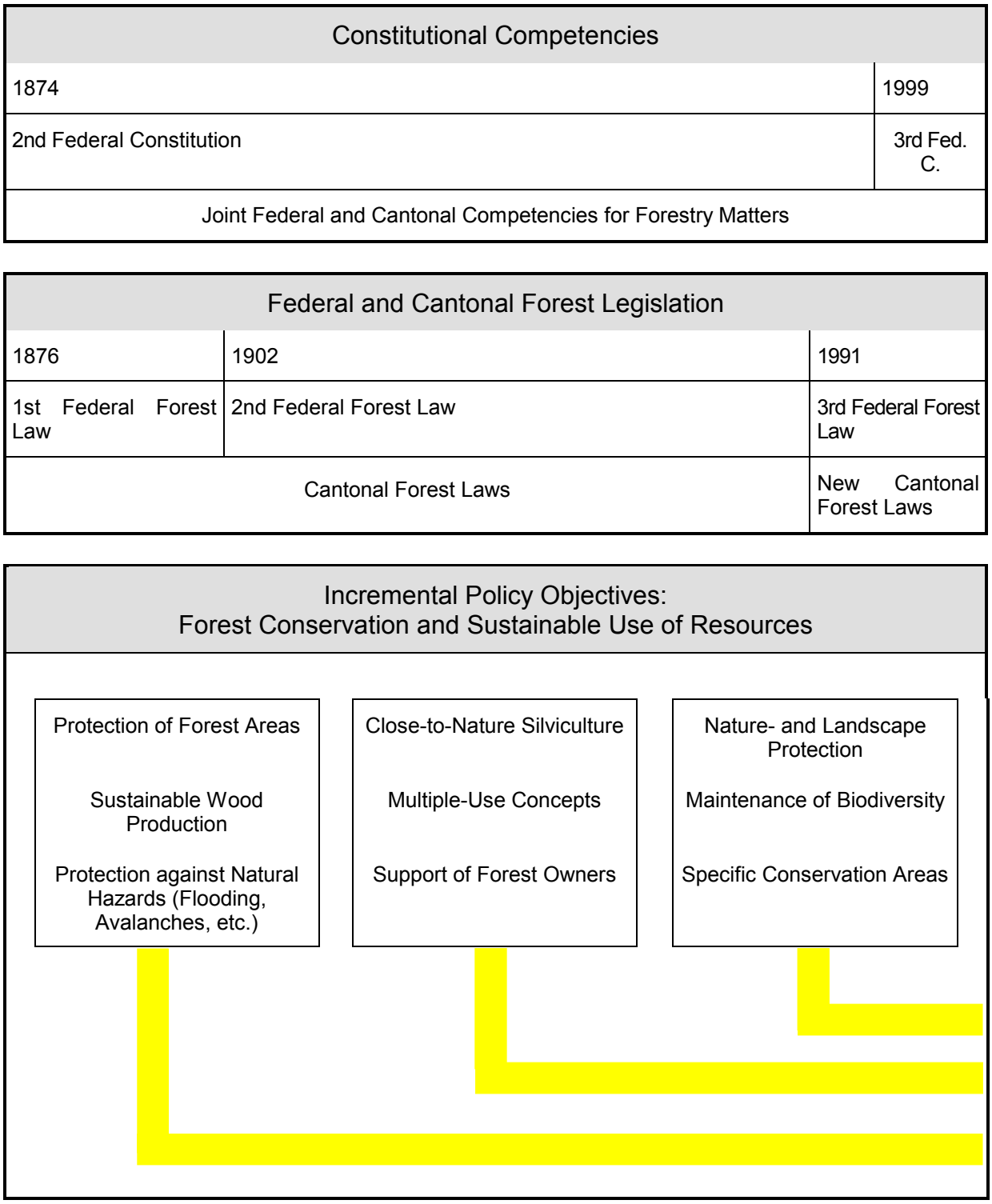
In 1902, the Federal Law Relating to Supervision of Forest Police was enacted for the whole of Switzerland on the basis of revised Article 24 of the Constitution. The Federal Forest Law of 1902 with amendments was in force until it was superseded by the present Federal Law on Forests. It was subsequently supplemented by various general and specific executive decrees. The most important one was the 1965 Ordinance to the Federal Law Relating to Federal Supervision of Forest Police.

New Federal and Cantonal Forest Legislation: The current Federal Forest Law became effective on 1 January 1993. As provided for in Art. 24 (FC 1874) and following previous forest regulations, it established joint constitutional competencies in forestry matters between the Federal Government and the cantons. The law thus regulates the competencies of the federal authorities as well as the federal requirements for the cantonal legislators. Following the promulgation of the new federal forest law (FFL), the cantons have revised their forest legislation (Keel/Zimmermann 1997). Major issues which require cantonal regulation are the definition of minimum criteria for forest areas (Art. 2 FFL); the system of compensation in kind for land for which a clearing permit is issued (Art. 7 FFL); the regulation of access for mass-events in the forests (Art. 14 FFL); forest management planning (Art. 20 FFL); public financial transfers to forest owners (Art. 35ff FFL); and the organisation of cantonal forest services (Art. 50 FFL).

Federal Frame-Law Competence on Forests: The frame-law competence at the federal level leaves room for the cantons to adopt complementary and subsidiary legislation on forestry matters (Jenni 1993; Kissling/Zimmermann 1999). It leads to joint responsibilities at both levels in determining public policies and regulations with regard to forest protection and sustainable forestry development. The federal-level competence focuses on protection of forest lands. The cantons are responsible for the implementation of federal and cantonal regulations. They have a fairly large domain for their own competencies, which include forest management planning, support for public and private forest owners, and organisation of the cantonal forest services. The joint public land management system, laid out by the Federal Constitution, facilitates a balance between national and regional interests and contributes to a wide range of locally adapted political solutions.

Incremental Policy Objectives: Altogether the Swiss forest legislation both at federal and cantonal levels has considerably evolved since the adoption of the principle of joint responsibilities for forest protection and sustainable forestry in 1874. A changing policy context has led to incremental policy objectives (Kissling/ Zimmermann 1996) which are reflected in the subsequent federal and cantonal forest laws.

Figure 4: Evolution of Swiss Forest Legislation with Incremental Policy Objectives



Source: Schmithüsen, 1995b, p. 7 (revised and amended)

Important Aspects of the Federal Forest Law of 1991: The new law reacts to important changes in the role of forests in society and focuses on two central issues. First, it aims at a balance between the interests and possibilities of forest owners and the increasing and diversified interests of public user groups. Second, it tries to establish an equilibrium between public demands and public commitments to protect forest lands and to maintain a wide range of socially desirable forestry outputs. The forest law retains the principle of forest protection and conservation, which so far has

proved to be useful (Kissling/Zimmermann 1999). It provides for multifunctional sustainable forest management, which aims at protection from natural hazards, wood production, recreational and educational uses, landscape and nature conservation as well as at forestry sector development (Art. 1 FFL).

The protection of nature and landscapes has become one of the specific requirements to be addressed in planning and management regulations. Forest utilisation may be reduced in certain areas if compatible with the general objectives of the law. In addition, specific forests may be set aside by the cantons in order to maintain and conserve biodiversity (Art. 20 FFL). With regard to forestry development, the law introduces the principle of compensation to forest owners if they are required to carry out work or provide services of public interest at costs that cannot be covered otherwise (Art. 36-38 FFL). Furthermore the law regulates federal support for education and training as well as monitoring activities (Art. 29, 33 FFL). It also allows for the possibility to transfer specific tasks to non-governmental organisations, and contains a new article which stipulates that public and the political authorities have to be regularly informed (Art. 32, 34 FFL). The principal measures as determined by the Federal law on forests are addressed by different categories of policy instruments.

Figure 5: Principal Measures as Addressed by Regulative and Incentive Instruments: Swiss Federal Law on Forests of 1991

Measures Addressed by Regulative Instruments

- Ban on Deforestation with Exemptions (Art.5 FFL)
- Compensation in Kind in Case of Exemption (Art.7 FFL)
- Restriction for Motorised Traffic in the Forest and on Forest Roads (Art. 15 FFL)
- Prohibition of Harmful Activities (Art.16 FFL)
- Prohibition of Buildings in Close Proximity to Forests (Art. 17 FFL)
- Prohibition of Environmentally Harzardous Substances (Art.18 FFL)
- Authorisation for Use of Timber (Art.21 FFL)
- Ban on Clear-cutting (Art.22 FFL)
- Obligation for Reforestation of Clearings (Art.23 FFL)
- Obligation to use Plants Adopted to the Station (Art. 24 FFL)
- Approval for Sale and Partition of Forests (Art.25 FFL)

Measures Addressed by Incentive Instruments

- Profit Accruing from Deforestation Authorisations (Art. 19 FFL)
- Compensation Related to Protection against Natural Catastrophies (Art.36 FFL)
- Compensation Related to Prevention and Repair of Damage to the Forest (Art.37 FFL)
- Indemnities Related to Minimum Tending Measures and Silvicultural Measures Required by Authorities in Protection Forests (Art.38 Sec.1a and b FFL)
- Financial Support to Forest Planning and Management (Art.38 Sec.2 FFL)
- Financial Support Related to Protective Measures in Forest Reserves (Art.38 Sec.3 FFL)
- Financial Support Related to Professional Training (Art.39 FFL)
- Investment Credits (Art.40 FFL)

Regulative and Incentive Instruments: Whereas previous legislation relied mainly on prohibitions and obligations, a more proactive approach with a wider range of policy instruments is now taken (Zimmermann 1994; Kissling/Zimmermann 1996). Regulative instruments keep their importance, in particular, protecting forest areas from uncontrolled changes in land-use and from devastating practices. Instruments that restrict forest management decisions, however, are replaced by joint management systems which engage forest owners and public authorities on a negotiation and contractual basis. A critical review of existing incentives for afforestation, forest roads and cooperation of forest owners is necessary in order to develop output-oriented systems and accurate measures of performance and impacts (Limacher et al. 1999). New categories of incentives for close-to-nature silvicultural practices, multiple-use management and promoting measures are introduced in order to maintain biodiversity. Compensatory payments to forest owners for specific tasks or restrictions in the public interest are provided for by the new federal forest law. On the whole, policy instruments are more specifically related to determined public targets with precise commitments to the beneficiaries.

Figure 6: Principal Measures as Addressed by Information and Process Steering Instruments: Swiss Federal Law on Forests of 1991

Measures Addressed by Information Instruments

- Federal Responsibilities in the Area of Training (Art.29 FFL)
- Cantonal Responsibilities in the Area of Training and Counselling (Art.30 FFL)
- Research and Development (Art.31 FFL)
- Surveys (Art.32 FFL)
- Information on Forests, Forestry and the Timber Industry (Art.34 FFL)

Measures Addressed by Process Steering Instruments

- Competent Authorities for Exemptions in Case of Deforestation (Art.6 FFL)
- Co-ordination with Area Planning (Art. 11ff FFL)
- Cantonal Obligations Related to Planning and Management Regulations (Art.20 Sec.2 FFL)
- Federal Competences Related to Prevention and Repair of Damage to the Forest (Art.26 FFL)
- Cantonal Competences Related to Prevention and Repair of Damage to the Forest (Art.27 FFL)
- Extraordinary Competences of the Federal Assembly in the Event of Forest Catastrophe (Art.28 FFL)
- Delegation of Tasks to Associations (Art.32 FFL)
- Right to Appeal for Private and Public Actors (Art.46 FFL)
- Implementation Competences of the Confederation (Art.49 FFL)
- Implementation Tasks of the Cantons (Art.50 FFL)
- Organisation of the Forestry Service (Art.51 FFL)
- Approval of Cantonal Dispositions for Implementation (Art.52 FFL)
- Communication of Cantonal Dispositions for Implementation to the Federal Office (Art.53 FFL)

Informational (persuasive) Instruments: With the shift to a collaborative forest policy, informational and persuasive instruments have gained considerable weight (Schmithüsen 1995a). This refers to information and debate in Parliament and other political entities, to information and arbitration processes among different interest groups, and, particularly, to a more substantial dialogue between forest owners and public authorities. Monitoring and performance measurement systems produce information on forest health, composition of forest stands, and on the impact of uses, as they affect forest ecosystems and biodiversity. There is also an increasing demand for information on the economic performance of forest enterprises and on services rendered to the public as part of sustainable forest management.

Process-steering instruments: These instruments are particularly concerned with the organisational structures and competencies, and communication practices between governmental services and non-governmental organisations. Decision-making procedures among public agencies, the establishment of lead agencies, organisation of public hearings, as well as regular assessment and evaluation are important issues. A noticeable element is the tendency to separate more clearly the regulatory function of public forest services from their role as managers of forest land. The allocation of financial resources in relation to specific targets based on global budgeting and/or service contracts is a new feature in public process-steering (Schmithüsen/ Schmidhauser 1998). It requires criteria for financial controlling, which measure efficiency (output/input), effectiveness (attainment of objectives) and economy (real costs/standard costs) based on best practices.

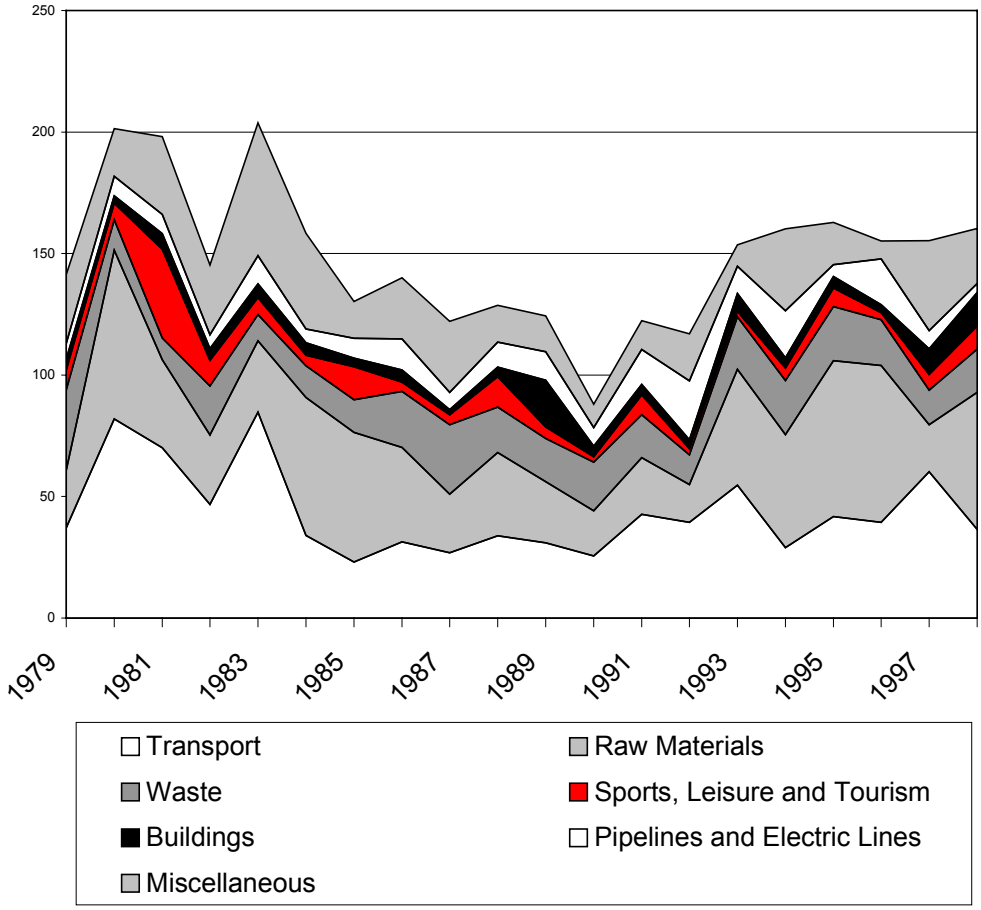
3. IMPLEMENTATION OF FOREST POLICY INSTRUMENTS

Impact and Outcomes of Policy Instruments: To date there has been no systematic and scientific evaluation, either of the whole public forest policy programme or of some individual or specific instruments or measures (Zimmermann 1998). Switzerland is still a long way from having a systematic, scientifically oriented evaluation of its public forest policy. However, data and information are available that are suitable for a partial evaluation of the principal instruments of Swiss forest policy. From the Forest Statistics Yearbook, for example, we know in which region or canton deforestation permits have been granted. The development is marked by a certain regularity concerning the annually deforested surface. With regard to the purpose of deforestation, three categories are dominant: traffic installations, raw material and refuse. No information is available on the number of applications and the area involved, which are refused formally or informally by forest authorities. It is not evident whether private or public bodies submit more applications for authorisation for deforestation. The same refers to information on the amount of land reforested as compensation in the same region. Altogether we know little about the influence of the policy instruments, other policy programmes and other social and economic factors on the development of forest areas. Crucial questions in connection with impacts and outcomes, effectiveness and efficiency of the federal forest conservation policy can thus not be answered.

Very similar is the situation relative to financial contributions, the second principal instrument of federal forest policy. From the budget and the account of the Confederation we know the amount allowed each year by the Federal Assembly for financing of three types of measures: forest tending, protection against natural hazards, and improvement of forest management conditions. Due to the fact that the majority of public financial support is granted for measures carried out in protective forests, the mountain regions are far more affected by financial decisions than the

rest of the forest areas. An estimate, based on 1996 figures published in the official gazette, shows that the share of the Alps and Jura in decisions made by the Swiss Forest Agency on the use of public funds, was as follows (Zimmermann 1998): 85% for forest tending; 100% for protection against natural catastrophies; and 75% for measures improving forest management conditions. 90% of the decisions of the agency thus referred to forests in mountainous regions, which is considerably higher than the proportion of these forests within the country.

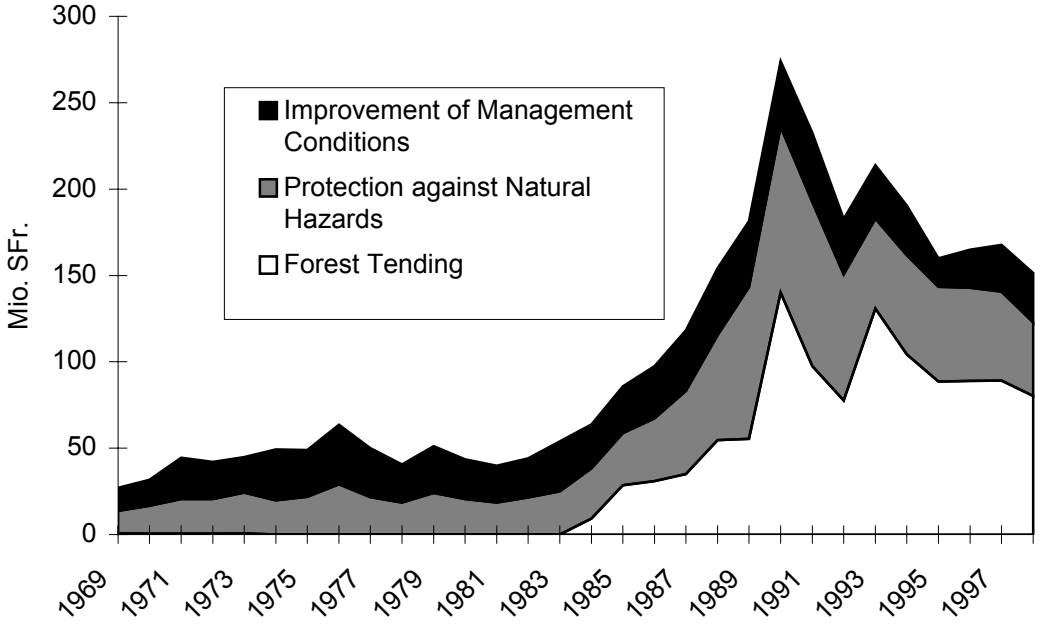
Figure 7: Authorised Deforestations in Switzerland



Source: BFS/BUWAL, 1997, p.68. ; BFS/BUWAL, 1999, p.77.

With regard to the impact and outcome of financial incentives and compensation in forestry, important questions remain to be answered. It would be interesting to know whether, and if so how and to what extent, federal and cantonal funds have influenced the behaviour of forest owners or forest enterprises (how effective are these funds)? For example, have financial incentives encouraged tending of more forest areas? What would forest owners have done without public financial support? Have they changed their activities in a direction suggested by the forest policy programme? What are the cost-benefit effects (how efficient are these funds)? Are the goals of financial incentives achieved completely or only partially? What are the positive and negative side-effects of the various financial measures on the structure of forest enterprises and for the timber industry? There remain a lot of questions to be answered through scientific research and forest administration.

Figure 8: Financial Support Allocated by the Confederation for Forest Measures (1969-1996)



Source: BFS/BFL, 1985, p.61. ; BFS/BUWAL, 1993, p.74. ; BFS/BUWAL, 1999, p.102.

4. COMPETENCIES IN FORESTRY MATTERS OF THE NEW FEDERAL CONSTITUTION 1999

The new Federal Constitution of Switzerland 1999 follows the principles and partition of competencies of the one which it replaced (Bundesblatt 1997). It is in fact mainly a formal revision and modernisation of the Federal Constitution of 1874 with some new elements that have been introduced. With regard to federal competencies in forestry matters Art. 24 (FC 1874) is now replaced by Art. 77 (FC 1999) which reads as follows:

> Art. 77 Forests
>
> 1. The Confederation shall ensure that forests may fulfil their protective, economic and social functions.
> 2. It shall establish principles for the protection of forests.
> 3. It shall encourage measures for the conservation of forests.

A comparison with its predecessor shows that the focus of federal competencies has remained the same and, even if the wording is different, it corresponds much better to the understanding of the citizens of today. The article establishes again a frame law competence at the federal level by referring to "principles for the protection of forests" and provides a basis for incentives for forest conservation. A more explicit and more modern element of Art. 77 is section one which provides a comprehensive federal constitutional commitment on the importance of forests by referring to their protective, economic and social functions. This wording corresponds to the objectives of the Forest Law of 1993 as expressed in Art. 1. The constitutional continuity in defining competencies in forestry matters in the Confederation has led to the fact that the Federal Law of 1993 is fully consistent with the new Constitution and that no modifications had to be made since its entering into force.

A point of considerable interest is that the Swiss Federal Constitution has incorporated over the years many federal competencies and objectives relevant to the protection of forests and to sustainable forestry practices. The new Federal Constitution provides for a comprehensive set of federal competencies with regard to natural resource development and environmental protection (Mader 2000). Forest-related competencies result e.g. from Art. 73 FC Sustainability, Art. 74 FC Protection of the Environment, Art. 75 FC Land-use Planning, Art. 77 FC Forests, Art. 78 FC Protection of Nature and Landscape and Art. 94 Sec. 2 Economic Welfare and Stability. Federal competencies on water protection and management (Art. 76 FC), energy policy (Art. 89 FC), fishing and hunting (Art. 79 FC) and agriculture (Art. 104 FC) are also relevant in this context.

Figure 9: Selection of Articles of the Swiss Federal Constitution of 1999 Relevant to Forests and Forestry

Articles Giving Competencies in Forestry Matters	
Art. 73	Sustainability
Art. 74	Environmental Protection
Art. 75	Land-Use Planning
Art. 77	Frame Competence on Forests
Art. 78	Nature and Landscape Conservation
Art. 94 Sec.2	Economic Welfare and Stability
Articles Referring to Sector Aspects	
Art. 76	Water Protection and Management
Art. 79	Fishing and Hunting
Art. 89	Energy Policy
Art. 104	Agriculture

Figure 10: Selection of Articles of the Swiss Federal Constitution of 1999 Referring to Cross-Sector Aspects Relevant to Forests and Forestry

Art. 26 Sec.1	Ownership Guarantee
Art. 81	Public Works (Infrastructure)
Art. 63	Professional and University-level Education
Art. 64	Scientific Research
Art. 27, 94, 95	Freedom of Commerce and Enterprise
Art. 117	Insurance against Accidents
Art. 110	Employment
Art. 86	Use of Gasoline Customs
Art. 84	Transit Traffic across the Alps
Art. 88	Trails and Footpaths
Art. 126 ff.	Fiscal Regime
Art. 135	Financial Equilibrium among the Cantons
Art. 122	Competence in Civil and Contractual Law

There are further federal competencies that have to be considered since the policies they establish can have important impacts on forest protection and forestry development. Cross-sectoral competencies such as training and education, scientific research, commerce, entrepreneurial activities and employment are cases in point (Kissling/Zimmermann 1996, 1999).

5. DEVELOPMENTS IN FOREST-RELATED LEGISLATION

Based on federal constitutional competencies, there is an increasingly complex network of public policies and legislation that directly and indirectly affects forest conservation and forest resource utilisation. This refers to sustainable development in general and, in particular, to cross-sector policies and laws related to environmental protection, nature and landscape conservation, land-use planning and regional development. It also refers to sector policies and laws such as regulations on agricultural development, water protection and use, fishery and hunting practices, and wildlife conservation.

Sustainable Development: Art. 73 FC is a new constitutional requirement and stipulates that the Federal Government and the cantons strive for a balanced relationship between nature and human requirements for forest resources (Mader 2000). The new constitutional provision confirms previous strategies and decisions of the Federal Government that had been undertaken in order to implement the commitments of the 1992 UNCED Conference in Rio (Agenda 21). For this purpose an interdepartmental commission representing 20 offices was established in March 1993 (Mühlemann 1999). A report has been produced, concerning the operationalism of sustainable development, together with an inventory of actions (IDARio 1996) which were updated in 1997 (IDARio 1997). An action plan for sustainable development, which incorporates mid-term planning, has been devised by a small, high-level expert group (Conseil du developpement durable 1997). Based on these findings, the Federal Council presented a strategy for sustainable development in 1997 which is now the main document for further action (Federal Council 1997). The strategy focuses on measures in different policy fields realisable in the 1995-99 legislative period. In the meantime, Parliament has requested the Federal Council to present a proposal for ecological tax reform. The administration will now formulate proposals for the attention of the Federal Council. The Council has employed an elected advisory board of international experts since March 1998 whose task is to develop innovative ideas for sustainable development.

Criteria and Indicators for Sustainable Forest Development: Switzerland is a signatory to the resolutions adopted at the three ministerial conferences on the protection of forests in Europe, which have taken place in Strasbourg (1988), Helsinki (1993) and Lisbon (1998). It made specific contributions in implementing the six resolutions of Strasbourg as well the four adopted in Helsinki (Conference Report Vol. I 1998). With regard to the guidelines for sustainable forest management and for conservation of biodiversity (Resolutions H1, H2), the main actions are an assessment of Swiss forest policy (Limacher et al. 1999), a national debate on appropriate criteria and indicators for sustainable forest management, the elaboration of a middle-term forest development strategy, the setting aside of forest reserves, and the establishment of a gene reserve network (Conference Report Vol. II, 227, 1998). The major challenge is now to foster specific actions and monitoring and to re-enforce international cooperation with regard to public policies that involve a wide range of governmental and non-governmental stakeholders. This is, for instance, reflected in the objectives of the Swiss Forest Agency which emphasise

quality standards of forestry management, promotion of a public debate on the role of forests, and measures for long-term financing of sustainable forestry practices.

Nature Conservation and Environmental Protection: A centrepiece in the expanding federal conservation policies was the adoption of the Nature and Landscape Conservation Act in 1966 (Schmithüsen 1995a, 46 f). The law was the starting point for a new policy area, which evolved considerably during the 1980s. The law emphasises the systematic conservation of biotopes, remaining mire (marsh) landscapes and alluvial forests. The most important instrument introduced by this law was the right to appeal for non-governmental nature conservation organisations (Keller et al. 1997). The constitutional amendment on environmental protection of 1971 provided for "protecting man and his natural environment from harmful or irritating impacts." Its legal implementation was achieved in 1985, when the Federal Law on Environmental Protection was adopted. The law establishes general guidelines such as principles of general prevention and responsibility for intervention (VUR/Keller 2000). It contains procedural and administrative provisions on the right to appeal of non-governmental organisations, environmental impact assessment procedures and designation of competent governmental authorities among others. In addition, the law addresses specifically those conservation areas that have not been regulated before: air pollution, protection against noise, control of environmentally dangerous substances, soil protection and waste disposal. Many conservation and protection measures apply directly or implicitly to the forest areas (Zimmermann 1991). One of the most effective instruments in this context is the right to appeal against deforestation permits (including forest roads) by recognised private nature conservation organisations. Similarly the environmental impact assessment gives an opportunity for conservation agencies and private organisations to intervene in administrative procedures at an early stage and thus to ensure a forest area is maintained while settlement is reached in its disposition.

Current legislation and federal jurisdiction require that conservation aspects have to be considered (Art. 5, 4 and 20 FFL). The forest authorities are thus obliged to consider ecological and conservation aspects with the same attention they examined silvicultural and economic aspects in the past. The inventories elaborated during recent years have accumulated a wide range of information which can be used to evaluate more accurately the ecological importance and relative conservation value of all kinds of land including forests (Brassel/Brändli 1999). At present these inventories are mainly relevant to cantons when examining the need to establish new nature protection areas in forests. In the future they will be of increasing importance in connection with forestry operations and forest management planning.

Land-Use Planning: A federal policy on land-use planning was initiated with the adoption of the planning law in 1979 (Aemisegger et al. 1999). Its principal objectives are conservation of available space and a balanced development of settlements in the various regions. It establishes nature- and landscape protection as one of the important elements in planning and regulation of land use. It integrates the available information on land development activities, indicates conflicts between use and protection, and provides participatory procedures for arbitration. Its principal instruments are development plans for the cantons which are binding for all authorities, land-use plans of the communities that are binding for land owners, and development concepts of federal authorities by subject areas. The objectives and principles determined by the Federal Land-Use Planning Law (Art. 3) provide for the protection of natural resources and forests, preservation of landscapes and recreational areas, as well as the maintenance of important forest functions. In addition to these cross-sector objectives, there are those of the forest law, which

stipulate the maintenance of the country's forest in its extent and prevailing regional distribution (Art. 5 and 7 FFL). The co-ordinating role of land-use planning involves sectoral policy areas including transport, energy, agriculture, forestry, mineral exploitation as well as urban and regional development. The role of land-use planning is of particular importance if demands for forest clearing arise, if the land is divided in settlement areas and open spaces by zoning, if forest areas and forestry related land-uses are determined, and if nature and landscape protection areas are to be established.

Important linkages between land-use planning and forest regulations exist when determining forest areas and forestry-related land use. The forest law provides that the borders of forests have to be defined and are to be marked in land-use plans (Art. 11ff FFL). The Federal Law on Land-Use Planning requires the agreement of the land-use planning and forestry authorities for forest roads, forest operating centres and other permanent infrastructure (Art. 22 and 24). An area that needs a more co-ordinated approach is the extension of nature conservation and recreational zones to forest lands. Since this may imply considerable restrictions for forest owners and forestry, the participation of the competent forestry authorities in making such decisions is essential. Aspects that have received little attention in both policy programmes are the linkages between regional development and forestry and the potential impacts of changing land uses outside forest areas on the forest.

CONCLUSIONS

The multiple demands on forests in a rapidly evolving economic, social and political environment require maintaining a high level of forest management and a flexible adaptation of forestry practices to the complex interactions between private and public interests. Public intervention implies a complex balance between political objectives and instruments, between public benefits and financial resources, and between multiple forestry outputs and cost sharing to produce such outputs. New ways of implementing public policy programmes based on target-oriented outputs and contractual arrangements have been introduced to improve the efficiency of the public sector and to link commitments and required resources more consistently. The forestry sector and forest administrations have, in fact, been chosen in several cases as pilot efforts to gain experience with the application of new public management concepts.

The diversification of public demands on forests, a new understanding of sustainable development, profound changes in the relationship between government and citizens as well as structural limitations on financial resources are decisive factors that determine the range of action of public forest administration. This will require even more than now:

- openness and flexibility in reacting to public demands on forests and forestry practices;
- comprehensive and continuously renewed knowledge on the ecological, social and economic criteria which determine their political relevance;
- transparency in the preparation of decisions and negotiation abilities with non-governmental organisations, citizen groups and other administrations;
- co-operation and co-ordination between key actors and institutions of forest relevant policy fields;
- and economic thinking in using scarce public funds for specific tasks in order to foster multifunctional forest resource development.

The recent changes, both at the level of the Federal Government and of the cantonal forest services are important steps in this direction. Further efforts will be required to ensure sustainable uses and the conservation of nature in the forests of Switzerland.

Considerable changes have occurred at federal level with regard to the constitutional and legislative framework for forest conservation and sustainable forestry practices. These changes involve more involvement of different interest groups in decision making and more emphasis on nature and landscape protection and on recreational demands. The objectives of the new federal forest law, as well as other legislation and public policies, address these issues consistently. The formal aspect of change refers to changes in the new Federal Constitution, to new laws and public policies, and to a continuous process of revision usually combined with incremental public goals and new policy instruments. Altogether the policy framework addressing forest protection and forest uses has considerably expanded and leaves less room for cantonal initiatives. On the other hand, the task of the cantons to implement both federal and their own legislation has become significantly larger.

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COMMUNAL FOREST TENURE IN SWITZERLAND: TOWARDS CO-FINANCING FOREST MANAGEMENT SYSTEMS *

FRANZ SCHMITHÜSEN

ABSTRACT

The uses and values associated with communal forest tenure are complementary, locally specific, and have different implications in time and space. Forest management must be flexible, multipurpose oriented and integrate varying social and economic objectives. It has to provide for a kind of utilization which satisfies different groups of the community and leaves opportunities related to changing social demands. Silvicultural practices close to nature, and selective uses which maintain ecosystem-specific potential satisfy different user groups and accomodate changing demands in rural and urban areas. Multifunctional and sustainable forest management by communal forest owners, which satisfies both public and privat needs, requires a secured basis of financing. It comprises earnings from marketable goods, cost participation of user groups as well as compensations and financial incentives from public entities. Based on a general co-financing model for multifunctional forestry production of goods and servicies several specific financing models can be identified which are characterized by different combinations of income sources.

Key words: Land Tenure, Public Forest Ownership; Finance; Multifunctional Forest Management.

1. FOREST COVER AND WOOD PRODUCTION

The forests of Switzerland cover 1,2 million hectares of which three quarters are situated in mountainous areas (Brassel and Brändli 1999). The distribution in the five main geographical regions of the country is as follows: 34% of the forest area in the Alps, 18% on the Central Plateau, 18% in the Pre-Alps, 16% in the Jura Mountains, and 14% on the southern side of the Alps. Forest coverage amounts to 30% of the Swiss territory, with considerable regional variations. South of the Alps nearly half of the land is covered by forests. On the Central Plateau which is the country's most densely populated part, forest coverage is only 24%. A similar rate of forest cover exists in the Alps (24%), where the high altitudes are a natural barrier to tree growth. Regional variations are even more evident if one considers the forest area per inhabitant. A citizen in the densely populated Plateau is surrounded by ten times less forests (6,5a) than his country man living in the Alps (63,2a). This fact alone is probably a good reason, why people in different regions look with different eyes on forestry problems.

The annual timber production of the country turns around 4,5 million m3. Total wood consumption in roundwood equivalent is in the order of 7 million m3. The negative trade balance in forest products would not have to be. In fact specialists agree, that the yearly wood production potential of Switzerland is considerably higher than the

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* Source: IUFRO Research Group 6.13; Pushkino Proceedings (1996): 201-211 (revised with updated figures and references)

annual removals. The gap between harvestable volumes and the annual cut points at serious structural problems and unfavorable economic conditions of the forest enterprises. The deterioration of their financial operating results leads to under-utilization of the national wood production potential (SAEFL 1999).

Switzerland has a high proportion of public forests with different types of communal management and historical origins. From a comparative point of view this situation is of interest in two respects. It is the example of an European country with one of the highest proportions of public forest ownership. And it is a particular case since public ownership is concentrated on communal and community forest tenure. This is remarkable since in other countries with publicly owned forests, state ownership usually plays an important role.

2. DEVELOPMENTS AND ISSUES RELATED TO COMMUNAL FOREST MANAGEMENT

Two-third of the forests are public, the remaining third being private forest land of farmers and increasingly of owners with professional activities in other sectors. Public tenure dominates in the Alps, on the southern side of the Alps and in the Jura Mountains, where 70-80% of all forests are publicly owned. In the Plateau and Pre-Alps regions private forests are more frequent but public ownership amounts to at least 50%. Ownership patterns vary greatly between different cantons. The average size of holdings is small with 70% of all public forest owners having less than 100 ha. The average unit of private forests is little more than one hectare. Public tenure and small scale holdings are a significant factor, for the direct involvement of people in decision making . It is also a reason for the diversity of forests and forestry problems, which we find within the country's geographical regions.

Practically all publicly owned forests belong to different types of local entities. In fact, more than 90% of the public forests are owned by local communities (boroughs), municipalities and local corporations (Schmithüsen and Zimmermann 1999). The local communities or boroughs have developed during Swiss history as associations of burghers whose civic entitlements included the right to share timber and pasture in certain forests around settlements. During the 19th century the tenurial rights of these associations have been recognized by the evolving forest legislation as full-right ownership. Today 400 000 hectares or 50% of all public forests belong to this category. A second group of owners are political municipalities, managing at present 250 000 hectares or 30% of the public forests. Their ownership rights result from a transfer of rights from local user groups to political entities during the 19th century and from buying forests in recent times. The third group, classified as corporations and cooperatives under the forest law, includes different kinds of associations which own approximately 100 000 hectares.

The reasons for managing communal forests are manifold. Most forests were used as a local resource for firewood, pasture, supply of construction timber and a wide range of products needed in daily life. Forest management for commercial wood production became an important objective during the last two centuries generating revenues to owners and communities. In mountainous areas protective values of forests against the effects of natural calamities are a major reason for maintaining and protecting the tree cover (Wilhelm 1997; SFL 2000). Whereas these aspects continue to determine local management practices, other objectives have gained more weight during the last 30 years. Communal forests are now of considerable value for recreational uses in urban and peri-urban regions, an asset for tourist developments in rural areas, and of importance in order to protect clean water

resources. Studies on people's perception of the importance of forests in their vicinity show that they are increasingly valued as environment and natural spaces. They are appreciated as characteristic elements of familiar landscapes and represent a testimony of history and spiritual values (Schmithüsen and Kazemi 1995; Zimmermann et al. 1998; BUWAL 1999)

The uses and values associated with forests are complementary, locally specific, and have different implications in time and space. They point to the fact, that communal forests represent many options for owners and the community. Forest management must be flexible, multipurpose oriented and integrate varying social and economic priorities. Communal forest management, by definition, has to provide for a kind of utilization which satisfies different groups of the community and leaves opportunities related to changing social demands. This is accomplished by conservation of natural forests, silvicultural practices close to nature, and selective uses which maintain ecosystem-specific potential. The need to satisfy different user groups and to accommodate changing demands is probably a major reason why communal forests show a larger variety of vegetation and more selective utilization patterns than other forms of tenure.

Another important aspect is the relationship between public forest owners and the private sector. The pattern which has evolved provides for forest management, silviculture and logging road construction by the owners. Timber harvesting is undertaken by communal enterprises or in combination with private contractors. Timber is sold in different grades to the wood-processing industry at road side. Some exceptions with sales of standing timber exist. The management and timber allocation system through forest enterprises of communal owners has led to a high standard of silvicultural practices and good forest management.

Economic and technical reasons favor new organizational forms of cooperation. One is the increasing trend of the processing sector to reduce time spans of supply, to demand more flexibility in wood delivery, and to optimize raw material recovery within the whole production chain. Another one is the increase of private contracting companies offering their services in logging, road construction and silvicultural work as well as in business management. Working for different forest units and in several regions, they balance seasonal variations and use special equipment, and are thus in a position to reduce operating costs. Private operators in forest management and logging are today an important option in increasing the competitiveness of timber production through rationalization and improved productivity. This argument has particular weight considering the prevailing tenurial structure with many small-sized units which often cannot employ full-sized forestry equipment. The growing involvement of the private sector in wood harvesting and silviculture has consequences for man power requirements in communal enterprises. It also calls for the elaboration of contractual arrangements, both of short- and medium- term duration, and for minimum standards of contractual work which satisfy the interests of owners and the public.

The Federal forestry statistics show that total revenues of the public forest enterprises have risen from 190 mio CHF in 1960 to 531 mio CHF in 1998 (BFS/BUWAL 1999). In nominal terms not considering inflation, total revenues from current operations and investment in permanent installations have less than tripled during this period. Total expenditures including investments in permanent installations moved from 118 mio CHF in 1960 to 573 mio CHF in 1998. They have increased almost by five times during the period. A similar picture results from a comparison in deflated terms of total annual revenues with respect to expenditures. Taking 1980 as the base year and using the consumer index as deflator, annual revenues of public forest

enterprises have remained approximately constant. Total annual expenditures, however, increased by around 70%.

There are no indications that the tendencies reflected by these figures could be reversed in the foreseeable future. On the contrary they represent general and structural trends. General are the developments in as much, as the growing financial difficulties of forest enterprises are not a limited to Switzerland. They occur in other European countries, and are caused by a decline of market prices in real terms per unit of produced raw material. Structural trends are the growing imbalance in forest management which has to incorporate a widening range of multiple-use objectives, and the auto-financing capacity of forest enterprises which still is largely based on earnings from timber sales. The capability of owners to continue with the present kind of forest practices providing services to third parties and the public will diminish, if new forms of collaborative forest management are not developed. The globalisation of the role of forests facing many social demands requires a more global approach combining forest owners' objectives and commitments from third parties. Multipurpose forestry practices need a more equitable sharing of responsibilities and commitments between owners and users.

3. CO-FINANCING OF COMMUNAL FOREST MANAGEMENT

Generally communal forests are well managed and of high productivity. They are appreciated by the members of the entity to which they belong, and a reason of pride to the community in which they are situated. The owners were accustomed for a long time to the fact that the costs of management could be financed from wood selling proceeds and that forest enterprises generated a surplus to the community budget. This situation, however, has changed drastically since in many forest holdings earnings from wood production do not cover the operational costs anymore. Citizens and their representative decision-making bodies may like to own forests, but they generally do not like to allocate recurring funds to finance forestry activities.

The deteriorating economic conditions which many enterprises experience at present create a new situation and rise questions. Some owners ask, for instance, whether they have sufficient information in order to decide on financial commitments regarding forest management. Others, especially members from local entities without income from local taxes wonder, why they should bare the costs for protection and recreational benefits which accrue mainly to other people. City councils and management committees inquire, to what extent managers of their forests could not develop new markets for products and services which generate additional income. They look for possibilities to cut management costs through rationalization measures, organizational changes and better cooperation between forest enterprises.

The changing reality of forest enterprises has important consequences for forest management. In the past the principal objectives i.e., to provide local benefits and generate income from commercial wood production could be reached without difficulties. The performance of communal forest enterprises was largely an issue of competent technical expertise. Today forest activities are largely a matter of a business policy which decides on management priorities and on the range of tasks to be performed. Forest owners insist on information on different options of local forest management, more participation in the decision-making process and better financial planning and performance control methods which relate production costs to specific outputs in goods and services (Kissling-Näf and Zimmermann 1996; Frost and Mahrer 1997). They look for cost-sharing arrangements involving special user groups

and citizens from public entities which benefit from forests but do not contribute to finance management costs. In the case of political municipalities such as cities and villages with the competence to raise taxes, it involves commitments in the annual budgets in order to ensure goods and services important to the community but which cannot be financed from proceeds of timber sales alone (BUWAL 1998).

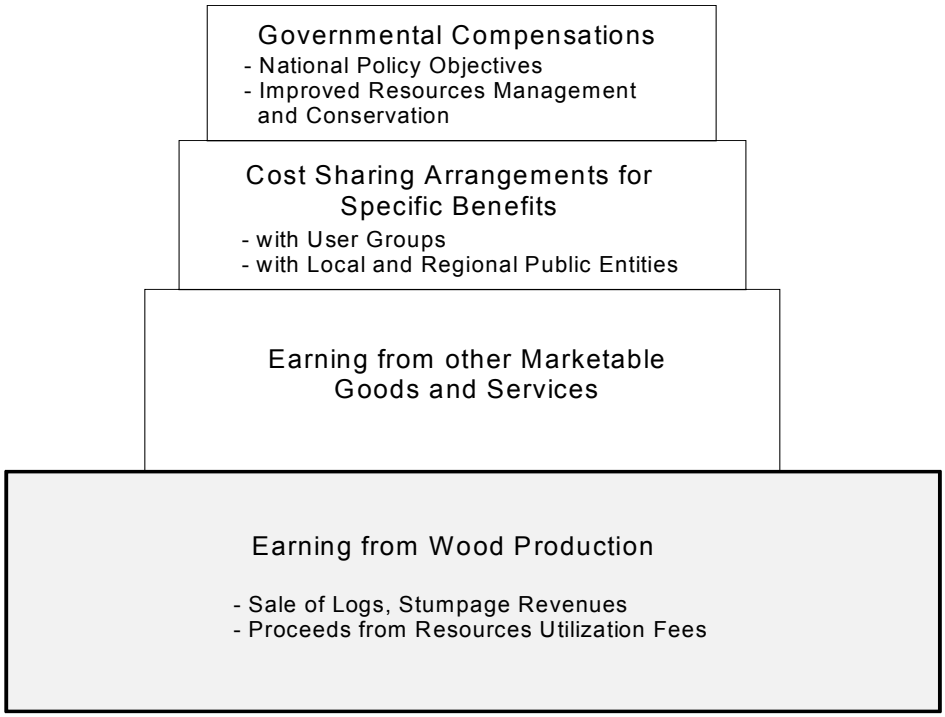
Providing multifunctional outputs for different social groups and in the interests of public entities requires co-financing systems in forest management (Schmithüsen and Schmidhauser 1998). The framework in which they operate is determined by several considerations. One is the acknowledgement that communal land owners are not obliged to furnish goods and services beyond their own objectives without reimbursement of additional costs. Another one is the principle that user groups and public entities benefiting from the protection and sustainable management of forests should compensate the owners for such benefits. And the third one relates to the need of incentives and financial compensations replacing regulatory commitments in order to implement more effectively national forest policy measures.

The increasing difficulties in financing forestry activities from the earnings of timber sales only, as well as the positive external effects valued by user groups and the public in general call for a double strategy from communal owners. They have to insist on their ownership rights and on income generating business objectives. On the other hand, they have to demonstrate that numerous demands can be satisfied if costs are compensated for multipurpose management practices under co-financing arrangements. The owners have to prove to different clients in the community, that sustainable forestry practices provide a range of specific goods and services which are of value at local and regional levels. Cost calculations and an evaluation of the public utility of communal forest management in monetary terms are necessary. And they should be capable of providing sufficient information to interested user groups and engaging in a process of negotiations with third parties. With regard to business management all this requires a realistic evaluation of possible earnings in relation to planed activities, based on a combination of proceeds from market sales and from complementary contributions from user groups and public entities. A simple but efficient accounting system is indispensable in order to calculate the costs for goods and services that are to be considered in co-financing arrangements. Accounting practices which focus on wood production only and group other outputs more or less as an ancillary item are not suitable anymore.

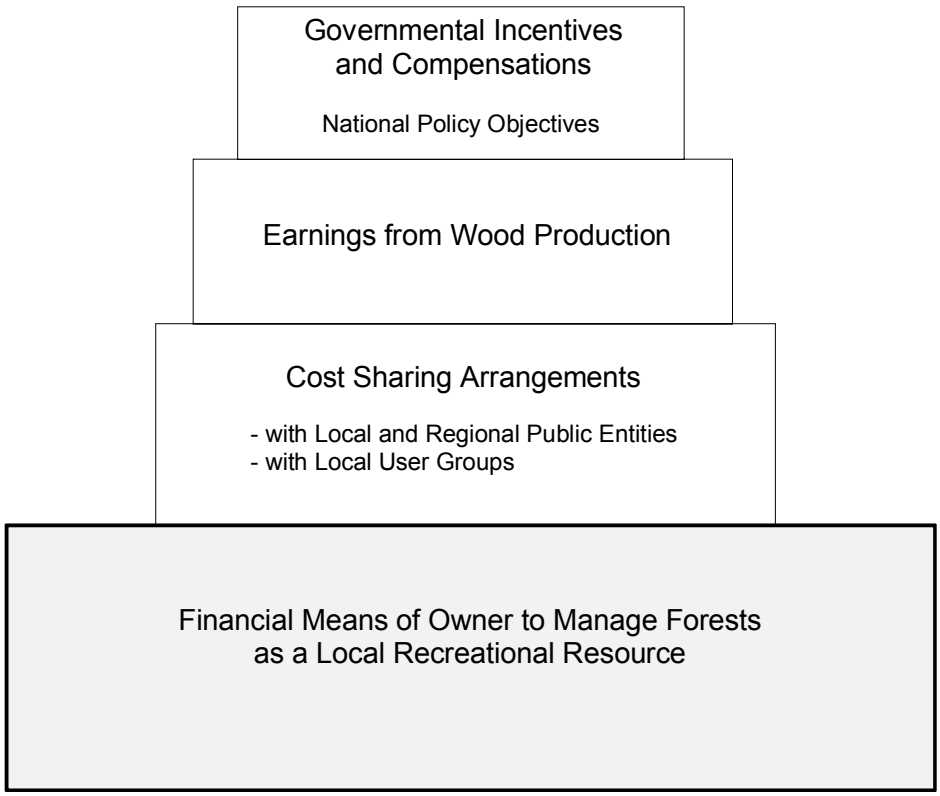
Altogether the co-financing packages vary considerably depending on the specific situation and objectives of owners and the readiness of political entities and public opinion to support forest management valuing forests as local public goods (Schmidhauser and Schmithüsen 1999). Governmental incentives and compensation measures determined by forest legislation are another important factor. From the point of view of the owner, the financial framework in sustainable resources management thus consists of alternative combinations in which user groups and public entities are involved. The following examples (*Figure 1*) are representative for two typical categories of communal owners and indicate the possible mix of financial contributions to the management of their forests.

Fig. 1: Different Models for Co-Financing Management Systems on Communal Forest Land

MAJOR EMPHASIS ON SUSTAINED WOOD PRODUCTION MANAGEMENT



MAJOR EMPHASIS ON URBAN FOREST MANAGEMENT



The first example shows a forest owner in a rural area putting major emphasis on sustained wood production. It assumes a local community with little financial resources from other capital assets, which is not in a position to raise local taxes, and which has drawn in the past its main income from forests. Earnings from wood sales remain probably the most substantial income for financing forestry operations, but contributions from selling other goods and services would increase due to improved costing for delivered units. Cost-sharing arrangements with special user groups may be difficult in the beginning but their proceeds would increase if the enterprise demonstrates its unwillingness to continue with the delivery of such services without compensation. Cost-sharing arrangements with local and regional public entities are probably more realistic at a first stage, and more easy to be implemented. This refers in particular to contractual arrangements with political municipalities interested in good management practices in the forests of their territory and in protective and recreational benefits for their citizens. Governmental contributions both from the Swiss Confederation and the Cantons are already now an important source of financing forestry operations in mountainous forests.

The second example shows the case of a large city forest which is managed mainly for recreational use and environmental reasons and which benefits to all citizens (Schmithüsen and Wild-Eck 1998). In this case the forest is considered primarily as a local public resource for which the municipality has developed special management objectives in order to satisfy the demands of an urban population. Management costs are financed to a considerable extent from the municipal budget and from community taxes. Cost-sharing arrangements with neighboring political entities which also benefit from this forest, as well as compensation payments from special user groups may supplement local expenditures. Proceeds form wood sales are important as a market contribution to multipurpose forest management costs. Government incentives and compensations would be part of the co-financing package in as much as they are applicable.

Co-financing arrangements for forest management have existed for a long time in Switzerland, particularly in mountainous areas for measures of avalanche prevention. It involves the Confederation which provides public funds for protection, reforestation, technical works, and recently for silvicultural measures in order to improve stability of forest stands (Zimmermannn et al. 1993; Poffet 1997). It also concerns the Cantons with complementary funding mechanisms. However, the requirements and mechanisms of funding as well as the sources of co-financing are at present in a situation of change. This refers in particular to efforts involving more systematically local entities and user groups in joint management systems.

The information available on the 3.400 public forest enterprises (1998) shows that co-financing of forestry activities has reached an important dimension (BFS/BUWAL 1999). The earnings from wood sales are still the most important source of revenue but other proceeds have become a substantial element in maintaining forestry operations. Both developments are an indication for the multipurpose character of forestry, in particular in mountainous areas in which protection against the effects of natural calamities is of first priority. In 1998 the aggregated revenues of public forest enterprises amounted to a total of 531 mio CHF of which 283 mio derived from wood sales, 93 Mio from other forest operations, and around 155 mio CHF from public entities as incentives and compensations related to silvicultural measures and permanent installations. The proceeds form wood sales represented 53% of total revenues and the auto-financing capacity from sales of goods and services around 70%. Variations within the geographical regions are considerable. In the Alps proceeds from wood sales represented only one third of total revenues, in comparison with two thirds in the Plateau region.

4. POLICY FRAMEWORK FOR MANAGING COMMUNAL FOREST LANDS

The backbone of Switzerland's forest conservation policy is a joint constitutional competence for forestry matters between the Federal government and the member states or Cantons. The federal level has a basic competence, focusing on the protection of forest lands and measures which ensure the protective role of forests in mountainous areas. The cantons are entrusted with the responsibility of implementing federal regulations. They have also a fairly large domain of their own competence, which refers to forest management planning, support to public and private forest owners, and the organisation of the cantonal forest services. The joint public land management system, as designed by the Federal Constitution ensures the participation of citizens on all levels of government. It facilitates a balance between national and regional interests and contributes to a wide range of locally adapted solutions in the forest policy.

A shared public responsibility in forestry matters has not always existed in Switzerland. The second half of the 19th Century was in fact a long period of struggle in order to develop the policy framework of today. Forest depletion leading to erosion and avalanches in the Alps, as well as to flooding and devastation in the low lands, called for a new approach. The perception of an increasing number of natural catastrophes, associated with overuse and clearing of forest lands, made it obvious to the voters, that a resource of national and regional importance required a joint system of public commitment. The second Federal Constitution, adopted in 1874, introduced in Art. 24 the framework law competence of the federal government as it exist today.

The principles, which guide the national policy programme, are on the whole fairly simple but for that reason effective. The Law of 1902 - in force until a few years ago - restricted forest clearings, established compensatory afforestation if a clearing permit was issued, introduced sustainable management provisions and excluded clear cutting. The law provided for federal financial contributions, in order to promote afforestation, protective works and infrastructural improvements. The basic format of policy measures is hammered out and completed by the laws of the respective Cantons.

In 1991 a new forest law has been adopted by the two chambers of the Federal Parliament. It is the result of a long process of revision and of an intensive political debate involving the government, political representatives, parliamentary commissions, numerous interest groups, as well as forest services and public administrations. On the whole, the new law is the result of important changes with regard to the role of forests in our society. Its policy objectives and instruments have to provide an answer to two central issues. How can policy contribute to maintain a balance between the interests and possibilities of forest owners, and the increasing and diversified interests of public user groups? How can policy establish an equilibrium between public demands on the one hand, and public commitment and support in order to protect forest land and maintain a wide range of forestry outputs on the other?

If we judge the new policy programme under the criteria of continuity one may say, that it has retained the principles of forest protection and conservation, which so far have proven their usefulness. We can also look at the criteria of change by referring to its first article, which offers a truly multifunctional concept of forests in our society. It establishes an equal priority between the objectives related to protection, wood production, recreational uses, landscape and nature conservation, and forest development. Among the new features of the law, one should in particular mention the principle of compensation to forest owners. This means, that owners have to be compensated if they are required to provide management activities and services in

the public interest at costs that cannot be recovered. One should also mention the increased federal support to education and training of qualified personnel at various levels.

On the whole the national forest policy has favored nature-oriented silvicultural practices and sustainable forest production leading to an increase of increment and annual log production. Considerable efforts have been undertaken, to support management of protection forests, to expand protective afforestations and to foster control and rehabilitation measures preventing damage from avalanches, flooding and soil erosion. And last but not least, competent forest services, educational facilities for forestry personnel and a forest research system have been established. The achievements of the combined federal and cantonal policy programmes are solid and can be noticed in particular in the mountain region of the country (Zimmermannn et al. 1996; Schmithüsen et al. 2000). The forest area is protected, which, considering the important pressure for many other land uses, is not an easy thing to do. The Federal Court has made a particularly important contribution by developing strict criteria in dealing with clearing applications for forest land.

We should note, however, that the efforts of forest protection and development are by no means completed. New problems, new pressures and new challenges arise. They call for a reconfirmed political consensus, continuous efforts of forest owners, as well as for the patient work of forestry professionals. What on a first and superficial glance may look to an outsider as a stable and almost unchangeable accomplishment, is in fact the result of a national forest policy, which is in constant evolution. Like in other countries forest policy achievements are only as relevant, as they are understood and supported within a changing social and political reality. As in other countries, we experience a diminishing profitability of wood production and at the same time an increasing demand for public services and protective values. This has put many forest owners and forestry enterprises in considerable operational and financial difficulties and calls for a reassessment of forest management objectives. Policy measures are required which favor and support:

- the rationalization of forest operations in order to reduce production costs and improve economic efficiency;
- the compensation of forest owners for goods and services supplied as collective goods;
- the restructuring of forest enterprises through new forms of co-operation and transfer of certain management activities to the private sector;
- the adaptation of forest services to new tasks and responsibilities.

Summing up some of the issues, which could be of interest from an outside perspective, the following ones are mentioned:

- As a country with a federal-state organisation, Switzerland has a joint system of public responsibilities towards forest and forestry development. It involves the Federal Government, the various states or Cantons as well as the local political level.
- As a country with 70% public forest ownership and the remainder being largely small holdings of private owners, Swiss forest policy can only be effective if it strongly supports communal participation in forest management decisions.
- As a country in which about half of the forests are in mountainous areas, its fundamental challenge is to maintain a policy framework that protects the forests and generates protective value in the interest of the national community.

- As a country in which the citizens have a direct saying in approving the laws and in calling for changes in the constitution, Swiss forest policy reflects to a large extent the immediate concerns and opinions of people. It benefits from public debate and citizens support.
- As one of the smaller European countries with an economy oriented towards world markets and a rapidly changing industrial and service society, forest policy reflects the changing role of forests with new aspirations and opportunities. It also has to cope with serious problems of adaptation and is moving away from established patterns of thinking.

CONCLUSION: ADAPTATION OF POLICIES TO CHANGING SOCIAL DEMANDS

So far Swiss forest policy has focused on the protection of forest areas, the regulation of sustainable wood production, the improvement of operational structures of forest enterprises, and on the promotion of the sector economy. At present policy development is in the stage of incorporation objectives and targets such as maintaining non-market services as part of multifunctional forest uses, introduction of financial incentives related to collective benefits, greater involvement in decision-making processes of the different public actors. Another development results from the fact, that forest protection and use is increasingly subject to other policy programmes. There is a rapidly growing network of laws, which address forestry issues to various degrees. Coordinating the provisions of the forest legislation with the large body of forestry-related policy areas has become a major task.

Changes in social demands towards forests are in itself nothing new. In addition to the production of wood and many other products, forests have always had great importance for man with respect to protective and sociocultural values. The resulting demands are of a much diversified nature and differentiated by countries and regions. They involve the production of goods and services of a distributive character. And they refer to interests in the very existence of forests, which have their foundation in the perception and the personal conviction of everyone. It is the global character which makes the forests an element "sui generis" of our reality and not the summing up of its different, often badly defined functions. The potential and capacity to satisfy not only our needs, but also those of future generations, determine the social relevance of the forest. And they set at the same time the limits of use for the present generation. It is this aspect, which gives a new dimension to the political debate on forests and forestry.

The demands of society are in constant evolution. Their qualitative nature and the intensity in which they are expressed, change with the flux of economic and social development. The character of uncertainty, which is inherent in any assessment of future demands, should sharpen our eyes for more long-term tendencies that form the underlying pattern of the day-to-day problems and solutions. It should be a guide in judging with modesty our vision of future demands and benefits. A flexible form of resource management, which is not to intensive and relies on the site-specific production potential is probably the best approach in dealing with the uncertainties of future demands and values. In this sense silvicultural practices close to nature, as they are current in Switzerland, are not a nostalgic habit of conservative foresters, but a modern and appropriate management approach. It safeguards the natural diversity and stability of the forests, and it maintains at the same time future options of which we can think, and options which we do not yet know.

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UKRAINIAN FOREST LEGISLATION DEVELOPMENT IN THE TRANSITIONAL PERIOD *

ARTEM TOROSOV

The Ukraine has diverse natural, social, and economic conditions. Forestry objectives as well as economic, social, and ecological demands are often unique in the different regions of the country. Ukrainian forests are national resources. They have ecological, aesthetic, and educational functions. Their potential for exploitation is limited, and hence, they are object of national protections.

More specifically, forests are objects of legal environmental protection. Forest regulation must provide for rational use, protection, conservation, reconstruction and possible increases in productivity. Such regulation will permit meeting the needs of the economy in terms of wood production and other forest products. It will also enhance water and soil protection, climate regulation, and other forest benefits. A fundamental change in the political, social, and economic conditions of the Ukraine in the context of its general ecological condition makes it possible to improve forest relations in the country. The Ukrainian Parliament has adopted several major legislative acts since 1991, regulating land, forest and water relations, conservation and use of territories, and objectives of nature reserve stocks.

The Forest Code, adopted in 1994, is the main forest law. Forestry relations are also regulated by legal normative acts promulgated by the Cabinet of Ministers of the Ukraine. New normative documents are now elaborated, and existing ones are revised to make them correspond to the Forest Code. The Ministry of Environmental Protection and Nuclear Security is the main state management body in the field of natural resource conservation and use. The State Committee of Forestry is the main state management body in forestry.

According to the Forest Code, all forests are the property of the state. This condition is justified firstly:

- by the long period associated with forest growth;
- by the predominance of ecological significance for forests over their economic significance; and
- by the need for forest resource conservation and systematic accumulation which is in the interest of both current and future generations.

The condition of state ownership is also justified by the inadequate cultural standards of forest use, which tolerates wasteful approaches in the uses of forests and nature as a whole; and the lack of a good control mechanism for rational, sustainable natural resource use.

In addition, forest legislation confers the right of individuals to have small forest plots for private use and to engage in forest management activities on them consistent with state regulatory standards. These forest owners have the right of first use of forest products yielded on the plots as well as right to the profits from the sale of the products.

The Forest Code regulates development of forest uses, provides for forest protection, conservation, rational use, and forest reconstruction; promotes skilled forest management; and establishes payments for the use of forest resources. The

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* Source: IUFRO Research Group 6.13; Ossiach Proceedings (1999): 135-137.

Code assigns blame and penalties for violation of forest laws and regulations. Participation of persons, unions, civil committees, and self-administration bodies in forest protection, conservation, use, and reconstruction is provided for. In general, the Forest Code secures regulation of forest relations under current social and economic conditions. It is oriented toward an increase of forest resources, nature conservation, maintenance of forest biological potential, based on application of scientific knowledge.

The system of forest administration and management has considerable meaning for the Ukrainian forest estate. The largest part of the estate (72%) is under authority of state forestry agencies. The rest of the estate is administered by agriculture (24%) and other enterprises (4%). Forestry administration has two levels: the State Committee of Forestry and state forestry unions in 22 regions and regional forestry directives in 3 regions. The principle of State property is realized by Parliament and the national government, by local governments, and by the agencies of forest governmental control. In this connection, besides economic activity, the State Committee of Forestry and its local units are authorized by the Forest Code to manage forest utilization, restocking, conservation, and protection.

The forestry sector functions in the current regime as producer and distributor of forestry commodities according to plan. As a producer and distributor of forestry commodities, it is part of the Ukrainian social and economic system, and somewhat peculiar because of its relative stability in annual physical yields. Therefore, when fundamental changes in forestry legislation are proposed, it must be recognized that it is impossible to change that part of the social and economic system without changing the whole system itself. The forestry sector cannot be analyzed properly as an isolated, self-regulating institution. The entire social and economic fabric of the country must be considered. Therefore, inertia exists in forestry administration in the Ukraine, which is indicative of the current realities of the transition period in the country.

We also know that mechanical transfer of market regulators to the Ukrainian economy, which work well in countries with market or transition economies, can have negative impacts. The Ukrainian forestry sector is not ready for a major transition for both economic and social reasons. Therefore, market innovations must be carefully introduced, and the legal and institutional experiments of countries with market or transition economies must not be automatically copied. In particular, fundamental qualitative changes in the natural conservation area require a stable political, social, and economic environment.

Interactions of state administration bodies at different levels are a serious current legislative problem in the Ukraine, directly affecting economic relations in the forestry sector. The need for its improvement is apparent in the Forest Code. Despite the legitimacy of state ownership of forests and woodlands, reform in the management of this property is desirable. It is evident that the forestry sector must be developed upon a new economic foundation together with other segments of the economy. However, the duration of the transition period in forestry is also dependent upon solving the contradictions between the state as forest owner and the state as forest manager. The self-administration bodies must regulate their relations with forest users according to legislative mechanisms of administrative and territorial regulation and the tax system. The forest administration functions must be put on specialized state structures.

Thus a legal case for forest protection and use in the Ukraine has been established. In addition, the following propositions are to be developed:

- Formation of a clear system of laws, rules, decrees and manuals that regulate relations between human society and forest ecosystems;
- Payment for forest resource use and development and implementation of a penalty system for forest resource damage caused by deliberate or wanton action or willful neglect;
- Integration of departmental normative acts on problems of flora and fauna, forests, natural and reserve fund conservation, to develop uniform and generally accepted principles of nature use.

To realize the whole complex of legislative, organizational, and economic transformations needed to work in a market economy, a certain evolutionary period is necessary to form a new State system. Artificial acceleration of the process will only be destabilizing. The evolutionary approach to the political, social, and economic development of a society requires gradual creation of a suitable economic and legislative environment. The legislative base is critical because it should provide a tangible and systematic process for transition to the market economy.

In this connection, two features of the Forest Code must be mentioned. The first is that it is “conservative,” containing legislatively fixed goals, tasks, and functions of forest administration. The second feature is operation of the system of state administration bodies in the context of the existing economic and legislative base, which directly affects economic relations of the forestry sector. This feature of the Code must respond in time to all changes in the political, social, and economic life of the country, which will entail adjustments from time-to-time to perfect the legislation, putting it in accordance with the current situation. When young, independent states are formed, this process is normal, and in the case of the Ukraine will require the constant attention of both state administration bodies and forest researchers.

The necessity of further improvement of nature preservation legislation and of forming the economic and legislative base of forestry is the result of two conditions: the Ukraine is a state with a transition economy; it is also a country that is in a rather bad ecological condition. Ukrainian forests are important ecological and strategic resources. Therefore improvement of nature preservation legislation in the forestry sector is of interest to both the Ukraine and the European Community. It is especially important given the geopolitical situation of the Ukraine and the attention paid in the world to ecological resources.

POLICY AND LAW DEVELOPMENT FOR SUSTAINABILITY AT THE FOREST LEVEL IN GREAT BRITAIN *

HUGH G. MILLER

SUMMARY

By the start of the twentieth century Britain's forest cover had declined to 5 per cent. An effective naval blockade during the 1914-18 war lead to the formation of a state forest service that was to act as both forestry authority and forest enterprise with the objective of creating a strategic forest reserve. The problems of being an island and a major timber importer were again high-lighted in the 1939-45 war after which the government sought to develop private forestry by adding new grants to the tax relief already available and by retaining the war-time expedient of felling licences. Although this system was originally designed to control timber production it was progressively honed first to develop the recreation potential of forests, then to require landscaping of forestry developments and eventually to encourage planning for conservation. The latter development arose in some considerable measure from pronounced pressure by conservation bodies, pressure that also resulted in removal of tax relief, a loss that has not been adequately compensated for by other taxation benefits and enhanced grants. Nevertheless, the present system is enabling a now somewhat separate and reinvigorated Forestry Authority to exert considerable control over management decisions at the forest level in both the private and state sectors and, the government argues, will be adequate to ensure sustainability in Britain's forests.

1. BRITAINS FORESTRY BEGINNINGS

At the start of this century forest cover in the three countries that comprise Great Britain, i.e. England, Scotland and Wales, was 5.3, 4.6 and 3.9 per cent, respectively. Deforestation started before 1000 BC and in England forest cover had been reduced to 15 per cent by 1000 AD. Clearance may have been marginally slower in the mountains of Wales and Scotland but probably not significantly so. Interest in reforestation was kindled at various times, with some significant attempt being made by private landowners during and after the Napoleonic wars when Britain was denied access to the Baltic states. Indeed, in the first half of the nineteenth century forestry was a fashion among many large landowners who not only created new plantations but also sponsored the great plant collectors, such as Douglas, Menzies and Fraser, and vied to create arboreta of exotic species. In this way Douglas fir was introduced to Britain in 1827 and Sitka spruce in 1831. However, this activity had no governmental encouragement or involvement, unlike the position in France and many German states, so the area of plantations created was small. Furthermore, with the industrial revolution, the policy of free trade and the acquisition of an empire, there came a decline in interest in indigenous timber production. Another factor may have been that in the second half of the century the great estates were being acquired by a new type of owner who regarded them as places for recreation, particularly hunting and shooting, rather than as a means of creating wealth. As practised in Britain both grouse shooting and deer stalking required open heath and moorland rather than forested land.

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* Source: IUFRO Research Group 6.13; Report VI (1996): 227-236.

The 30 years 1884 to 1914 saw various reports, commissions etc on forestry in Britain but it was not until the naval blockade of the first world war that government took any significant step. The Forestry Sub-Committee of the Reconstruction Committee was established in 1916 under the chairmanship of the Right Honourable F D Acland MP to "consider and report upon the best means of conserving and developing the woodland and forestry resource of the United Kingdom having regard to the experience gained during the war". This committee reported in 1918 that timber could be produced in Britain and that there should be both financial inducements to encourage private owners to manage their forests and a state forest service to buy and plant land. The Forestry Commission was established by Act of Parliament on 1 September 1919. The Acland Report was the result of a war time blockade, accordingly it called for a "strategic reserve of timber" and emphasised that this should not be created at the expense of food production. Permission of the government agricultural departments is still necessary for the conversion of agricultural land to forestry and until the late 1980s and permission was not given for any but the poorest of land. Accordingly, Britain's new forest estate is largely confined to uplands and poor, usually poorly drained, soils.

Both the Acland report, and a similar report produced in 1943 during the second world war, made reference to the multiple benefits of forests. However, the emphasis was firmly on timber production to ensure survival through another naval blockade. The decision by Britain in 1955 to base its defence on the nuclear deterrent clearly negated the basis of this forest policy and started a long, and slow, process of policy redefinition. In 1963 Government announced that the Forestry Commission would have to bear in mind the need to provide for public access and recreation and to give attention to increasing the beauty of the landscape. In 1967 (Scotland) and 1968 (England and Wales) the Forestry Commission was given the power to provide facilities for recreation and required "to have regard of the desirability of conserving the natural beauty and amenity of the countryside". A Ministerial statement in 1972 added responsibility for "environmental safeguards" which was expanded by the 1985 amendment to the Wildlife and Countryside Act which placed on the Commission the responsibility to balance timber production with " the conservation and enhancement of natural beauty and the conservation of flora, fauna and geological of physiographic features of special interest". This slow drift to official acceptance of multiple objective forestry was punctuated, inevitably, with reports calling for increased financial efficiency. Indeed, since the election of the first Thatcher government there has been a requirement to sell state woodlands and to concentrate future expansion of the nations forest estate in the private sector. Such developments notwithstanding, the Government was to announce in 1991, largely in response to parliamentary pressure, that Britain's forest policy was:

- "The sustainable management of our existing woods and forests
- A steady expansion of tree cover to increase the many diverse benefits that forests provide."

They went on to state that "in both we recognise the advantages of basing policy on the realisation of multiple objectives".

By this time the forest area in the country has doubled, although whereas in Scotland the area under trees has increased from 4.6 to about 14 per cent, in the more heavily populated England the increase has only been from 5.3 to about 7.5 per cent.

2. SUSTAINABILITY AT THE NATIONAL LEVEL

As outlined above, Britains forest policy has been gradually evolving over the second half of this century to progressively embrace the multiple objective ethic. In the most recent formulation the policy statement now includes the word sustainability. Definitions of sustainable, and derivatives such as sustainable development and sustainable management, abound. Suffice to say that the concept encompasses much more than sustained yield and maintenance of productive capacity for it attempts to include all demands for goods and services that are made, or potentially could be made, upon the forested landscape. a significant word here is biodiversity. Britain's forest policy with its inclusion of "sustainable management", was written in 1991, the year before the United Nations Conference on Environment and Development in Rio de Janeiro. Following this meeting the British Prime Minister wrote to the leaders of the then European Community and G7 countries proposing that each nation publish follow up plans to show how they intend to implement the Forest Principles drawn up at Rio. The British document, "Sustainable Forestry, the UK Programme" was published in January 1994 and drew heavily upon the recommendations of the 1993 Helsinki Conference on the Protection of Forests in Europe. In the British document the Government expanded on its general forest policy with a number of specific policy objectives including, *inter alia*, the following concerning the management of the forest resource

- To operate a general presumption against the conversion of woodlands and forests to other uses and to control the felling of trees.
- To encourage the regeneration of woodland.
- To promote the development of environmentally acceptable methods of controlling attacks by insects and diseases.
- To protect ancient and semi-natural woodlands ....
- To maintain and, where appropriate, to enhance biodiversity ....
- To encourage the development of the recreational potential of woodlands and forests including appropriate local initiatives to provide woodlands for community use.
- To keep the Governments range of management guidelines under review ....
- To promote local involvement in state forests.
- To encourage the planting of species that are local to the site.
- To encourage the extension of semi-natural woodlands.
- To encourage the establishment of broadleaved woodlands.
- To encourage the establishment of new woodlands close to areas of population.
- To encourage high standards of landscaping and design in all new woodlands.

Other such sub-objectives usually refer to research and to encouragement of the wood processing industry.

The list given above includes only two points that would be said not to have been at least implied in previous forestry statements; the first is the wish to promote local involvement in state forestry and the second is the encouragement of species that are local to the site. The first, that of local involvement, had been developing on the ground for some time, for example by inviting local naturalists to join environmental advisory panels. However, there is perhaps more than this now implied for it accords with a wider government policy to relocate decision making to the local level. The second new objective, the planting of local species, comes direct from the Helsinki

Guidelines and in many respects is new, although the management of ancient and semi-natural woodlands, and the planting of new woodlands that mimic natural woodlands in at least species composition, have been policy objectives for some time.

3. INSTITUTIONAL ARRANGEMENTS FOR IMPLEMENTATION

For policies to be implemented the appropriate institutions have to be in place and there must be means to require or encourage both the state and private sectors to set objectives and undertake management that accords with the national policy objectives.

In Britain, the institution responsible for all forestry is the Forestry Commission that still, as laid down when it was founded in 1919, acts as the Forestry Department advising government, as the Forestry Authority policing the nations forests and distributing grants and advice, and as the Forest Enterprise owning and managing the forests of the state. Over the past five years this structure has been subjected to considerable review and change. Until recently the authority and enterprise roles were undertaken by the same local staff leading to criticism of possible double standards in relation to what was required of the private sector and what was practised in the state forests. Although this criticism was often voiced it is difficult to find concrete examples to substantiate it. What was to turn out to be more true was that in asking the same staff to carry out both roles the proactive aspects of the authority role were neglected. The Forestry Commissioners, perhaps fearful that change could be imposed upon them if they were not to act themselves, reviewed the position and decided to separate the authority and enterprise into two distinct but parallel line managements, only coming together at the most senior level. Indeed, with one exception, the staff of the "Forestry Authority" and the "Forest Enterprise" now occupy separate offices and have totally different regional structures.

This change was not greeted by, nor yet has achieved, universal acceptance. However, most would adjudge it to be a considerable success. Most importantly the officials in the Authority have become very proactive in dealing directly with planning officials in local government and conservation bodies, both of which have significant, if constrained, rights to be informed of, and to object to, new forestry proposals. This development, coupled in Scotland with Indicative Forestry Strategies, has meant decision makers at the forest level can be informed at an early stage as to what might or might not be acceptable, particularly in relation to afforestation and reforestation schemes. In passing it should be explained that Indicative Forestry Strategies are maps drawn up by local government, following consultation, indicating where forestry expansion faces no problems, where it faces one environmental or social problem and where it faces two or more such problems. The existence of such strategies has greatly aided individual decisions regarding investment in forestry expansion.

One change that has yet to be made is to allow the Forestry Authority itself to reject proposals that are not in accord with the objectives listed above and laid out in its guidelines. Currently objections have to come from local government or another statutory consultee (usually a conservation body). It is likely that Government ministers soon will be requested to make this change. It should be emphasised at this stage that whereas the Forestry Authority has certain legal powers to control felling it can only exert control on a planting proposal through the grant system. There have been calls for legislation to require planting licences but in practice no

one plants an area of more than a few trees without grant aid so the ultimate sanction of denial of aid has proved to be an effective control.

A consequence of the separation of the Enterprise and Authority has to be that the Authority is given the same monitoring and policing functions over the state forests as it currently exerts over private forests. It is the intention that this should occur although implementation is proving problematical, largely a function of the size of the state holding. The approach adopted is to require each state forest to submit for approval working plans (confusingly called design plans) detailing the forest, its management and short-term felling and planting proposals. Ultimately the same approach will be offered to the larger private forestry estates. Meanwhile they will continue to be dealt with on an almost operation by operation basis.

To specify what is expected if forestry proposals are to be approved the Forestry Authority has drawn up six sets of guidelines (similar to the American concept of best management practice). These guidelines are "Forests and Water", "Forest Nature Conservation", "Forest Recreation", "Forest Landscape Design", "Lowland Landscape Design", and "Community Woodland Design". The first to be produced was that on water, prompted by the observed correlation between afforestation and freshwater acidification. This is an essentially prescriptive document that details how forest design and management should be modified to minimise impact on water (including sediment and contamination with chemicals as well as acidification). The other guidelines are more of an advisory nature but if any scheme shows lack of acceptance of this advice grant aid is likely to be refused. For large or particularly sensitive schemes the Forestry Authority also has the powers, under the European Directive (85/337/ EEC) to require an environmental assessment .

In closing this section it should be mentioned that Government has recently reviewed its delivery of forest policy, including consideration whether the Enterprise would be better privatised in whole or in part (there has been a continued sale of smaller forests as part of current government policy). The review concluded that outright sale would not be in the public interest (there was considerable opposition to sale from recreation and conservation interests) but that the Enterprise should be further separated from the civil service structure by making it an agency with its own chief executive, albeit an agency still wholly owned by, and answerable to, the Forestry Commission (such a change could be enacted without legislation). It is likely that the Forestry Commission Research Division will similarly be made into an agency and although such status was also considered for the Authority this now seems unlikely as it would result in an undesirable split between the Authority and the Forestry Department within the government.

4. REGULATIVE, INCENTIVE AND INFORMATION INSTRUMENTS

As in any other country, the British government seeks to ensure that private owners manage their forests in accord with national policy objectives through legal restrictions, financial inducements (grants and tax relief) and education or information.

Legal Restrictions: As will be seen forestry in Britain is very strictly controlled but little of this control is applied through direct legal restriction. The particular exception is the felling of trees for which permission must be obtained if more than $5m^3$ are to be felled in any three month period. Permission for felling can come as part of the approval for the plan of operations required when requesting grant aid or as a separate felling licence. In both cases permission comes with conditions regarding restocking. For the past ten years it has been policy that any area of broadleaves

felled must be restocked with appropriate broadleaved species and that for other areas a proportion of the restocking must be with broadleaves. In this way the progressive loss of broadleaved woodland will be reversed. Felling licences are issued by the Forestry Authority.

Local government has the powers to prevent tree felling through Tree Preservation Orders. Originally designed for trees in towns this mechanism has sometimes been used for forest stands. Local government and the Forestry Authority also have the powers to compel the felling and destruction of trees where needed to control the spread of disease (used in recent times in relation to both Dutch elm disease and the great spruce bark beetle). The Forestry Authority also inspects imported timber or plants and has the power to prevent the landing of loads or to order their destruction.

Financial Inducements: These can come either as relief of tax or as direct grants, and both are used in Britain. For most of this century it was possible to claim the cost of planting trees against tax and for the three decades before 1988 this was to prove to be a powerful means of attracting new investment in forestry. However, this inducement was abolished in 1988. In part this was because government dislikes all forms of tax relief. In part it was because it lead to creation of forests in a rush to match the financial year so there was sometimes inadequate planning. In part it was because of pressure from influential conservation organisations who believed that the system resulted in commercial plantations with little regard to other benefits. It was certainly true that this form of inducement, together with the restriction of having to obtain approval of the agricultural departments for any new forest area, tended to concentrate forestry expansion on cheap land in the uplands at a time when the conservation of such "wilderness" areas was coming to be valued. The removal of the tax relief incentive was effected by the simple expedient of taking forestry out of the income tax system. Thus money earned from the sale of timber is now tax free, an incentive for the acquisition of mature plantations rather than the creation of new ones. Forests, if family owned, are also now exempt from inheritance tax as part of a wider government initiative to assist family businesses. These benefits, however, have not compensated for the loss of tax relief in the minds of investors and the rate of forest expansion in this decade has been much less than that of previous decades.

On abolishing tax relief Government aimed to offer a broadly equivalent incentive through increased grants, grants to which conditions could be attached more readily than was the case for tax relief. Although grants had been available since the end of the second world war the main incentive had previously been the tax relief. Grants in Britain have been offered through a succession of schemes, the Dedication Scheme, the Forestry Grant Scheme, the Broadleaved Woodland Grant Scheme and now the Woodland Grant Scheme, the third revision of which has recently been announced. Farmers who wish to plant some of their own land can also get annual payments (for ten years on conifer woodlands and fifteen years on broadleaved woodlands under the Farm Woodland Premium Scheme) to compensate for loss of agricultural earnings.

The Woodland Grant Scheme currently offers planting grants of £700 per ha for conifer woodlands and £1050 (£1350 if less than 10 ha) per ha for broadleaved woodlands, 70% paid when planting is finished and 30% after five years. These grants can be augmented by: a Better Land Supplement of £600 per ha if the land has previously been arable or improved grassland; a Community Woodland Supplement of £950 per ha if the woodland is close to a town and is designed for public recreation; Locational Supplements (£600 per ha) offered where government

has a particular desire to see new woodlands created. The above apply to new forest areas, if restocking an existing forest planting and natural regeneration grants are only £325 per ha for conifers and £525 for broadleaves. In a very specific area of the Scottish Highlands, essentially the area believed to have once been characterised by Scots pine (*Pinus sylvestris* L.) woodlands, the planting of Scots pine attracts the grant levels normally reserved for broadleaved species (New Native Pinewoods Grant), provided that appropriate native strains of pine are used, that 20% of other associated native species are included (e. g. birch, hazel, aspen, alder, holly, rowan etc), that minimum cultivation is used and that wet areas are left undrained. There is also an annual management grant (£35 per ha) if the woodlands have to be specially managed for their recreation or conservation value. Similarly a woodland improvement grant (50% of agreed costs) is payable if special work is needed to improve a woodland (e.g. coppice restoration) and there is a Livestock Exclusion Premium (£80 per ha per year for ten years) designed to encourage exclusion of domestic animals from woodlands that need to be regenerated. It will be appreciated that the latter three grants impinge directly on sustainability in its widest context and that the New Native Pinewoods Grant also contributes in this regard.

As already emphasised, award of any of these grants is conditional on Forestry Authority approval of a plan of operations that demonstrates not only that the work is silviculturally sound but also that any planting, natural regeneration, thinning or felling operations will be in accordance with the issued Forestry Authority guidelines. To achieve this it is often necessary to attach to the plan of operations copies of conservation plans, recreation plans and landscape designs for the area of woodland in question. Thus, the documents that have to be submitted are increasingly coming to resemble environmental assessments even for woodlands for which there is no formal requirement for such an assessment. The process can be time consuming and expensive and is undoubtedly a disincentive to some potential investors.

Education and Extension: It could be debated whether the Forestry Authority's Guidelines already referred to are merely conditions to the grants or part of an information disseminating process. However, they do seem in part to fulfil the latter role. In addition, the Forestry Authority, through its Research Division, publish a wide range of documents giving appropriate management and silvicultural advice.

The Forestry Authority has the duty to inform owners and managers about the grants for which they might be eligible, including how to make an application. Through this process, and during the negotiations on plans subsequently submitted, they inevitably tend to give silvicultural or managerial advice. However, unlike the position in many other European countries, the Forestry Authority staff are strictly not empowered to give for free that management advice that the owner should seek from the commercial sector. There is in Britain a cadre of private forestry consultants, working in organisations that range in size from one to perhaps 50 qualified individuals. Many of these consultants are Chartered Foresters, that is they have passed the examinations to become Members or Fellows of the Institute of Chartered Foresters, and as such they are bound by the ethics and codes of behaviour of this professional institution and appear on the approval list of members in consultancy practice.

5. RELEVANCE TO SUSTAINABILITY AT THE FOREST LEVEL

The first thing to emphasise is that the system of legal restrictions, tax advantages, grants and extension was put in place long before the current interest in sustainability and the international commitments to this. Many, such as Felling Licences, date to war time or to the immediate post-war years and were originally designed to control and increase timber production. Indeed, it was a condition of the Dedication Scheme introduced in 1947 that to receive grants an owner had to undertake "to use the land in such a way that timber production is the main object", and no other objects were referred to in the scheme. With the introduction of the Broadleaved Woodland Grant Scheme in 1985 the objective was widened "to encourage a wide range of objectives in addition to timber production, including the greater use of broadleaved woodlands for nature conservation, amenity, recreation, sporting and shelter where appropriate. In order to comply with the statutory requirements, timber production must always be an objective - though it will not necessarily be the principle one". It is not clear what happened to this statutory requirement for the need for timber production to be even an objective was dropped at the first modification of the Woodland Grant Scheme in 1990.

This change is arguably part of the continuing review of forestry policy following the loss of the strategic objective. However, to a very large extent changes have resulted from outside pressure, notably by conservation organisations. Their concern was initially largely focused on the rate, nature and location of forestry expansion. As already mentioned, restrictions over the conversion of land from agriculture to forestry, the price of land and the fact that afforestation in the private sector was largely stimulated by tax relief, all conspired to ensure that forestry expansion was on the moors, heaths and peatlands of the uplands. At first this provoked little concern but by the 1970s this very land, once regarded as waste, was coming to be valued for its conservational and recreation interest. In particular the wetlands in these areas were regarded as being of special importance since such soils in the lowlands had long since been drained for agriculture. Many NGOs articulated this concern, notably the Royal Society for the Protection of Birds, and it was echoed by the government's conservation organisation, the Nature Conservancy Council. In 1986 this published "Nature Conservation and Afforestation in Britain" which called for, among other things, a move away from "narrowly timber-oriented grant schemes" and greater public involvement in the consultation process over award of grants. Both have come about. By the end of the 1980s it had become official policy to move forestry "down the hill", leaving the uplands untouched, and as elsewhere there is no longer pressure to prevent conversion of agricultural land to forestry, indeed quite the reverse (cf. grant aid through the Better Land Supplement and the Farm Woodland Premium Scheme).

Pressure was also developing to modify existing plantation areas to make them more valuable in terms of conservation, recreation and landscape. Although there was pressure from outside in this case much of the impetus came from within the forestry profession for many managers saw the felling and restocking at the end of the first rotation as presenting opportunity to redesign their forests, a process that had come to be known as restructuring. This was developed first in the state forests, particularly in north England, and is now widely implemented in the private sector as well. The private sector itself was not inactive for in 1985 the owners representative body, Timber Growers UK (now Timber Growers Association), published their "Forestry and Woodland Code" as a guide to best practice, being "about forestry practice in harmony with nature and the community". The code was well received and until the

Forestry Authority subsequently published their own guidelines they let it be known that adherence to the code was a *sine qua non* for the award of grants.

Thus, by the time of UNCED at Rio de Janeiro and the subsequent European Ministerial Conference in Helsinki, Britain already had well established means of influencing managerial decision making at a forest level. A system that although it was designed to promote timber production had been progressively modified to deliver public goods such as conservation, recreation and landscaping. The rather loose national policy, including its reference to sustainable management, had also been promulgated. In consequence in its national plan (Sustainable Forestry, the UK Programme) published in response to UNCED the British Government suggested no new means of controlling or influencing management decisions. In a very real sense the existing measures probably do promote sustainability in the widest context in so far as they encourage forest expansion, require consideration of conservation and recreation, demand landscape design plans and favour both broadleaves and Britain's most significant native conifer, Scots pine. In addition the more important ancient and semi-natural woodlands are protected by nature conservation designations (as Sites of Special Scientific Interest) which commits the owner to an agreed management plan with attached list of prohibited operations. Elsewhere felling is subject to permission and is somewhat constrained by landscaping and nature conservation considerations, but there is as yet no further limit to the size of a clear felled area. Whether this all amounts to sustainability depends on the definition of sustainable. Biodiversity is not sustained by the creation of a plantation on bare ground, it is inevitably changed and in the process may be enhanced. Even-aged crops pass through a succession of changes with consequences for biodiversity but this may be more than sustained at a whole forest or landscape level. Scale is clearly of importance. Before new relevant institutional measures are imposed there is a need for research, clear thinking and conferring between stake holders.

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