IUFRO DIVISION 9, FOREST POLICY AND ECONOMICS
RESEARCH GROUP 9.06.00: FOREST LAW AND ENVIRONMENTAL LEGISLATION

Legal Aspects of European Forest Sustainable Development

Proceedings of the 13 th International Symposium
Kaunas, Lithuania

Organized jointly by the
IUFRO Research Group 9.06.00, Lithuanian University of Agriculture Faculty of Forestry and Ecology and the Lithuanian Ministry of Environment Department of Forestry
May 2011

IUFRO Division 9: Forest Policy and Economics
Research Group 9.06.00 (former 6.13.00): Forest Law and Environmental Legislation
International Symposium, Lithuania 2011
13th International Symposium
on

Legal Aspects of European Forest Sustainable Development

Kaunas, Lithuania
May 18-20, 2011

Editors: Romualdas Deltuvas, Peter Herbst, Gintautas Činga

Materials compiled by: Marius Kavaliauskas

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The Authors of the papers are fully responsible for the content of their articles in these Proceedings

Published by:	Aleksandras Stulginskis University
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Materials compiled by:	Marius Kavaliauskas
Photos by:	Participants of the symposium

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PREFACE

6.13.00 – this used to be the numerical code standing for forest law and environmental legislation, not only within IUFRO (International Union of Forest Research Organizations (cf. www.iufro.org)) but far beyond that. Now that code has been changed to 9.06.00 – the substance, however, remained untouched.

IUFRO research group 9.06.00 has been operating world-wide over decades now to collect, evaluate and document, disseminate and also critically analyse developments in forest law and environmental legislation, with special emphasis on Central and Eastern European countries, not only, but in particular such with economies in transition. This within the unit's general and foremost objective, i. e. to foster exchange of information amongst researchers and practitioners active in the domain of forest law and environmental legislation, and to permanently review the state of the subject, thereby setting priorities concerning research and practice. A number of publications have been produced, proving how this unit meets its high standards. (cf http://www.iufro.org/science/divisions/division-9/90000/90600/publications/). Thanks to the many lawyers amongst that group, it has also been highly successful in accomplishing the scientific transfer between traditional forestry communities and legal circles. The group's work distinctively contributed to ease long-standing deadlocks, by connecting policy and law in research and in real life as well as in policy and law design and foremost in policy and law implementation.

Starting from 1998, the former IUFRO 6.13.00, now 9.06.00 has regularly been organising workshops to discuss legal aspects of European forest sustainable development in a non-formal and thus highly productive way. The 1st International Symposium on (then) "Experiences with new forest and environmental laws in European countries with economies in transition" was held in Ossiach, Austria in June, 1998. This meeting was followed by the 2nd symposium on the same topic, again in Ossiach, Austria in October 1999 (with presentation of its main results during the XXIst IUFRO World Congress in Kuala Lumpur, Malaysia, in August 2000). The 3rd International Symposium was held in Jundola, Bulgaria in June, 2001, followed by meetings in Jaunmokas, Latvia in August, 2002, then in Zidlochovice, Czech Republic (May 2003), and after that follow-up symposia took place in Poiana Brasov, Romania, in June 2004; in Zlatibor Mt., Serbia, in May 2005; in Istanbul, Turkey, in May 2006; in Zikatar, Armenia, in June 2007; in Sarajevo, Bosnia-Herzegovina, in May 2008; as well as in Zvolen (Slovakia) in May 2009, and in Lemesos (Cyprus) in May/June 2010. Ten years of intensive research work resulted in the allocation of two sessions on "Sustainable Forest Management through innovative forest laws and environmental legislation" to our group, during the XXIIIrd IUFRO World Congress in Seoul, Republic of Korea, in August 2010. In continuation of this highly successful work, the group met in Kaunas (Lithuania) for the 13th Symposium on "Legal Aspects of European Forest Sustainable Development", in May 2011.

On the occasion of their 13th International Symposium on “Legal Aspects of European Forest Sustainable Development”, IUFRO 9.06.00 went far north, to gladly accept the invitation of Rector Prof. habil. Dr. Romualdas Deltuvas, a core member and long standing contributor to our group, to meet at the Lithuanian University of Agriculture at Kaunas. Thirty-eight researchers and practitioners originating from sixteen different

countries used this opportunity to get acquainted, involved and familiar with the new legal situation not only in European forests, but, profiting from the presence of participants from across the world, including Peru and Japan.

The symposium was kindly hosted by the Lithuanian University of Agriculture, Faculty of Forestry and Ecology, and supported by the host organisation, the Lithuanian Ministry of Environment, Department of Forestry, as well as the Swiss Federal Institute of Technology, Switzerland. The meeting was organized by Prof. Dr. Romualdas Deltuvas and his staff at the Lithuanian University of Agriculture, above all Lect. Dr. Gintautas Činga and Asist. Prof. Marius Kavaliauskas, as well as Peter Herbst (IUFRO 9.06.00).

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Peter Herbst
Coordinator
IUFRO Forest Law and Environmental Legislation, 9.06.00

Forest ownership and management rights in the Albanian Forest Laws from 1923 to 2007

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Abstract

This paper analyses the evolution of the Albanian forest legislation and the most important issues it has regulated in different periods, since 1923 when the first law on forest was approved. Many changes during these decades, political social and economic ones, are reflected clearly also in the forest legislation. They do show the trend and the policy being followed regarding many important issues in the forest sector as the ownership structure, property rights regimes and management practises on the Albanian forests and pastures reflecting the traditions and attitudes which have influenced the use and management of forests in Albania.

A comparative analysis of the above mentioned elements of these laws and of complementary official documents was made to better understand how the forest laws have evolved and the role they played on the political, social, economic and environmental changes that occurred in the forestry sector at each period of time taken into consideration. This research is based on document analysis and literature review related to the laws on forests issued in Albania from 1923 to 2007

Keywords: Forest legislation, Forest Law, Forest ownership, Forest management, Comparative analysis

1. Introduction

The history of Forest Laws in Albania is a recent one. It starts in 1923 where the Parliament of the Albanian Kingdom approved the first forest law on forest and pastures in the history of the independent Albanian state.

The earliest roots of the tradition on lawmaking on using and protecting the forest resources can be tracked in 13th century, with the Canon of Leke Dukagjini (Çobani, 2003). Although modest in structure, its content was and is still playing an important role in the process of drafting the forest legislation (Kola, 2006), because the set of rules regarding common property and private holdings was accurate in respecting property and usufruct rights, ownership structure and recognition forest importance for people's live.

Right after the 2nd World War in 1945, the law on the "Agrarian Reform", as a part of a legislative package of the communist regime supporting the Land Reform, is the first law regulating forest resources issues in only seven articles related to "Forest, pastures and swamps", in which the main issue treated is the change in the ownership structure of the forests, nationalizing all the forest area.

During the communist regime a Law on Forest Protection was approved in 1961, without clearly stated objectives, but focused mainly on the protection of forest resources in order to ensure a sustainable management. The achievement of nature regeneration or reforestation of the harvested forest stands became obligatory in order to "ensure the continuity of production functions of the forests and prevent soil degradation".

A more complex new Law on Forest and Pasture was approved 1983. The production function of the forests is sanctioned as the most important one, followed by its protective functions regarding climate and soil protection. The law reflects the requirements of a period characterized by a difficult economic situation of the country and by an increased demand for forest products. Overutilization of the forests has been the characteristic of the years after the World War II.

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The important events that happened during 1991 brought tremendous changes in the Albanians citizens life, society, economy and politics. Passing from a centralized communist regime to the pluralism democracy and free market economy has had its impact also in the forest and its related legislation like in each other part of the governing system and its legislative framework. The adaptation of new legislation was a priority of all democratic governments and in the political actors' main interest in order to be coherent, to adopt new policies and to have the possibility of initiating international cooperation.

In the last 20 years the former forest legislation has been replaced with a new one, confirming a tendency in other countries of Central and Eastern Europe (Schmithüsen & Cirelli, 1999).

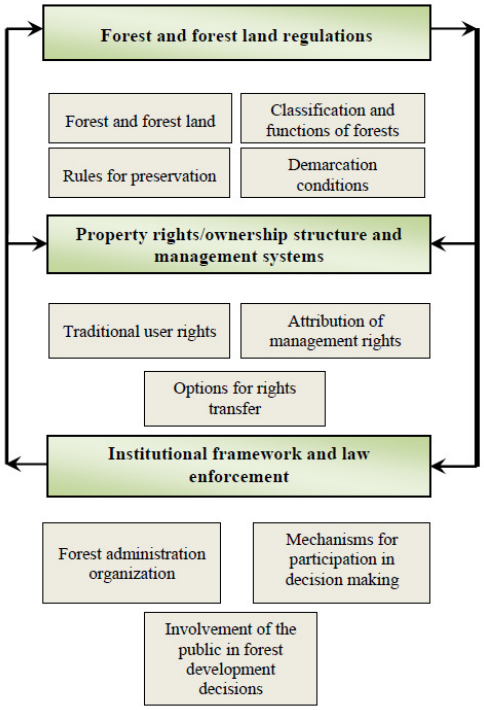
The first Law on Forest and Forest Police after the collapsing of the communist regime has been approved in 1992. 13 years later in 2005 a new Law on Forests and Forest Service entered in force, which was amended in 2007 taking into account the important changes that brought in the forest sector the process of transferring the property rights on forests and pastures from the central government to the local ones. Both pieces of legislation stress in the first place the multifunctional importance and use of the forests, which have to be managed taking into consideration all its functions as resulting from all stakeholders' interests.

2. Analysis Framework

This paper shows first the results of a comparative analysis of how different legal and policy issues of forestry have been addresses in all laws on forests approved since 1923 in order to understand the subsequent changes in laws and forest policy developments as well as the significant content elements of the laws at various historic periods. The results show that there are a set of elements that have always addressed and regulated, whereas others were not considered or just briefly mentioned. Table 1 provides an overview of this set of elements. The periods before and after `90 show considerable differences in the way they have been formulated and with regard to the issues they take into consideration. The political and economic situation, the structure of the legislative framework and the prevailing social conditions are leading factors conditioning such differences.

Based on an analysis framework (fig. 1) from Schmithuesen (2004) three elements of the above mentioned set of content elements of forest laws, as "forest and forest land regulations", "property rights, ownership structure and management systems", and "institutional framework and law implementation" have has been further comparatively analyzed, but this paper will focus more in detail to "property rights, ownership structure and management systems".

The selected elements have been analyzed more intensively based on the importance they had at respective times. These issues appear of considerable importance and relevance and they are to be taken into account in assessing the future viability of the forestry sector and further orientations of forest law development. Their importance in the international forestry arena and the information they can provide for further comparative studies, both at the national as well as at the regional level, makes them suitable for completing this research.



Adapted by Schmithuesen (2004)

Figure 1. Comparative analysis framework

3. Property Rights, Ownership Structure and Management Systems from 1923 to 2007

The forest and pasture law from 1923 emphasizes a set of general provisions (actually 9 articles) focusing on the ownership of forests, forest land and pastures. It gives a brief definition of forest and pastures classifying them by their way of use (e.g. winter and summer pastures). Three forms of ownership are recognized, private, communal and state ownership.

The law states that the forest and pastures ownership is totally dependent on land ownership. Whoever owns the land where the forest and pasture is situated owns the forest or pasture. It stresses the fact that only the owner has the right to profit and that ownership rights to the forest are based on legal provisions.

Community forests and pastures are defined as forest properties, where the user rights belong to a city, village or a group of cities. They can benefit from using this property according to their needs. State property comprises all those lands called "dead lands" and doesn't have an owner.

Article 17 defines and explains clearly the reason why the law recognizes community ownership. It states the functions of the communal forests and pastures starting from the main reason for covering personal needs of the villagers or the citizens (such as very necessary households, garners, stockyards etc), for fuel wood and for building oxcarts and small agricultural facilities. Regarding the surface of community forestry, the number of families and their per capita in the villages[4] and cities will be taken into consideration on deciding it, and other remnant part will be administered by the state itself. The size will be 2 ha per household and the other amount belonging to the whole village or city will be used and the profit shared equally within the inhabitants and households.

[4] The scattered houses or cottages cannot be classified as village and don't have the right to ownership

Table 1. Comparison of forest legislation between 1923 and 2005 / 2007 according to major issues addressed

	Criteria	*FoLaw 1923*	*FoLaw 1961*	*FoLaw 1968 (amended 1983)*	*FoLaw 1992*	*FoLaw 2005 (amended 2007)*
1	***Objectives and functions of forestry***					
1.1	*Sustainable multifunctional forest management*	+	+	+	+++	+++
1.2	*Conservation of natural resources and the environment*	+	+	+	+++	+++
1.3	*Integration of forestry in environment policies*	-	-	-	+++	+++
1.4	*Integration of forestry in development policies*	-	-	-	++	+++
2	***Forestry sector development planning***					
2.1	*National development planning in forestry*	-	-	-	-	+
2.2	*Inventory and monitoring*	-	-	-	+	+++
2.3	*Coordination/interfaces with planning in other sectors*	-	+	+	++	++
3	***Forest and forest land***					
3.1	*Definition of forest and forest land*	++	+++	+	+++	+++
3.2	*Classification of forest and forest functions*	++	+++	++	+++	+++
3.3	*Rules for the preservation of the forest area*	++	++	+	+++	+++
3.4	*Conditions for demarcation/change of forest land*	+	+++	+	+++	+++
4	***Property rights and management systems***					
4.1	*Attribution of management rights*	+++	+	+	+++	+++
4.2	*Options for the transfer of management rights*	+	+	+	+++	+++
4.3	*Consideration of traditional use rights*	++	++	-	++	+++
5	***Institutional Framework***					
5.1	*Forest administration*	+	++	+	+++	+++
5.2	*Cross-sectoral advisory bodies and commissions*	-	+	-	+	+++
5.3	*Mechanisms for participation of forest owners*	+	-	-	-	+++
5.4	*Involvement of the public in forest development decisions*	+	-	-	-	++
5.5	*Assistance to forest owners*	+	+	-	+	++
5.6	*Forest Fund, objectives, financing sources*	++	+	+	++	+++

6	***Utilisation of forests***					
6.1	*Conditions for the utilisation of forests*	++	+++	++	+++	+++
6.2	*Forest utilisation*	++	+++	++	+++	+++
7	***Assessment and distribution of benefits***					
7.1	*Fees for the use of products from state forests*	+++	+++	+	+++	+++
7.2	*Fees for products from community/private forests*	+++	++	-	-	++
7.3	*Distribution of revenue from forest products*	+++	++	-	-	++
7.4	*Special fees*	+++	+++	+	+++	++
7.5	*Valuing environmental services*	-	+	+	+	-
8	***Regulation of trade and transport***					
8.1	*Transport, trade*	++	++	++		++
8.2	*Regulation of certification of forest products*	-	-	-	-	-
8.3	*Forest produce processing industry*	-	-	-	-	-
9	***Protection of forests***					
9.1	*Species and biodiversity*	+	+	+	++	+++
9.2	*Pests and diseases*	-	+	+	++	+++
9.3	*Fire*	+++	+++	++	+++	+++
9.4	*Grazing*	+++	+++	++	+++	+++
9.5	*Seeds and plant control*	-	-	+	++	+++
10	***Training and research***					
10.1	*Institutions for applied research*	-	-	-	+	+++
10.2	*Institutions for training*	-	-	-	+	+++
11	***Enforcement rules***					
11.1	*Classification of offences and penalties*	+++	+++	+	++	+++
11.2	*Prosecution powers*	+++	+++	++	+++	+++
11.3	*Utilisation of revenues from penalties*	-	+++	+	-	+++

Adapted from Kohler & Schmithuesen (2004)

- not mentioned; + mentioned; ++ partly regulated; +++ regulated

Articles 7 and 8 stress the importance of the forest and its continuity, defining it as very important for the whole world's life, and mentioning that each forest should be preserved and treated with care, and its utilization should be done based on technical rules.

All the above mentioned articles showing the rules of management of forest and pasture are not obligatory for private and community property. Regarding free access to forest and pasture the law states clearly the prohibition to enter state, private or community forest and pastures for grazing, walking or any other utilization without permission.

Article 1 of the Law on Forest Protection of 1961 states that: - "the forest and the forest land, within the Albanians territory are all Albanian citizens' wealth, and they constitute the state forest fund, which is protected, administered and utilized following this law dispositions". The only type of ownership recognized is state one, as this law comes 15 years after the Agrarian Reform of 1945, a process that nationalized all forest, pastures and agricultural land and all other types of natural resources. New forests created by cooperatives or social organizations on their lands are part of the state fund as well. But the cooperatives and social organizations have the right to administer and utilize such land forever without paying any fee or tax. The forest and pastures can be given to other ministries or cooperatives or other social organizations for purposes of utilization and administration for their needs; but excluding the right to harvest timber or other non-wood forest products, NWFP. The Ministry of Agriculture is the authority in charge for controlling this temporary process.

The Forest Law of 1968 doesn't mention the ownership structure because there had been no change, the state being still the owner of the forest and pasture land. Article 2 underlines the fact that in the state ownership can be included, by the decision of the Executive Popular Council of the respective District, bare and sandy lands outside of the forest fund surface which is not appropriate for agricultural production or grazing. By Council of Ministers decision agricultural lands can be reforested when there is need for protecting the land from erosion.

The law No. 7623 dated 13. 10. 1992 is the first Albanian forest law adopted after the collapse of the communist regime. It follows the main trend of other CEE countries on improving the legislative framework trying to adapt it to international requirements and to the long and hard path toward market economy. Recognizing other types of ownership rather than state owned one exclusively, as it was previously, has been a big step forward. Article 4 states that the forest stock is made up of state owned, communal and private forests defined in the following manner:

- Forests are ownership of the state.
- Communal forests are forests owned by the state but given for communal use to a village, to several villages or communes. In accordance with criteria developed by the minister of Agriculture and Food, parcels of communal forest from 0.4 to 1 ha per family may be given for use to households of permanent residence in the village subject to agreement between the local government and the forest authority. The specific rules and criteria for definition and administration of these forests were written in a special regulation of the MAF.
- Private forests are any body of trees and any forest created within the boundaries of land recognised as private property. As in other fields of the economy, considerable efforts to foster private initiative have been made by the government with regard to the forest and agricultural sector in the form of technical assistance and investments.

Article 16 requires the entrance of the forestry stock in the cadastre register for each of the regions where the forest fund is situated; changes are to be recorded in a yearly basis. The administration rules and documents needed for the forest cadastre are set by the GDFP. The state and communal forest stock is administered according to inventories and management plans. Management plans designed by study and research institutes, aim at the conservation of adequate wood structure of the necessary production, protective and reactive qualities characteristic of forest ecosystems. Summary

programs as per management areas and inventories are approved by the General Directorate of Forests thereupon becoming obligatory for implementation.

The Law on Forest and Forest Service 2005 as amended in 2007 considers communal forest and pasture as a solid source in accomplishing the needs of local communities for timber, fuel wood, grazing and collection of non-wood forest products. State forests can help in accomplishing the needs of those communities which don't have forest in their vicinities, based on respecting rules and procedures approved by the decision of CM. It recognizes the division of the forest fund according to the property of public and private ownership. Article 15 (Section 2) states that the Ministry in charge for the forest sector, its subordinate structures and the local government organs are the administrators and owners of the forest fund. Public forest property includes all forests and forest lands which are owned by the state and those used or owned by the local government units. Private property comprises forest and forest lands privately owned and those trees or groups of trees that are situated within the borders of a private land. Private property includes also new forests created on private lands and those forests created on lands being part of the private forest fund. The law specifies that carbon quota sequestrated by this forest fund belong to the owner.

Regarding the transfer of management rights of the forest fund, Article 5 gives the right guidance's on the issue, delegating this right to the juridical persons, public and private ones, provided with a license by the Ministry of Environment, Forest and Water Management, MoEFW, according to the dispositions of this law and other sublegal acts which have come into force. Management plans for state forests should be reviewed by the technical commission, next to the Directorate of Forest Policy, as appointed by the Minister and are to be approved by him. Another provision of the law states that communal and private forests management plans should be elaborated by licensed private subjects and should be approved by the commune or municipality council, in close collaboration with the respective Directorate of the Forest Service (DFS). The Minister defines the rules and the ways and means according to which these management plans are to be prepared. These rules apply to all forms of ownership.

The national forest and pasture fund can be given in use for different purposes related to tourism, recreation, research and study; for hunting, experimental purpose or camping business activities. Such uses are to be carried out in conformity with legal dispositions and approved by the organs of the forest service regarding the place where those activities should be placed prior to the taking of any license from other ministries or other institutions. A contract signed by the Director of the Regional Directory of the Forest Service and approved by the Minister is the basic document where the rules for undertaking any of these activities are set.

4. Comparative analysis

The analysis of property rights and management systems shows that there have been important differences between the three periods examined. The law from 1923 regulates the management right for the three forms of ownership existing at that time; state, private and community ones. The subsequent two forest laws prior to 1990 provide that the only type of ownership existing was the state one. The laws recognizes the state as the only owner of the forest land and pastures, but recognizes the eternal right to use those forests that have been established on former agricultural lands by social organization or cooperatives that had done the afforestation. According to the forest law of 1961 the forest and pastures (by law definition pastures are considered as part of the forest fund) can be given to other ministries, cooperatives or social organizations for use, but excluding them from the right to harvest timber or other non-wood forest products.

Turning back to the law 1923, it is stated that the forests and pastures of individual persons or organization owning the land are recognized and ensures the right of the owner to profit from the forest and pasture situated on their land property. This law defines clearly the function of community forests, recognizing them as an important source for covering communities' needs for fuel wood, timber and other forest products. Community forests are classified as forests in which the use and benefit rights belong to a city, village or group of cities. There is a similarity in this

definition of communal forests with the definition of communal forests in the 1992 Law on Forest Service and Police. In the law of 1992 community forests are considered as forests owned by the state and given for use to the villages, cities or communes.

In both laws of 1923 and 1992 communal forests are practically state owned, but the local communities have the user rights on these areas. Only the 2005 Law on Forests and Forest Service clearly define the three forms of ownership, classifying as communal forests all the forests areas for which the local government bodies have the property rights, except for the alienation rights and not only user right as in the case of 1923 and 1992 forest laws.

Private forests are those created within the boundaries of a private property.

The forest law from 2005 amended in 2007 provides for classification of forest fund use and ownership. It divides the forest fund in public and private properties. Public property comprises the forest and forest lands owned by the state and those others used or owned by the communes. Private forest property is any forest and forest land owned by private persons and also groups of trees situated within the borders of a private property. There is a similarity on the laws from 1992 and 2005 regarding the definition of the private forests, while laws of 1923, 1992 and 2005 recognize the importance of forests in favor of the needs of local communities for timber, fuel wood, grazing, and non-wood forest products.

The forest law from 1923 states that private and community forests can be managed by their owners in the manner they find appropriate, while the state forests will be managed following the rules set in the law regarding the management structure. According to the forest law from 1992 management plans will be prepared by expert study and research institutes. Their main objective should be the conservation of an adequate structure of forest stands, of the necessary production, and of the protective characteristic of forest areas. The law is referring as research institutions to the former Forest and Pasture Research Institute (FPRI) which has been prior to 1990 the body responsible for designing management plans for the state forests. In practice this disposition has never been implemented. One of the main components of the Albanian Forestry Project (1994-2004), supported by the World Bank, deals with the design of the management plans for the best forest areas of Albania and has been implemented through private licensed experts.

According to the forest law of 2005 the management rights of the forest fund may be attributed to juridical persons, either private or public, provided that a license by the MoEFW has been issued. The law as amended in 2007 provides that the responsibility of preparing management plans is delegated to a technical commission in the case of state forests, and to private licensed subjects for private and communal forests. Management plans for state forests should be reviewed by technical commissions next to the Directorate of Forests and Pasture, DFS, appointed and approved by the minister. Management plans of private and community forests have to be approved by the commune and the municipality council, in cooperation with the DFS. The minister defines the rules and the ways and means of how management plans are to be prepared which refer to all the forms of ownership.

5. Conclusions

The forest law 1923 had recognized all forms of ownership and regulated the property rights of private, state and community ownership. Community and private ownership is not more a subject of the forest laws adopted during the communism period. In 1990 with the demise of the communist totalitarian rule a profound restitution process has been undertaken and private property returned to the former owners, especially in the case of agricultural land. With the forest law 1992 forest community and private ownership came back into the scene, almost in the same form as they had been in 1923. The law from 1992 defines community forests as state property given in use to the communes or municipalities.

Despite the same term in Albanian language used for “communal” in 1923, 1992 and 2005 laws, if we carefully analyze the respective definitions, the laws of 1923 and 1992 refer to the concept of

community forests, as forests owned by state for which local communities (families, clans, village, group of villages) have only user rights, and the law from 2005 refers to the concept of communal forests, as forests owned by the local government bodies, as representatives of the respective communities.

Already the existence and recognition of the three forms of ownership on forest and pasture land is in itself a progress, bearing in mind the long communism period Albania has passed through, when even basic people's rights have not been respected. The transition period has consolidated step by step the ownership rights on forest land, transforming them into the actual stage in which property rights on more than 60% of the forest and pasture area belong to the communes. Historically established land use traditions nowadays play an important role. The actual forest law shows clearly the commitment of relevant state institutions and forest policy actors toward respecting tradition of forest ownership.

Management plans designing have became a process involving more than one actor, like has usually been. An increased cooperation among all the stakeholders involved in this process is evident. Delegation of the rights to the municipalities on deciding on the best acceptable safe way to use their forest recourses can be estimated as a big step forward on recognizing and respecting user and owners rights, according to constitutional provisions.

The private sector has not been important in managing the forests in Albania. Today about 5% of the forest area are privately owned, a percentage which remains the same since the period of King Zog I (Agolli et.al. 2003). This comes as a result of the 500 years occupation by the Ottoman Empire, where forests were state ownership. This ownership structure was inherited by the Albanian state after the independence 1912. Under the communist regime even this small percentage of private property on forests was nationalized. After 1990 former forest areas under the private ownership have been restituted to the former owners and there are no more forest areas which are claimed by the private owners. Their role remains a marginal one comparing to state and communal forests.

With finalizing the transfer of 60% of the forest area under communal ownership, as a product of the long process within the framework of the Forestry Project supported by the WB (Mine & Peri, 2006) , the ownership structure of forest land in Albania has changed totally. This important result comes as a final product of a long process initiated in 1996 when the Government and the World Bank started the implementation of the Forestry Project, having as an initial goal the transfer of user rights to the community. This new stage brought to the forest sector new challenges and a need for restructuring in order to adapt to the actual situation in all the instances. New problems this sector is facing need to be resolved, new managing structures at local levels in performing sustainable management of forest and other related sources need to be established, and the role of forest sector specialists need to be clearly defined in the new framework to be adopted.

At the local level, communal forests will be managed by the communes, based on the decision of the Council of Ministers of January 2008. Different tasks should be performed by the local structure, such as rehabilitation of the forest and the utilization of the area under their ownership for economic and other purposes. They can give in use to other organizations or subjects the forest areas in order to ensure a source of income for the local community. They have to perform all these tasks, while the appropriate structures have not been chosen yet, and the professionalism of these instances is under a question mark. Tradition in managing and using the forest by the inhabitants surrounding the forest can be defined as a basic experience, but this not sufficient. Professional assistance is of vital importance, when deciding on the forest management, especially in ensuring and preserving the sustainability of this resource.

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Legislative and institutional framework of alternative forest use and procedures

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Abstract

The legislative framework of alternative use of forest resources in Armenia is regulated by the RA Forest Code, Law of the RA on Specially Protected Nature Areas and a set of by-laws. The laws and by-laws related to the alternative forest use are presented below.

Forest Code and Related By-laws

Forest Code of the RA, approved in 2006, contains a set of provisions related to secondary forest use.

The Forest Code defines harvesting of non-wood forest products as harvesting and removal of fruits, berries, nuts, mushrooms, edible and medicinal plants as well as technical raw materials (Article 3). The same Article defines forest cutting coupon as a document verifying the right of secondary forest use. It is issued by the branches of Hayantar SNCO and contains information on the area allocated, in particular location, size, utilization volume, terms and prices. The Article 38 of the Forest Code defines the types and main principles of secondary forest use. Particularly, it states, that harvesting of non-wood forest products, as well as installation of bee-hives, hay-making and grazing should be carried out on forest lands without causing damage to forest on the basis of forest use contract and forest coupon. Use of forest lands for the purpose of growing of agricultural cultures and establishment of plantations, can also be carried out on forest lands without causing damage to the forest on the basis of lease contract. The Article prohibits cutting trees, collection of rare, threatened and declining species registered in the Red Data Book of the Republic of Armenia as well as grazing in the areas allocated. The Provision No.3 of the same Article states, that the order of forest use in the state and community forests shall be determined by the authorized body of state management.

However, the respective regulation is not yet determined. The Regulation should define the peculiarities of registration and allocation, as well as formulation of secondary forest use, rules of implementation, including the quantity and location of bee-hives, harvesting of wild fruits and nuts, wild berries, and mushrooms, harvesting of medicinal plants and technical raw material, definition of forest user rights and responsibilities, forms of supervision by the authorised body. It is important, that the Regulation defines the limitations on the use of non-wood forest products for personal needs by various forms that will secure legal base for the separation of secondary forest use for personal needs.

The Article 41 of RA Forest Code defines general principles of forest use for cultural, health, sport, recreational and tourism purposes. It specially emphasises the protection of natural values of the areas used for the mentioned purposes. According to the Provision No.3 of the same Article, the order on the use of state and community forests for the mentioned purposes shall be determined by the authorized body of state management. However, like other cases, the order on the use of forest for recreational purposes is not yet determined. At present the forests are allocated according to the RA Government Decree No. 806, dated 24.05.07, on the "Definition of the order on the allocation of state forests and forest lands for use". However, the regulation doesn't have provisions on the details of the rights and responsibilities of citizens or entities applying for use, as well as forest use program and timetable of main activities.

It is desirable, that this process is regulated by a separate regulation, specified in the Forest Code. It has to include information on the forms of allocation of forests for cultural, health, sport, recreational and tourism purposes, terms of lease, personal data and professional qualification of applicants, detailed description of the area, requirements to forests and forest lands upon finalisation

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of leasing period, list and timetable of forestry and environmental measures, list and timetable of the activities carried out for cultural, health, sport, recreational and tourism purposes, as well as the order of calculation of damage and compensation of parties.

Article 42 of the Forest Code states, that the order of forest use in the forests of specially protected nature areas shall be determined by Forest Code and legislation of the Republic of Armenia on specially protected nature areas. (See Section 2. 3)

Article 44 of the Forest Code defines the right of citizens to be in the forests and use non-wood forest products observing fire safety rules in the forests, without causing damage to flora and fauna and violating forest legislation. However, neither the Forest Code nor any by-law defines the volume of collection of non-wood forest products for personal consumption, computation of the crop extracted from the forest and type of supervision. These issues need to be clarified.

The Forest Code defines that the forest management plan, aside from full evaluation of the running of forest economy and forest use, as well as measures to be implemented for the running of forest economy for the coming 10 years, also contains information on non-wood forest products (areal and current quantity), as well as decision on possibilities for the use of forest lands for cultural, health and recreational needs (Article 14, item h).

Article 60 of the Forest Code defines the cases of forest legislation infringement. Particularly, cases of forest legislation infringement are unauthorized collection of wild fruits, nuts, mushrooms, berries and others in those forest areas, where it is forbidden, as well as infringement of terms and ways of collection. However, implementation of supervision over these infringements is not possible, due to the absence of relevant regulation on the terms, types and peculiarities of collection.

The National Forest Program, approved by the Government Protocol Decree in 2005, foresees development of 34 legal acts in the field of forestry. Among them the following acts deal with legal issues of non-wood forest use:

1. Regulation on forest use of state forests
2. Regulation on the use of forests and forest lands of protection and production significance for cultural, health, sport and tourism purposes
3. Regulation on secondary forest use
4. Regulation on the use of state and community forests and forest lands of protection, production and special significance for hunting needs, use of fauna and organisation of supervision.
5. Regulation on accredited management of state forests
6. Regulation on community forest management
7. Regulation on leasing forest lands and forests
8. Regulation on implementation of inventory and monitoring of non-wood forest resources

The following regulations have been approved by the RA Government:

1. The Regulation on transferring state forests to community entities for accredited management without tender (RA Government Decree No.583-N, dated 04.07.2006).
2. The Regulation on allocation of state forests and forest lands for use (RA Government Decree No 806-N, dated 24.05.2007) that defines the order of allocating state forests and forest lands for use. According to it, forests are allocated for use with or without a tender on the basis of forest management plans in accordance with the RA Forest Code, other legal acts and current Regulation. The right for the use of forests and forest lands can be obtained by legal and physical persons.

Aside from the mentioned approved regulations, several draft regulations have been developed in the framework of FAO National Forest Program Foundation –Armenia cooperation during 2006-2007. Three of them deal with secondary forest use:

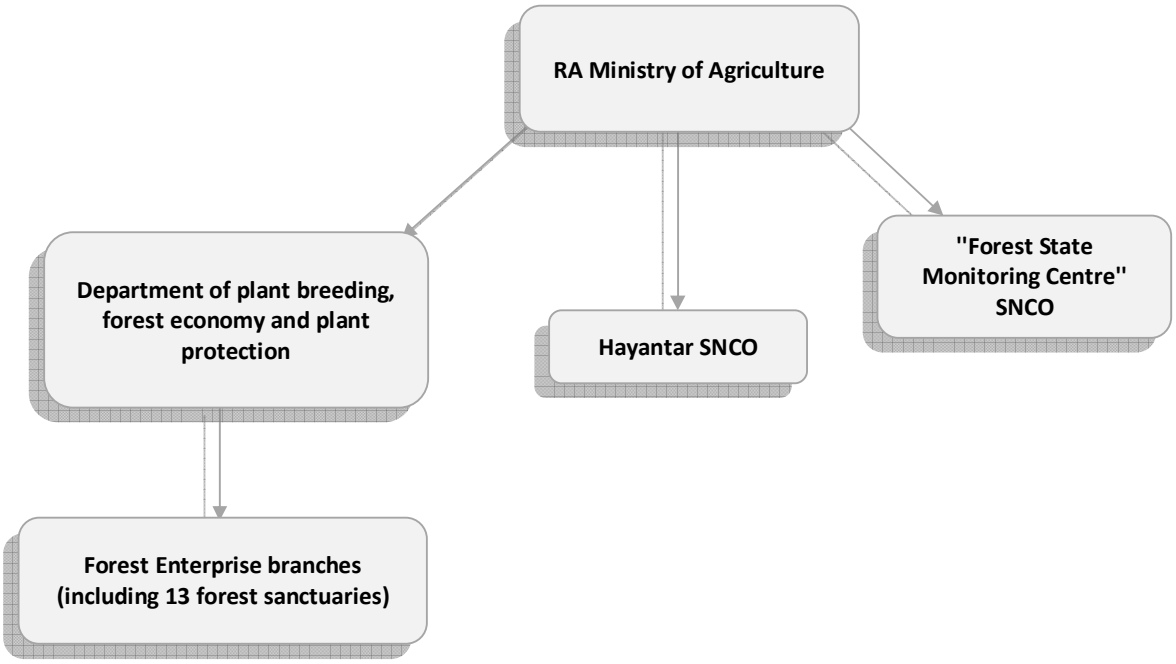
1. Draft regulation on secondary forest use in state and community forest lands.
2. Draft regulation on the use of state and community forests of protection and production significance for cultural, health, sport and tourism purposes.
3. Draft Regulation on forest use and forest preservation in the forests of production significance.

In summary, it should be stated that, though the RA Forest Code defines the main principles and provisions of secondary forest use, it is necessary to develop and approve respective by-laws, that will regulate the details of secondary forest use and secure the enforcement of forest legislation in the sphere of secondary forest use.

Institutional Framework of Forestry Sector and Procedure of Alternative Use

According to the RA Government Decree No 7, dated 15 January 2004, RA Ministry of Agriculture (MoA) is the authorised state management body in the sphere of forest conservation, protection, reproduction and use. MoA implements RA Government policy in the sphere of agriculture and forestry.

Scheme 1. Forest Entities in the Structure of RA MoA

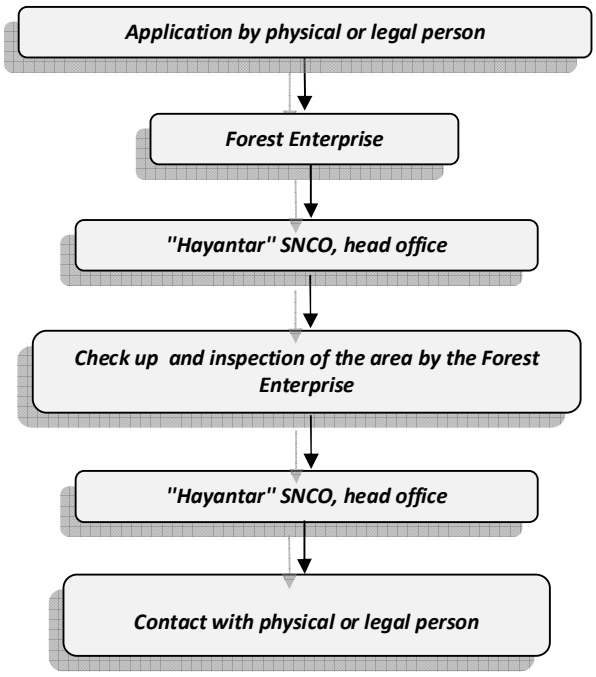


The main functions of "Hayantar" include implementation of state policy in the sphere of forest conservation, reproduction and use, provision of conservation, protection and effective use of forests

The current **procedure** for **short-term allocation** of forest areas for secondary forest use is the following; physical or legal person submits an application for certain type of forest use to the Forest Enterprise, addressed to General Director of "Hayantar" SNCO.

After reception the application is sent to “Hayantar” head office for inscription and is sent back to the respective Forest Enterprise. The Forest Enterprise carries out checking and inspection of the area and fills in the inspection Act to be submitted to “Hayantar” head office. Then, if “Hayantar” grants its “no objection”, the one-year lease contract is signed. (Scheme 2).

Scheme 2. Allocation of Short-term Lease



The areas cannot be leased for the collection of fruits, berries, mushrooms and other types of **non-wood forest products**; it is only allowed to apply secondary forest use in a certain area with a fee per kg set by ''Hayantar '' SNCO. The nature use fees, set in the RA Government Decree No 864, dated 30 December 1998, do not correspond to current market prices and need to be reviewed. In the situation, when a certain fee is not set, each enterprise applies to the head office of "Hayantar" for the definition of the nature use fee.

Each forest management plan has a Section on non-wood forest use with a data on assessment of fruits and berries for given Forest Enterprise. The permissions for the collection of non wood forest products should be based on these data.

The Law on Specially Protected Nature Areas and related by-laws

The law o SPNAs (Approved 27.11.2006) regulates the legal basis of the state policy in the sphere of nature development, rehabilitation, conservation, reproduction and use of the specially protected natural areas of the Republic of Armenia as ecosystems, nature complexes and individual objects of environmental, economic, social, scientific, educational, historical, cultural, aesthetic, health and recreational values.

The Article 25 of the Law on SPNAs states that the users of the SPNAs of the RA and their natural resources can be authorized state body (MoNP, RA), communities, as well as individuals and legal entities.

A separate Article (26) in the Law defines permitted types of use within the SPNAs of different categories.

So, in terms of secondary forest use, in state reserves only organization of cognitive tourism is permitted through the routes specified in the management plan, as well as haymaking and bee-keeping in the area of state reserve and plots specially allocated for these needs in accordance with the regulation by state authorised body.

In the reserve zones only organization of cognitive tourism is permitted through the routes specified in the management plan. Organisation of recreation, putting up tents in specially allocated places, organisation of cognitive tourism, as well as land leasing activities for recreational purposes and provision of consequent services are permitted within the recreation zone. Organisation of services and cognitive tourism for tourists and visitors, as well as use of mineral resources, water, flora and

fauna in accordance to the RA legislation, land leasing for organisation of production not restricted by National Park conservation regime, organisation of agricultural production using ecological methods, etc are permitted within economic zones.

All the mentioned types of use should be implemented in accordance with the conservation regimes specified in Articles 16-20 of the Law on SPNAs. The objectives and peculiarities of conservation regime of the state sanctuaries are defined by their Charters and not by the Law on SPNAs (Article 18). It is also noteworthy, that most of the state sanctuaries of Armenia in the structure of "Hayantar" SNCO (13 Sanctuaries) do not have Charters, meaning that neither their conservation regimes and nor possible types of secondary forest use are specified.

Upon approval of the Law on SPNAs the list of 10 legal acts deriving from the Law was approved by the Prime Minister (No. 109A, dated 14 February, 2007). These Acts were to be prepared and approved according to the timetable in order to secure the enforcement of the Law on SPNAs. A part of them has been prepared and approved, but the RA Government Decree on "Defining the Order of the Use of SPNAs" is still in the process of development though it had to be submitted by 20th April, 2008.

Currently there are several regulations approved earlier that regulate legal relations of various types of uses within SPNAs (e.g. Regulation on licensing and contracting for the use of fauna objects, Regulation on land allocation and urban development within SPNAs and forest fund lands). There are some attempts to join several types of uses in one Regulation (at the stage of processing). It should, among other issues, define peculiarities of each type of use, methodology for calculation of recreational load and allowed volumes. It is foreseen to submit the regulation for the approval by the RA Government coming months.

In order to get permission for secondary forest use (**collection of non-wood forest products**) within respective zones of National Parks a citizen should apply to the National Park addressed to the head of the NP. The National Park area is being checked and inspected, and if there is no danger from environmental point of view, the National Park issues its “no objection” for the collection of non-wood forest products. Having the “No objection”, the citizen then applies to Bioresources Management Agency in order to get permission. The citizen, at the same time pays the fee set in the RA Government Decree and organizes the collection. However, it should be mentioned, that a limited number of applications of this kind are submitted to BMA during a year.

In respect to the allowed quantities of non wood forest products to be collected, it is assumed, that annual allowable volumes should be assessed and reckoned for each National Park, and the permissions should be based on these assessments. However, the assessment is not always carried out.

Models of the Czech forest administration and services of public forestry sector for private as well as other small state and non-state forest owners

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Abstract

The paper offered is trying to get hold of both items of this year symposium as seen from the title. In the first part (A) it gives information on historical roots of forest administration on the territory of present Czech Republic, its development and tries to describe in brief problems in current post-transformation era of last two decades, too. Particularly fundamental changes in overall territorial organization and abolition of original 102 districts and district authorities in 2003 following by creation of so called Authorized Municipalities had a significant impact and affected the administration of forests.

Services for private forest sector are mentioned in the second part (B) and some views of stakeholders and users on accessibility, quantity and quality of these services, some of which ensue of the law but in fact are accessible only with difficulties. These views are included on the basis of simple questionnaire (C) – thanks to responses of forest owners of various types and size of ownership, forest managers, representatives of forest cooperatives and employees of state administration, as well.

1. Models of public forest administration

Inconvenient state of forests in the first half of the 18th century required a decisive solution. The only solution, in the spirit of enlightened absolutism, the only correct solution appeared to be the introduction of state supervision of forest management. This was covered for a territory just called the Czech Republic through imposition of the Forestry Codes of Maria Theresa - for Bohemia and Moravia on 1754 and for Silesia in 1756. Supervision of rural, village and municipal forests was duty of seigniorial authorities, and district authorities carried out supervision of other forests. Important changes in civil administration became in 1848. The newly created Ministry of Agriculture in Vienna had the task of preparing the new forestry act, which was to prevent, more effectively than the past one, the deforestation of landscape and devastation of forests. This was in fact the first regulation concerning forest management with consideration given to the public interest.

Further forest act No. 250/1852 I. C. can be considered as a beginning of the new age in forestry. This law was in force more than 100 years in the territory, which is just called the Czech Republic.

> *Statutory rule No. 124/1951 Coll. on organization of state forests and national enterprises of timber production was separated silvicultural and wood processing components of forestry. Forestry administrations, like budgetary organizations were created on Jan. 1, 1952 and companies of forest-products industry like economic organizations. As there was evidence of negative incidence hereof fission in practice this organizational structure was unmade after 4 years by Statutory rule No. 2/1956 Coll. on forestry organization and reach the return to original condition.*

Law No. 166/60 Coll. on Forests and Forestry and public notice of Ministry of Agriculture, Forest and Water Management No. 17/1961 Coll., have had improve situation in forestry. Only herewith law was termination force of law No. 250/1852 in Czech lands and thus uniform fundamental precept of law in forestry was valid. Law creates complex groundwork for achievement of the main forestry objectives, corresponding status of scientific, technical and economic knowledge of that time. Foresters however were confident, that it represents mainly the way to meet political and economic requirements of national economy and that this law brought nothing positive for the sake of forests.

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Next legislative specification was Law on Forests No. 61/1977 Coll. and finally after changes in 1989 Law No. 289/1995 Coll. of 3rd November 1995 on Forests and about Changes and Completion of some laws (Forest Law).

State forest administartion

Czech forestry policy did not exist up to the creation of the independent Czechoslovak republic. It was a part of forestry policy of Austrian monarchy and it mostly hold only on the most needful acts of the state forest inspection based on the Imperial Code No. 250 of 1852 and leaves to private proprietors almost free hands re. forest management. There was published provincial Law No. 11 on forest management of municipalities in Bohemia in 1893.

The 1st Czech Republic (1918 – 1939)

- endeavour for lay-out of well-considered universal fundaments of Czech forestry policy;
- creation of Czech forestry education;
- forest management is given under the state supervision;
- Law on Temporary Protection of Forests No. 82/1918 Coll. – prevention of the felling escalation;
- 1st land reform: increasing of forest state possession from 1.2 to 16.4 % (recompensation);
- distribution of forests parts for communities (creation of community forest cooperatives)and to some smaller acquirers;
- support of wood export.

Protectorate Bohemia and Moravia

- creation of Administrations of forests companies that have managed their forests through forest managers;
- publication of several enactments, (statutory rules on professional forest services, on forest management), that have had its intellectual basis in pre-war forestry policy and succoured to forest improvement.

Period 1945 – 1990

- increasing of state forest area on 0.5 mill. ha and later through nationalization almost of all forests;
- introduction of the central tools for planning and decision making.

The function of forestry central body was not limited only to the state supervision of forest management, nor to the assertion of national interests towards establishments, which manage the forestland in this period. The central body also influenced economic activities of subordinated organizations (enterprises). This double function has been performed after 1945 by four ministries:

- Ministry of Agriculture (MZe),
- Ministry of Forests and Wood-working Industry (MLDP),
- Ministry of Agriculture and Forest Management (MZLH),
- Ministry of Forestry and Water Management (MLVH).

These bodies possessed for the purpose of forestry management an independent body for the state supervision of the forests (State-controlled Care of Forests). The development of this unit was very variable. Originally it was a large department (MZe), later not even a section (MLDP), than independent sections (MZLH) and finally a small division of some department, mostly of state administration and legislation one.

Period after 1989

Forestry belongs again to the Ministry of Agriculture (MZe). This period was aimed at:

- reflection of changes in property – forest are again owned by various owners;
- new Forest Act reflecting these changes;

- shift of ecological functions among pivotal ones (but meanwhile it seem that officially more or less theoretically… except of endeavour of some practical foresters and educated owners).

Nevertheless so called double lined responsibility for forestry, which is probably quite strange comparing to other countries, is considered as a persisting problem of the Czech Republic forestry and environment protection.

Forestry and nature protection – some news in brief

There is a new legislative provision: plan of the care in SPAs isn't legally binding for physical persons. The Nature and Landscape Protection Agency (AOPK) is updating 80 plans of the care due to the existing number of SPAs.

The highest representative of this agency presented and statement to prefer contracting protection from solving expectant lawful promulgation of the protected area (§ 58 of the Act. No. 114/92 Coll. - Compensation for unprofitable agricultural or forest management and Public Notice No. 335/2006 Coll. Details on financial compensation administration for aggravated forest management). Unfortunately from the discussions with forest owners is quite clear that it does not work.

The statement to forestry parks, which was originally quite negative: "There is already net of different categories of SPAs in the Czech Republic not providing an easy survey for people responsible for nature protection (a bit funny!), that the Forestry Park represents only further "terminus technicus", which this no-lucidity multiplies. But there is nothing against forestry parks generally."

It should be stressed that there are already three Forestry Parks proclaimed in the Czech Republic up to data – Krivoklatsko, Krtiny and Bezdez. They represents a tool for professional and public education and a new possibility how to show that forestry is not dirty business and how to protect the landscape beauties from bottom up and hopefully without the payments from the state budget. Currently the system of administration of forestry parks is under the preparation.

2. Support of forest management - Public forestry sector services for private forestry

The Ministry of Agriculture, Section of Forestry, is the central body of state administration in forest management, hunting and game management. Its support of forest management by financial contributions is offered conformable with appropriate provision of forest law and rules for her administration. Respective rules are included (supplement No. 9) annually to the law No. 487/2009 Coll. - Act on State Budget.

Subsidies

With its accession to the European Union the Czech Republic opened the door to the possibility of using finances from EU funds. In the period before the accession of the Czech Republic to the EU, the SAPARD programme served as a tool enabling preparation for the proper drawing of EU funds. In the 2007 – 2013 programme period it is mainly the European Agricultural Fund for Rural Development (EAFRD).

Finances from the EAFRD are used to improve the competitiveness of the agriculture, food and forestry sectors and the development of rural areas. Projects incorporated into the Rural Development Programme (RDP) are paid for through the EAFRD in Czechia. The predecessors of these funds between 2004 and 2006 (EAGGF and FIFG) were structural funds for the implementation of the European economic and social cohesion policy.
The framework of national subsidies

Supports (aid, motivational resources) are amounts of money or allowances in kind of the state to companies that should motivate definite behaviour (act) up to market reciprocal service. Motivation belongs to the file of procedural tools of economic policy, which have serve on moral conviction or they are option to coercive measure.

State subsidy support of forest management in the forms of services or financial due in the Czech Republic is fixed in § 46 of Forest Law No. 289/1995 Coll. and financial due and services can go to:

- ecological and to nature thrifty technology management in the forest
- improvement of forest stands to the 40 years of age
- escalation of the share of ameliorative and stabilising tree species
- provision to restoration of forests damaged by pollutants and stands withering owing to anthropogenic influence;
- provision to renewal of stands with unfit or substitute tree species composition;
- provision to afforestation in mountain areas;
- forest protection
- provision to ensure none-wood-producing role of the forest
- provision to control insect pests and provision at other extraordinary circumstances and wayward claims affecting forest condition and exceeding possibilities of proprietors;
- support of forest owners grouping and supports of management in associated stands of small scope;
- making out of forest management plan.

In support of isn't legal claim and in the event of without authorisation using due or presentation wrong data is forest owner obliged return the sum of contribution to the Ministry of Agriculture budget.

State Budget Funds for the Forestry Sector (example 2009[1/])
(in mill. CZK / EUR = ca. 25 CZK)

Governmental financial obligations subject to the Forest Act – 239.2
Soil improving and stabilizing species - 12.9
Licensed forest managers - 161.0
Forest management guidelines - 22.4
Soil reclamation and torrent control - 42.8
Services provided by the government for forest management – 61.0
Aerial liming and fertilizing – 19
Airborne fire control service – 1
Large-scale measures for forest protection – 2
Consultancy – 33
Other services – 6
Aids from State Budget – 381.8
Regeneration of forests damaged by air pollution – 10
Reforestation, establishment of stands and their tending – 251.9
Grouping of the small-sized forest owners – 1.4
Ecologically and nature friendly technologies – 31.4
Assuring of non-wood-producing function of the forest – 0
Torrent control – 0
Support of endangered species of wild animals – 10.1
Making out of forest management plans – 73.2
Other forest management – 1.7
Programmes co-financed through EC funds – 0
Breeding and training of national races of hunting dogs and hunting birds of prey – 1.9
Aids from the Supporting and Guarantee Agricultural and Forestry Fund – 0
Aids co-financed by EC within Rural Development Programme of the Czech Republic for the Period 2007/2013 (391 projects) – 39 277.09
Aids for Afforestation of Agricultural Lands – 69,2

[1/] The example of 2009 – official statistic data of 2010 are not available yet.

Ministry of agriculture also supports in some level i.a. the Czech Forestry Society (CFS), which aim is educational, too. Purpose of some projects prepared by CFS is to acquaint forest owners, forest managers and agricultural advisers in forestry field e.g. with following topics:

1) Valid EC and national legislation dealing with problems, discretions and duties of forest owner and jurisdiction of state administration body;
2) Utilisation of information technologies at solving of laid problems;
3) Optimisation of forest enterprises management – usage of practical procedures at concrete problems solving – examples from practice;
4) Utilisation of Ministry of agriculture and Ministry of environment titles offering subsidies in terms of management;
5) Conception of forests management on territories of NATURA 2000.

3. <u>Responses received on simple questionnaire</u> - views of stakeholders, forest owners of various types (private, municipalities, forest cooperatives) and size of ownership on questions aimed to this year symposium or at least generally to the 9.06.00 interests

<u>Changes in overall territorial organization - view on general state administration reorganization in 2003 and contemporary administration concerning forests:</u>

- The number of regional authorities was enlarged and nullification of district authorities it means to the centralisation. I don't know pass judgment on the effect.
- Reorganization of state administration was unsuccessful; system of district authorities was suitable. It should be interesting to evaluate how many employees increase the number of officials. Further trouble is clash among local self-government (elected representatives) and administration especially on the level of so-called "Municipalities with Broadened Authority" (MBAs), which in fact replaced former districts.
- Activity of forest administration employees is in many cases formal.
- State forest administration leaves proprietor alone, and what owner demands it is realized, it means about the ideal status (sic! - see the line above).
- Chaotic, unfit jurisdiction, grant policy on regional level is unsuitable, MBAs without due expertness and on the other hand state administration yourself pursue repair selves to itself (national parks).

<u>Brief estimation of balance among forestry and environmental legislature, clash among regulations in forest law and environment legislation:</u>

- Some provisions go against other ones, unfortunately Law No. 114/1992 faces like superior law.
- Legislation generally needs disengage and let a major space to owners and forest managers. Limitation of forestry management due to nature conservation is possible only with the agreement of proprietor and for adequate reimbursement. Clash among laws solve quickly through amendment of Act 114/92 Coll. and limit influence hereof law!
- No comment – those who works in forestry practice knows and other people are not interested in it.
- Law on nature conservation is a special-superior law for foresters. Many matters are impossible without the consent of Nature Protection organ, which NP administration faithfully violates. E.g. NATURA 2000 – the practice showed how it is possible frequently use it to this end.
- Unbalance is evident. Conservation has its own Ministry of Environment (MZP), whereby produced by legislation go mostly special -senior- in relation k legislative produced by Ministry of Agriculture (MZe). Forestry has in better case „his own deputy" on Ministry of Agriculture. And sometimes nor it wasn't. Further is evident "double-lined administration" at forestry control and inspection. Czech Inspection of Environment (CIZP) should not go in inspection of forestry.
- There is a great deal of these clashes, Act No. 114 /92 Coll. was drawn like superior norm law of others inclusive law on forests, water. It is impossible to talk about balance of both these lawful specifications – and this reality is source of continuous problem at forest management as

such. Several examples: Invalidity of forest law in forests of national parks (under the administration of MZP), binding standpoint of conservation bodies to forest management plans, demands on leaving to high amount of recumbent wood and dying trees on survival comparing to keystone forestry principles of protection against bark beetles, rejection of some tree species (larch, Douglas fir, Grand fir) as introduced species in spite of the fact that forestry legislation accepts them like soil improving and stabilizing tree species etc., etc.

- Nature conservation is untimely superior to forestry. There have been illogics in processing and approving of Forest Management Guidelines (LHO) – unfortunately ignorance and also the impact of "greens".
- Balance between these legislatures was piping already through receiving Law No. 114 on Protection of Nature and Landscape and by further amendment re. NATURA 2000. Law No. 114 brightly and clearly declare its supremacy to forest law and others and makes step by step erosion of proprietary law and at least trample on some List of fundamental rights and freedoms provisions. There are problems re. restricted management (not solved by MoE more than 5 years), contracting conservation, proclamation of NATURA territories, plans of care obligation, agreement of conservation organ at approval of the Forest Management Plan (LHP), suggested EIA for LHP).
- Management detriment in SPAs is practically impossible to reach, NATURA territories were sometimes declared eventually broadened without forest owner consent and attendance.
- Law on forests is quite liable to the law on nature protection. Forest owner hasn't legal certainty, how he can treat his property, neither would get infringe the law on conservation. Lawful duties presented in the Act No. 114/92 Coll. are defined darkly, blankly and various state administration bodies of nature protection interprets them in different way.
- Public Notice No. 335/2006 Coll. does not accord the compensation to forest owner arose from a management detriment and thus it is necessary to rewrite it quickly.
- State administration bodies of nature protection have on forest owner frequently requirements, that in reality have go above frame of their lawful authority. However proprietors have not effective tools (except of legal proceedings), how to defend themselves with these requirements.

<u>Need of silvicultural, hunting and environmental legislation adjustment:</u>

- To specialize and concrete provisions of nature protection law in such a way that they cannot be misused and put up these law on level of other laws.
- Adjustment of legislature must be for the sake of land proprietors and every limitation must be cover! All grants to the forestry from national sources for proprietors managing the forest according to the forest management plan should be annulled and instead of it lawful settled payments on 1 ha of forest should be impose for other functions and services of forests for society (about these services, which are in fact ordered by state there are only talking).
- No comment, everyone – foresters, and proprietors in the same way, only create democratic bushes, final preparation and decision is always on officials.
- Game management law is a terrible document that quickly needs a new version.
- Act No. 114/1992 Coll.: In fact there is missing functional public notice dealing administration compensation for detriment arose in the interest of conservation of land- owners lots. And because this law is valid since the 1st half of 90ties the question of recompensation should be solved by return.
- It is rather a question how to hamper further erosion of proprietary law. Above all quite remove or in principle reduce supremacy of Nature and Landscape Protection Act (114/1992) above the Forest Act.
- Above all the adjustment of environmental legislature is needed (restriction of so called "ecological groups", which sometimes are more powerful than nature protection bodies) and hunting legislature (to make easy the reduction hoofed big game) and simplify forestry legislature.

- An independent chap is “penalty for so-called natural environment jeopardy”, which seems to be a nonsense.
- Forest management units (LHC) must be delimitate according to natural conditions and Natural Forest Areas (PLO), not according to all the time transformative activities (see state forests LCR),
- Forest law should declare wood like strategic, permanently renewable raw material.
- Game management/hunting Act must strengthen hunting lots proprietors law, simplify hunting scheduling, remove wrong methods of game stock counting and improve authority, jurisdiction and operation of forest and hunting guards.
- Forest law should brightly determine limitations, which are fixed to forest owner due to the public interests and consequently the owner should obtain direct back payments re. to the area in which he fulfil the public orders.
- Liberalisation – limitation of duties by law.
- Motivational factors and tools for satisfaction of societal requirements improve should be improved.
- Simplified process that have forest owner make to achieve compensation for detriment and arose losses.
- Introduction of direct back payments for managed forest area (1 ha) in a harmony with forest legislation (fulfilment of societal orders).

Acceptable legal limitation of property law - preconditions and range:

- Preferably the smallest ones, only the forest sustainability should be ensured;
- Significantly limit rights of municipalities;
- It is possible to accept any limitation by law, but for adequate recompensation and with the agreement of proprietor – otherwise we remain in the communism;
- Today pursuant to social orders but they are seen from panel town houses and markets. It is necessary to adhere the Constitution and fundamental laws of civilised world.
- The principle problem is legal conscience of our society and the law exaction.
- Forest owners’ rights they are expressively restricted comparing to other European countries. All limitations of property laws would be fulfilled providing set of detriment reimbursement height in advance.
- Because of the tradition there is a need to have the right of free access to the forests (of course not for motorcycles bikers and horsemen).
- Every possible legal limitation of proprietor law would have be discussed before the owner and in extenso would have respect his decision. Of course, the owner should manage his/her property according to principles of sustainable forest management.

Further ideas concerning problems of contemporary forest management:

- A historical ownership of communities must be get back, to carry out consolidation removed and impacted forest lots less than 1 ha by gratis transmission on communities.
- A democratic state should consider that part of estates are owned and managed by electorship and taxpayers. Matters, which are happening in our beautiful country, aren’t quite common in Europe.
- There are missing political will for others topics.
- Creation of regions and transfer of administration on MBAs lead to fundamental repair and enlargement of direct influencing of its performance and expressive weakening on all its levels. State forest administration officials are staff of autonomous office, respectively its elected representatives and thus he/she is often in „subordinate relation" in face of his employer. And the special interests, political or other influence is playing role here.
- This reorganization only the number of bookkeeper was increased. As regards of forestry and hunting in our former district it is from three to five.

- Disconsolate social positions of people working in forestry sector that is permanently behind other sectors. Low social consciousness on forestry as well as the forestry profession prestige is resulting from it.
- Clear declaration of the state related to forest functions (or directly forest services) performance and searching of harmonic, well-balanced relationship between particular functions is a prerequisite for stabilisation of forestry, inclusive the law on state public enterprise LCR s.p.
- State did not declare brightly its politics in face of forest owners from look the point of view of forest function, respectively economic, environmental and social pillars. There is a need to acknowledge importance of economic and social pillar of forestry.
- This clear requirements declaration from the side of state on preferably harmonic balanced all forest roles would have aimed, step by step, at close to nature forest management, with forestry policy strategy of ecosystem management of forests.
- There is a need to finish the restitution of church forests through physical releasing of estates.
- Privatise state forests, thereby with decrease the risk of partial influence and ruthlessness interests, which can be politically enforced in state forests.
- Nature conservation should prefer financial supports of active measurements supporting declared subjects of protection and not the endeavour to capture the biggest territory through power but without clear expert and economic analyse of their management (e.g. National Park Sumava).
- Conception of state forests management accepted by the government (so called "Wooden Book") - it is long-term contract on full outsourcing with several chosen big entrepreneurial subjects will influence in negative way the rural development, market with forestry work as well as the market with timber in the long term.
- Vision of state forests management „Wooden Book"[2/] derogates manners of forest management long-term checked on forest possessions.

„Wooden book" is the name of a document submitted by the minister of agriculture, which prescribes a way of management in state forests by Forests of the Czech Republic F. E. (LCR s.p.). It is remarkable, that this time a lot of forestry subjects have the same view as so called ecologists and advise thereon, that sale of timber „on stump" (which means, that timber firm chop tree down, measure, carry and sell by itself) is inconvenient for the state.[3/] Association of Municipal and Private Forest Owners criticised this way of wood sale sorely underlining that it is not used in none of surrounding states. At the sale of timber „on stump" it is impossible to take control of timber quantity hauling from the forest. Practical foresters know that district forest officer isn't physically capable to control all parameters, quality nor quantity of hauled timber. And where isn't proper verification, there happen attempts of enrichment. Nevertheless Forests of the Czech Republic, S. E. on the contrary alleges that studies confirmed, that this type of business is for the state public enterprise and thereby for the state economically optimal. The state enterprise hasn't technical equipments, machinery etc. for the sale "on the roadside". Infrastructure, log conversion depots, lorries and further techniques the state sold in coupons privatisation just to forestry firms, so-called Forest Joint Stock Companies. That is why that LCR s.p. in absolute majority must hire all these services.

A representative of the Association of businessmen in forestry is in fear from giant tenders on forestry work. Only big companies achieve attain orders for large areas and then they will manage forests in such a way that they hire smaller firms, event. businessmen or work as such. As far as only couple of big firms will manage forests then they will dictate unacceptable prices for small ones.

National Forestry Programme II

[2/] Related to this matter quite a big portion of foresters surprisingly was in accord with „ecologists".
[3/] Ukrainian representative mentioned similar problem during the symposium in Zvolen, Slovakia in 2009.

NFP II is also dealing with the problem of state relation to forests and forestry in its key action No. 16. This chapter addresses mainly state administration of forests, licensed forest managers function, forest management plans and forest management guidelines as well as all-life education.

It is already recommended:

- To remove the state administration of forests from general system of state administration by amendment of Forest Act No. 289/1995 Coll. Consequently special state administration will be created – "forest controlling offices" *(Staatsforstverwaltung).*
- Legal provisions will improve requirements on officers of forest administration.
- To improve influence (force) of state forest administration by consequential and consistent controlling activity on all administration levels.
- To improve methodological leadership of lower units by Ministry of Agriculture (MZe) and regional offices.
- Competencies of the first state forest administration level for the territory of national parks should be given to the regional offices.
- Responsibility for forest stands condition is on the forest owner. Licensed forest manager will be still only his adviser.
- Licensed forest manager service should be improved by completion of duties and rights, also towards the forest owner and state forest administration.

In closing only a citation of a forestry organisation representative that was sent in writing to the Czech Forestry Society session in the day when this paper was finished. Unfortunately this is a characteristic of the current Czech forestry:

"In forestry activities we are with getting to a special position controlled by outside powers. Being liable to that we nod ours approval in a passive way. We have only uncertain objections with one another and slope our heads. We are more or less like viewers watching on commercial horror movie and we feel how our prominent forestry predecessors - Opletal, Fric, Matejka, Konsel, Maran a many others turn in their graves. Forests are growing along, but forestry like branch is (probably not only in the Czech Republic) in considerable professional defensive. We crush and we show contempt of a conquests and morale of one-time foresters. We haven't the vigour to oppose and brace our energies and straighten up. And how some informed people in leadership positions of contemporary forestry organisations say ´...it will be worse!´- if only wouldn't be so!"

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4. Prihoda, J., 2011: Forestry Park "Krtiny Masaryk Forest", (Lesnicka práce / Forestry Labour 90), 5/2011, 6 – 7.
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Analysis of the Rural Development Programme 2007 - 2013 EU

Jaromír Vašíček [1] ***(Czech Republic)***

Abstract

The European Union promotes rural development by European Agricultural Fund for Rural Development (EAFRD). A practical tool to use the fund in the member countries EU is Rural Development Programme (RDP). Analysis of the rural development program covers 11 EU countries and deals mainly with those aspects of the program:

- Planned funding for RDPs in the eleven EU member states for the years 2007-2011.
- Planned funding for co- financing RDP in eleven EU member states for the years 2007-2011.
- The volume of the expended funds in the eleven EU Member States between 2007 -2009.
- The description of the forestry measures in each RDP axes, including the amount of money spent on these measures in the eleven EU Member States in the years 2007 -2009.
- An analysis of rural development goals in eleven EU member states for the years 2007-2011.
- A deeper analysis of the RDP to the Czech Republic.
- Problematic points and challenges of financing rural development policy

Analysis summary describes the process of achieving the objectives of the program that deals with both positive and negative aspects of practical implementation of the RDP 2007-2009. Eleven Member States were selected to cover mainly central European forest and it was possible to compare the Central Area with two Scandinavian countries and one Baltic state and one of the Mediterranean.

Keywords: RDP, European Agricultural Fund for Rural Development, EAFRD forestry policy, rural development.

1. Introduction

The European Union promotes rural development by European Agricultural Fund for Rural Development (EAFRD). A practical tool to use funds in the Fund's member countries, the Rural Development Programme (RDP). RDP is a motivational tool to achieve sustainable forest management. RDP pursues the following main objectives:

1. Support the competitiveness of agriculture and forestry.
2. Improving the environment and landscape.
3. Improve quality of life of rural people and increase the diversity of rural economy.
4. Improve the activity of the rural action groups.

Funding for the Member States of the European Union 2007 - 2013, during those years, should be improved in the above-mentioned types of support. Individual Member States have set up capacity of their territory. Member States on the basis of their priority, opened the appropriate action under the general direction of the relevant priority axis

2. Material and method

The aim of the analysis was to assess the total amount of money spent by the EAFRD rural development program. Methods were used in comparisons between States, using clear tables and graphs. Analysis summary describes the process of achieving the objectives of the program that deals with both positive and negative aspects of practical implementation of the RDP 2007-2009. Eleven Member States were selected to cover mainly central European forest and it was possible to compare the Central Area with two Scandinavian countries and one Baltic state and one of the Mediterranean and to analyze the data and documents obtained from public sources.

3. Results

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Table 1

EUR million	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*Total*
CZ - Czech R.	*396,6*	*392,6*	*388,0*	*400,9*	*406,6*	*412,7*	*418,0*	*2 815,5*
DE - Germany	*1 185,0*	*1 186,9*	*1 147,4*	*1 156,0*	*1 159,4*	*1 146,7*	*1 131,1*	*8 112,5*
LT - Lithuania	*261,0*	*248,8*	*236,9*	*244,7*	*248,0*	*250,3*	*253,6*	*1 743,4*
HU - Hungary	*570,8*	*537,5*	*498,6*	*509,3*	*547,6*	*563,3*	*578,7*	*3 805,8*
AT - Austria	*628,2*	*594,7*	*550,5*	*557,6*	*541,7*	*527,9*	*511,1*	*3 911,5*
PL - Poland	*1 989,7*	*1 932,9*	*1 872,7*	*1 866,8*	*1 860,6*	*1 857,2*	*1 850,0*	*13 230,0*
PT - Portugal	*562,2*	*562,5*	*551,2*	*559,0*	*565,1*	*565,2*	*564,1*	*3 929,3*
SI - Slovenia	*149,5*	*139,9*	*129,7*	*128,3*	*123,0*	*117,8*	*112,0*	*900,3*
SK - Slovakia	*303,2*	*286,5*	*268,0*	*256,3*	*263,0*	*275,0*	*317,3*	*1 969,4*
FI - Finland	*335,1*	*316,1*	*292,4*	*296,4*	*287,8*	*280,5*	*271,6*	*2 079,9*
SE - Sweden	*292,1*	*277,2*	*257,0*	*260,4*	*253,0*	*246,8*	*239,2*	*1 825,6*
Total EU	*12 343,0*	*12 542,5*	*12 491,3*	*12 462,4*	*12 871,2*	*12 819,7*	*12 764,3*	*88 294,4*

Comments: The Table 1 includes allocations under the European Agricultural Fund for Rural Development (EAFRD) and the money transferred from direct aid to farmers to Rural Development under so-called "Modulation" and other agreed transfers (cotton and tobacco). Pre-allocated rural development funding under Heading 2 "Natural Resources" of the Financial Framework for 2007-2011 from EAFRD.

Table 2

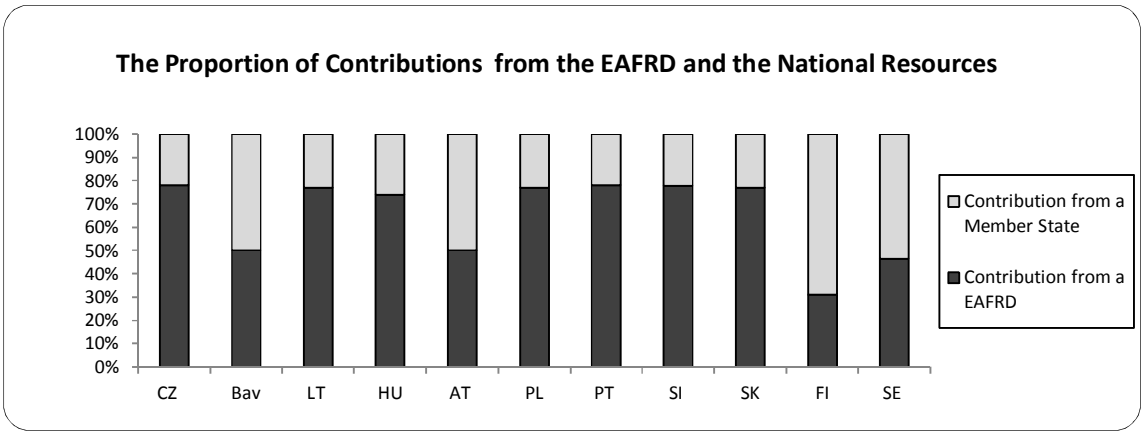
COUNTRY	*Total Public Contribution (in EUR million)*					
	Axis I	*Axis II*	*Axis III*	*LEADER*	*TA*	*Total*
CZ - Czech R.	*840,0*	*1 945,0*	*635,0*	*175,0*	*18,0*	*3 615,0*
DE – Bavaria	*553,8*	*1 547,0*	*268,6*	*126,0*	*12,5*	*2 507,9*
LT – Lithuania	*930,2*	*824,6*	*275,6*	*137,0*	*93,0*	*2 260,4*
HU – Hungary	*2 366,4*	*1 626,7*	*690,7*	*272,4*	*203,0*	*5 159,1*
AT – Austria	*1 078,5*	*5 661,5*	*506,1*	*423,1*	*153,2*	*7 822,3*
PL – Poland	*7 187,5*	*5 546,0*	*3 430,2*	*787,5*	*266,6*	*17 217,8*
PT – Portugal	*2 081,0*	*1 776,8*	*6,7*	*6,7*	*126,6*	*4 444,0*
SI – Slovenia	*399,0*	*588,0*	*132,0*	*34,0*	*6,0*	*1 159,0*
SK – Slovakia	*835,4*	*1 242,1*	*358,0*	*74,5*	*52,5*	*2 562,6*
FI – Finland	*504,0*	*5 407,0*	*5 407,0*	*242,0*	*40,0*	*6 626,0*
SE – Sweden	*555,0*	*2 702,0*	*326,0*	*264,0*	*70,0*	*3 917,0*

Comments: Table 2 provides the overall framework of funding allocated for RDP EAFRD, including the share of national budgets of Member States. Total volumes of funds are allocated to each priority axis. The axis of the TA includes funding for technical assistance.

Table 3

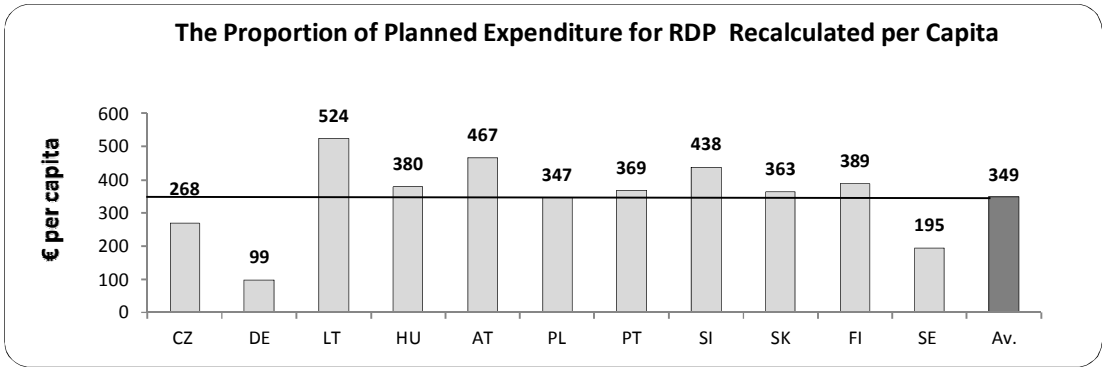
COUNTRY	*Axis I*	*Axis II*	*Axis III*	*LEADER*	*TA*	*Total*
CZ - Czech R.	*22,4*	*55,2*	*16,9*	*5,0*	*0,5*	*100,0*
DE – Bavaria	*22,1*	*61,7*	*10,7*	*5,0*	*0,5*	*100,0*
LT – Lithuania	*40,0*	*37,8*	*11,9*	*6,3*	*4,0*	*100,0*
HU – Hungary	*44,6*	*32,9*	*13,0*	*5,5*	*4,0*	*100,0*
AT – Austria	*13,8*	*72,3*	*6,5*	*5,5*	*1,9*	*100,0*
PL – Poland	*40,7*	*33,5*	*19,5*	*4,8*	*1,5*	*100,0*
PT – Portugal	*45,0*	*41,8*	*0,1*	*10,4*	*2,7*	*100,0*
SI – Slovenia	*33,3*	*52,2*	*11,0*	*3,0*	*0,5*	*100,0*
SK – Slovakia	*31,5*	*50,0*	*13,5*	*3,0*	*2,0*	*100,0*
FI – Finland	*11,0*	*73,4*	*9,4*	*5,3*	*0,9*	*100,0*
SE – Sweden	*15,2*	*69,1*	*8,0*	*5,8*	*1,9*	*100,0*

Comments: Table 3 shows the shares of the total funds spent on each RDP axis in percentage. The table shows that states CZ, DE, AT, FI decided to take on the economic pillar of about 20 % of the total budget. In most countries the share of funds for the environmental pillar prevails over the others.



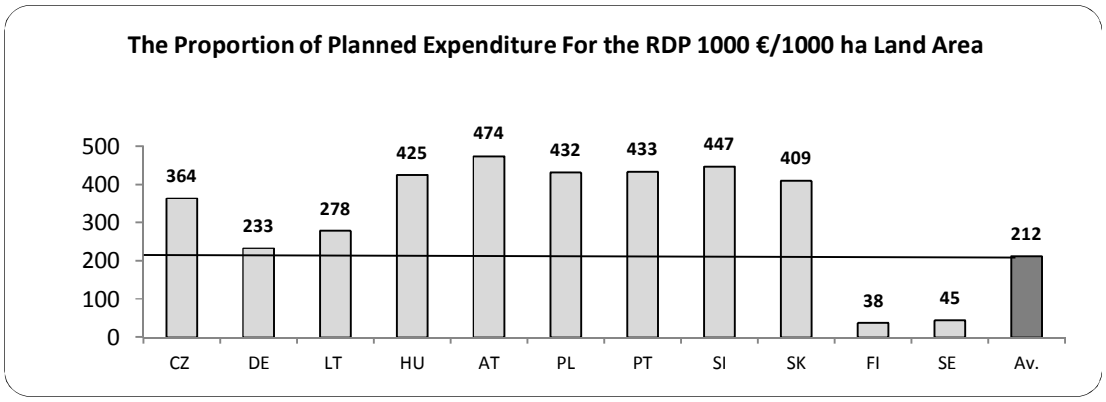
Graph 1

Comments: Graph 1 shows that the selected EU countries can be divided by the share of national funds into two groups. Countries in the first group (Bav, AT, FI, SE) to participate in the total national budget of the RDP, on average, 50 % of the national resources, in the second group of states involved, on average, about 80 %.



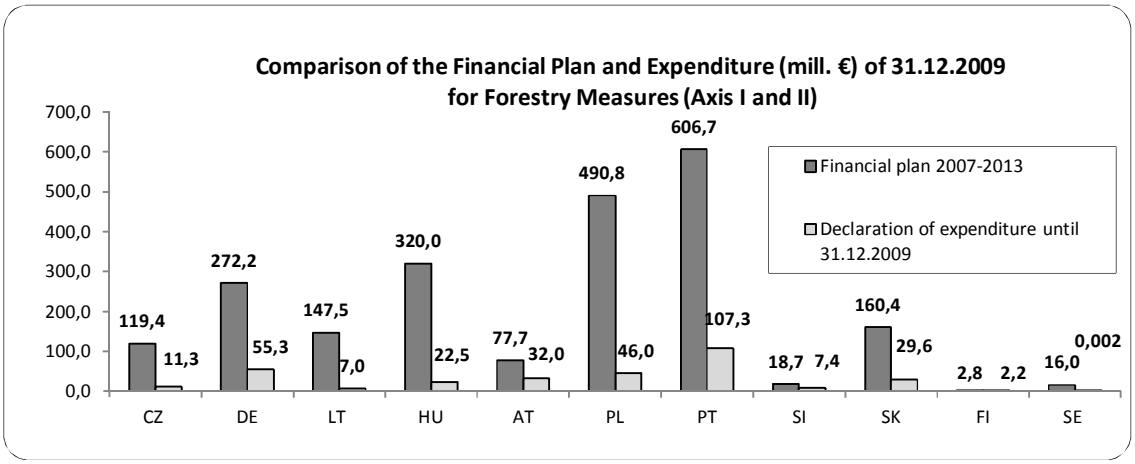
Graph 2

Comments: Graph 2 shows the proportion of the total volume of planned funds from the EAFRD and the national resources per capita per a Member State. With the exception of Germany and Sweden, the value of the entire budget of the RDP, calculated on a per capita are around average.



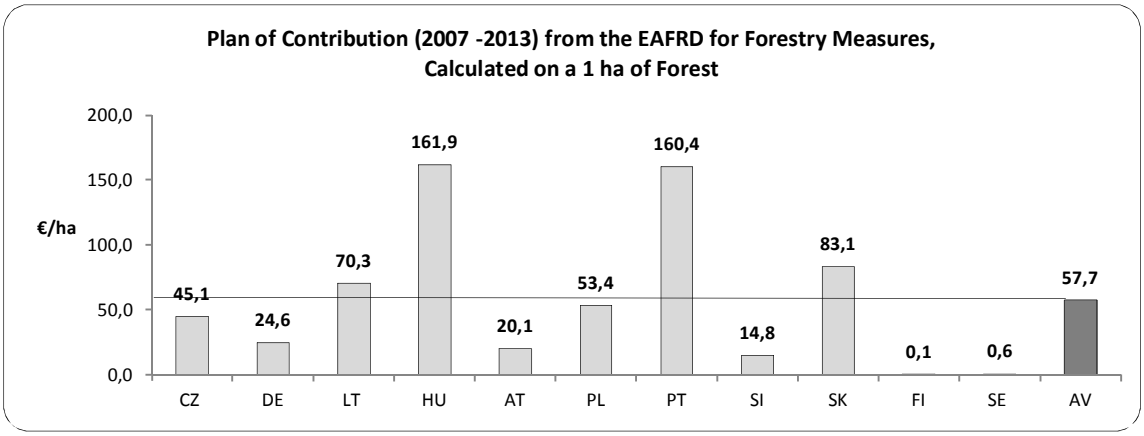
Graph 3

Comments: Graph 3 shows the total calculation RDP funds in selected EU states per hectare country. The graph shows that most values in euro per hectare an area of the country is above average. This is mainly due to a large acreage of Finland and Sweden.



Graph 4

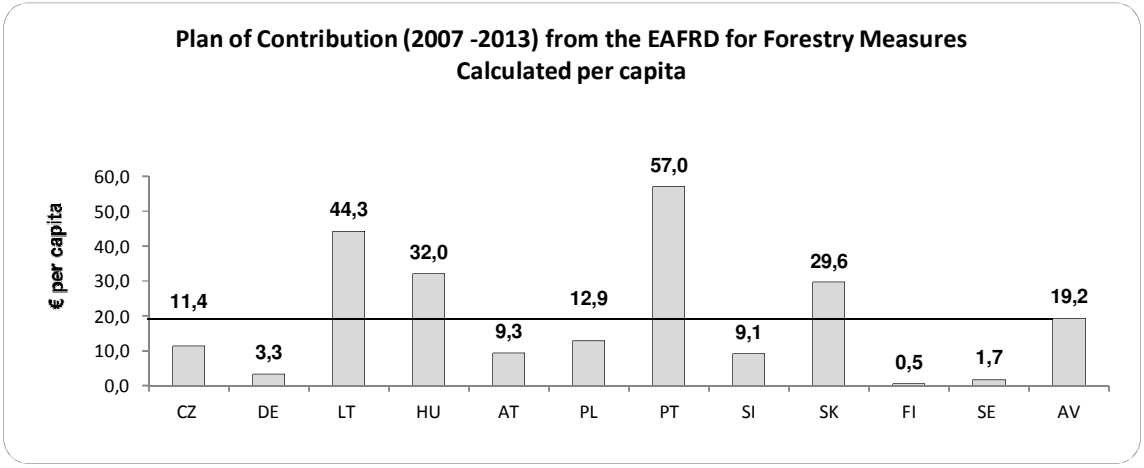
Comments: Graph 4 shows how much money each of the selected EU member states allocates of the total budget of RDP funds for forestry measures. The graph also compares the total amount of funds for forestry measures and their utilization on 31. 12. 2009.



Graph 5

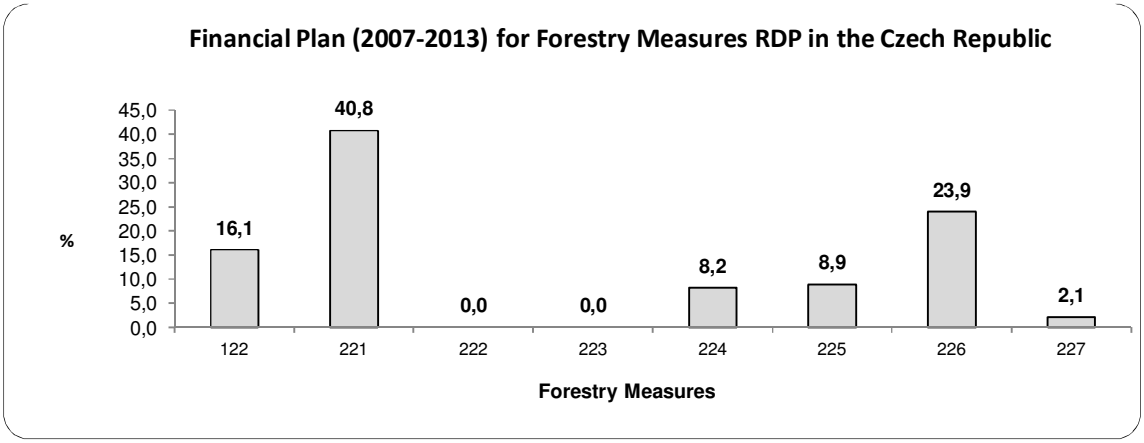
Comments: Graph 5 shows how much money each of the selected EU Member States to give support for forestry measures calculated per ha of forest. It is logical in principle that states with high forest area, Finland and Sweden will share this at a low level. On the other hand, somewhat

surprisingly high proportion of financial resources allocated to forestry measures in Portugal and Hungary. Seven of the eleven selected EU countries is below the average of its values.



Graph 6

Comments: Graph 6 shows how much money each of the selected EU Member States to give support to the forestry measures per capita. In this calculation the situation is the same as in the previous graph, ie., four states (LT, HU, PT, SK) are considerably above the average. Seven of the eleven selected EU countries is below the average of its values.



Graph 7

Comments: Graph 7 shows where the action was initiated by forestry funding. It is clear that prevails afforestation of agricultural land, as a tool to restructure food production. In the Czech Republic started financial support for forestry measures in the following:

122 Improvement of the economics value of forests
221 First afforestation of agricultural land
222 First establishment of agricultural systems…(not started)
223 First afforestation of non-agricultural land (not started)
224 NATURA 2000 payments
225 Forest-environment payments
226 Restoring forestry potential and introducing prevention
227 Non-productive investments

Czech Republic - Strategy chosen

- Focus on investments in technologies, knowledge transfer, reparcelling, biodiversity, mitigation of climate change, stabilisation of rural areas, job creation, micro-enterprises, cultural heritage and rural tourism

Priority areas

- the priority of financial aid of EAFRD contribution- 55.20% - is given to AXIS II
- systematic improvement of the environment, care for the landscape and nature and reducing the negative effects of intensive agricultural and forestry management.
- the protection of the environment on agricultural land and in forest areas of high nature value
- support of environment: measures against soil degradation, water erosion

Forestry measures

- afforestation of agricultural land
- biodiversity
- investments for forest technology
- first afforestation of non-agricultural land
- regeneration of forest after disasters
- forest stands of fast growing tree species for energy use
- investments to machinery and equipment for building of forest roads, torrent control, etc.
- modernisation of technogies for treatment and use of biomass for energy
- building, modernization, reconstruction and repairs of forest roads, equipment for water treatment

Austria - Strategy chosen

- Strengthening the competitiveness of the agricultural and forestry sector,
- Strong emphasis is placed on the environment, nature protection and landscape conservation, taking account of the various environmental effects of agriculture and forestry, responding to the particular geographic and topological situation of an alpine country, and the demands of society

Priority areas

- axis 2 is the most important - 72 % of financial aid of EAFRD contribution
  - improving the competitiveness of the agricultural and forestry sector,
  - sustainable use of natural resources and landscape conservation,
  - conservation and development of attractive and vigorous rural areas.
- support for investments in infrastructure
- Nature conservation, national parks, cultural landscape development

Forestry measures

- to contribute to safeguarding the sensitive ecosystem in mountain areas
- plantation of tree species suitable to local conditions
- protection of forests against snow and fall of stones
- building of forest ways and repair of those not meeting modern standards
- support for afforestation of agricultural land – for regions under 20 % of afforested land, only mixed tree species
- reconstruction of protective forest functions only in indicated regions according to forest plans
- protection against wild damages is not contributed

Hungary - Strategy chosen

- The programme aims at contributing to the competitiveness of agriculture, food production and forestry (axis 1), respecting the principles of sustainable development and the protection of natural values and biodiversity (axis 2), and to strengthening entrepreneurship and providing access to services throughout rural areas (axis 3).

Priority areas

- Axis 2 is the second important - 33% of financial aid of EAFRD contribution
- „Support for investments" has the second largest financial share

- Training and information activities, including the use of advisory services.
- Support for agri-environment, forest-environment and NATURA 2000 territories

Forestry measures

- Support for afforestation – to raise the forest cover - to optimal 27% (now 19 %)
- Improvement of forestry by means of constructing forest exploration roads
- Ensuring the accessibility of isolated forests
- Repression of aggressively expanding non-indigenous tree and shrub species
- Reduction of clear-cutting with artificial regeneration
- Ensuring special forest habitats, and the conditions for natural forest regeneration
- Postponement of final felling in order to protect soil and habitat
- Creation and maintenance of forest clearings
- Support for the first thinning in young stands in accordance with the forestry plans.
- Conversion of forest from stands with missing structural elements to indigenous close-to nature mixed stand

Finland - Strategy chosen

- Projects enabling access to information, professional knowledge, innovation, their planning and realisation.
- The National Forest Programme promotes an ecologically sustainable forestry by preserving biological diversity and ensuring the good condition of watercourses and the soil in the context of forest management measures. Particular attention is being paid to reducing discharges into watercourses cause by forestry.

Priority areas

- axis 2 is the most important - 74% of financial aid of EAFRD contribution
- Forestry is practised in a way that is economically and ecologically sustainable as well as ethically acceptable in all parts of the country.

Forestry measures

- First afforestation
- Forestry investments
- Environmental support for forestry, including subsidies for NATURA 2000 forest areas
- Forest nature management projects
- Water quality
- Biotops of special importance must be protected
- Strategy of protection and sustainable biodiversity in forestry
- Forest enterprises with reindeer pasture
- Renewably energy from forestry
- Prevention of erosion in easily leaching clay and silt soil

Slovenia - Strategy chosen

- Sustainable management of natural resources, maintenance of the cultural landscape, environmental protection, preservation of the settlement and the identity of rural areas

Priority areas

- axis 2 is the most important - 52% of financial aid of EAFRD contribution
  - to improve competitiveness of forestry sector
  - measures to restructure the physical capital in forestry as well as enhancing innovation
  - the utilisation and the preservation of favourable environmental conditions, reduction of hazards due to locally intensive farming
  - prevent soil erosion in certain areas

Forestry measures

- preserve and diverse natural environment

- investments contributing to improvement of company power, purchase of machinery, SW and HW
- first period of wood processing and marketing
- investment support of building and repairs of forest ways according to forest plan

Portugal Strategy chosen

- Improving the competitiveness of the agricultural and forestry sector,
- Promoting the sustainability of the countryside and natural resources
- Economic and social revitalisation of rural areas

Main priorities

- axis 2 is the second important - 42% of financial aid of EAFRD contribution
- support for the maintenance of activities in less favoured and mountain regions
- Integrated Territorial Interventions in 8 NATURA 2000 areas and 1 World Heritage site; combining agro-environmental and forest measures
- Environmental valorisation of forestry areas

Forestry measures

- Foster forest protection against fires
- Modernisation of forest nurseries
- Minimisation of erosion effects and prevention of flood risks such as clearing-up of streams, organised felling of trees, torrent control and protection of river beds and banks
- First afforestation of agricultural land and agricultural land
- Investment for stands of fast growing species
- Operations of control and/or management of harmful biotic agents
- Dissemination of knowledge regarding mechanisms of prevention, control and/or management and eradication of harmful biotic agents

Lithuania - Chosen strategy

- Rational use of available land resources in particular abandoned agricultural land not used for agriculture as well as sustainable forestry development through afforestation, restoration of damaged forests and forest environment as well as NATURA 2000 payments

Main priorities

- Axis 2 is important - 38% of financial aid of EAFRD contribution
- Modernisation, technology and innovation
- Increasing forest cover of countryside
- Preventive fire measures and fire monitoring

Forestry measures

- Non-executing final cuttings
- Non-executing clear cuttings instead their execution
- Non-executing final cuttings
- Leaving live trees on clear cuttings
- Prohibition of felling dry trees in stands older than 20 years
- Improvement of forest structure – forest roads, drainage, bridges etc.
- Elaboration of forest management plans and other corresponding documents
- First afforestation on agricultural land – minimum 0,5 ha
- Clear cuttings must be afforested in 3 years
- Maximal area of final cutting is limited to 8 ha.

Germany – Bayern Chosen strategy

- Execute economic, ecological and social dimensions
- Diversity of natural resources and landscapes
- Preservation of the endangered biodiversity

Main priorities
- Axis 2 is the most important - 62% of financial aid of EAFRD contribution
- Strong emphasis is placed on protecting the environment and to improve the sustainability of the agricultural and forestry sector. Therefore axis 2 is the most important axis in financial terms.
- Securing and creating jobs by increasing the competitiveness on all levels of the agro-forestry sector

Forestry measures
- Extensive pasturelands in open forests
- Building new forest roads minimally 200 m
- First afforestation of non-agricultural land
- Creating open forest structures and their maintenance
- Maintenance and protection of old trees, leaving at least 6 trees to 1 ha
- Leaving dead trees, at least 7 for 1 ha
- Creating natural sites for beavers
- Undergrowth cutting
- Forest protection – insect control in forests with high natural value
- Lime treatment in forests

Slovakia - Chosen strategy

- To increase the competitiveness
- To improve the environment by introducing suitable forestry systems

Main priorities
- Axis 2 is the most important - 50% of financial aid of EAFRD contribution
- Increasing the modernization, innovation and efficiency
- Maintaining and improving the quality of underground and ground waters and soil

Forestry measures
- Forest-envi: To maintain good conditions of forest biotops
  - By regeneration leave at least 5 living trees and small scale undergrowth system (to 1,5 ha)
  - leaving at least 10 m3/ha as dead wood
  - Increasing the share of natural species by means of natural regeneration to 50%
  - Not to destroy and cut nesting and hollow marked trees
  - Leaving pioneer species and Sorbus aria if their share does not exceed 20 %
- NATURA 2000: Protection of biotops with selected bird species
- Forest roads: building, reconstruction, finishing and reconstruction of road net system in areas with high fire risk
- Fire control bases: building, reconstruction, repair and maintenance including building of fire belts and lines in areas with high fire risk

4. Conclusions

- Maintaining of RDP contemporary funding measures financing even after program period 2007 – 2013 and continuing with a new program period where new up-to-date problems of forest policy will be implemented.
- During suggesting new measures implementing social and ecological (and economical) forest functions which represent positive externals in RD followed by rising demand but which are valued by no mechanism.
- To improve cooperation with bodies of state and local administration (regions) on national level and clearly preliminarily specify spheres of support from individual departments and local administration bodies before the beginning of a new programming period by reason of preventing parallel financing from more financial resources.
- To create conditions for unified forest policy in the area of public support as well as effective tools for its enforcement on the basis of evaluation of effectivness and support development of

forest management on regional level (to return the competency of support granting to the Ministry of Agriculture or at least to achieve uniform obligatory funding for regional support).
- To support the afforestation by pioneer species and planting of fast growing species on agricultural land
- To support joining of small forest owners, evaluation of their qualification in relation to their own forests, to support their forest products on the market
- To reduce implementation of measures costs, administration and controls, to rise total system effectivness and reduce administrative load for applicant
- To support regions with anthropogenic damage of forest stands
- To create conception of support for water regime in forests
- To simplify the notification process to enable quick and flexible reaction to the needs of funding systems changes
- To apply the system „de minimis“ only in extreme case of forest subsidies
- To create an integrated system of support for soil improving and stabilisation species in the sense of support financed from national and European resources (unified system of support and control), to support these species up to higher age classes
- Reinterpretation of funds for forest technology in favour of forest infrastructure development (to initiate measures for tonnage of timber transport means of mechanization)
- Implementation of measures for protection of special biotops in landscape e.g. by means of agro forestry systems

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Towards improvement of the wood verification system in Georgia

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Abstract

This paper is based on the report prepared by Michael Garforth, the consultant contracted by WWF-Caucasus Programme Office in the framework of the regional Program "Improving Forest Law Enforcement and Governance in the European Neighbourhood Policy East Countries and Russia". The Program, supported by the European Union, is aimed at improving forest governance through the effective implementation of the priorities set out in the St. Petersburg Ministerial Declaration and Indicative Action Plan on the Europe and North Asia Forest Law Enforcement and Governance (ENA FLEG) initiative. The Program covers seven countries, including Georgia, and is implemented during the period 2008-2012.

The paper provides a general assessment of the wood verification system and relevant legislation in Georgia and offers recommendations for the improvement. Relevant policies of the European Union (EU) which might have implications for the Georgian forestry sector are also mentioned.

In 2011, very significant institutional changes took place in the Georgian forestry sector. Specifically, the Forestry Agency (established in August 2010) was transformed into the Forestry Department, with the latter becoming part of the Agency of Natural Resources (a Legal Entity of Public Law) within the Ministry of Energy and Natural Resources of Georgia. These changes will have significant implications not only for the wood verification systems but for the entire forestry sector in the country.

Introduction

Purpose of this paper

This paper is about the system of checks, authorizations and documents and other records which enables verification of the origin of wood produced in Georgia. It aims to answer the questions:

- is the system appropriate to the purpose for which it is intended? does the system include the elements needed to achieve the purpose and only those elements? and
- is the system working as intended; i.e. are the provisions made in legislation being implemented in practice?

Why should governments want to verify wood origin?

There are three reasons why a government might wish to establish controls to enable the verification of the origin of timber and timber products:

- to detect and deter illegal logging to conserve forests and ensure that resource use fees are paid;
- to provide assurance to persons who buy wood products originating in the country that the wood and wood products come from a legal source (and perhaps also a sustainable source);
- to detect and deter imports into the country of wood and wood products from illegal logging in other countries.

There is an important distinction between controls introduced by legislation and controls implemented voluntarily by companies and individuals. The demand for assurance of legal and sustainable origin is such that many forest management enterprises have chosen to have their operations certified by independent forest certification schemes.

Legal origin, sustainable origin

The word "origin" means simply the place from which the wood or wood products originate. For the purposes of detecting illegal logging, it is necessary to verify that the wood has been produced legally

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(e.g. "legal source"). This could be extended to enable verification that wood originates from a "sustainable source". Most typical legal provisions governing the production of wood include:

- logging may not be carried out without a forest management plan elaborated in consultation with stakeholders and approved by the relevant authorities;
- forest managers must comply with various provisions regulating working conditions of employees (e.g. health and safety), certain environmental norms and pay tax on their profits.

Most governments are parties to international agreements that include sustainable forest management as a goal[2]. One example of description of sustainable forestry is the definition adopted by the Ministerial Conference on the Protection of Forests in Europe (now Forests Europe)[3]:'"sustainable [forest] management" means the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems.'

However, it is impossible to demonstrate the compliance of forest management with sustainability using only such a definition. Therefore, criteria and indicators of sustainable forest management have been developed (one example is demonstrated in Box 1).

Box 1 – Pan-European Criteria for Sustainable Forest Management [4]

The pan-European national level criteria for sustainable forest management were adopted within the follow-up process of the Helsinki Ministerial Conference. The six pan-European criteria for sustainable forest management are:

1. *Maintenance and appropriate enhancement of forest resources and their contribution to global carbon cycles;*
2. *Maintenance of forest ecosystem health and vitality;*
3. *Maintenance and encouragement of productive functions of forests (wood and nonwood);*
4. *Maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems;*
5. *Maintenance and appropriate enhancement of protective functions in forest management (notably soil and water); and*
6. *Maintenance of other socio-economic functions and conditions.*

Each criterion is described by descriptive and quantitative indicators which provide the basis for assessing and reporting progress towards achieving sustainable forest management.

EU Policy on Combating Illegal Logging

In 2003 the European Commission adopted the EU Action Plan for Forest Law Enforcement, Governance and Trade (FLEGT)[5]. The Action Plan sets out a range of measures that aim to combat the problem of illegal logging. In 2010 EU member states agreed to make it illegal to import illegally harvested timber in the EU. Specifically, the "due diligence" regulation obliges operators to implement a system that will provide a sufficient guarantee that timber they place on the EU market comes from legal sources. The long term aim of the FLEGT Action Plan is sustainable forest management.

Verification of source

Purpose of verification and how verification is organised

Verification means carrying out checks to confirm that wood and wood products originate from a source that complies with criteria decided upon by the person or organization concerned. Verification is organized in different ways to serve different purposes; for example:

- checks carried out by the environment ministry's environmental inspectorate on the origin of material being transported on the public highway are a form of verification;
- organisations which buy wood and wood products may carry out their own checks in fulfilment of their corporate responsibility policies.

[2] In particular "Agenda 21" and the "Forest Principles" adopted by the 1992 United Nations Conference on Environment and Development.
[3] www.foresteurope.org
[4] Resolution 1 of the Second Ministerial Conference on the Protection of Forests in Europe 16-17 June 1993, Helsinki.
[5] FLEGT Proposal for an EU Action Plan, 21 May 2003. Communication from the Commission to the Council and the European Parliament.

When verification is carried out by a government authority inside the country, as in the case of the first example above, the criteria used during the checks are generally easy to define and understand: is the timber accompanied by the required documents? does the timber conform to the description in the documents? did the felling of the trees comply with the requirements of legislation?

When verification is carried out for the purpose of implementing a corporate responsibility policy, it is more difficult to decide the criteria for verifying. The organization which requires verification needs to decide which elements of legality it is concerned about: only that the timber has been felled by a person with the legal right to do so? that provisions relevant to the conduct of the felling have been complied with? that any resource use fees specified in law have been paid? (See Box 2).

Box 2 – Challenges in deciding criteria for verifying legal sources [6]

There are a number of challenges related to deciding criteria for verifying that timber comes from a legal source:
Conflicts with laws from other sectors and levels of government or with administrative procedures. For example, is it illegal to harvest timber according to a timber permit issued by the central forestry authority if that permit conflicts with the land-use planning policy of the local government?
The law is bad for the forest. For example, outdated silvicultural prescriptions required by regulation may do more harm than good to the forest resource.
The application of the concession allocation system is corrupt. For example, legal permits are handed out to bribe payers. This could mean that those holding "legal" rights to harvest have gained their permits through corrupt administration of the law.
The law is unfair when compared with international norms or the organization's own values. For example: the law extinguishes traditional rights as a result of creating logging concessions or protected areas without recognition of traditional rights over the forest resource.

Criteria for verifying that a source is legal

Various definitions of legal source have been developed for the purpose of verification. The EU's approach in the framework of its FLEGT Action Plan is that each timber producing country should decide for itself which laws should comprise a legality definition in a multi-stakeholder process[7]. The EU notes that checking compliance with and enforcing a definition of legally-produced timber requires that the definition is clear, operationally workable and objectively verifiable. This means that:

- It must be clear which laws and regulations are included in the definition and which are not;
- There must be clear tests of evidence to determine compliance with each law or regulation;
- There should be practical ways to carry out such tests in the field.

The governments of some importing countries have developed their own criteria to define legality in order to be able specify that timber and timber products must come from legal sources when arranging supply contracts. The United Kingdom, Denmark and the Netherlands use similar criteria. The United Kingdom's criteria are in Box 3.

Box 3 – UK government's criteria for legal source [8]

For UK Government procurement, legal timber and wood derived products are those which originate from a forest where the following requirements are met:
1.1 The forest owner/manager holds legal use rights to the forest.
1.2 There is compliance by both the forest management organisation and any contractors with local and national legal requirements including those relevant to:
- Forest management;
- Environment;
- Labour and welfare;
- Health & safety.
- Other parties' tenure and use rights

1.3 All relevant royalties and taxes are paid.
1.4 There is compliance with the requirements of CITES.

Criteria for verifying that a source is sustainably managed

An increasing number of companies are implementing corporate responsibility policies which require that any timber or timber products that they purchase come from sustainably managed

[6] Adapted from "Keep it Legal: Best Practices for Keeping Illegally Harvested Timber Out of Your Supply Chain". WWF Global Forests and Trade Network. http://assets.panda.org/downloads/keep_it_legal_final_no_fsc.pdf
[7] FLEGT Briefing Notes 2007 Series. Briefing Note #2. What is legal timber?
[8] Source: www.proforest.net/cpet/documents

sources. Companies which require timber and timber products to come from sustainable managed sources generally rely on independent verification in the framework of national or international certification programmes which have developed their own criteria for sustainable forest management (e.g. Forest Stewardship Council) or apply criteria that have been adopted in intergovernmental processes. Criteria for sustainable forest management include requirements which national laws often do not specify and they may set higher environmental and social standards than those established by producer countries' legislation.

System of controls in Georgia

Forests, forest management and forest use

There are about 2.8 million hectares of forests in Georgia (FAO, Global Forest Resources Assessment 2005). Approximately 35% (by area) are available for wood production; the rest are in protected areas, allocated to protective functions, or on slopes that are too steep for harvesting. For several decades before Georgia's independence in 1991 Georgia's forests were mainly managed for their protective functions. Industrial wood was imported from Russia. After independence unsustainable and illegal harvesting became rife: demand for firewood increased after gas supplies were cut; imported industrial wood was no longer available. As the economic situation of the country has improved and control of forest use strengthened, unsustainable and illegal logging has declined but continues at a lower level.

In 2009 wood production from authorised cutting amounted to about 700,000 cubic metres[9]. The full extent of unauthorised logging is not known. About 8,200 cubic metres[10] of wood from unauthorised felling were detected by the Georgian authorities in 2009 but the total amount of unauthorised logging is higher. Georgian legislation distinguishes between forest owned by the State (State Forest Fund), by the Patriarchy and by physical and legal persons (Forest Code Article 9(1)). The Forest Code makes provision for a Local Forest Fund: 'a part of the Usable State Forest Fund legally regulated by local governing and self governing bodies in accordance with this Code and Georgian legislation' (Forest Code, Article 5 f). Georgian legislation includes the following key arrangements over the use of forests:

- licences may be granted to physical or legal persons for using forests for harvesting wood and as hunting ranges (Law on Licences and Permissions, Article 7)[11].
- forests may be used without a licence under arrangements established by the Ministry of Environment Protection and Natural Resources (MEPNR, from 2011 onwards – Ministry of Environment Protection) to supply wood to the local population for meeting their needs in firewood and timber and for special purposes (e.g. construction of pipelines, electricity lines, etc (Regulation On the Procedure and Terms of Forest Use Licensing adopted by Resolution of the GoG #132 dated 11 August 2005 as amended, Article 2(3).

Purpose of verification of source in Georgia

There is virtually no demand at the moment from customers in Georgia and other countries for verification of source of wood coming from Georgia. This picture is unlikely to change in the near future except for exports to EU countries. The latter will implement due diligence procedures which will include verification of origin. Supply chain actors located in Georgia should prepare for this: government authorities who have responsibilities for managing forests, allocating use rights over forests, exercising control over the harvesting of trees and the production and transport of timber

[9] Source: Forestry Department of the MEPNR of Georgia
[10] Source: Forestry Department of the MEPNR of Georgia
[11] The Forest Code provides for nine types of forest use. The Law on Licences and Permissions is a superior law and in effect cancels the types of use which are provided for in the Forest Code but not in the Law on Licences and Permissions. Thus it is not clear whether forests can be used legally for some purposes, for instance collection of non-wood forest products.

and timber products; companies which harvest trees and produce timber and timber products for export to the EU.

In the not very distant future there will be a need for Georgian producers to provide evidence to EU buyers that timber originating in Georgia is from a legal source; and there may be a need for Georgian producers to provide evidence to EU buyers that timber is from a sustainably managed source. The government could address both of those needs through regulations, or could leave it to producers to make their own arrangements, for example by applying for certification to a recognised certification scheme.

Present legal framework for authorising and controlling harvesting

The present system of authorizing and controlling the harvesting and transport of wood and wood products is established by the following legislation:

- Law on Licences and Permissions 2005 (as amended). Establishes the legal basis for issuing licences to persons to use forests for the purpose of harvesting timber as hunting ranges. Procedures and terms of forest use licensing are laid down in the regulation adopted by Resolution of the Government of Georgia No. 132 described below. The Law establishes that no other licences or permissions and no obligations that imply the establishment of a licensing regime may be introduced other than by the Law on Licences and Permissions.
- Forest Code 1999 (as amended). Establishes permissible forms of forest use and lays down conditions that must be met before forest use may take place. The Forest Code specifies nine types of forest use. However, the Law on Licences and Permissions, which is superior to the Forest Code, specifies only two types of forest use: harvesting of wood and hunting. Article 93 of the Forest Code provides for the system of the control documents specified in the regulations adopted by Order No. 380 of the Minister of Environmental Protection and Natural Resources described below.
- Resolution of the Government of Georgia No. 132, 11 August 2005, On Approval of the Regulation On the Procedure and Terms Of Forest Use Licensing (as amended). Establishes the procedures and terms for issuing licences for using forests for harvesting timber and hunting. The regulation provides that the FD of the MEPNR may allocate cutting areas without a licence by a simple administrative procedure to provide firewood and timber to meet the needs of the local population and for special purposes. Regarding controls – wood transported on the territory of Georgia must be accompanied by a certificate of the appropriate form as specified in the order of the Minister of Environment Protection and Natural Resources; primary timber processing, timber transportation on the territory of Georgia, and timber sales shall be prohibited without a legal harvesting certificate. The regulation obliges licence holders to prepare forest management plans before starting logging operations.
- Order No. 380 of the Minister of Environmental Protection and Natural Resources of Georgia of 22 September 2005, On Approval of the Procedure for Issuance of Legally Harvested Timber and Timber Origin Certificates. Lays down the procedures for issuing timber origin certificates and legal harvesting certificates, assigns responsibilities for implementing, and lays down the forms of the documents. The origin certificate confirms that the material to which it refers has been harvested with the authorisation of the responsible government body. The certificate is issued following inspection of the cutting areas and the material immediately before the material is transported out of the cutting area. The certificate accompanies the material to the place where it is stored for subsequent transport or processed. A legally harvested timber certificate is issued to material which has been stored, processed or sold. The certificate establishes that the material to which it refers originates from harvesting which has been authorised by the responsible government body. The regulation requires legally harvested

timber certificates to be issued to imported timber upon sale or transfer of all or part of the material to another person. Order No. 380 will be cancelled on the coming into force of Order No. 806.

- Order no. 566 of the Minister of Environmental Protection and Natural Resources of Georgia of December 20 2005 'On the Format and Issuance Procedure for Legally Harvested Firewood Certificate'. Lays down the procedures for issuing certificates of legality for firewood, assigns responsibilities for implementing the procedures, and lays down the forms of the documents. Order No. 566 will be cancelled on the coming into force of Order No. 806.
- Order No. 806 of the Minister of Environmental Protection and Natural Resources of Georgia, 10th of December 2008, On the Forms and Rules of Issuing the Document Verifying Legality of Timber Wood Production. Order No. 806 will replace Orders No. 380 and 566. The Order consolidates the regulations for issuing timber origin and legally harvested timber certificates into one act and brings in new provisions requiring enterprises involved in the primary processing of timber to maintain records linking input with output.
- Order no. 672 of the Minister of Environmental Protection and Natural Resources of Georgia of September 26 2008 'On the Procedure for Development and Approval of Forest Use Plans'. Establishes the procedures for developing and approving the forest use plans referred to in the regulation adopted by Resolution 132 and lays down the content of forest use plans.

Until March 2011, the powers and responsibilities conferred by the system lied principally with:

- in relation to the auctioning and issuing of licences, the Ministry of Economic Development (MED, delegated to the Department of Licences and Permissions) and the MEPNR (delegated to the FD);
- in relation to carrying out technical expertise of plans and operations, the MEPNR (delegated to the FD);
- in relation to the issuing of timber origin certificates and legally harvested timber certificates, the MEPNR (delegated to the FD in the case of the Useable Forest Fund apart from the Local Forest Fund); the Department of Environment Protection and Natural Resources of the Government of Adjara (in the case of the Useable Forest Fund apart from the Local Forest Fund); local self-governing bodies in the case of the Local Forest Fund; the MEPNR (delegated to the Agency for Protected Areas) in the case of the forests in protected areas.
- in relation to enforcing laws and regulations governing the actions of forest users, the MEPNR (delegated to the Environmental Inspectorate);
- in relation to issuing export clearance, the relevant customs authorities.

However, it appears that after the recent institutional changes, almost all of these functions will be concentrated under the responsibility of the Forestry Department within the Agency of Natural Resources under the Ministry of Energy and Natural Resources. The details of wood control system under these new arangements are not known yet.

Harvesting of wood under a licence for forest use

Before the reforms mentioned above, the system for authorizing and controlling the harvesting of wood (licences) on state forest land was functioning as follows:

- Process 1. The decision to auction a licence for timber harvesting is taken by the MED upon a request from a physical person or legal person of private law or on its own initiative with the agreement of the MEPNR.

- Process 2. The MEPNR (through the FD) prepares information about the territory to be licensed and the volume available for harvesting. The MEPNR submits the information to the MED in a formal document.
- Process 3. The MED prepares and conducts the auction and the winning bidder is selected.
- Process 4. Within one month after the auction the winning bidder decides whether to accept the licence or not. If the winning bidder accepts the licence he signs the licence document together with the MED and becomes the licence holder. The licence holder may not start to harvest timber until he has prepared a forest use plan and the plan has been positively assessed by the MEPNR (delegated to the FD).
- Process 5. The licence holder prepares a forest use plan. The MEPNR (delegated to the FD) carries out an expertise on the forest use plan. If the Ministry's expertise is positive, the forest use plan is approved. If the Ministry's expertise is negative the licence holder amends the plan and resubmits it to the Ministry.
- Process 6. The licence holder arranges for trees to be felled and prepared for removal from the forest. The licence holder cuts any timber that is to be considered as firewood for the purpose of paying resource use tax into lengths not exceeding 0.7 metre (a requirement established by the Order No. 806 of the Minister of Environmental Protection and Natural Resources of Georgia). The licence holder pays the appropriate resource use fee to the bank account of the Ministry of Finance and obtains a receipt.
- Process 7. The licence holder writes the details of the species and the volumes of industrial wood and fire wood on an individually numbered timber origin certificate provided by the FD, arranges for the material to be loaded onto a lorry and asks the regional office of the FD to inspect the consignment and sign and stamp the timber origin certificate.
- Process 8. The FD inspects the area in which the trees were felled and checks the consignment to make sure that it conforms to the species and assortments declared by the licence holder and that the licence holder has paid the resource use fees due on the consignment. The legislation establishes that the FD should sign and stamp the timber origin certificate before the consignment leaves the cutting area.
- Process 8a. If the FD finds evidence that trees have been felled in contradiction to the approved forest use plan or finds a discrepancy between the consignment and the information declared by the licence holder, the FD submits a protocol to the Environmental Inspectorate. The Environmental Inspectorate decides whether to take action against the licence holder.
- Process 8b. If the inspection finds that everything is in order, the FD issues a timber origin certificate and the consignment may then be transported from the forest to the destination indicated on the certificate. The consignment must be delivered to its destination within 24 hours after the FD ha s signed and stamped the licence. The time limit will be reduced to 12 hours upon the coming into force of the regulations adopted by Order # 806.

After the consignment has reached the destination recorded on the origin certificate it may follow a number of different paths. The destination may be outside Georgia, in which case the origin certificate provides evidence to the Georgian customs that the material is legal before the relevant customs authorities issues export clearance. If the destination of the consignment is in Georgia, after arriving at the destination it may be processed at that destination and the products sold to a customer in Georgia or outside Georgia. On every occasion the timber or timber products are transported or sold the owner has to apply to the FD for a timber legality certificate.

In addition to processes related to harvesting and transporting of timber described above, the MEPNR carries out inspections of territories held under license to check compliance with the conditions of the license. The checks are carried out by the FD and Environmental Inspectorate and include:

- compliance with silvicultural and environmental protection norms specified in the Forest Code, relevant environmental protection laws, and subordinate legislation; for example: that felling is in accordance with the norms specified in the Forest Code; norms for protecting water bodies and water courses have not been breached; norms for disposing of hazardous waste have been respected;
- compliance with the approved forest use plan; for example that forest protection, regeneration and tending measures specified in the forest use plan have been carried out.

If the Ministry finds that the licence holder is in breach of the conditions of the licence the Ministry submits a protocol to the MED, who decides what sanctions to impose. Sanctions may be cancellation of the licence, suspension of the right to fell and remove timber until corrective action has been taken.

Harvesting of wood to provide firewood or construction timber to households

The present system for authorizing and controlling the harvesting of wood to provide firewood or construction timber to households is as follows:

- Process 1. The representative of the household submits an application for a permission to cut firewood to the regional office of the FD and to cut timber to the municipality (for the latter to forward the application to the regional office of the FD). Upon the Department's notification that authorisation will be granted, the representative of the household pays the resources use fee which is due.
- Process 2. The regional office of the FD or a service company contracted by the Department identifies a cutting area and marks the trees which are authorised for felling. The regional office of the Department issues a special legality certificate for firewood
- Process 3. The permission holder fells the trees (or arranges them to be felled) and prepares them for removal from the forest. The permission holder cuts any timber that is to be considered as firewood (having paid resource use tax for firewood) into lengths not exceeding 0.7 metre.
- Process 4. The permission holder arranges for the material to be transported to his residence. For timber, before transportation the representative of the household asks the regional office of the Department to issue a timber origin certificate.
- Process 5. The representative of the regional office inspects the cutting area to check that only trees authorised for felling have been felled, measures the timber, records the amounts on a timber origin certificate, and signs and stamps the certificate. For firewood, the wood volumes actually cut are compared with those indicated in the legality certificate, after which the certificate is stamped.
- Process 6. The permission holder transports wood to his home.

Changes to the system

The present arrangements for issuing timber origin and timber legality certificates (Orders of the Minister of Environment Protection and Natural Resources #380 of 22 September 2005 and #566 of 20 December 2005) will be superseded by new arrangements established by regulations adopted by Order #806 of the Minister of Environment Protection and Natural Resources dated 10 December 2008. The new regulations consolidate the arrangements introduced by the regulations adopted by Orders #380 and #566 and introduce new obligations on enterprises primary processing round timber to keep records of the movement of material received, processed, stored and dispatched. However, recent reforms in the forestry sector of the country may trigger further changes to these requirements.

Assessment of the system

Tackling illegal logging

Prevention of unauthorized logging can be achieved by (i) stopping people from logging trees without authorization before the act by preventing entry to the forest and (ii) by deterring people from logging trees by detection after the act. Stopping people from logging trees before the act and detection during the act would require an investment in forest guards that Georgia cannot afford and would be likely to be disproportionate to the cost to the country of unauthorised logging. The focus should therefore be on deterrence by detection after the act and punishment of offenders. For the purpose of detection, the Georgian authorities need a system which enables them to determine whether timber has been logged with authorisation or without authorisation. A detection system consists of checks at control points from the logging area to the place where the timber is used or crosses the border. Possible control points are:

1. In the cutting area or at a designated place outside the cutting area after the trees have been felled (but before the logs are transported out of the cutting area) to check that the material is only from trees which have been authorised for felling, that conditions of the authorisation have been met, and that resources use taxes have been paid.
2. During transport of the timber from the forest to its first destination or during transport of the timber or products derived from the timber to a subsequent destination.
3. At a place where timber is stored, processed or sold.
4. In the case of exports, at a customs control point.

The system established by Georgian legislation provides for checks at all of these control points. Checks can be based on information prepared by a person authorised to cut trees or issued by the responsible authorities, and on information collected by the responsible authorities during the inspection. Information may take the form of documents authorising the felling, information provided by the licence holder about the species and assortments, labels or marks on the timber which identifies the tree from which it was derived, documents issued by the authorities after a check, the results of visual inspection and measurement performed by the responsible authority.

Control point 1

In the case of a licence for timber harvesting, after timber has been loaded onto the transportation vehicle and immediately before transportation out of the cutting area or forest the FD carries out the following checks:

- that the species and assortments correspond to the information provided by the licence holder in the timber origin certificate;
- that the licence holder has paid the resources use fees which are due by inspecting the licence holder's receipt from the bank.

If all requirements have been met the FD signs and stamps the timber origin certificate.
In the case of a permit for cutting timber for use as firewood or construction timber by households, after timber has been loaded onto the transportation vehicle and immediately before transportation out of the cutting area the FD carries out the following checks:

- that only the trees marked by the FD for felling have been felled;
- that the resource use fee has been paid by inspecting the permit holder's receipt from the bank.

If all requirements have been met the FD completes and signs and stamps the timber origin certificate.

Control point 2

The Environmental Inspectorate of the MEPNR have powers to stop and check any vehicle anywhere in Georgia. The Inspectorate organises spot checks during which the Inspectorate's officers conduct the following checks:

- that any timber and timber products are accompanied by a valid origin certificate or legality certificate;
- that the consignment corresponds to the information in the certificate.

Control point 3

The Environmental Inspectorate has powers to inspect any place where timber is stored, processed or sold. The Inspectorate organises spot checks during which the Inspectorate's officers conduct the following checks:

- that the owner of any timber and timber products, or person acting for the owner, is in possession of a valid origin certificate or certificates, or legality certificate or certificates;
- that the type and volume of material at the place of storage, processing or sale tallies with the type and volume recorded in the certificate or certificates.

Control point 4

Before clearing a consignment of timber and timber products for export the relevant customs authorities checks that the consignment is accompanied by a valid origin certificate or legality certificate and the material in the consignment corresponds with the information recorded in the certificate. The checks which are carried out in the forest (control point 1) and the timber origin certificate as evidence that the material originates from authorised harvesting are sound in principle.
The timber legality certificate is not an efficient instrument. The effort involved in carrying out relevant checks with a sufficiently high degree of assurance is not worth the cost. In addition, the arrangement of the provisions in the legislation and the frequency with which some of the legislation has been amended makes the provisions difficult to understand and implement as intended.

Arrangement of provisions

The Regulations on the Procedures and Terms for of Forest Use Licensing (Resolution of the Government of Georgia #132) have been amended many times and thus are difficult to interpret accurately. Articles 3^2 and 3^3 of the same regulations concern the timber origin certificate and certificate of timber legality. The provisions simply duplicate the obligations laid down in the regulations adopted by Resolutions #566, #380 and #806 of the Minister of Environment Protection and Natural Resources and are not necessary. Article 4 of the same regulations provides for decisions on issuing firewood to the local population to be made by a simple administrative procedure. Articles 4^1, 4^2 and $4^3$of the same regulations establish responsibilities for decisions on classification of State Forestry Fund lands as lands of a special category and their allocation for special forest use. Such provisions should be in the Forest Code, not in regulations governing licensing of forest use. Articles 4^4 and 4^5 of the same regulations concern the arrangements for paying resource use fees. Such provisions should be made in the Law On the Fee for Natural Resource Use or regulations under that law, not in regulations governing licensing of forest use.
The Law on Licences and Permissions establishes that the only types of forest use or timber harvesting and hunting. The Forest Code establishes a number of other types. The Law on Licences and Permissions is superior to the Forest Code, therefore the types of forest use which are specified in the Forest Code cannot be made the subject of a licensing or permission regime.

Legal basis

The regulations On Approval of the Procedure for Issuance of Legally Harvested Timber and Timber Origin Certificates (Order No. 380 of the Minister of Environmental Protection and Natural Resources of Georgia of 22 September 2005), On the Format and Issuance Procedure for Legally Harvested Firewood Certificate (Order no. 566 of the Georgian Minister of Environmental Protection and Natural Resources of December 20 2005) and On the Forms and Rules of Issuing the Document Verifying Legality of Timber Wood Production (Order No. 806 of the Minister of

Environmental Protection and Natural Resources of Georgia, 10th of December 2008) establish procedures and obligations which imply a licensing or permission regime. The Law on Licences and Permissions expressly prohibits such regimes being established by legislation other than the Law on Licences and Permissions. It is difficult therefore to find legal basis for these regulations.

The regulations governing the issuing of timber origin certificates to licence holders require that the FD official checks the volume of the timber against the quantities stated by the timber harvesting company after the timber has been loaded onto the vehicle which will transport the timber from the forest to its destination. Usually it is difficult to measure timber accurately when it is lying on the vehicle and therefore to check the information recorded on the timber origin certificate by the licence holder.

The legislation requires that timber which is categorised as firewood for the purpose of paying resources use fees must be cut into lengths of no more than 0.7 metre before a legality certificate is issued. Such a requirement prevents from getting the highest possible value from the timber: it is often possible to obtain parquet material from timber categorised as firewood.

The use of timber origin certificates more than once is illegal: the origin certificate should be cancelled after the timber or firewood covered by the certificate has been delivered to its destination. However, some operators may not cancel the certificate but use it again so that they can purport to show that illegally harvested timber is legal. This is a risky action. The timber origin certificate is a controlled document, individually numbered and recorded in a central registry. If an official has reason to suspect the veracity of an origin certificate he/she can check by making one phone call. Furthermore, the regulations state that the certificate is valid for only 24 hours from the time of issue; the date and time of issue is recorded on the certificate.

The FD does not have enough staff to implement the system effectively. The licence holders interviewed by the Consultant complained about the time that it took to arrange for the Department to carry out an inspection prior to issuing a timber origin certificate. The Department staff interview by the Consultant agreed that they did not have enough staff and that the forest rangers were not able to cope with the large territories under their responsibility. Lack of technical knowledge was raised by some of the people interviewed by the Consultant, in particular that Environmental Inspectorate lack the technical knowledge needed to be able monitor licence holders' forest management practices effectively and fairly.

Inventory data for most of Georgia's forests is 15 or more years out of date. The FD is not required to carry out a full inventory of a proposed licence area before submitting information to the MED about the volumes available for cutting. The FD uses the old inventory data supplemented by information from records about illegal logging in the territory. It happens that the actual volume available based on sound forest management principles turns out to be less than the volume in the licence. In such cases the only recourse for the licence holder is to take the MED to court. If the licensed volume is not adjusted to reflect the volume actually available, the licence holder is pressured by the regulations and the need to make his expected return on his investment to cut a higher volume than sound forest management principles justify.

Verification of legal source

The timber origin certificate provides assurance that timber originates from: an identifiable cutting area and forest; from felling that has been properly authorised; and that the resource use fees have been paid. Those criteria will be sufficient for some buyers. The protocols of the compliance audits carried out by the Environmental Inspectorate and FD on licence holders serve as verification of compliance with some provisions in legislation, but by no means all. The cost of implementing a system to certify that a licence holder is operating in compliance with all relevant laws would be more than the Georgian government could justify given the present low level of demand for legality verification.

The timber legality certificate does not provide a reliable means of verifying legal source after the timber has been transported from its first destination after leaving the forest. The checks which the

Forest Department is required to carry out before issuing a certificate do not conform to internationally accepted best practice. The wood flow monitoring system which primary processors will be obliged to implement when the new regulations adopted by Resolution of the Minister of Environment Protection and Natural Resources #806 comes into force will make it easier for the FD to carry out the checks; however, the specifications for the wood flow monitoring system have not been prepared and it is not known if the specifications will conform to international accepted norms.

It is not necessary for the government of Georgia to implement a system to verify legal source at the present. If buyers of Georgian timber start to demand verification of legal source (which is likely given the obligations which the impending EU legislation will place on importers), it can be left initially to the licence holders, processors and exporters to make arrangements to have the operations verified by a certification body. If demand were to reach such a level that most or all timber and timber products originating in Georgia required verification, it might be appropriate for the government to consider implementing a system. A single, government-backed system would be more efficient than companies making their own arrangements and could be financed from a levy on every cubic metre of industrial timber harvested in Georgia.

Verification of sustainably managed source

It is not within the scope of this report to provide a comprehensive assessment of the forest management practices laid down in Georgian legislation. Assessment against the criteria for sustainably managed source used by forest certification schemes or in government procurement policies: analysis of all the laws and regulations which apply to the management of Georgia's forests would require a substantial amount of time. Verification of sustainably managed source is usually carried out by certification organisations at the request of the forest manager or the buyer. Certification is based on assessments of the policies and practices of the forest manager. Therefore the extent to which forest management practices laid down in legislation conform to criteria for sustainable forest management is not important except that legislation should not contradict the criteria. Many of Georgia's forest management norms incorporated into the present Forest Code were established on the basis of Soviet norms many years ago and may not be appropriate any longer.

Ongoing institutional reforms and their implications

As already mentioned, the Forestry Agency of Georgia was downgraded into the Forestry Department in 2011. This newly established Forestry Department has become part of the Agency of Natural Resources within the Ministry of Energy and Natural Resources of Georgia. Such a framework is very new for the Georgian forestry sector. Many issues such as territorial structure of the Forestry Department and responsibilities of the staff are not very clear.

In these circumstances, the structure of future wood verification system is very uncertain. The present verification system will continue to function until the establishment of the new system. Consequently, it is essential to design a new, appropriate wood verification, monitoring and control system in consultation with relevant stakeholders. Capacity needs of the FD staff should be assessed and relevant training activities conducted. The new verification system should be designed by using an all-inclusive approach, taking into account legislative, technical (e.g. forestry information system), financial and staff needs. The recommendations given below assume that these steps will be taken.

Conclusions and recommendations

For the purpose of the Georgian forestry authorities preventing illegal logging, the present mechanisms for authorising harvesting, the checks in the forest after harvesting and the timber origin certificate together with patrols in the forest are necessary and sufficient. The controls are open to abuse but abusers face a substantial risk of being found out and punished.

Consequently, it is recommended that the timber legality certificate be abolished: it is not an efficient mechanism for controlling illegal logging. Checks carried out by the Environmental Inspectorate and relevant customs authorities after the material has left the forest should be based instead on the timber origin certificate. The obligations on enterprises engaged in the primary processing of timber to

maintain records introduced by the regulations under Resolution #806 of the Minister of Environment Protection and Natural Resources could also be abolished: if the certificate of timber legality is abolished, the obligations will not serve any useful purpose in relation to the control of illegal logging and will place an unreasonable burden on timber processing enterprises.

The Regulations on the Procedures and Terms of Forest Use Licensing should be replaced by a new, revised version which contains only those provisions which are relevant to the purpose. Any provisions for which there is no legal basis or which are in contradiction to higher laws should be removed and incorporated into the appropriate law. The contradictions between the Law on Licences and Permissions and the Forest Code in relation to permitted types of forest use should be addressed by appropriate amendments to one or other of the laws.

Action needs to be taken to ensure that there is an adequate number of officials to carry out inspections of timber and to issue timber origin certificates without delays. Abolishing the certificate of timber legality would allow resources to be reallocated but additional resources will almost certainly be necessary. The Environmental Inspectorate has a small number of staff allocated to control against illegal logging relative to the scale of the task. The relevant authorities should make an assessment of the resources needed for the task with the aim of achieving a reasonable balance between the cost of deploying staff and the risk that illegal logging will not be detected.

Concerning technical knowledge a training needs assessment should be carried out and then the training programme should be designed and implemented. Staff of the MEPNR and timber harvesting and processing enterprises need to have the same understanding of the legislation. The Ministry could prepare a simple guide to the legislation, explaining in a simple and clear way the obligations on enterprises and the powers of the regulatory bodies.

Any measures additional to the inspections of timber in the forest and the timber origin certificate to enable verification of legal source should be developed and implemented by timber harvesting and processing enterprises upon their own decision. It is not necessary for the Georgian government to legislate for additional measures at the present time. Also, there is no justification for the Georgian government to introduce measures to enable verification of sustainably managed source. If demand for verification develops, Georgian supply chain actors should implement whatever measures they consider appropriate and which will satisfy their customers. The supply of independent forest management and chain of custody certification services is sufficient to meet any demand that may come from Georgian enterprises.

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Integration of forest planning areas for efficient practices and forest owners' cooperatives in Japan

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Abstract

Two third of the land area, or 25 million hectares, is covered by forest in Japan. In which, 58% is privately owned. Although timber production has been decreasing since 1960s, private forests are playing a major role in domestic forest sector. National organization of forest owners' cooperatives is a reliable and close organization to the owners; there are a little over 700 local forest owners' cooperatives under the umbrella of the national and prefectural network, and they have about 1.6 million member households with 11 million hectares of privately owned forests all over the country.

Japanese government established a set of progressive policy instruments under the name of the Forest and Forestry Revitalization Plan in 2009. In order to get competitiveness in domestic forest sector, integration of small and fragmented private forests as a unit of forest planning area is indispensable. Forest owners' cooperatives are expected to be a coordinator of doing such effort in each locality.

This article aims to show some examples of which forest owners' cooperatives are playing important roles in a way to integrate forest management. Then, possibilities of the coops as forest operation planners are examined. Interestingly, forest owners' cooperatives are in the turning point whether they would carry more public functions under the new governmental policy or not to change their present status.

Keywords: Forest and Forestry Revitalization Plan, forest owners' cooperative, integration of forest, operation planner, private forest

Introduction

Private ownership is predominant over forests in Japan. Within 25 million ha of total forest land, 31% is state owned, 11% is municipality owned, and the rest of 58% is owned by private sector which includes individuals, families, group of people, companies, temples and shrines, and others. Around 80% of domestic timber production is from private forests in recent years.

However, private forests have some difficulties. First of all, the size of forest holding is small and fragmented in small pieces. Secondly, most of the forests are located on steep terrains and forest road system is not enough prepared. Thirdly, problem of aging of the owners is becoming critical, and none of their children has interest in forestry in many cases. Lastly, stumpage prices have been going down for many years and it makes the owners to lose motivation for proper forest management. Domestic timber production is struggling with less expensive and/or higher quality imported timber for decades. For example, import of laminated lumber from Europe, especially Nordic countries and Austria, has been increasing since 1990s. Ability to stable lumber supply and higher kiln-dry technique of European countries as well as preferable economic situation of strong Yen made it possible.

In order to revitalize domestic forestry, a fundamental change for removing such difficulties is more than desired. This paper aims to show efforts to integrate small and scattered private forests, and to improve efficiency in timber production at mountainous areas in Japan. Local forest owners' cooperative is one of the key organizations to accomplish such measures under the name of the Forest and Forestry Revitalization Plan of the new government.

Importance of the integration of forest planning areas

One of the reasons that 67% of land area of Japan is covered by dense forest is the steepness of the terrain. It is difficult to develop even agricultural land as well as urban areas and dwelling places on

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such slopes, and also is dangerous to denude forest cover which is having protection function from flood and landslide.

Table-1 shows distribution of slopes by angles in Japanese forest land. Relatively flat areas with less than 20° are only about 1/3 of total forest land, while over 40% of forests exist on steep slopes over 30°. Sky cable yarding system usually is the only available method for transporting harvested timber from the slopes over 30° to the roadside.

Table 1. Distribution of slopes by angles of forest land in Japan

	0°~20°	*20°~30°*	*30°~40°*	*40°~45°*	*Over 45°*
Plantation Forest	*33%*	*26%*	*31%*	*8%*	*3%*
Natural Forest	*30%*	*26%*	*31%*	*9%*	*3%*
Total	*32%*	*26%*	*31%*	*8%*	*3%*

Source: Forestry Agency (2010) Forestry White Paper

Small and fragmented forest ownership is another feature of Japanese private forest. There are about 2.5 million forest owners who have 0.1 ha or more, within that 910 thousand forest owners have over 1 ha. Average size of forest areas with over 1 ha class is 5.8 ha but they usually are fragmented in five to ten pieces.

There is a historical reason for forming such complicated ownerships patterns. During the feudal era, most forests used to belong to feudal loads but local people allowed to use forests which were close to their villages. After the Meiji Restoration in the late 19th century, only such nearby forests turned into village owned forest and others were to public forests. Village owned forests were the origin of private forests nowadays, and they were divided into small pieces and redistributed to families and/or private individuals through the history of building modern society afterward.

During the World War II, forest all over the country had severely devastated. Reforestation and afforestation had urgently done mainly for rehabilitation purpose, but demand for timber became bigger and bigger with the growth of economy after the late 1950s. Under such circumstances, the government decided three major direction of forest policy: 1) To increase timber production from remaining natural stands in the state forest, 2) to import logs from overseas, 3) to establish softwood plantation forests over the country.

The last policy initiative above mentioned was called ‘expansive afforestation’, and some millions of natural broadleaf forests had harvested and softwood species such as Japanese Cedar (Cryptomeria japonica), Japanese Cypress (Chamaecyparis obtusa), and Japanese Larch (Larix kaempferi) were planted as ‘expansive afforestation’. High rate of subsidy had applied for such plantation, and benefit share afforestation was also introduced.

Benefit share afforestation was a unique silvicultural contract between a private forest owner and a public plantation corporation established by either central or municipal governments. The contract is easy and clear. Forest owners allow the public plantation corporatation to plant and grow trees on their forest land and get the share of profit from the final harvest. All the costs for silviculture are paid by the corporation. Rotation period is usually 50 years, and the share the owners get is usually 40%.

Governmental policy for reforestation and afforestation after the World War II was successful and more than 10 million ha or over 40% of total forest is now artificial plantations. Standing timber inventory is growing steadily and is around 4.5 billion cubic meters. Annual increment is nearly 100 million cubic meters but only less than 20 million are cut annually in recent years. Thinking about the annual domestic consumption volume of wood of 80 million cubic meters, there should be a wide space for Japanese forestry to expand its production. Integration of forest planning areas and mechanization, both of them are to reduce the cost of harvesting and hauling timber, are the keys to resolve the problem.

Two distinguished examples

Lots of efforts have been done to integrate scattered private forests so as to establish an efficient harvesting system in many places of the country. In this section, two distinguished examples carried out by forest owners' cooperatives are examined.

Hiyoshi Forest Owners' Cooperative located in the middle of Kyoto Prefecture is one of the leading cooperatives to establish a unique system of integrating members' forests. Number of the Cooperative member is 970 and forest area belonging to them is about 10,000 ha. Employees of the cooperative are 25 and majority of them are forest workers including forest road builders and trainees.

Hiyoshi Coop began the forest integration system in the middle of 1990s. There are 3 steps to integrate small scattered private forests: 1) Doing timber cruise in the targeted area which may include forests belonging to many different owners, 2) draw a harvesting or thinning plan with forest road construction in the targeted area, and 3) make individual operation plans for all the owners within the targeted area and have agreement to operate by the owners. An operation plan includes very detailed information about the forest and expected operation: number of trees in species, average DBH, timber volume, rate of thinning, expected volume of timber sales, map of new forest road construction, total cost, an amount of governmental subsidy, expected total revenue from timber sales, and possible profit or deficit from the operation.

Except a little number of active forest owners, majority of small private forest owners do not know about the detailed status of their forests. Some owners even do not know exact location of their forests. An operation plan made by Hiyoshi Coop is including precious information for such owners so as to know the present situation and value of their forests. Therefore, most of the owners who are offered the harvesting or thinning operation by Hiyoshi Coop are willing to accept the plan. Integration of forests will have accomplished when all the owners in the targeted area accepted the proposed operation plan.

Important points which brought successful results to Hiyoshi Coop were the treatment of absentee forest owners and developing forest road network. About 20% of the private forestland are owned by absentee owners. Hiyoshi Coop made great efforts to make contact with such owners and to have agreement of the operation plans. In order to realize the scale of economy by integrating forest area, it is necessary to cover all the forest owners in the targeted area. Efficient road network and mechanization are the other point. Hiyoshi Coop employed young operators of forest machinery as monthly salaried employees other than paid for by the piece, but such a status of employment was rare in forestry. Forest road density in Hiyoshi Town is over 30m/ha which is twice as much as the national average.

The idea of operation plan is praised by the government and the coordinator who carries out the operation plan became a model of the planner that the Forestry Agency expected to place over the country under the Forest and Forestry Revitalization Plan mentioned in the next section.

Project of "Forest Factory" in Kochi Prefecture is another distinguished example. Kochi prefectural government launched a set of subsidies for selected integrated forest planning area named "Forest Factory" in 2004. Requirement to be selected as "Forest Factory" is to integrate private forests over 30 ha, and in most cases the moderator to gather agreements of integration from owners are local forest owners' cooperatives.

Incentives for "Forest Factory" are subsidies to commercial and pre-commercial thinning, transporting of thinned timber, construction and maintenance of forest road, purchasing forest machines, sky cable yarding, education for forest workers, introducing new workers, and others. Central and prefectural governments already have certain policy to support forestry including subsidy for planting and thinning, but this project of Kochi Prefecture is far more supportive for private forest owners.

The number and area of "Forest Factory" has been increasing since 2004. As shown in Table-2, there are 74 factories in 2009 and total area is around 30,000ha. Average size of a factory is 405 ha and it is very big as one unit of forest planning area in this country.

Table 2. Number and area of Forest Factory in Kochi Prefecture (2004-2009)

	2004	*2005*	*2006*	*2007*	*2008*	*2009*	*Total*
Number	*5*	*7*	*11*	*20*	*18*	*13*	*74*
Area (ha)	*3,774*	*2,879*	*5,012*	*6,766*	*5,052*	*6,462*	*29,945*

Source: Kochi Prefecture HP < http://www.pref.kochi.lg.jp/ > (22 April, 2011)

Forest and Forestry Revitalization Plan

The Democratic Party of Japan took over the governance of the country in August, 2009. They had developed the New Strategy for Growth in December, 2009. In accordance with the new strategy, forestry has focused as one of growing industries, and the Forest and Forestry Revitalization Plan had launched in December 2009.

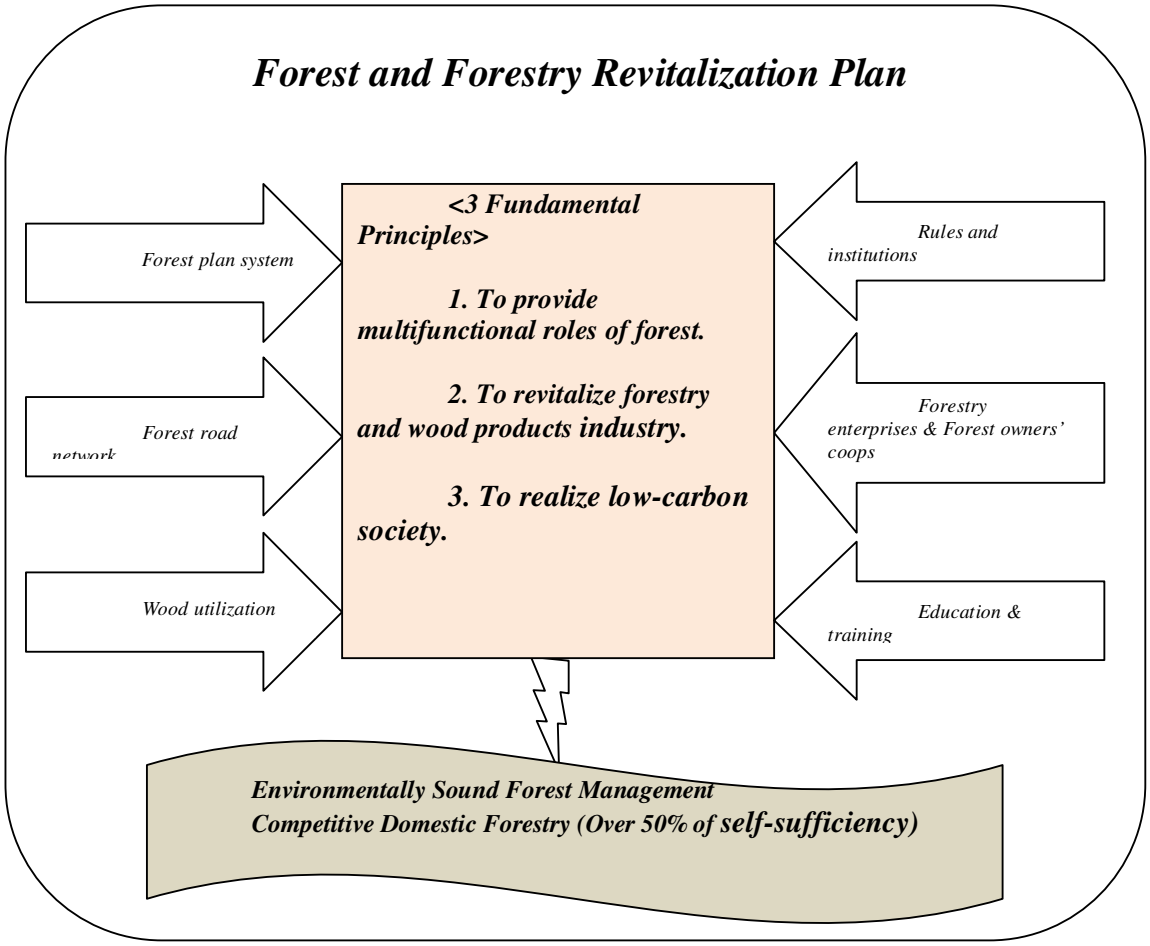
The plan intended to convert Japanese society from concrete based into wood based, in which we will utilize wood and other forest resources fully so as to contribute employment and environment. There are tree fundamental principles in the plan as follows:

1) To provide and sustain multifunctional roles of forest;
2) To revitalize forestry and wood products industry fully utilizing regional natural resources;
3) To contribute to the realization of the low-carbon society through wood use for both material and energy.

Ministry of Agriculture, Fishery and Forestry set up five consultation committees for reviewing current status and prospecting possible forest policies under the Forest and Forestry Revitalization Plan in January, 2010. Titles of five consultation committees are as follows: 1) Basic policy for forest and forestry, 2) Road and operation system, 3) reforming of forest owners' cooperatives and raising forest enterprises, 4) human resource development, and 5) process, distribution and utilization of domestic wood. Variety of well-informed persons such as professors, writers, company executives, foresters, accountants, consultants, and politicians, took part in the committees.

After one-year of thorough discussion in these five committees, the final report was submitted to the Minister of Agriculture, Fishery and Forestry in November, 2010. Six objectives for reforming forest and forestry are designated in it. To gain competitiveness in forestry and wood products industry is commonly pursued in all these objectives. Summary of six objectives are as follows: 1) rebuilding nationwide forest plan system, 2) preparing proper rules and institutions for adequate forest management, 3) developing efficient forest road network, 4) facilitating forestry enterprises and forest owners' cooperatives, 5) Expanding utilization of domestic wood with coordinating process and distribute channels, 6) educating foresters, technicians, operation planners and other professionals (see Figure-1).

As described above, the Forest and Forestry Revitalization Plan is very comprehensive and forward-looking. Forestry Agency is prospecting that timber production volume will be doubled and self sufficient rate of wood will become over 50 % in ten years in case the plan works sufficiently well. Forest owners' cooperatives are expected to be a key organization in each locality, but the plan is requiring reorganization of the cooperatives so as to play a special role of integrating and controlling small private forestlands.



Source: Forestry Agency (2010) Final Report of Forest and Forestry Basic Policy Consultation Committee

Figure 1. A Concept of the Forest and Forestry Revitalization Plan

A new role of forest owners' cooperatives

Far gaining competitiveness in forestry under the Forest and Forestry Revitalization Plan, integration of small and fragmented forestland is more than necessary. Integration of private forest management is a voluntary activity and no official framework exists. Two examples showed in this article are really advanced ones, but in both cases forest owners' cooperatives are playing important role as the main cast. Therefore, the government is expecting forest owners' cooperatives to be organizers of integrating forestlands in many other places.

However, there are some obstacles that forest owners' cooperatives are to play such a role. At first, not many of cooperatives have adequate human resources to do so. There are about 700 forest owners' cooperatives in Japan now, but not all of them are functioning well. Some of the small and inactive cooperatives are doing only a limited works such as paper works for subsidy transaction. To do managerial works for integrated private forests, basic forestry knowledge and techniques as well as reliable relationship among forest owners are indispensable. He/she might have to know distribution channel and marketing information of their timber. It is not an easy task.

The plan named such a person as "forest operation planner" and Forestry Agency started to educate such planners. The way of Hiyoshi Forest Owners' Cooperative is the model of the planner, and the National Federation of Forest Owners' Cooperatives and Forestry Agency started to held training courses for planners with the help of Hiyoshi Coop in 2006. Majority of the trainees of the courses are young employees of forest owners' cooperatives all over the country.

Secondly, there would be a conflict between forest enterprises and local forest owners' cooperative in case the coop plays a role of the operation planner because coops usually employ groups of forest workers. That is why reform of forest owners' cooperatives is considered to be necessary. An operation planner of a group of integrated forests should be neutral from contractors who are selected by sealed bidding or likewise methods. Therefore Forestry Agency wished to separate working forces from the coops by regulation but it did not accomplished yet because of protests from the coops. Timber production is one of the leading sections in many of the coops, and it would be hard to run the coops without such a section for many of them. However, forest owners' cooperatives are designated not to be profit-making organizations by legislation (Forest Owners' Cooperatives Law of 1978). Therefore, profitable business like logging operation should be carried by private enterprises separated from the coops.

Anyway, the role of forest owners' cooperatives as coordinator of the integration of small and fragmented private forestland is highly respected by the Forest and Forestry Revitalization Plan and Forestry Agency. Development of proper legal and educational system is required and ongoing.

Concluding comments

In 1950s, volume of domestic wood production was over 70 million cubic meters including 22 million of fuel wood. Even though we have much more timber inventory now, timber production volume is around 17 million. Governmental economic and trade policy has been making public to purchase less expensive imported timber rather than domestic ones. To compensate huge surplus of trade balance of the country, Japan should import more and more primary products such as food and wood. Forestry was not as important as leading industries like electronics or automobile in national policy arena so far.

However, the new government is trying to reverse the trend. Forestry is now places as one of the developing industries in 21st Century in the country, and innovative program named the Forest and Forestry Revitalization Plan was started in 2010. Timber production is expected to be doubled in 10 years by the plan. To realize the targeted future, a variety of policy measures will be applied. Mechanization and education are the hottest issues in forestry today.

Forest owners' cooperatives are to play an important role in the plan. Especially, integration of forest planning unit with small owners is critically demanded in all the local mountainous areas, and the coops would be the right position to do so. Problems related to aging of forest owners, absentee owners and indifference to forest management are not easy to resolve, but as shown in this article we have some hopeful examples.

Within100 years of their history, forest owners' cooperatives in Japan are facing the third big change now. First change was in 1930s under war economy, and second one was in 1951 under the democratization after the World War II. This change, to be a coordinator of forest integration and a forest operation planner at the same time, might not be as easy as before. Human resource development is unavoidable, otherwise the coops would not be survived. In other word, this is a big chance for the coops.

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Protection of forest habitats outside Natura 2000 – experience and problems in Latvia

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Abstract

The loss of natural habitats is a big problem in all of Europe, as more and more wild species are losing their habitats and their survival has become threatened. To great extent this is connected with intensification of forestry and agriculture. To protect threatened species and habitats in 1992 the European Community adopted the Council Directive on the conservation of natural habitats and of wild fauna and flora and on this basis countries of European Union have cretated networks of protected areas NATURA 2000.

With acession to the European Union Latvia also create its NATURA 2000 network based on the historical network of protected areas as well as established new protected territories.

However, many rare species, biologically valuable habitats and smaller territories remain outside legal protection. During woodland kay habitat (WKH) inventory from 1997 till 2010 in commercial forests about 30 thousand ha WKH and potential WKH were identified. WHK are biologicaly very valuable forest stands that have high biological value in the setting of managed forests. Till 2010 WKH were protected by recquirements of FSC certification – conducted as voluntary protection. With increasing demand for timber and loosing the FSC certificate in state owned forests in 2010, in the period 2007 - 2010 about one thousand ha of WKH and potential WKH have obtained permissions for cutting.

Legal provisions and a regulation system to protect WKH and other rare habitats and species exists as the creation of microreserves in commercial forests. State Forets data show that in the beginning of 2011 there were 2339 microreserves with an area of 38307 ha established. In state owned commercial forests there are 72 microreserves (about 570 ha) for protected forest biotopes (SFS data on 21 February.2011), but the biggest part of biologically valuable forests are in state owned forests. The establishment of microresreves is conencted with much administrative work, lack of expert capacity and poor financing. At present, there is a high risk of losing biologically valuable forests. Under pressusure from the timber industry.

Key words : protected habitats, woodland key habitats, microreserve

Introduction

Protection of nature and biodieversity began to receive more attention in 1972, when in the United Nation Human Environment Conference in Stocholm, states representatives spoke about sustainable use and maintenance of biodiversity as an essential basis for economic development and well being of all mankind. The Conference raised awareness of the society, scientists and lawmakers to rare species protection, and in 1979, the Council Directive 79/409/EEK on the conservation of wild birds (Bird Directiev) was adopted. Biodiversity was a central theme in the 1992 Rio Earth Summit (United Nations Conference on Environment and Development). The European Community in 1992 adopted the Council Directive on the conservation of natural habitats and wild fauna and flora (92/43/EEK, Habitats Directive), which along with Bird Directive, become the most important legal instrument in nature protection in Europe. These directives create the basis of nature protection legislation in Europa and are a framework for building a uniform system to protect wildlife species and natural habitats. The network of the protected territories Natura 2000 become one of the international measures to protect endangered species and habitats in European Union. Besides these actions, countries are free to envoke other measures to achieve the central goals of Directives - to ensure favourable conditons for endangered species and habitats. They can incorporate special conditions for habitat management or create diffrent forms of special territorries.

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The species and habitats protection in Latvia

A long time before Natura 2000, various protected territories had been established in Latvia. The first nature reserve in Latvia, and in the Russian Empire, was Moricsala, founded in 1912. Later, the Slītere reserve was established in 1921 and the restricted area Isles of Cieceres lake in 1923, and others. Later, during the Soviet period, formation of protected territories was continued, but sometimes without detailed scientific research and without permanent monitoring or investigations Upon joining the EU in 2004, Latvia developed the Natura 2000 network, based on the previous protected territories and new established nature parks and restricted areas. The network now includes 336 territories under different management regimes, which cover approximately 12% of the total land-use.

Besides nature protection territories in the Natura 2000 network, two other important nature protection methods are applyed in Latvia – woodland key habitats and microreserves.

Woodland key habitats

The Woodland key habitat concept is very well known in Northern Europe. Woodland key habitats (WKH) are forest stands that provide habitat for rare and endangered species with highly specific demands for the habitat. The forest structures and features essential for these species are most commonly found in forest stands that have had temporal continuity for a long time and where no or insignificant management has been conducted. These habitats are distinguished by a high concentration of endangered species, mainly flowering plants, bryophytes, lichens, fungi as well as insects and molluscs. In 1997 the Latvian State Forest Service and the Östra Götaland Regional Board of Forestry of Sweden started a joint project "Woodland Key Habitat Inventory" to identify woodlands where the concentration of biological values is especially high and achieve their protection. The inventory was carried in state owned forests, which take up about 50% of all forests both in managed and protected territories. In 2009 45% of all WKH in state forests were in Natura 2000 territories, 57% in commercial forests. Inventory was continued from 2000 till 2005 within the framework of several projects together with Östra Götaland Regional Board of Forestry. A quality audit of the project found that, based on the applied inventory methodology, only about 60% of WKH had been identified, resulting in a shortfall. After 2005 inventory was continued to a very minimal extent.

Initially the inventory concentrated on state forests (owned by the Ministry of Agriculture, about 50% of all forests). The Stock Company "Latvijas valsts meži" (SC) manages State forests, and plans cutting, restoration, infrastructure building and recreation objects maintenance. During the first years of WKH inventory SC cancelled management activities in stands recognized as WKH, and in the next years attempted to avoid management in all of these sites. In the period 2001 till 2009, voluntary protection of WKH was included in the FSC certificate conditions of SC "Latvijas valsts meži" managed state owned forests. In Fennoscandian and Baltic countries exist a much variation in the degree of protection of WKH.

Despite the enormous ecological values in WKH and their importance in conservation of biological diversity, in the period up to 2010, WKH officially have had no recognition by the nature protection authority (Ministry of Environment Protection). Information about WKH was partly used by scientists during preparation of the Natura 2000 network in Latvia to create new protected territories in 2004. Several new nature parks and restricted areas were established based on information about WKH concentration places and high habitat quality, for example, Vecumu forests nature park, restricted areas Mētru forests, Spinduļu forests, Nīcgrandes forests, Dzilnas swampwoods, etc. However, officially WKH have been considered as a part of forest management and a FSC certificate demand, but until 2010 there was no official link of WKH with protected habitats. However, incorporation of WKHs as protected habitats would be a confirmation of quality of the total protected territory network. Today things are changed to the better. In 2009 the project "The elaborating of methods and handbook for identification of ES protected habitats in nature" was started, and in 2010 the handbook for ES habitats identification was published. Methods of

identification of ES protected forest habitats also include quality assessment accordingly to WKH criterion. For several habitats, like 9010* Western taiga and 9020* Fennoscandinavian hemiboreal natural old broad-leaved deciduous forests (Quercus, Tilia, Acer, Fraxinus or Ulmus) WKH criteria are crucial aspects for identification, for some others like 9080* Fennoscandinavian deciduous swamp woods and 91D0* Bog woodlands it is preferable to use the WKH criteria. Methods the first time were used in 2010 for habitats mapping and quality assessment for monitoring in Natura 2000 territories.

The last project of WKH inventory ended on 2005. SC stated that inventory had been finished, and further planning of all management enterprises was based on inventory results available at that moment, assuming that all other forest stands are commercial forests with corresponding management aimed on commercial forestry.

This raised discussion among SC and forest experts, because inventory was still continued to very small extent, based on private initiatives of experts or occasional findings. Information about new founded WKH was supplied to SC and in accordance with FSC regulations management activities must be cancelled. This caused dissatisfaction in the SC and created problems in management planning. Occasionally WKH were harvested, causing a large resonance and discontent among forest experts and biologists. Considering that in the period up to 2005 only 60% of WKH have been identified, there is a need to improve experts knowledge and a new inventory and revision of existing data will be necessary.

In 2009 SC lost its FSC certificate, and regaining of this certificate and new regulations regarding the future of WKH are still unclear. Absence of an identification system for protected forest habitats before cutting was one of the main reasons for loss of the certificate. Due to the financial crisis in Latvia, the annual harvest volume in state forests increased from 4,41 milj m3 (clearcuts - 12041 ha) in 2006 to 7,73 milj m3 (clearcuts 23746 ha) in 2009 and 7,64 milj m3 (clearcuts 23055 ha) in 2010. Although SC has declared protection of WKH pressure from the forest industry and the demand for wood resources are very strong. This has caused worry among forest ecologists and biologists in Latvia, because voluntary protection without any legal framework in this financially tense situation is under threat and can change at any moment. One possible way to protect officially WKH and other valuable habitats outside Natura 2000 is establishment of microreserves.

Microreserves

Microreserves are small territories, and forest microreserves are usually strictly protected without any management. Their area can vary from 0.1 ha to 200 ha (in cases of microreserves for rare birds). Microreserves are established to protect rare plant, birds, invertebrates, mosses, fungus, likens and habitats. They are established on the basis of an administrative resolution after expert proposal and assessment of conditions. Usually microreserves are established outside Natura 2000 territories in commercial forests. In some cases, if management regimes are very “soft” and various types of harvest are possible in forests, microreseves have been established within Natura 2000 territories. For example, in nature park “Kuja” several microreserves for the Lesser spotted eagle have been established. Microreserves for protection of rare plants and habitats are employed in several European countries (Slovenia, Spain, Cyprus, etc.) both inside and outside Natura 2000.

The history of the microreserve concept began during the in Soviet period, when specially protected forest compartments were established by foresters. The protected compartments were variable – botanical reserves, nature parks, zoological reserves around nests of birds of prey, hunting forests in capercallie leks, forests on slopes and along rivers and others. Usually non-intensive management was practiced in these compartments or cutting was not conducted. With the new Forest Law in 2000, these new specially protected compartments were no longer established, and revision of previous established territories was started. During the revision there were two options: cancellation of protected forest compartment status and including territory in commercial forests or initiating of microreserves.

In 2001 Regulations were issued by the Cabinet of Ministers about microreserves initiation, protection and management, giving them a essential function in the nature protection system in Latvia. The first microreserve was established in 2001 to protect middle spotted woodpecker. The next were several microreserves for forests of slopes, screens and ravines in 2002. At the beginning of 2011 about 2058 MR (~ 38465 thousand ha) microreserves had been established in Latvia, which is about 5,5% of all protected territories. In most cases, they were established to protect rare birds (Fig.1).

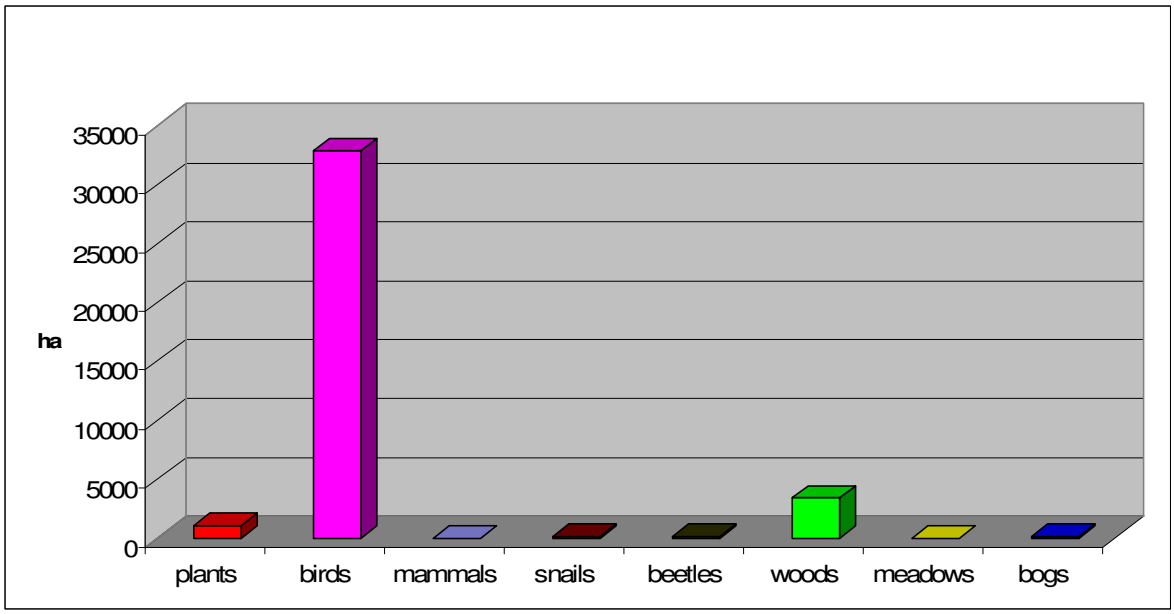

Figure 1. The microreserves in Latvia, 2011 (data from State Forest Service).

In the period up to 2006, the regulations allowed the creation of microreserves for WKH, but this was not a very popular practice in state owned forests, where are the largest part of WKH are found. Microreserves were often established in private forests, but in state forests WKH were under FSC certificate protection. After 2006, the administrative regulations and laws regarding protection of forest habitats become more complicated. The regulation on microreserves (Regulations of the Cabinet of Ministers No.45 adopted on January 30, 2001 "Establishment, Protection and Management of Micro-reserves") allows for protection of habitats. ES protected habitats were given new adapted names in the list of protected habitats in Latvia in the corresponding regulation (Regulations of the Cabinet of Ministers No.421 adopted on May 12, 2000 "List of Specially Protected Habitats"). This list does not include all ES protected habitats in Latvia and makes no mention of WKH. The new handbook of ES habitats cross-relates many types of WKH and ES protected habitats, but nevertheless, many WKH cannot be classified under a ES habitat type (e.g. Windfall forests, Mixed forests, Deciduous forests, Aspen forests, Beaver forests). Also, the priority protected habitats 9010* Western taiga and 91D0* Bog woodlands also are not included in the Latvian list of protected habitats and there are no possibility to protect these biologically valuable habitats outside Natura 2000. Discussion about the need to include theses habitats in regulation has continued for two years, without progress. The same situation can be said for WKH.

The main national-level problem regarding microreserves is the lack of knowledge of the area of rare habitats that is needed to protect to ensure the demands of the Habitats Directive and national interests of sustainable development, forest management and sensitive species protection. There are no clear information about protected habitats outside Natura 2000, excepting information about WKH in state forests, which also is not complete and needs revision. Latvia has a rather large relative area of Natura 2000 territories (about 12% of land area), but in some cases the best examples of habitats are not included in this network due to different historical reasons in creating

protected territories during the Soviet period. The initiation of microreserves was fundamentally built on the enthusiasm of scientists and biologists and private initiatives. The process of microreserve establishment is not very complex, but requires preparation of the necessary proposal documents, territory maps and also readiness later to take part in court cases when the owner litigates the decision about microreserve establishment. Since 2006, compensations to private owners about forest management restrictions in microreserves was available, which improved attitudes towards nature protection. Up to 2011 about 2 296 809 EUR were paid from the state budget (information from the Nature Protection Agency) for compensation, but now due to the financial crisis this process has been stopped.

Conclusions

1. Latvia has a very good legal instruments to create small protected territories outside Natura 2000 for species and habitats.
2. There is insufficient scientific well-founded information about protected habitats outside Natura 2000. This does not allow state institutions and scientists to say how much is necessary to protect. State commissioned projects and investigations would improve the knowledge and can provide the needed answers. These investigations must include the revision of current WKH and inventory of possible new territories.
3. The inclusion of WKH and priority protected ES habitats 9010* Western taiga and 91D0* Bog woodlands in Latvia in the specially protected habitat list are required to ensure protection of biologically valuable habitats.
4. In state owned forests the demand for WKH protection in any certificate requirements or special regulation is needed. Taking into account the huge number of WKH, habitats expert capacity and unclear questions about area of responsibility in proposal preparation, the administrative procedure of microreserve establishment for all WKHs will take a very long time with create losses of these biologically valuable forests.

Acknowledgment

The work was supported by ESF project “Support for the Daugavpils University doctoral study programme “Nr.2009/0140/1DP/1.1.2.1.2/09/IPIA/VIAA/015”.

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Support to private forest owners in Latvia

Evija Grege-Staltmane[1], Henn Tuherm[2] (Latvia)

Abstract

Latvian Forest Policy indicates that responsibility of a forest owner is to take care for forest in the manner not to reduce its value. The economic value increase of forest is closely connected with tending of young stands, replacement of low value forest stands, as well as purchase of machinery, tools, equipment, and facilities for performance of these forest works. These are long-term investments in the forest, but return on resources invested will be visible only 60-80 years later. In state owned forests, targeted forest management and its value increase are ensured, while good forestry practices are not always complied in private forests because of their large number and small size. Often, a private forest owner is not interested in or cannot afford to invest in the forest to ensure effective forest management cycle. Therefore, a forest owner can apply for financial support provided by both the state and European Union funds. The aim of the article is to study the role of the state and European Union in supporting private forest owners, as well as to analyse amount of support and the problems pertaining to its reception. The results indicated a low level of national investment to the forest sector and a low level of private forest owners' activity in acquiring European Union funds. The main reasons are complex project preparation, lack of experience and lack of money for initial investments.

Key words: state support, private forest owners, subsidies.

1. Introduction

According to Latvian Forest Policy forest should be properly managed to fulfil the economic, social and ecological functions of forest. The management form and principles are depending on the owner who manages it. Over time, forest ownership structure has been changed in Latvia. A land reform (property restitution to the former land owners) left high impact on the distribution of forest ownership, which was implemented after 1990. The result of the Land Reform is that in Latvia there are more than 170 000 private forest owners. Private forest holdings are really fragmented. 32 % or 355 846 ha of private forest are not larger than 10 ha and these areas make up 79 % or 113 770 of forest holdings. In addition, 15 % of the total forest area is smaller than 5 ha (Grege-Staltmane, 2008).

In the small area it is difficult to provide continuous timber resource supply and to get regular income. For that reason a private forest owner is not interested in carrying out forest management to improve its forest productivity. As well as a large number of private forest owners still have an insufficient level of knowledge in the forest management and its product selling, therefore it is difficult to argue for the need of investments in forests. It demonstrates the quality of private owner forest stands, where dominating specie is birch which gladly prefers to grow on the abandoned agriculture lands. To take into consideration the lack of the experience between forest owners in the forest management and that the forest owners mainly do not reside near their forest is still inconvenient to manage these forest properties (Grege-Staltmane, 2008). If such practice continues in these areas only low value forest will develop, which is not compatible with sustainable and economically justified forests management (Kaktiņš et al., 2007).

Free capital is needed to implement the investments in the forests which can be obtained from timber selling as profit, borrowing or attracting them from state and European Union (EU) funds (see Fig. 1).

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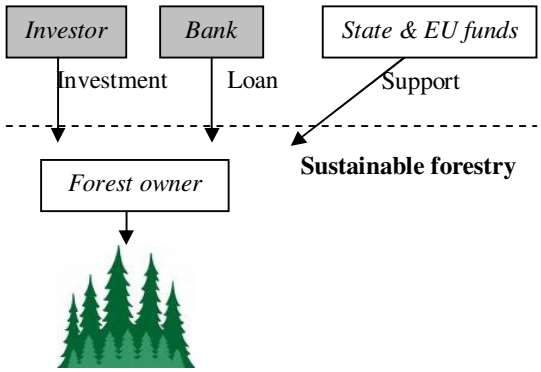

Source: authors' construction

Figure 1. Investments for increasing sustainable management in private forestry

It is important for the state to let investments in forest holdings. They will ensure greater competitiveness of the sector, employment and increase of income levels, growth of taxes and GDP.

It is emphasised in Rural Development Programme for Latvia 2007-2013 (2009) that sustainable management of private forests and forest lands would be endangered without investments into improvement of the ecological, social and economic value of the forests: the economical potential of the forest will deteriorate, real threat to sustainable availability of forest resources, productiveness and quality of forest stands as well as future development of the forest sector and national economy.

The Latvian experts see as one way of macroeconomic situation improvement and strengthening the successful application of EU funds. The EU funds could play a positive role in macroeconomic development at the moment. Forest owner can apply for financial support provided by both the public and the EU.

2. State support

In order to facilitate the agricultural and rural development as well as to improve the living standards of the rural population, in 2002–2007 national support to agriculture in the amount of 2.5 % of the annual central government budget was provided in addition to the EU funding (Rural Development Programme for Latvia 2007–2013, 2009). Together 4.8 million EUR were distributed from 2006 till 2008 in forestry. The support was more intensive in year 2007 and 2008. Funding for forestry was not foreseen because of economic situation in Latvia in 2009, except Forestry Development Fund (FDF) funding. Many Latvian Rural Development Programme activities were available in similar events in 2009 as well.

The state support from the Ministry of Agriculture of Latvia budget is allocated for forest sector development to the FDF. The fund was established in year 2001, but only from year 2004 the significant funding application was started in the FDF in forest sector. Until then, the sums and the number of projects were small. The fund capital is gained from foreign aid, legal and private persons donations, including contributions and government subsidies from general revenues. During the six year period the total amount of financial support to forest science, experts and forest sector development is 10.9 million EUR for the FDF. The forest monitoring, different scientific researches, developed a dialogue with society to promote positive public attitude and awareness of forest and its products, new technologies have been funded from this capital. The number of project applications was significantly increased between 2004 and 2008 year, but in 2009 both the number of projects and amount of funding declined mainly due to the economic crisis in Latvia. The planned FDF support was just 0.2 million EUR in 2010.

2. Europe Union financial support

Latvia as an EU candidate country, since 2000, the SAPARD (Special Action Programme for Agriculture and Rural Development) programme financial support was available. In general these projects have attracted about 6.4 million EUR public funding.

EU funds inflow int. al. forestry in Latvia facilitates the entrance of Latvia in EU in 2004. The first support was available from the period between 2004 and 2006. In accordance with the Development Plan forest owners and forest industry entrepreneurs were able to apply for two types of EU structural funds financing the European Agricultural Guidance and Guarantee Fund (EAGGF) and the European Regional Development Fund (ERDF). Within those programmes framework the forest owners and companies related to the forest sector received support for 11.6 million EUR.

Currently, in accordance with the Latvian Rural Development Programme 2007–2013, it is possible for the forest owners and entrepreneurs to apply for the European Agricultural Fund for Rural Development (EAFRD) financing in 8 activities. Accordingly the amount of EU support for forestry presented in table 1 can be seen. From all 27 support activities in agriculture 8 or 30 % is anticipated to forestry.

Table 1. Distribution of Finance for Rural Development Activities

Activity	*Available public support, EUR*	*Use of finance 31. 03. 2011, %*
Vocational training and information measures	1 205 452	35
Use of advisory services	7425	88
Improvement of economic value of forests	37 928 689	8
Infrastructure, related to the development and adjustment of agriculture and forestry	30 229 880	70
Initial afforestation of land not utilised for agricultural production	20 181 536	59
Restoration of forestry production potential and implementation of preventive measures	11 367 618	15
Natura 2000 payments to forest owners	15 352 616	32
Support to set up and develop micro-enterprises	130 660 916	60

Source: the Ministry of Agriculture http://www.zm.gov.lv/index.php?sadala=1570&id=8380 (31.03.2011)

Total for forestry activities, except last activity, the fund for forestry has not been separated, 116 million EUR large amount of funding has been assigned or 8 % of the total EU funding of 1383 million EUR. This support will be spread in several stages equally for every year. It is known that for energy production from agricultural and forestry biomass 44.8 million EUR have been allocated in year 2010. However, the largest amount of funding is for improving the economic value of forests. It should be noted that the EU funding was only available from 2009 not as it was planned from year 2007. This capital is essential help for forestry due to economic crisis conditions in Latvia.

Thanks to EU support are provided not only for creating new jobs in the countryside, but also for forest owners to be able to more effectively manage their forest properties (Bāra, 2010).

However, the Monitoring of Forest Sector Economic Situation in 2009, survey of 583 forest owners, found that only 29 % of all forest owners use the support from EU funds, mainly for tending of young stands (75.4%) and afforestation of agricultural land (23.4 %). Consequently, it can be concluded that private forest owners' level of activity in EU funds is low. The reasons why funding opportunities have not been used, have been mentioned as complex project preparation (25.4 %), lack of experience (11.6 %) and no capital for initial investments (6.9 %). To obtain a loan for forest management cycle is practical impossible for the forest owner.

In table 2 we can see the state and EU support for forestry. In 2010 EU support is 15 %, while state support is 4 % of the total accumulated investment amount, which show quite weak support for private forest owners.

Table 2. Accumulated investments in private forestry, million EUR

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total investments	40.8	53.0	60.8	87.6	120.0	158.5	247.5	310.8	350.6	398.2
int. al. Banks[3]	17.4*	24.5*	31.7	46.7	76.4	111.6	157.3	177.7	168.3	152.1
FDI[4]	16.9	22.1	22.8	30.0	27.5	24.3	63.3	99.9	125.8	169.2
State support	0.0	0.0	0.0	0.6	2.0	4.6	9.0	15.2	15.7	15.8
EU support	6.4	6.4	6.4	10.3	14.1	18.0	18.0	18.0	40.9	61.1

Conclusions

1. As the main reasons why the Latvian private forest owners do not invest in their forest properties to increase their value should be mentioned - the fragmentation of forest properties, lack of own capital and absence of experience and traditions.
2. The national investment for forest sector is quite small in 2010 - 4 % of the total accumulated investment amount.
3. Joining the EU significantly increased the EU funds' capital inflow in Latvia. EU funds have been essential support for forestry in conditions of crises in Latvia in 2010 - 15 % of the total accumulated investment amount.
4. Private forest owners' level of activity in EU funds is low, as the main reasons are considered - a complex project preparation, lack of experience and no capital for initial investments.

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*Authors' assumption.

[4] Source: Bank of Latvia , Foreign Direct Investments in forestry.

Contradictions between the forest field regulatory enactments and the interests of state forest management in Latvia

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Introduction

This Paper researches the effect of the regulation of the forest field regulatory enactments on the interests of the state forest management in the Republic of Latvia. Within 20 years since restoration of independence in 1991 the forestry of Latvia has strengthened its positions in the Latvian economy as one of the main fields, but in the export field it is the dominating sector along transit.

The normative base has undergone two development stages. One since 1991, when the institute of private property was restored and the basic principles of market economy were introduced, as well as the legal regulation of the forest field was restored. The second since 1998, when after approving the Forest Policy the forestry of Latvia was structured in accordance with the division principles of public and private sectors. As a result in 1999 JSC "Latvijas valsts meži" was established, which manages the forest areas owned by the state.

The development cycle of 20 years and the circumstances of world economic recession since the autumn of 2008, which affected the economy of Latvia, make the forestry field review its interests and legal framework. As active campaign of decreasing the administrative load has been initiated in the country in all fields, which should bring definite results in forest field. None of the society groups request withdrawal from sustainable forest management practice, but a number of administrative procedures and scientifically low justified standards about forest management slow down the management effectiveness of forest, incl. state forest.

Materials of amendments to regulatory enactments implemented and suggested within the last three years, studies conducted by the Latvian State Forest Research Institute "Silava", materials from the Conference "Forest Field within 20 Years of Latvia's Independence" and knowledge and practice accumulated by the employees of JSC "Latvijas valsts meži" have been used in the Paper.

In addition it should be pointed out that the majority of positions concerned in this Paper affect also other forest owners – local governments and legal and natural persons.

Forest Field in Latvia

There is little basic data available to create the conception of forest field in Latvia.

The area of Latvia is 64.6 thousand km². 52 % or 33.5 thousand km² are covered by forests (3.35 million ha). The total growing stock reaches from 572 million m³ according to the data provided by State Forest Service State Forest Register to 633 million m³ according to the data of the Forest Statistical Inventory that is acquired by Latvian State Forest Research Institute "Silava". There are 1.28 ha of forest in Latvia per capita, which places it in the 4th position in the EU. 543 thousand ha or 16 % of forests are located in protected territories with complete or partial forest management restriction. JSC "Latvijas valsts meži" manages 1.59 million ha of forest or 47 % of the entire forest space of Latvia.

In 2010 the turnover of forest field was 1.51 billion lats or 2.16 billion euros. It is 4.6 % of the gross domestic product. The export value of forest field reaches 1.02 billion lats or 1.46 billion euros. It is 22 % of the total export value. Forest field is the only economy field with positive import-export balance. About 40 000 people or 3.5 % of the number of residents of working age are employed in forest field.

In 2010 the volume of felled wood was 13 million m³, of which 7.6 (59 % of the total volume of felled wood) million m³ have been acquired in state forests and 5.4 (41 % of the total volume of felled wood) million m³ have been acquired in the forests of private forest owners, local

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governments and other forest owners. The figure for 2010 exceeded 2009 by 2.25 million m³. the volume of felled wood from other forests accounted for most of this increase, namely 2.34 million m³ , but the volume of wood felled in the state forests has decreased by 0.1 million m³. It should be pointed out that in 2009 and 2010 due to the trend of economic recession, the government of the Republic of Latvia increased the felling volume in the state forests by 40 %. In 2011 the amount of felling in state forests has been restored to the level that existed before the crisis.

Aspects that Hinder Adjustment of the Regulatory Enactments

The requirements of the regulatory enactments in Latvia create administrative load in the form of bureaucratic procedures within the forestry field, and also hamper maximum possible economic gain from sustainable forest management.

The procedures provided in the regulatory enactments create additional expenses and are time consuming for forest owners and are not always well-informed and proportional. Forest management standards provided by the regulatory enactments in Latvia are too cautious and they do not allow gaining the maximum possible benefit from the forest.

Administrative load on the interests of state forest management is mainly created by the excessive regulation related to the provision of confirmations, forest inventory and forest land transformation. But the main fields that prevent gaining the maximum possible economic benefit are the regulation standards set for tree felling, forest regeneration, and the establishment of the maximum permissible felling volume.

Tree Felling

By conducting scientific studies it has been proved that in aspen tree forest stands of felling age (41 year) core decay runs in 25 to 100 % of the trees. It is provided in the studies that after the age of 30 years along the increased age of aspen tree forest stands, also the prevalence of aspen tree trunk decay increases. It is useless to continue the growing of decay infected aspen tree forest stands. Due to the decay the value of aspen tree forest stands decreases by 25 to 50 %. Taking into consideration the characteristics of aspen trees as pioneer species, as well as the high proportion of aspen trees infected with trunk decay in forest stands and the significant positive correlation between the age of forest stands and the damages caused to aspen tree forest stands by trunk decay, the final felling age for aspen tree should be decreased from 41 to 31 years. The economic and landscape gain that could be provided by such standard is beyond question.

The Law on Forests provides that the final felling is prohibited, if the forest owner of lawful possessor within the terms and according to quality provided by the regulatory enactments has not regenerated the forest within the volume of at least 80 percent of the total area to be regenerated. At the same time the Cabinet of Ministers regulations “Forest Regeneration Rules” include strict provisions and criteria for the thinning of the regenerated forest stand, thus mainly focusing on the quality of the forest stand, which provides the forest owner or lawful possessor possibility to choose economically justified and forestry based model of forest growing in the concrete area. The Law on Forests actually includes a moral standard, because any sustainable forest manager will try to regenerate 100 % of the forest, not just 80 %.

The Law on Forests provides that the final felling is prohibited, if the forest stand in the area of 1.0 ha or more, which is adjacent to the final felling in the forests of a single management object, is not recognized as regenerated and the forest stand has not reached the age of at least 3 years. In this regulation the differences in the growing stages of forest stands in various forest types have not been considered and therefore it does not characterize the actual state of forest stands. In three-year-old forest stands, depending on the forest type productivity group, the characterising factors of a forest stand vary greatly (height, diameter, density), which provides their stability against the risks of environmentally unfriendly effects imposed by ecological factors. The regulation in force forces the forest owners to cut 5 ha at once, instead of felling 1.5 ha each year for three years. Here it should be noted that according to the rules of the Cabinet of Minister, regulation is provided

regarding tree felling in forest lands, although the Law on Forests currently does not admit, that the felling is allowed in adjacent area and that the planned felling in total does not exceed the defined maximum area of clear felling. But current discussions about the amendments to the Law on Forests regarding this issue are still continued.

In accordance with the Law on Forests (tree felling in the forest is prohibited, if in the forest of the forest owner or lawful possessor forest inventory has not been executed, except cases when the trees are cut to eliminate the consequences of windfalls, windbreaks and snowbreaks) currently such situation has formed that those forest owners, who due to financial or other reasons have not executed forest inventory, are not allowed to cut trees in a sanitary felling and to execute the obligation imposed by the Law on Forests to follow the sanitary condition of the forest. Although at first it might seem that there couldn't be any problems for a state forest manager to execute forest inventory, in practice however situations can be observed when the understanding about the quality of forest inventory of a forest owner, service provided and State Forest Service differs to great extent. Within the last years JSC "Latvijas valsts meži" has reached the point close to felling restriction for several times due to non-execution of the inventory, because the process of amending and specifying the submitted data has lasted longer than a year.

In the new version of the Law on Forests (hereinafter – Draft Law) it is planned to specify the order for felling trees infected by diseases, infested by pests or damaged due to other reasons, clearly separating the sanitary felling from the thinning and the final felling.

In the Draft Law it is planned to decrease the final felling age of aspen tree forest stands from 41 to 31 years, as well as to define the final felling age for elm tree, flattering elm tree and maple tree forest stands. But perspective for implementing this standard is not promising, due to powerful opposition created by the environment protection organisations.

In the Draft Law it is planned to cancel the final felling restriction, if the forest owner has not regenerated the forest in the amount of 80 percent.

Standard about the final felling restriction has been specified, when the adjacent forest stand is not regenerated, providing that this restriction does not regard cases, when the area of the adjacent forest stands and clear felling in total does not exceed the accordingly provided maximum area of clear felling as provided by the Cabinet of Ministers. Thus the contradiction currently in force, which exists between the law and the regulatory enactment subordinate to the law, would be eliminated.

The Draft Law specifies cases, when confirmation for tree felling is not necessary, providing that the confirmation is not necessary for the felling of such trees, the stump of which is smaller than 12 centimetres in diameter, for tree felling in young stands, as well as for felling of dry trees and trees knocked down by wind, if the basal area of a forest stand is larger than the critical basal area.

If the Law on Forests mostly creates administrative load and indirect financial losses in forest management, then regulations of the Cabinet of Ministers on tree felling create a number of economically unprofitable circumstances that prohibit reaching the highest level of effectiveness while managing forests.

Since 2009 contradictory to the Law on Forests, Tree Felling Rules allow planning of the felling site, if the total area of the bordering, adjacent forest stand or clearing does not exceed the defined maximum width or area of the clear felling. Introduction of this standard in 2009 can be considered a major breach. But continuing work at the amendments to the Law on Forests, the issue has become topical. The implementation of the desires expressed by environmental organisations would once again force the forest owners to form maximally large and wide felling sites at once, because one to five years later it would be prohibited to cut the rest of the felling site. The average size of clear felling of JSC "Latvijas valsts meži" ranges from 1.9 to 2.1 ha.

Tree Felling Rules provide more simple methods of marking the felling sites and preparing sketches for felling sites, as well as the possibility to prepare sketches for felling sites and submit them electronically to the State Forest Service. But forest owners still have to mark the felling sites in nature, that do not border the land owned by other owners, although it could be easily done using GNSS devices.

Although some improvements of Tree Felling Rules were achieved in 2009, currently discussions continue about a number of rules related to tree felling in forest lands.

Discussions about cancelling the width of felling sites take place, adjusting only the area of the felling sites. Also opinions about the maximum areas of felling sites in the types of dry growing circumstances differ greatly. Environment protection organisations do not allow larger area than 5 ha, while the forest owners wish to retain the permission to cut up to 10 ha large clear felling sites.

It is suggested that, if in a forest stand only the dry and broken trees are cut, and if the basal area of undamaged trees is larger than the critical basal area, felling may be begun after providing the information to State Forest Service and no confirmation is necessary.

Separate environment protection organisations suggest defining the joining restriction for clear felling sites, if the borders of felling sites come in contact within the distance of only 1 metre, instead of the current value of 50 metres, the planned clear felling would be allowed, if the adjacent one were recognized as regenerated.

The regulation in force provides such density of the trees to be retained, which is too large (0.4). As a result of such density, when executing selective felling, new trees have no options to enter pine tree stands and the goal of selective felling to form mosaic type forest stands is not provided. To provide formation of various age stands, regulations about the final felling age and final felling diameter and regulations about thinning regarding the minimum basal area should not be referred to the selective felling.

Forest stands of various age and generations must be formed in protected forest stands as soon as possible. In a forest stand three to four generations of trees within the age interval from 20 to 40 years are necessary depending on their species. It can be best provided by executing timely felling of trees, so that space for forming new tree generation would be provided. If it is executed only after reaching the final felling age, the possibility to form one to two new tree generations in the forest stand is missed. The proposed standard is necessary, because according to the regulations in force, when executing tree felling before the final felling age –formation of various forest stand generations cannot be provided in the thinning sites. The limitation of the minimum basal area is too high, in order to provide the formation of various forest stand generations, especially regarding species that grow better in sun. The definition of thinning contradicts the goal of this standard, because formation of new generation forest stands should be provided instead of improving the growing conditions of the existing forest stand trees.

Currently JSC “Latvijas valsts meži” has suggested reviewing the minimum basal area of the trees growing in poor growing condition types, depending on the dominant tree species and the average height of the trees, because otherwise the minimum basal area borders in pine tree stands grown in dry growing condition types after thinning are too low. In the poor growing condition types as a result of economically justified thinning the minimum basal area limit may be exceeded, for which damages to the environment are calculated and recovered from the state forest owner, incl. state forest manager. And besides, the mentioned differentiated requirements regarding the minimum basal area were provided in the 1990’s.

JSC “Latvijas valsts meži” strongly advocates that forest owners should not have to carry out the thinning works of young forest stands every two to four years, which is currently promoted by the Tree Felling Rules, which provide such number of trees to be retained after reaching the height of 2 metres that is too large. It is necessary to decrease the values of the minimum number of trees by 500 trees/ha in pine tree and by 300 trees/ha in spruce tree and separate deciduous tree stands,

beginning from the average tree height of 2 metres. It would provide that after thinning of young stands in a forest stand the number of trees will conform to regulations of a purposeful forest stand growing, i.e. about 1500 trees/ha depending on the species. Such number of trees is mentioned in the studies about purposefully cultivated forest stands for several times. In its economical activities also JSC "Latvijas valsts meži" has observed that the existing standards are a bit too high, because they do not promote felling of trees lagging behind, thus forcing the forest owner to execute repeated thinning. Currently the forest owner has two options. To form a profitable forest stand by making larger investments, or, by saving on the regularity of improvements, to risk the quality of a forest stand, because as a result there would be an increased number of trees in the forest stand for a period that is too long.

Currently the possibility to cut unproductive forest stands is extended. Therefore options provided for a forest owner to raise the forest value are greatly increased, by replacing unproductive forest stands with the ones that are productive. And besides the effectiveness of resource application would be improved, if unproductive forest stands were allowed for felling and thus the opportunity to retain the productive, wood producing forest stands would be provided. But there are many standards in the Tree Felling Rules that require improvements, in order to increase the forestry return.

Providing Confirmations

The provision of permits defined by the Law on Forests for several activities overlaps with the provision of other permits provided by the regulatory enactments.

Confirmations for the construction of melioration systems or other structures and road construction for companies (forestry) overlap with the construction permit provided by the regulatory enactments. Provision of the confirmation for commencing of the mentioned construction works is a repeated and useless coordination of the planned construction project. State Forest Service could provide the permit for the construction works of the forest roads and forest melioration systems, by coordinating the technical project of the structure according to its competence.

But, confirmation for application of chemical fertilizers and pesticides overlap with the provision of the permit for plant protection provided by the regulatory enactments. Application of Plant Protection Means (hereinafter PPM) in any land, in any variant and any utilization is regulated by the Law on Plant Protection. Therefore additional requirement to administer this issue by the Law on Forests can be considered as unnecessary, which only increases the administrative load. In accordance with the Law on Forests, the confirmation is provided within a period of one month. Application of PPM, when stating the damages, is required immediately and no delay with processing is permissible. If the standards of the Law on Forests are observed, then at the moment, when confirmation has been received, situations may occur, when the application of PPM has been missed and the forest stand may be irreversibly damaged. The Law on Plant Protection provides also the control mechanisms and liabilities of land owner for breaches of the mentioned Law. The Law on Plant Protection sets forth the requirements for the user of PPM regarding knowledge about them and the permissible actions. Currently JSC "Latvijas valsts meži" considers provision of the confirmation for the application of Plant Protection Means a burden for both parties in the administration process – for JSC "Latvijas valsts meži" and for State Forest Service. In agriculture, the production of which we consume, no permissions are necessary for the application of pesticides within one year after the application of PPM, because just a few days may be crucial for the cultivated plants in their further vegetation.

The Law on Forests provides that confirmations are valid only till 31 December of the current year, but there is no justification for such a short confirmation period. Often situations occur when two confirmations are necessary for one felling site, which is planned at the end of the year, if the felling is not finished till 31 December.

The period of one month provided by the Law on Forests for the provision of confirmation is too long in cases, when the forest owner has to provide operative action regarding the sanitary felling, when urgent removal of the damaged trees has to be provided, in order to eliminate the decline in the sanitary condition of the forest stand, loss of the quality of the damaged trees and economic losses.

The forest owner has to receive a confirmation for thinning (despite the age of the forest stand), but thinning of the regenerated forest stand is the obligation of the forest owner or lawful possessor, therefore misguided administrative load and bureaucratic procedure is created. The existing situation leads to the case, when in a 15 years old pine tree or birch tree young stand there is at least one tree above the 12 cm diameter at its stump while executing the thinning of young stands, confirmation is necessary, otherwise thinning of young stand can be considered as an unwarranted felling, which in a protected nature territory is even considered a criminal act.

The Draft Law of the amendments to the Law on Forests provides annulment of the provision of confirmations for the construction of melioration systems or other structures or reconstruction and road construction for companies (forestry), application of chemical fertilizers and pesticides. The only regulation of the aforementioned, which is currently approved in the Parliament and implemented, is the one which regards the three year validity period of a confirmation. Therefore forest owner and State Forest Service do not have to spend double time on administrative actions, in order to execute the felling, which lasts for two calendar years.

Forest Inventory

The Law on Forests provides that the obligation of a forest owner in the forests that belong to his property or are under his lawful possession is to execute forest inventory at least once in ten years. Information acquired during forest inventory is registered at the State Forest Register, the manager of which is State Forest Service. State Forest Service regularly updates and specifies the data of the State Forest Register in accordance with update algorithm and information acquired during the interim period between the inventories.

The financial investments of the forest owner, while executing the law obligation and covering forest inventory every ten years, often prove to be useless regarding the necessity of the acquired information in its essence. For example, in small forest properties or medium age forest stands usually no significant changes can be observed within the inventory period of ten years, but the owner is obliged to cover the inspection of these areas and State Forest Service is obliged to evaluate the conformity of the data to the requirements of the regulatory enactments before entering these data at the State Forest Register. Each year JSC “Latvijas valsts meži” spends about 1 million euros for forest inventory, although State Forest Register receives reports about tree felling, regeneration of forests and thinning of new stands once per year.

Since 2004 state level information about Latvian forest resources is being acquired at the Latvian State Forest Research Institute “Silava” on the basis of a sample area base formed equally within the entire territory of Latvia, by executing forest statistical inventory. In 2008 the first five year cycle of forest statistical inventory was closed and scientifically based, accurate information, independent of subjective interests about Latvian forest resources was acquired. Data of the forest statistical inventory are used for the needs of the official statistics of forest resources (since 2006), for preparing the prognosis of resource availability, for the development of sustainable, economically substantiated use and planning models and for other state level resource analyses. By establishing a sample area network of forest statistical inventory, stable acquisition platform for state level information about forest resources has been acquired. Adding new information units to it requires little financial investments. Latvian State Forest Research Institute “Silava” has already begun work on the integration of forest monitoring points into the forest statistical inventory sample area network for the evaluation of forest and environment interaction. In order to provide consecutive execution of the acquisition of the mentioned information, it is necessary to specify the

Law on Forests and to provide that the Latvian State Forest Research Institute "Silava" performs monitoring of the national forests in the entire territory of the state.

The Draft Law provides annulment of mandatory repeated forest inventory every ten years, thus significantly decreasing the financial and administrative load. At the meantime request for the forest owner to execute the first forest inventory is retained, if such has not been executed, as well as in cases provided by the Cabinet of Ministers to execute a repeated forest inventory. The Cabinet of Ministers is delegated to provide the content and order of forest inventory, the order for updating the forest inventory data, as well as cases, when a repeated forest inventory is necessary. Currently the issue about the conditions, when such data update is necessary, is being discussed.

The Draft Law provides to supplement the legal regulations with a standard, that provides that the Latvian State Forest Research Institute "Silava" in the entire state territory executes monitoring of the National Forests, acquiring statistical information about the status of forest resources, forest health and the interaction of the forest and environment factors (bitiotic, abiotic, as well as anthropogenic source factors).

Within the normative environment the positions of statistical inventory should be strengthened. In accordance with the data of forest statistical inventory cycle No.1, forest stands that conform to forest criteria of the average height of the dominant tree species of at least 5 metres in "non-forest" lands have formed within the area of 69.3 thousand ha and the forest growing stock accumulated within them totals to 2.82 million m^3 (on 01.04.2009). Currently these forest areas in the state are recognized as agricultural lands.

As the development of the amendments to the Law on Forests takes place, then discussions are still present about whether the running inventory should be retained once in ten years, or whether the update method should be introduced, in which the main conditions for executing a repeated inventory would be:

- initiative of the forest owner,
- the forest land is located in a special protected nature territory and the forest owner requires updated information for the implementation of the rules regarding individual protection and utilization of the territory,
- the forest land is divided into separate land units,
- the forest owner does not agree to the data of State Forest Register updated by State Land Service.

  Forest inventory data update would be provided by State Forest Service using:
- update models,
- reports submitted by the forest owners,
- other external information or requirement.

State forest managers and other relevant competent forest owners would update forest inventory data on their own.

Forest Regeneration

Currently more options are provided for the forest owners to choose the optimum forest growing model in the concrete forest stand. Thus the possibilities of a forest owner to grow highly profitable, biologically stable forest stands are significantly increased in order to provide economy with the necessary wood resources. There are no significant problems at the moment.

Forest Land Transformation

In accordance with the Law on Forests for forest land transformation to other land utilization types, a separate permit issued by State Forest Service is necessary. In accordance with the Cabinet of Ministers regulations forest land can be transformed, if it is necessary for the construction of structures (buildings, sandpits, infrastructure objects, reservoirs, cemeteries, nursery gardens for forest planting material, sports and culture objects, territory facilitation), extraction of mineral

deposits, for establishment of agricultural lands and for the regeneration of especially protected habitats. The procedure of providing permits (transformation permits, construction permits and permits for the extraction of mineral deposits) is defined without observing the interconnections, therefore evaluation regarding the conformity of these activities to the territorial plan and nature protection requirements overlaps and unreasonably high administrative load and volume of bureaucratic procedures is imposed to the forest owners.

With the help of the Draft Law it would be possible to significantly decrease the administrative load and the volume of bureaucratic procedures regarding the transformation of forest land utilization type, by annulling the provision of the permit for forest land transformation. The Law on Forests replaces the term "forest land transformation" with a term "deforestation", by coordinating terminology with the term "deforestation" used in international documents regarding forest transformation into another land utilization type and Decision 16/CMP.1 adopted by the contracting parties of Kyoto Protocol of the United Nations Framework Convention on Climate Change. The Law does not extend or limit the volume of those actions, for the implementation of which deforestation is permissible.

If amendments to the Law on Forests were adopted, then forest land utilization type would have to be updated in accordance with the update order of the cadastre data and no state duty would have to be covered for the provision of forest land transformation permit.

In the Draft Law the concept of conditions regarding remuneration for damages have been changed, providing that the obligation of a person is to cover to the state the expenses that are related to the elimination of the negative consequences caused by deforestation activities. The gained profits are planned to be used in the funding of forestry support programme. Thus feedback is created between deforestation and creation of new resources, to promote the increase of carbon dioxide attraction, adjusting to climate changes and preservation of biological diversity. The conditions of remuneration are not applied to the construction of forest infrastructure objects and regeneration of especially protected habitats.

Forest Reproductive Material

The Law on Forests provide that for forest regeneration and afforestation it is allowed to use only such certified forest reproductive material which is of appropriate origin for the concrete location. The Law also provides that the forest owner or lawful possessor can regenerate the forest using wildings and seeds acquired in his forest.

Certified forest reproductive material is material acquired from a registered production source, approval has been issued for it and its identity has been retained. But Article 4 point 1 of the Council Directive 1999/105/EC of 22 December 1999 on the sales of the forest reproductive material provides that a registered production source must be provided only for such forest reproductive material that is to be marketed. Latvia has set more strict requirements than the Directive demands and has created significant administrative load as well. Division of the forest reproductive material origin and utilization into regions each year creates additional expenses for JSC "Latvijas valsts meži", because reserves must be formed for plants, or otherwise State Forest Service shall impose administrative penalties for not observing the regions of forest reproductive material origin, when regenerating a forest.

Explanations of the Terms Used in the Law on Forests

In the State Forest Register (currently there are about 150 thousand forest inventories) the 1st level average height and diameter is filed. But currently for the administration of the final felling diameter the diameter of the dominant stand is used. In order to define the average height or diameter of the dominant stand practically the height or diameter of every dominant stand tree would have to be determined, and then the average value would have to be calculated. Thus the administrative load is significantly increased and information covered by owners and maintained in

State Forest Register is not used. Therefore it is necessary to specify the definition of the final felling diameter, as well as to supplement the Law with definition of the forest stand first level.

It is planned to define in the Draft Law that for tree felling in young stands no confirmation is necessary, therefore the Law on Forests should be accordingly supplemented by explanation of the term "young stand".

The term "young stand" defined in the Draft Law is defined in accordance with division of forest stands into age groups, which is one of the general concepts of forestry. Division of forest stands into age groups depends on the development stage of the relevant tree species. A different age step has been defined because coniferous trees and deciduous trees have different growing stages (a pine tree can reach the age of 350 years, but of a birch tree only 150 years). Coniferous tree, ash tree and oak tree young stands are forest stands till the age of 40 years, grey alder young stands are forest stands till the age of ten years, young stands of the rest of the trees are forest stands till the age of 20 years.

The Draft Law includes explanation of the term "ligneous plant plantations", which includes the conditions that these plantations are growing stocks planted in regular layout for special purposes and are intensively managed. The maximum growing circulation cycle is 15 years and they can be afforestated into land, which is not registered as forest within the State Cadastre Information System of Real Estate. On the basis of the term explanation, the Draft Law includes the condition that ligneous plant plantations are not regulated by the Law on Forests.

Maximum Permissible Felling Volume in State Forests

The Law on Forests provides that "the maximum amount for tree felling in hectares and cubic metres, distributed according to the dominant tree species permitted to be felled in a final felling in the course of five years, with respect to State Forests, shall be calculated by the State Forest Service and approved by the Cabinet of Ministers". Management of state forests has been legally commissioned to JSC "Latvijas valsts meži". Thus the state has chosen economically the most beneficial forest management model. Calculation of economic activity plans by State Forest Service is not economically justified and does not correspond to competitive forest management concept and Forest Policy. State Forest Service applies regulatory enactments in forestry, as well as monitors their observation. But forest owners and managers have to execute the economic function of forestry in Latvia. Forest Policy provides that the monitoring function of sate forests is executed by the subject of public rights. But the function of state forest field owner is executed by the subject of private rights.

The economic goal of the Forest Policy is to provide sustainable development and profitability of the forest field, taking into consideration the ecological and social requirements, and to create the largest possible added value growth. Sustainable forestry is provided by the activities of the managers according to the market situation. The current situation, when State Forest Service provided the volume to be felled, decreases the competitiveness of the forest field in the internal and external markets, as well as does not provide the most effective state forest management. JSC "Latvijas valsts meži" suggests refusing from calculating the felling volume in state forests, if it is executed by State Forest Service – subject of public rights.

The calculation of the maximum tree felling should be based on the statistical forest inventory. Within the regulatory enactments it would be more important to confirm the data source instead of the body that executes the calculation – the institution. Up to now State Forest Service has calculated the felling volumes using the data of State Forest Register, where information acquired by forest inventory has been registered. But in accordance with regulatory enactments in force also the forest statistical inventory is implemented in the state with the goal to acquire statistical information about the status of the forest resources in the country, which is characterised by higher data reliability and lower data quality dependence on subjective factors. Taking into consideration the fact that the data acquired in the forest statistical inventory are submitted to organisations that

gather information also on an international level, in order to characterize the forests of Latvia, it would be more precise to calculate the maximum tree felling volume based directly on the statistical forest inventory, instead of State Forest Register maintained by State Forest Service. Forest statistical inventory is an internationally recognized method used in many countries, therefore data acquired as a result of it would be more appropriate for execution of various calculations, including the volume of tree felling.

Forest field depends on a duly estimated cost calculation, because investments for wood pre-processing industry must be planned seven to ten years in advance. However, the situation when a maximum of one year before the five-year estimated cost takes effect no agreement has been achieved between the involved parties, delays the economic development. Former practice has proven that the process of calculating the estimated cost is delayed in the state institution. State Forest Service uses historical methods for the calculation of the estimated cost, which are targeted at the harvesting of regular areas, thus without promoting intensive forestry or a more effective utilization of resources. It is proven by the fact that the proportion of forest stands that have reached the final felling age and final felling diameter is significant. Ineffectively using the resources, these stands gradually deteriorate in quality and value. State Forest Service does not consider the fact that the forest owner can significantly shorten the turnover cycle of forest economy, by duly executing thinning of young stands and as a result felling the forest stands according to the final felling diameter. For example, the historical methods of State Forest Service used for the calculation of the estimated cost for coniferous trees is based on the area proportional to the final felling age, in which the condition is not considered that diameter can be reached also sooner than the final felling age, thus artificially decreasing the felling volume of coniferous species by hectares.

Parks and Wood Parks

Along the improvements also additional burdens are created but these represent the interests of the society. The Draft Law provides to supplement the Law on Forests with a new chapter "Parks and Wood Parks". In order to implement the social function provided by the Forest Policy more effectively, the Draft Law provides defining of a new forest territory – wood parks. The Draft Law provides the goals and regulations for the establishment of parks and wood parks. The Draft Law delegates the Cabinet of Ministers to define the basic principles for establishment and management of parks and wood parks, but the local government – to issue the binding rules about the permitted utilization of the actual park or wood park, the order for management or further planning, designing works, as well as conditions, volume and order for the allocation of remunerations for economic activity restrictions. Thus the areas of economic forests would be decreased, but it would be justified by the fact that new recreation options would be created for residents in forests located near to the city. Thus the pressure of the society on forest field representatives would be decreased.

Forest Fire Protection

Amendments regarding the fire safety field raise some doubts. Since 2008 the rules provide the following forest fire extinguishing works: detection of fire, restricting fire, elimination of fire and monitoring of the fire location. Detection of forest fire is provided by the State Forest Service, but monitoring of the fire location after extinguishing is performed by the forest owner (possessor). Bordering and elimination of fire by mutual cooperation is executed by the State Forest Service and the State Fire and Rescue Service. Accordingly, the forest owner has to provide fire extinguishing equipment and must be trained in fire safety issues.

Conclusions

Forest space and their average growing stock in Latvia are increasing, not only in comparison with the 1930's, but also within the last twenty years.

Table 1. Forests area by form of property

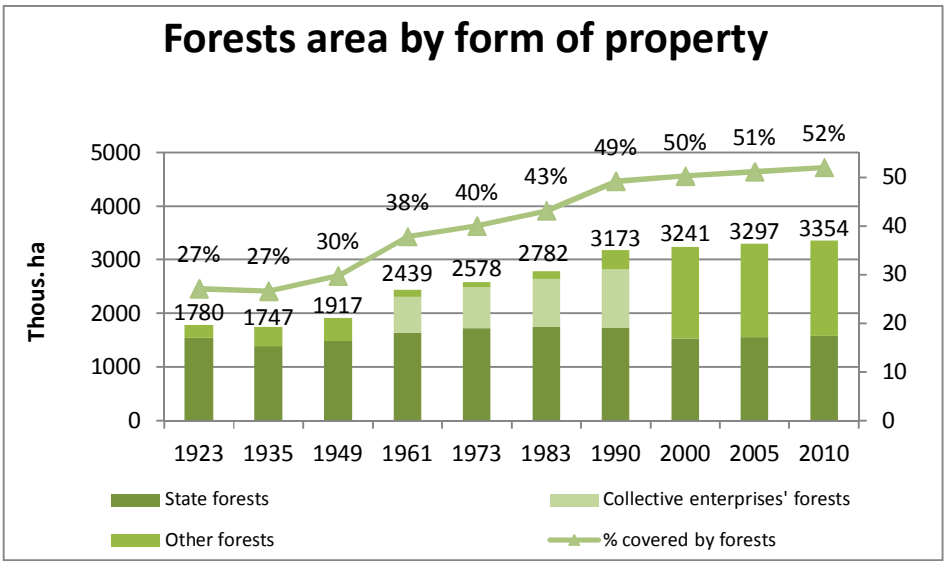


Table 2. The average growing stock of the final felling age, m³/ha

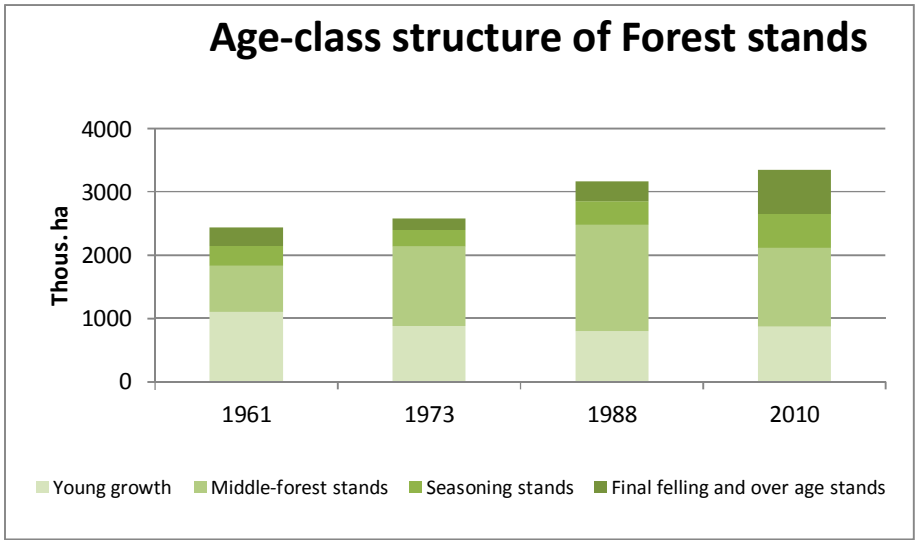
Year	*1961*	*1988*	*2000*	*2010*
m³/ha	*203*	*258*	*256*	*281*

Table 3. The total forest growing stock in millions m³

Year	*1935*	*1988*	*2000*	*2010*
m³/ha	*176*	*432*	*546*	*572/631**

** Forest inventory data (State Forest Service) /Statistical inventory data (Silava)*

Table 4. Age-class structure of Forest stands



The goal of forest management is to maximize the wood growing stock and quality at the moment of final felling. In the results positive trends can be observed. Within the existing normative regulations the proportion of final felling age stands are growing. It means that amendments to forestry standards are permissible.

The former felling volumes in the state conform to long-term forest management principles. In Latvia considerable accumulation of stocks that have reached their final felling age (40 to 60 million m³) has formed. In Latvia it is possible to significantly raise the effectiveness of land

utilization and to increase the forest value. But for it not only the mentioned amendments to regulatory enactments of forest field are necessary, but also public awareness. Forest is considered a depository of biological diversity, a recreation zone, a public property etc., and only then it is considered one of the pillars of economy, a production space, a guarantee for the state's welfare. Without denying environmental values and recreative function, by applying minimal amendments to the normative base, the forest value could be increased by even 50 %. It is proved by the study conducted by JSC "Latvijas valsts meži" about the Strategic Planning of Forest Management, but that is a different story altogether…

The Review of Performance Evaluation of State Forest Enterprises in Lithuania

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Abstract

This paper addresses the review of efficiency studies of state forest enterprises (SFE) in Lithuania. The intense discussion due to the efficiency of state forestry took part in public during the period of economic recession in 2008 -2009. It is already twenty years after the state forestry entered into the market economy; therefore, the significant global and local changes were affecting state forestry since 1990. Consequently, a review of the efficiency improvement process should be carried out and the essentials, also the problems faced.

The scientific articles and scientific reports of SFE performance evaluation were considered as the material in this study. Three periods (1995-1997, 1998-2001 and 2002 -2009) of performance evaluations that were carried out in Lithuania were distinguished for the deeper analysis. Thus, the list of indices that was created from *inputs* and *outputs* was used to define efficiency of SFE of the each period. In order to clarify the essentials the last three years of SFE activity were analyzed.

It was identified that only two integrated models of Data Envelopment Analysis (DEA) and Cost-Benefit Analysis (CBA) were applied in the efficiency evaluations of SFE management and/or performance. The recommendations to large or merge the forest land areas of SFE were suggested in almost all the performance studies were carried out. No radical reform was implemented and the political decisions, economic changes, growing public needs, also environmental requirements were distinguished as the most serious future challenges in state forestry in Lithuania.

Key words: forest management, state forest enterprise, efficiency, evaluation, models, indices

Introduction

The radical reform of Lithuanian forestry was implemented in 1990. The centrally planned system was changed by democratic; consequently, the planned economy was changed by market economy. Nevertheless, the restitution process took part in development of forestry formulation, accordingly to this, it should be emphasized that around 15 % of forest land area still has no holder. Therefore, the miscellaneous external and internal factors were influencing state forestry concerning global and local changes. Due to this, the process of adaptation of modern-day conditions should be realized in state forestry as well.

During the last 10-15 years about 85 % of European forestry sector management systems underwent substantial changes. The reform established integral forestry enterprises from the previously existing two types of forestry company subdivisions – budget enterprises involved in forest growing and economic entities involved in timber preparation and trade. That change was implemented on the basis that forestry enterprises involved in forest growing received financing from the budget where such finances were received from timber and other production sold. Afterwards, a forestry management system was further improved in 1992, 1994 and 2004. The present forestry management system that covers 42 forestry enterprises (1.03 mill. ha) was established under the Laws on Forests of 2001 (D. Dudutis, I. Lazdinis, 2008).

In the period of crisis (2008-2009) the intense discussion concerning the efficiency of state forestry was developed in public. Such debates were transferred to the issue of high official level among the representatives of the government, industry, forestry and public. Distinct problem solving methods were offered by various institutions including National Audit Office of Lithuania; also efficiency studies ordered by Government were made by foreign experts. None important decision concerning improvement of efficiency was implemented in state forestry except the increase of taxes.

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Regarding the overall situation the study of state forest efficiency was ordered by Lithuanian Ministry of Environment for yet another time.

In general, the present Lithuanian forestry management system does not work with losses and complies with the requirements of present environment of forestry. SFE are self financing and aggregated management entities (forest protection, regeneration, felling, timber extraction and sales) working under sustainable development principles; consequently, the profound analysis of state forestry performance is on demand.

The Multi-criteria studies of efficiency of state forest management (performance) were mostly carried out by specialists of Lithuanian University of Agriculture. There are various tried-and-tested methods of efficiency valuation in forestry known (R. Dias Balteiro, C.Romero, 2008) but only two of them Data Envelopment Analysis (DEA) and Cost-Benefit Analysis (CBA) were used for the researches in Lithuania. From the methodological point of view the efficiency studies should be spread out in order to increase the scientific validation. Kangas J., Kangas A. (2005) recommended to use methods of efficiency evaluation as many as it is possible in the research.

The creation of indices system that defines efficiency is the most important part in multi-criteria investigations. The idea of defining efficiency is to divide indices into the so-called *inputs* and *outputs* (where *inputs* are determined as limited factors that need to be saved and are used to increase the volume of production, for instance, stock, finances, workforce, capital, property etc., and the *outputs* are determined as products and/or services that are to be produced as more it is possible, for instance, revenues, profit, investments, etc.). A unified system of indices concerning the efficiency evaluation of performance of SFE is still not created. Difficulties were met in formulating such system in every research done. In order to solve problems Viitala E.-J., Hänninen H. (1998) and Zadnik Stirn L. (2006) offered to involve the representatives of the public, that was started adopting in the recent researches of efficiency in Lithuania.

The aim of this paper is to review the researches of the performance efficiency of state forestry that have been done since 1990 in Lithuania. Afterwards, to analyze the conclusions and recommendations made and offered for the state forestry efficiency improvement in comparison with the changes implemented. Finally, to clarify the fundamental challenges that the SFE meet, also to determine future trends in the context of current economical-political situation of forestry.

Materials and Methods

The analysis of this study was carried out throughout the period from 1990 to 2009. State forestry efficiency surveys were taken under consideration, thus, the scientific articles and the scientific reports of management, performance, optimization, operation and etc., were investigated in respect of state forestry efficiency studies. The collection of efficiency studies was based on the traditional concept of effectiveness; therefore, the general idea of efficiency was to produce as more production as it is possible with the lowest costs.

The detailed summary concerning the provided general specifications of forestry efficiency studies was performed using simultaneous comparison with the common and the most significant political-economical changes that were implemented in forestry. In order to clarify the common indices regarding the performance of SFE represented within the period, the extensive survey of economic activity of the last three years from 2007 to 2009 was carried out additionally. The statistical data was obtained from the annual publications of "*Lithuanian Statistical Yearbook of Forestry"* by the Lithuanian Ministry of Environment and similarly, of "*Indicators of Activities of State Forest Enterprises"* by the General Directorate of State Forests for the study. This paper deals with the survey regarding indices of performance efficiency evaluation that are vital elements concerning efficiency investigations also. Finally, the abstract and logic methods were used to develop the discussion and summarize the essentials for the conclusions of the study.

Results

After the regain of independence in 1990, the revolutionary political and economical changes and transformations have affected not only the national industry sector, but also state forestry in Lithuania. The economy was based on the development of market economy, consequently, the first efficiency study of state forestry was carried out in 1995. DEA method was used in the measurements of SFE management efficiency; also the list of indices (comprised for the first time) was described in research that was divided into a two groups. The first was of managed resources (inputs) and the second was of achieved results (outputs). The further studies dealing with the efficiency were based on the same principles of indices compilation. The numerous researches were made regarding SFE efficiency; however, a few investigators were involved and barely several methods of SFE evaluation were adopted.

Only two methods (DEA and CBA) concerning efficiency measurements was found in this survey. The investigations were focused on the periods of 1995-1997, 1998 – 2001 and 2002-2009 (Table 2), according to this, the further analysis of activity indices was based on the same periods (Table 1). The average of forest land area and amount of felling of SFE were reduced but the earnings were raised, on the contrary, the number of the employees was reduced and the intensity of cutting was increased. In general, the economic indices showed that state forestry has worked profitably, though, some of forest enterprises sustained losses, especially in the time of economic recession. A third part of forest area was under the private ownership and 15 % of the forest land area still was not privatized because of uncompleted land reform in Lithuania (Table 1).

Table 1. The Indices of Performance of State Forestry

Period, Year	**1995-1997**	**1998-2001**	**2002-2009**
Average size of state forest enterprise, 1000 ha	42,5	32,1	23,6
Average size of forest district, ha	4,0	3,7	3,1
Mean felling in state forests, 1000 m³	109,1	90,7	85,7
The intensity of cutting m³/ha	2,6	2,8	3,6
Mean number of employees in state forestry enterprise	338	218	121
The state forest land area per employee, unit/ha	126	147	196
Mean earnings in state forest enterprise	190	311	521
Total revenues, mill. Euro	2,22	2,16	2,66
Total expenditures, mill. Euro	2,15	2,08	2,47
Revenues per m³	20,4	23,8	31,1
Expenditures per ha	50,7	64,8	104,5
Sate forest land area, %	50,9[1)]	49,6[2)]	49,4[3)]
Private ownership, %	11,1[1)]	20,4	32,6

[1)] data of 1997; [2)] data of 2001; [3)] - data of 2009

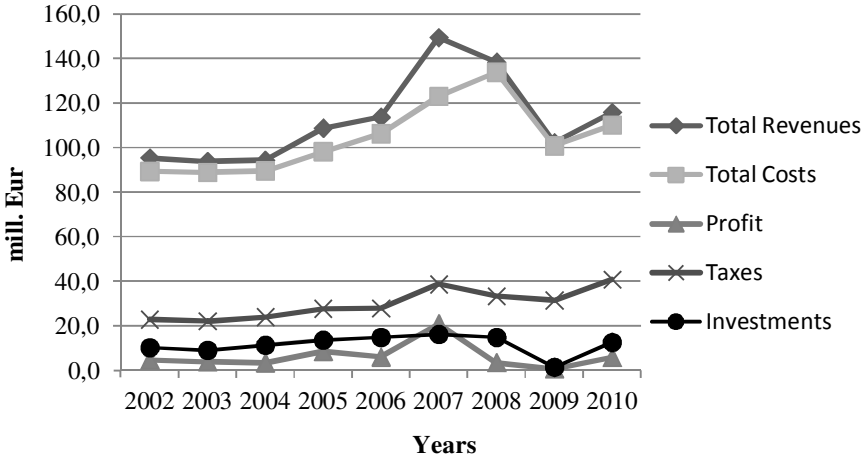
Due to the importance to efficiency investigations the list of indices used in efficiency studies has to be highlighted. The differences of each period of indices that were selected by experts were indicated in assessments. The summary of efficiency studies in state forestry in Lithuania indicated that the system of indices was flexible (Table 2). The changes of indices of inputs and outputs were the issue that would have to be taken into consideration in the future efficiency studies of state forestry. The emphasis has to be put on the involvement of public into the selection of indices by questionnaire that was carried out only in the last scientific report in 2010. Hence, as it was a move into the publicity and objectivity as one more step was made in development of efficiency evaluation in state forestry sector.

Table 2. Summary of efficiency studies in state forestry

Author(s) / The year of publication / The aim of the study (1)	Model(s)used (2)	Indices used in forestry performance evaluation (3)	Conclusions and recommendations (4)	The most important political and economical facts concerning state forestry (5)
The period of efficiency evaluation 1990-1997				
R.Deltuvas, E.Laurinavičius / 1995 and R.Deltuvas / 1997 / The aim of articles were to evaluate forest management eficiency of SFE R.Deltuvas, G,Činga, E.Laurinavičius / 1998 / The aim of report was to prepare the methodic of efficiency evaluation of SFE	DEA	**Inputs:** Forest land area of SFE; Site type area of normal condition; Budget of SFE; Capital; Value of annual felling; Costs of harvesting roundwood; Administration costs; Growing stock; Annual allowable cut; Number of employees; Technicians; Staff members; Workers; Machinery; **Outputs:** Profit; Total revenues; Revenues of roundwood sales; Investments to capital, Deductions to forest fund; Timber production; Timber extraction; Forest plantation; Other silvicultural activities.	DEA method was used for the first time to evaluate the performance in state forestry. DEA method was improved. The structure of expenditures has important effect to performance effectiveness of SFE	1990 The central institution of state forestry: Ministry of Forestry. 1991 The restitution process with limitations started. 1992-1993 Forest land areas of collective farms and military were integrated into SFE. 1994 Forest Act was adopted. 1996 the central institution of state forestry: Ministry of Agriculture and Forestry, Department of Forestry. 1996 Directorate General of State Forests was created. 1997 The limitations of restitution were extended.
The period of efficiency evaluation 1998 -2001				
1	**2**	**3**	**4**	**5**
R.Deltuvas, G.Činga, E.Laurinavičius / 1999 / and R. Deltuvas, G. Činga, E.Laurinavičius / 2001 / The aim of repot and article were to evaluate efficiency of performance of SFE	DEA	**Inputs:** Forest land area of SFE; Site type area of normal condition; Area of natural forest regeneration; Concentration of state forest area; Forest Area of III and IV protective groups; Value of annual felling; Fixed assets; Value of hunting area; Annual allowable cut; Mean stump volume; Proportion of final / intermediate / felling in annual allowable cut; Commercial thinnings; Costs of reforestation; Costs of thinnings; Administration costs; Costs of harvesting; Distance to seaport; Cost of commodities and services. **Outputs:** Profit; Revenues of roundwood sales, Renovation coefficient of fixed assets; Other revenues; Administration costs; Revenues of services and sales.	CBA method was used for the first time to evaluate the performance of state forestry. CBA method was improved. General recommendations were put forward to the improvement of efficiency in SFE: -the effectiveness of utilization of fixed annual felling should be increased; -the system of administration should be rationalized or the reduction of personnel should be made; -the area of enterprise should be increased to not less than 40 thousand ha (should be left 33-35 out of 43) or decrease the number of state forest enterprises to 8 – 11 regions -the annual allowable cut volume should be increased to not less than 80 thousand m³ of annual felling. -while restitution process is not completed it is inexpedient to implement such proposals; -the forest land areas of national parks should be unified with state forest enterprises. The 26 out of 42 State forest enterprises were evaluated as effective by CBA. The significant correlation of economic potential of SFE and forest land area was indicated. The consolidation of two state forest enterprises into one was effective.	1998 The central institution of state forestry: Ministry of Environment, Department of Forestry and Nature Protection. 2000 Two of state forest enterprises were consolidated. 2001 The new redaction of Forest Act was issued, due to that the forest enterprises were transferred to SFE. 2002 Lithuanian policy of forestry and its strategy of implementation was proved. 2003 The forest land of national parks was integrated into SFE.
R.Deltuvas, G.Činga, E.Laurinavičius, J.Mažeika / 2001 / The aim of report was to optimize the area of SFE	CBA and DEA			
R.Deltuvas, G.Činga, J.Mažeika / 2002 / The aim of the article was to optimize the area of SFE	C CBA			
R.Deltuvas, G.Činga, E.Laurinavičius, J.Mažeika / 2002 / First of all the aim of report was the prolongation of development of forestry performance evaluation, after then to analyze the prospects of increasing the area, finally the evaluation of integration of SFE	DEA			
The period of efficiency evaluation 2002-2009				
1	**2**	**3**	**4**	**5**
R.Deltuvas, G.Činga, E.Laurinavičius, J.Mažeika / 2006 / The aim of report was to create the strategic plan for the forest management development V.Domarkas, A.Varapinskas / 2006 / The aim of this article was to survey the forestry trends in EU, also to make theoretical background for optimization of state forestry management system in Lithuania D.Dudutis, I.Lazdinis / 2008 The aim of article was the comparison between Lithuanian forest management model and EU countries	Theoretical background	**Inputs:** Last year revenues of roundwood sales; Annual allowable cut; Costs of harvesting; Intensity of cutting; Administration costs; Value of fixed assets. **Outputs:** EBIT (earnings before interest taxes); Revenues of roundwood sales; Investments in reforestation, Protection and arrangement; Forest land area of SFE; Proportion of private and preserved for restitution area in totall forest area; Renovation of fixed assets.	The SFE that manages the largest area of forest and has the biggest annual allowable cut volume were evaluated as more effective. The implementation of fundamental reform was not reasonable while SFE were profitable during the period from 2002 to 2009 in general . However, if the taxes are raised or significant losses sustained the drastic reform could be initiated. General recommendations were put forward to the improvement of efficiency in SFE: -inefficient SFE should be integrated with the efficient neighbor; -to gradually decrease the number of state forest enterprises or to create forest regions, or to establish single state-managed forest enterprise; - to establish the state forest association; - it was strongly recommended that the area of state forest enterprise should be not less than 30 thousand ha and the annual allowable cut volume should be not less than 80 thousand m³.	2006 All state forests were certified by FSC.
R.Deltuvas, G.Činga, E.Laurinavičius, M.Kavaliauskas / 2010 / The aim of report was to evaluate performance efficiency of SFE	CBA and DEA			

The situation analysis of SFE within the period from 2007 to 2009

The analysis of period 2007-2009 enabled to reveal essentials of SFE, also faced with economic recession in state forestry that it got into and moved out of it. Currently, the average of SFE area was 24300 ha and it has been increased by 2 thousand ha since 2002. The proportion of forest land area of 3rd and 4th protective groups was around 86% of total SFE forest land area. The average number of private owners was 6100 in SFE. The mean of felling was 87.1 thousand m³, the proportion of final felling in annual allowable cut was around 69% and the proportion of clear cutting in final felling was around 83% in SFE. The proportion of private companies in roundwood harvest was 90% and in haulage was 65%. The fixed assets doubled to 1.8 million Euros since 2002 (Figure 1).



Economic Factors	2002	2003	2004	2005	2006	2007	2008	2009	2010*
Total Revenues	95,4	93,8	94,3	108,8	113,7	149,4	138,4	102,2	115,8
Total Costs	89,4	88,9	89,6	98,2	106,3	123,0	133,8	100,8	110,1
Profit	4,7	3,9	3,4	8,6	6,0	20,9	3,5	0,8	5,8
Deductions and taxes	22,8	22,1	23,9	27,7	27,8	38,6	33,4	31,4	40,8
Investments	10,2	9,0	11,3	13,6	14,8	16,1	14,8	1,4	12,6

* *Prognosis*

Figure 1. The economic activity of SFE

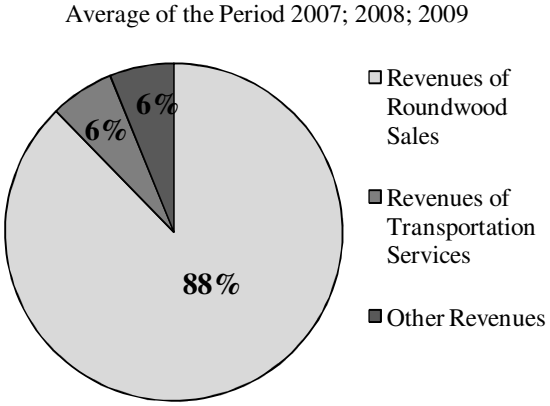
The economic activity was not diversified in SFE; accordingly to that the economic condition was tightly related to revenues of roundwood sales. Actually, the most proportion (88%) of total income was the revenues from roundwood (Figure 2). The revenues from roundwood decreased almost twice from 41.3 to 26.0 in 2007 to 2009. There were no significant changes (around 11 Euro/m³) in the costs of roundwood harvesting during 2007-2009. The costs of forest plantation together with afforestation were 1824 Euro/ha in 2008 and brought down to 1245 Euro/ha in 2009.

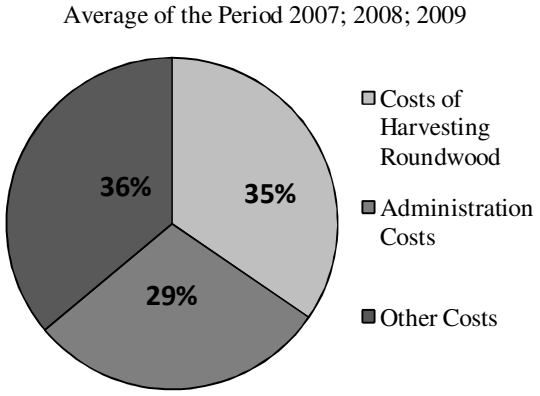
Table 3. Data concerning the employees in SFE

	2007	2008	2009
Number of specialists	2468	2236	2060
Average monthly earnings of pecialists, Eur	854	969	676
Number of workers	2185	2182	1799
Average monthly earnings of workers, Eur	514	587	451
State forest land area per one specialist, ha	426	471	511

The remarkable expenditures of administration were observed and it takes substantial proportion (33 %) of total costs (Figure 3). The level of earnings of personnel of SFE management, forest

districts and forest management were reduced by 30 % to approximately 633 Euro per month in 2009 (Table 3).





	2007	2008	2009
	mill. Euro		
Revenues of roundwood sales	134,3	122,4	88,1
Revenues of transportation services	8,2	8,9	7,0
Other revenues	7,9	8,5	7,8
Total	150,4	139,8	102,9

	2007	2008	2009
	mill. Euro		
Costs of harvesting roundwood	37,2	44,9	36,8
Administration costs	36,8	37,5	26,6
Other costs	44,0	46,3	33,7
Tota	118,0	128,7	97,1

Figure 2.The share of revenues in SFE ***Figure 3. The share of Costs in SFE***

The deductions to state budget fell in 2009, though some of them were increased (Table 3). The reduction was caused by lowered price of roundwood in timber market, therefore, the significant raise is noticeable in property tax, and also the new compulsory deduction of 5 % form revenues of roundwood and state standing timber sales for the state budget were imposed. In general, the deductions for SFE were gradually increasing, though, the falling price of timber caused the reduction of revenues, due to this, the lower taxes were charged in 2009.

Table 3. The Structure of Taxes

	2007	2008	2009	The average of period, %
	mill. Euro			
VAT	14,2	12,0	13,8	39,0
Compulsory social security contributions	12,1	13,4	8,6	33,0
Compulsory deduction of 5 % form revenues of roundwood and standing timber sales for the common financial demands of forestry	6,8	6,2	4,5	17,0
Corporation tax	4,8	1,0	0,6	16,0
Property tax for state capital	0,3	0,3	1,4	2,0
Compulsory deduction of 5 % form revenues of roundwood and state standing timber sales for the state budget *	0,0	0,0	2,2	2,0
Other compulsory deductions	0,5	0,4	0,2	1,0
Total	38,7	33,3	31,3	100

**Charged from July 2009*

Several major changes were implemented in the system of state forestry administration during the period of the last 20 years (table 2). Forestry Department and General Directorate of state forests that are under control of Lithuanian Ministry of Environment were the main units responsible for the state forestry in the current system of public administration. Formulation and coordination of implementation of forestry policy and strategy, the organization of forestry development based on sustainable forest management as well as development of international collaboration are the main

goals of Forest Department. The main function of General Directorate of state forests was the coordination and organization of SFE.

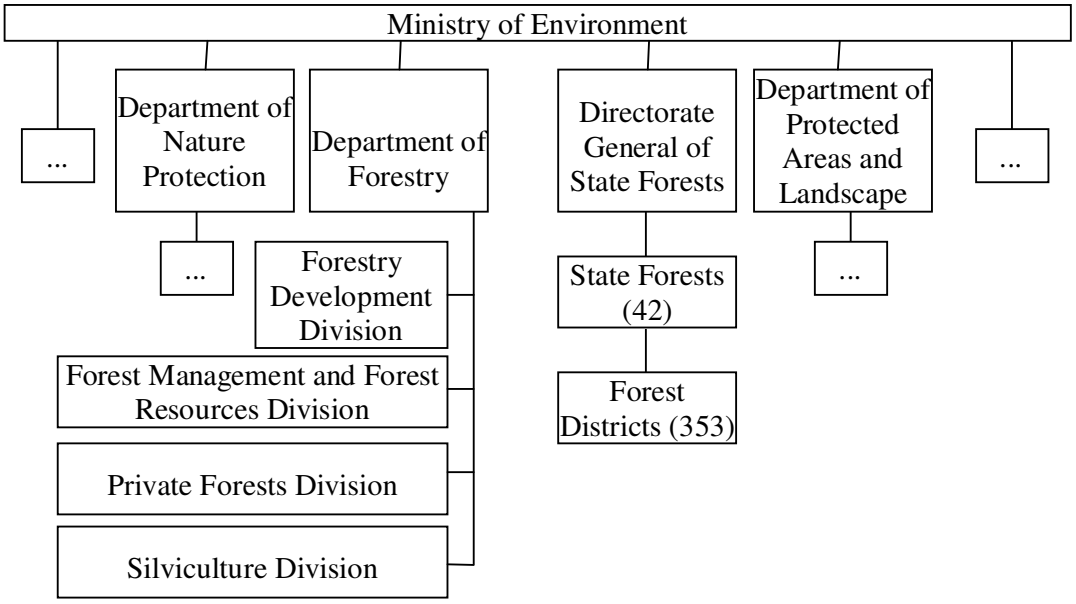


Figure 4. Structure of forest public administration

In summary, the main factors affecting SFE performance could be determined as follows: the rising needs to environmental protection, the high proportion of final felling in annual allowable cut, the large proportion of clear cutting in final felling, the increase of deductions to state budget, the growth of earnings, the strong reliance of revenues of SFE on market price of timber.

Discussion and conclusions

Only two methods (DEA and CBA) that were used in efficiency researches regarding to SFE were indicated in this survey in Lithuania, consequently, the development of investigations concerning performance evaluation should be taken into consideration. The modern system of indices of SFE performance concerning efficiency was developed and improved in scientific report in 2010. Actually, the system of improved indices could be the significant framework for future surveys.

The close correlation between forest land area and efficiency of SFE has been found in almost all the studies carried out, in respect to this, the recommendations to large the SFE areas were offered. Therefore, versions of reorganization concerning forest land area were suggested to implement as follows: 1) to make no changes; 2) to merge the inefficient SFE into efficient neighbor; 3) to establish the state forest regions; 4)to establish the state forest associations 5) to establish a single SFE.

According to the comparison between efficiency studies and political-economical changes of SFE, it could be stated that scientific suggestions were not a key tool for decision support. Therefore, all these changes were implemented in an evolutionary way in state forestry. On one hand, the self financing system of Lithuanian state forestry seems to be effective in the context of EU, on another hand, the great challenges are to be met in the nearest future. The large proportion of clear cutting in final felling, low earnings and decreasing number of employees caused analogical current position of SFE in comparison with European state forestry. Nevertheless, the state forestry still has potential for future improvements that could be enumerated as follows: the development of IT, the centralization of functions, the optimization of the number of employees and the improvement of public procurements.

In summary, the radical reform was not implemented; it was rather a process of inevitable modernization in SFE in Lithuania. To conclude, the political decisions, economic changes,

growing public needs and environmental requirements could be distinguished as the most serious future challenges.

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Implementation of International Requirements for Protected Areas in Lithuanian Forestry

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Abstract

This study focuses on disagreement between regimentation of Lithuanian forest protected areas and international protected areas. Forest is main accumulation of biodiversity, and therefore to its protection in Lithuania (same as forests) is spared extreme attention. There are many practical ways for preserving the biological diversity and many methods to achieve this target, and all of them shall been directed to the preservation of the biological diversity. One of the ways of protection of biodiversity is establishing of protected areas. Protected areas are internationally recognised as a major tool in conserving species and ecosystems, and there are no disagreements. But, although International Union for Conservation of Nature (IUCN) has defined a series of six protected area management categories, based on primary management objective, countries, and Lithuania also, often have their national systems of protected areas developed over many years. That`s why very often arise some contradictions between scientists and in society as well concerning quantity of protected areas in Lithuania.

This study shows that both on the national level and on the EU level, biodiversity protection in forests has common goal to protect biological diversity. It is been concluded, as the main issues, that there is a need to revise classifying of national protected areas what would enable more easily to define them.

Key words: forests, biological diversity protection, protected areas.

Introduction

The role of biological diversity and ecosystems is very important for substantial benefit for society and at the same time perform the function of society's welfare protection. All people shall undertake individual responsibilities for the future well-being, and not only for themselves, but for the future generations too. It is universally accepted that protection of biological diversity and ecosystems as well as a sustainable usage of them can significantly contribute to the extenuation of climate changes and help humankind to adapt to these changes. Biological diversity and ecosystems can help us solve numerous problems related to global environmental changes and the issue of biological diversity protection is important in being able to control the climate changes. Without strong and flexible ecosystems, it will not be possible to stabilize or regulate the changes of climate systems. Whereas the forests represent some of the most diverse and rich ecosystems on Earth, the protection of its biological diversity and sustainable usage makes up a compulsory condition in seeking to avoid an ecological crisis and to lessen the consequences of the current economical crisis. It should be reminded that forests provide employment and livelihoods for a large proportion of the population – especially in developing countries – and often act as an economic safety net in times of need. In forests, biological diversity allows species to evolve and dynamically adapt to changing environmental conditions and to maintain the potential to meet human needs for goods and services, and changing end-use requirements and to support their ecosystem functions.

This paper, analyzing the importance of biodiversity protection in Lithuanian forests, is at the same a study of European legislation due to the protection of biological diversity. This paper analyses the similarities and differences of European and Lithuanian legislation due to the protection of biological diversity and investigates the ways to unify them. In this work comparative, documentary, historical analysis and generalization methods are been applied.

International legislation of the protection of biological diversity

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There are many practical ways for preserving the biological diversity: it is possible to restore the populations of species under extinction, to restore the species where these species lived earlier, it is possible to try to eliminate the exotic species from the environment taken by them. It is also possible to try to restore the environment at the place from which the species were been displaced; it is possible to try to restore the productivity of the soil, the deterioration of which was caused by erosion.

There are many methods to achieve this target, and all of them shall been directed to the preservation of the biological diversity. One of them is establishing of protected areas. Protected areas are internationally recognised as a major tool in conserving species and ecosystems. They also provide a range of goods and services essential to sustainable use of natural resources. As a result, countries often have extensive systems of protected areas developed over many years. These systems vary considerably country to country, depending on national needs and priorities, and on differences in legislative, institutional and financial support.

International Union for Conservation of Nature (IUCN) through its Commission on National Parks and Protected Areas (CNPPA) has given international guidance on the categorisation of protected areas for nearly a quarter of a century. The purposes of this advice have been: to alert governments to the importance of protected areas; to encourage governments to develop systems of protected areas with management aims tailored to national and local circumstances; to reduce the confusion which has arisen from the adoption of many different terms to describe different kinds of protected areas; to provide international standards to help global and regional accounting and comparisons between countries; to provide a framework for the collection, handling and dissemination of data about protected areas; and generally to improve communication and understanding between all those engaged in conservation [3].

By the definition of IUCN, a protected area is “A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values” [3]. Although all protected areas meet the general purposes contained in this definition, in practice the precise purpose for which protected areas are managed differ greatly. IUCN has defined a series of six protected area management categories, based on primary management objective. **Category Ia: Strict Nature Reserve**: protected area managed mainly for science. It is an area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring. **Category Ib: Wilderness Area**: protected area managed mainly for wilderness protection. It is a large area of unmodified or slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition. **Category II: National Park**: protected area managed mainly for ecosystem protection and recreation. It is a natural area of land and/or sea, designed to (a) protect the ecological integrity of one or more ecosystems for present and future generations; (b) exclude exploitation or occupation inimical to the purposes of designation of the; and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible. **Category III: Natural Monument**: protected area managed mainly for conservation of specific natural features. It is an area containing one or more specific natural or natural/cultural feature which is of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance. **Category IV: Habitat/Species Management Area**: protected area managed mainly for conservation through management intervention. It is an area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species. **Category V: Protected Landscape/Seascape**: protected area managed mainly for landscape/seascape conservation and recreation. It is an area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological

diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area. **Category VI: Managed Resource Protected Area**: protected area managed mainly for the sustainable use of natural ecosystems. It is an area containing predominantly unmodified natural systems, managed to ensure long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs [3].

Lithuanian forest protected areas and its correspondence to international definitions

The strategic importance of forestry cannot be overstated. Forests cover around a third of the area. It create rich new landscape and wildlife habitats, stimulate a new woodland related economy, being a focus for recreation, tourism and community involvement, and in contributing to global environmental objectives, such as reducing carbon dioxide in the atmosphere. Woodlands produce good quality timber, enhance the landscape, enrich biodiversity and create opportunities for recreation, access and community involvement. And it means that not every use is suitable in woodland, but all woods should have more than a single purpose. It should aim to be an area of excellence for sustainable forestry.

The forest is recognised in the Lithuanian Forestry Strategy [6] as a national exemplar of multi-purpose forestry. Sustainable development has been at the essence of the forest's policy from the origin. It aims to protect what is valuable and to enhance the environment where it is needed. Sustainability of the forestry policy is based upon developing a new, forest-related economy together with the forest's role in contributing to broader economic regeneration of the area. It is also significantly improving the quality of life of local residents and visitors to the area. A healthier, vastly improved environment, new recreation facilities, access to more local wildlife and new jobs are all improving people's well being. Social, environmental and economic sustainability are therefore essential to the forest's success. A successful economy will be the foundation for achieving long-term environmental and social benefits, and a well motivated local community will play a key part in the sustainable management of the forest.

The forest aims to be in service to all abilities, ages and groups independently of culture, social or economic background. Social involvement is a key objective in encouraging people to visit and enjoy the forests and involving in its creation through community and voluntary activities. This will require partnership working with a wide range of stakeholders and interest groups.

It is essential that the infrastructure of new woodlands, wildlife habitats, recreation sites, trails and visitor attractions is maintained for both local residents and visitors to enjoy. It equally helps to raise the environmental quality of the forest area as a whole, so that it becomes valued and respected as a high quality environment.

One of the ways of protection of biodiversity is establishing of protected areas. Forest is main accumulation of biodiversity, and therefore to its protection in Lithuania (same as forests) is spared extreme attention. Lithuania confirmed Convention of Biodiversity by 1995 [1], committed protect biodiversity, safely use its components and preserve it to nowadays and future generations. The Ministry of Environment of the Republic of Lithuania prepared and adopted The Strategy for Protection of Biodiversity and Action Plan [7], which was successfully implemented.

Nowadays national parks, game reserves, wilderness areas and other legally established protected areas cover approximately 13 percent of the world's forest area and more than 10 percent of the total forest area in most countries and regions. The primary function of these forests may be the conservation of biological diversity, the protection of soil and water resources or the conservation of cultural heritage. The area of forest within protected area systems has increased by 94 million hectares since 1990. Two-thirds of this increase has been since 2000.

The process in Lithuania is regulated by the Law on Protected Areas of the Republic of Lithuania [5], enacted 1993, regulating public relations, connected with protected areas, its system, and legislation of establishing, protection, managing and control of protected areas. By the Law there is

regulated system of protected areas of the country, activity within the system, establishing, record, protection and managing of the territories. By the Law on Protected Areas of the Republic of Lithuania [5], protected areas shall be established with a view to preserving territorial complexes and objects (properties) of natural and cultural heritage, landscape and biological diversity, ensuring the ecological balance of landscape, well-balanced use and restoration of natural resources, providing conditions for cognitive tourism, scientific research and monitoring of the condition of the environment, promoting territorial complexes and objects (properties) of natural and cultural heritage. This Law shall specify the public relations related to protected areas, the system of protected areas, and the legal basis for the establishment, protection, management and control of protected areas as well as regulate the carrying out of activities therein.

Lithuanian system of protected areas shall be made up of the following categories of protected areas:

1) **areas of conservational protection priority**. The following types of protected areas shall be attributed to this category: **strict reserves, reserves and objects of heritage**;
2) **areas of restorative protection priority**. The following types of protected areas shall be attributed to this category: **restorative plots, genetic plots**;
3) **territories of ecological protection priority**. **Zones of ecological protection** shall be attributed to this category;
4) **complex protected areas**. The following types of protected areas shall be attributed to this category: **state parks – national and regional parks, areas of biosphere monitoring – strict biosphere reserves and biosphere grounds**.

According to the type of protected properties, strict reserves shall be classified as **natural** – for the preservation of particularly valuable complexes of natural landscape, and **cultural** (reserves-museums) – for the preservation of particularly valuable complexes of cultural landscape. According to peculiarities of establishment and organisation, strict reserves shall be classified as **strict state reserves,** the **strict reserves located in state parks and strict biosphere reserves** and **small strict reserves.**

According to the type of territorial complexes (properties) of protected natural or cultural heritage, **reserves** shall be classified as **natural, cultural** and **complex**. Natural reserves shall be **geological, geomorphologic, hydrographical, pedological, botanical, zoological, botanical-zoological, genetic, telmathiological and thalassic.** Cultural reserves shall be **archaeological, historical, ethno-cultural** and **urban/architectural**. Complex reserves shall be **landscape and cartographic.**

Objects of heritage shall be classified as **objects of natural heritage** (protected objects of natural landscape) and **objects of cultural heritage** (immovable cultural properties). **Objects of natural heritage** shall be **geological, geomorphologic, hydro geological, hydrographical, botanical** and **zoological**. **Objects of cultural heritage** (immovable cultural properties) shall be **archaeological, mythological (sacral) / historical / memorial, architectural / engineering** and **artistic**. The most valuable objects of heritage shall be declared natural or cultural monuments.

According to their significance, state parks shall be classified as:

- **national parks** – the protected areas established for the protection and management of the natural and cultural landscape of national significance representing the natural and cultural singularities of the country's ethno-cultural regions;
- **regional parks** – the protected areas established for the protection of the landscape and ecosystems of regional significance from the natural, cultural and recreational point of view, regulation of their recreational and economic use.

Besides, in plans of boundaries of state parks shall be identified their functional priority zones: conservational (strict reserves and reserves), ecological protection, recreational and economic priority zones and zones of another purpose.

Areas of biosphere monitoring shall be as **strict biosphere reserves** and **biosphere grounds**.

Restorative plots shall be established in State-owned land with a view to restoring and enhancing the renewable resources of berry fields, mushroom fields, the places where medicinal herbs can be found, fauna, peat bogs, groundwater and other renewable resources.

According to the type of protection, **zones of ecological protection** shall be as **general ecological protection, buffer protection, physical protection, visual protection, sanitary protection** and **reserve protection**.

The **nature frame** shall include various areas: strict reserves, reserves, state parks, restorative and genetic plots, zones of ecological protection, also forest farming, natural recreation and ecologically important agricultural areas. The nature frame shall join protected areas of a natural type and other ecologically important and sufficiently natural areas ensuring the general stability of landscape into a common system of ecological compensation zones of landscape management [5].

By 1st January 2010, the national network of protected areas covered 1,020,500 ha or 15.6 % of the total Lithuanian territory. The national network of protected areas is made by 6 strict reserves (18 769 ha 0, 3 % of all territory), 261 reserves (144765 ha, 2, 2 %), 111 municipal reserves (13 097 ha 0, 2 %), 662 protected nature heritage objects, 3 recuperation areas (875 ha), 5 national parks (144 468 ha, 2, 2 %), 30 regional parks (446 506 ha, 6, 8 %), 1biosphere reserve (18 490 ha 0, 3 %), 28 biosphere polygons (233 527 ha 3, 6 %). Total number of Lithuanian protected areas was 1 107 units [9]. Forests in Lithuanian national parks covers 89 397 ha what amounts 57 % of their territory, but in regional parks - 199 704 ha or 44 %. Total forest land area of national parks, strict and biosphere reserves is 113 003, 4 ha. Forest land area in protected and other areas important for biological diversity by 01.01.2009 was 707, 5 thousands ha (evaluating overlapping areas) [9].

Obviously, Lithuanian network of protected areas is more complicated as compared with six IUCN categories of protected areas. Besides, some definitions of protected areas rather differ from internationally accepted.

Table 1. Comparison of some specific protected areas definitions

By IUCN	By Lithuanian Law on protected areas
A Protected Area	
A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values	Protected areas shall be established with a view to preserving territorial complexes and objects (properties) of natural and cultural heritage, landscape and biological diversity, ensuring the ecological balance of landscape, well-balanced use and restoration of natural resources, providing conditions for cognitive tourism, scientific research and monitoring of the condition of the environment, promoting territorial complexes and objects (properties) of natural and cultural heritage.
Strict Nature Reserve	
It is an area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.	Objectives of establishment of **strict reserves** are: to ensure the unaffected course of natural processes or maintenance of authenticity of territorial complexes and objects (properties) of cultural heritage; to preserve a typical or unique natural or cultural landscape and the objects of heritage located therein; to preserve valuable natural ecosystems, habitats, gene pool of wild flora, fungi and fauna species; to organise continuous scientific research and monitoring as well as museum work; to promote territorial complexes and objects (properties) of natural or cultural heritage.

National Park	
Protected area managed mainly for ecosystem protection and recreation. It is a natural area of land and/or sea, designed to protect the ecological integrity of one or more ecosystems for present and future generations; exclude exploitation or occupation inimical to the purposes of designation of the; and provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.	The protected areas established for the protection and management of the natural and cultural landscape of national significance representing the natural and cultural singularities of the country's ethno-cultural regions.
Natural Monument	**Objects of heritage**
It is an area containing one or more specific natural or natural/cultural feature which is of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance.	Declaration of **objects of heritage** shall pursue the following goals: to preserve the objects of natural and cultural heritage; to preserve the diversity of landscape and biological diversity; to provide conditions for scientific research; to provide conditions for cognitive tourism; to promote the objects of natural and cultural heritage.

Moreover, protected areas of the Republic of Lithuania or parts thereof containing the landscape complexes, habitats of international importance, species of rare and vanishing flora and fauna or communities and populations thereof, also territorial complexes and objects (values) of natural and cultural heritage may be awarded the status of a protected area of international importance and/or they may be entered in international lists of protected areas. The European Union is seeking to ensure biodiversity by conserving natural habitats and wild fauna and flora in the territory of the Member States. Within the implementation of the requirements of EU directives on Birds and Habitats pursued establishment of ecological network of special protected areas is being set up for this purpose and is known as Natura 2000 [2]. At the beginning of 2010, the Natura 2000 network in Lithuania covered 810,000 ha, or 12.4 % of the country's territory [9].

Some of Lithuanian Protected Areas are entered in the List of the World Heritage (UNESCO) and Wetlands and are notified as Wetlands of International importance (Ramsar convention). Some costal territories belong to the Baltic Sea Protected Areas' System (HELCOM).

In Lithuania, as in all of Europe, there are species under extinction, which live in old and drying trunks of trees, fallen trees, boles, and other places, which are necessary for such species to exist. Farming often touch normal environment consequently to protect them. That is why one of the most important goals of the Lithuanian forestry policies and its implementation strategy [6] is: the stocktaking of natural forest and forests close to natural, further specification of their protection regime, establishment of new protected territories, preservation of the biological diversity, improvement of protection and stocktaking of rare plants and animal species, and plants and animals species under extinction. For this purpose, in Sweden, a concept of key forest habitats was been created and stocktaking of such habitats was made in Lithuania. Key forest habitat (KFH) is an undamaged forest area with a good probability of finding habitat types of rare, protected, endangered, or vulnerable species [10]. For this purpose, 17.6 thousand of key forest habitats are

been defined in Lithuania. Unfortunately, they are not defined by the Lithuanian Law on protected areas completely.

Growing number of people raised jointly enlargement of consumption and use of nature resources. Such tendency reached threatening point, and it's why United Nations World Summit in Rio de Janeiro in 1992 adopted the concept of Sustainable development, which is based upon three main pillars of equal importance: environmental protection, economic development and social development. Government of the Republic of Lithuania approved the National Strategy for Sustainable Development in 2003 [8]. Long-term objectives of the Strategy involve preservation of landscape and biological diversity, nature and cultural heritage values; ensure rational use of landscape and biological diversity. That means that tools of preservation are pointed to biodiversity and sustainable use of forests as well.

Wood likely most suit the concept of sustainable development, because functions given by forest could be divided into three groups [4]:

- **Social** – ability to clean weather, protect environment against noise, produce oxygen, stabilize and temper climate;
- **Preservative** – ability to protect from landslides, floods, soil erosion, regulate water level in rivers and lakes, stop rainwater's evaporation, snow melting;
- **Commercial-economical** – extended timber, fruits, mushrooms, herbs, possibility to have a job.

Aims and treatment of Lithuanian forests depends on their functional purpose. At this point forests of the Republic of Lithuania are divided into four groups: **I group – reserved forests (**26,200 ha - 1.2%); **II group – forests of special destination** (263,600 ha -12.2%); **III group – protective forests** (335,100 ha -15.5%); **IV group – exploitable forests** (1,535,000 ha -71.1%). Evidently even nearly thirty percent of forests fulfil protection function. Having in mind increasing protective role of forests, it's supposed to come out the group of exploitable forests in future.

Table 2. Distribution of Lithuanian forests into groups

I group – reserved forests. Those are forests in state reserves, state parks and biosphere monitoring territories. The aim of farming – leave forests to grow naturally. Felling excluding in the Law on protected areas intended are forbidden.

II group – forests of special destination. It involves:

A –ecosystems protection forests. Landscape, telmathiological, pedological, botanical, genetic, zoological reserves forests, forests of sites of protected nature resources. The aim of farming – to protect and renew forest ecosystems and separate their components. Trashed by natural disasters, forests of poor sanitary conditions are felled by non-clear or clear sanitary felling. Stands of natural maturity could be harvested by final non-clear felling;

B –forests of recreational sites. Forest parks, city forests, forests of recreational zones in state parks and forests of recreational sites. The aim of farming – to form and protect recreational environment of forest. Forests of poor sanitary conditions, trashed by natural disasters forests are harvested by non-clear or clear sanitary felling. Stands of natural maturity could be harvested by final non-clear felling. Intermediate felling of all types are permissive. Harvested at non-recreation time, except stands trashed by natural disasters.

III group – protective forests. Protected forests, forests of buffer zones around state parks, forests of protective zones in state parks, forests for field protection, forests of protective zones for water bodies, seed stands, forests of recreational and aesthetic value near roads. The aim of farming – to form productive stands, able to do water, air, soil, living environment of man protecting functions. Non-clear and small area (to 5 ha) clear, intermediate felling are permissive.

IV group – exploitable forests. Another forests, not classified to I-III forest groups. The aim of farming – following requirements of environmental protection, to form productive stands, continuously supplies timber. All felling types are permissive. Area of clear felling use to be to 8 ha.

(Article 3 of the Law on Forests of the Republic of Lithuania)

Conclusions

1. Lithuanian protected areas system is quite complicated what often create disagreement between regimentation of Lithuanian forest protected areas and international protected areas.
2. To avoid this it is time to revise definitions and classification of Lithuanian protected areas.

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Collisions between Law on forests and environmental legislation in Macedonia

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Abstract

The paper analyses presence of collisions regarding forestry and environmental legislation in Macedonia with special focus on related Laws. Besides conceptual substance analysis of the two laws, public administration mechanism responsible for their implementation and possible issues facing on the ground are questioned as well.

As object of analysis the Law on forests and the Law on nature protection with related responsible bodies are taken into consideration.

Methodology of data gathering is divided on primary and secondary data analysis. Regarding secondary data, content analysis of the related Laws is made. And in order to gather data of on the ground situation of their implementation, in-depth interviews to the people dealing with related area of working and within public administration institutions was conducted.

The results have shown that there is existence of collisions between related laws and there is no clear picture of distinction of responsibilities on the ground. According to public administration model, currently the Ministry of Agriculture, Forestry and Water Economy is burdened with many departments and as a possible option for solution are two ways of Department of forestry and the Ministry of Environment and Physical Planning reallocating or simply all theirs' close connected departments integrating in one new Ministry. In addition, from responds obtained with the face-to-face interviews, the respondents consider that more precisely defining of issues within related legislation will contribute in prevention and mitigation of problems caused between these two sectors in practice.

Keywords: Law Forest, Law on nature protection, forestry, environment, legislation, public administration, discordances.

Introduction

Notorious fact is that the forests are integrated part of the nature as well as a part of living environment. Concerning nature protection aspect, Republic of Macedonia has a system of related legislation, with Law on Nature Protection as a main law. Looking from the hierarchical aspect it represents a core law or "lex generalis" relating to the other nature protection laws defined as special laws or "lex specialis". Furthermore, the Law on Nature Protection is followed by the Law on Environment which represents the second level Laws of related legislation. And the third level of nature protection related legislation are Laws dealing with parts of nature like Law on Forests, Law on Waters, The Law on Pastures, Law on Protecting Plants etc.

Environmental legislation contains the system of lex genaralis within the nature protection law system. Other laws are "lex specialis" relating the environmental legislation. The Law on forests is undoubtedly the main Law among other related or "lex specialis". Basically, a complete accordance between Law on Forests and system on environmental legislation as a part of nature protecting legislation should exist.

Main goal of the study is to explore if there are collisions between forestry and environmental Laws in Macedonia. Accordingly, the following objectives are defined:

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- to analyze regulation framework related to forestry and environmental sector with special attention to the Law on forests and Law on nature protection;
- explore the public administration models set-up of investigated area;
- define the collisions between them and
- provide recommendations for further development.

This paper is significant in a manner of defining the real situation between sectors and common dispute situations concerning protected areas in Macedonia.

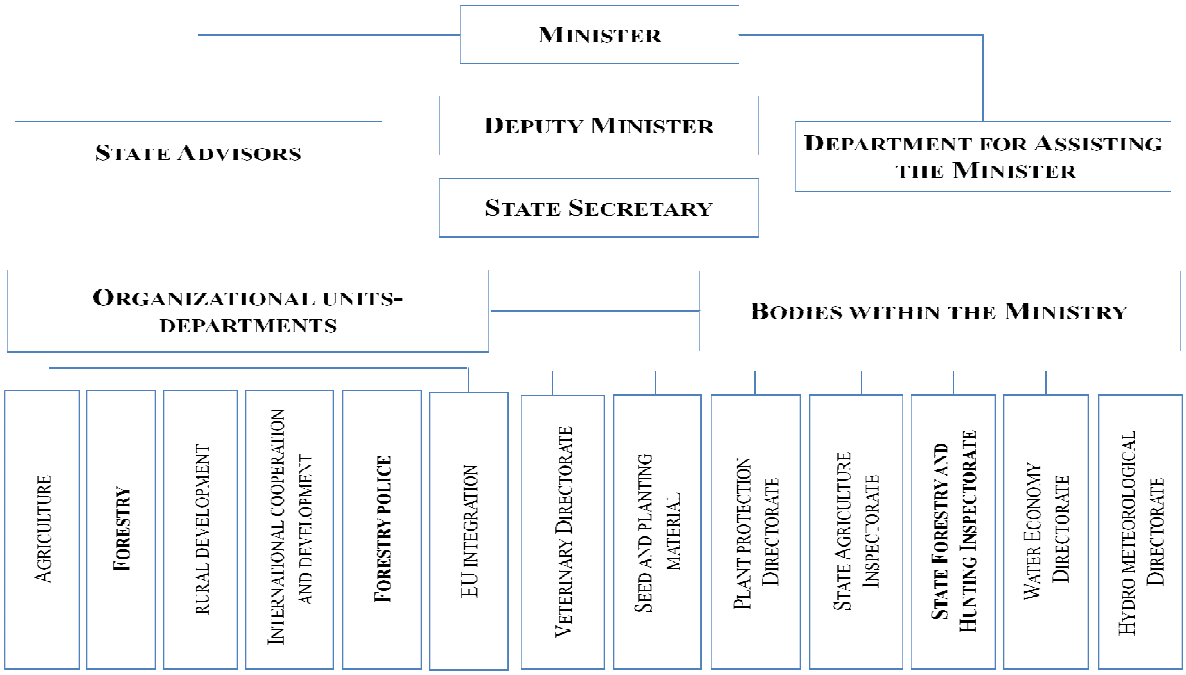
Methodology

For the purpose of this paper, methodology of data gathering is divided on secondary and primary data gathering. Method of content analysis regarding related regulation framework with relational analysis of cognitive mapping is used. Therefore comparing semantic relationship connections of the area of mutual concern across texts of Law on forests and Law on nature protection is made. Therefore the comparing is made taking into consideration forests within the protected area and issues concerned to area of research of this paper. According to defined jurisdictions and responsibilities distribution to different bodies within the area analysis, the organizational set-up of related public administration model in Macedonia is presented, based on related available documents and literature.

In terms of primary data gathering, an interview face to face was conducted with representatives from both Ministries, State Inspectorates of forestry and environment, Forest Police, Public Enterprise "Makedonski Šumi", Public Institutions of National Parks Mavrovo, Pelister and Galičica. The interview was **unstructured** and conducted through an **open discussion**. For this purpose content analysis was also used, with transcription and coding of interviews and comparison of obtained results.

Results

Forestry sector - According to the Constitution of Republic of Macedonia, forests have been declared as natural wealth and enjoyed special protection of the country. From one point of view forest policy is regulated by the Law on forests ("Official Gazette of RM" br.64/09) and through public administration with highest responsibilities and decision making power, forestry sector in the Republic of Macedonia is administered by the Ministry of Agriculture, Forestry and Water Economy (within further text MAFWE). This Ministry has jurisdictions also over agriculture, water economy, veterinary and phytosanitary issues. The related organizational structure of the Ministry with all related organizational units/departments and responsible bodies is presented below.



Source: unpublished Ministry's archive document

Figure 1. Organizational structure of the MAFWE

Here the three bodies with main responsibilities regarding forestry are following:

- Forestry and Hunting Department;
- State Inspectorate for Forestry and Hunting and
- The Department for Forestry Police.

Forestry and Hunting Department responsibilities are divided on 13 employees by appropriate area of occupation and covering exist for needs of forestry:

1. The unit for afforestation and silviculture;
2. The unit for forests protection;
3. The hunting Unit;
4. The unit for forest management and harvesting.

According to the Law on forests, Article 1, paragraph 1 regulates: "planning, governance, management, silviculture, protection and utilization (hereinafter referred to as: forest management), guarding of forests as natural resources and forest land, realization of ecosystem functions of forests, the rights and responsibilities pertaining to forest utilization, financing, as well as other issues relating to forests and forest land, in accordance with principle of economic, social and environmental acceptability. Furthermore, paragraph 2 of this Article states that the provisions of the Law apply to all forests and forest lands regardless of ownership and forest purpose."

Article 2 of this Law defines forests division on state and privately owned. Forest management, according Article 7 covers: silviculture, protection and utilization of forests through regeneration, nursing, protecting, growing new forests, utilization of forests and forest land as well as other activities that maintain and promote the functions of forests. Forest governance, that means strategic planning, organization and carrying out of governing tasks, rendering expert and advisory activities for the support of entities that manage forests, as well as for monitoring and supervision of forests (Article 8, paragraph 1). Consequently to this, the Law on forests with Article 87, paragraph 1, stipulates that managing of the forests of economic and protective nature in state property is performed by the public enterprise for managing state forests "Makedonski Šumi".[4] Furthermore,

[4] Furthermore, in paragraph 2 of this Article the Law prescribes entities defined with the promulgation act manage forests and forest land in protected areas in accordance with the Law herein and Law on Nature Protection.

Article 92, paragraph 1 prescribes that private forest management activities are performed by the owners of private forests, private forest owners' associations, legal entities and natural persons that possess a license to perform forest-related and expert activities in accordance with the Law on forests.

The Government of the Republic of Macedonia, according to the Constitution of RM and other related Laws with decision from 15.12.1997, established the public enterprise "Makedonski Šumi". Essential to a successful and efficient performance of activity, PE "Makedonski Šumi" - Skopje is organized in:

- Headquarter and
- Branches

For providing the necessary coordination in realization of company's activities, the Headquarter is established and operates within 10 sectors and the organizational setup of PE "Makedonski Šumi" entails 30 (thirty) branches with number of employees in public company of 2400 people. Main activity of PE "Makedonski Šumi" is management of state owned forests for economic purposes. Planning, management, governing and preservation of forests and forest land, are activities of public interest.

According to Law on forests, Article 9, paragraph forests, regardless of ownership and purpose, have production, protective and general-beneficial functions. But regarding the types of forests according to their purpose, in Article 10 forest are divided on: paragraph (1) Forests for economic purposes; (2) Protective forests; (3) Special purpose forests designated as: forest and hunting reserves, forest parks, memorial forests, forests for production of forest seeds, picnic areas and forests for scientific, educational and defense purposes; (4) Forest and hunting reserves; (5) Forest parks and picnic forests; (6) Memorial forests; (7) Seed productive forests; (8) Forests for scientific and educational purposes and paragraph defines (9) Forests in protected areas, proclaimed according to the Law on nature protection.

Regarding planning activities, within Article 24, paragraph 1 division/demarcation of forests according to purpose, production or protective, is determined by general plan. Moreover, planning of governing and management of forests and forest land (Article 28) is carried out by: special forest management plan, forest management programme, and annual forest management plans. In Article 29, paragraph 3, the Law stipulates special forest management plans to be adopted for all forests, except for the forests in private property that cover area less than 100 hectares. Moreover, paragraph 6 of this Article states that entities responsible for management of protected areas in their plans for governing of protected areas, within the part on forest ecosystems have obligation to incorporate the content elements for forest management of the special management plan. This should be in accordance with the provisions of paragraph 11 of Article 29 (where with the changes of the Law of Amending and Supplementing the Law on forests ("Official Gazette of RM" br.24/2011) Article 7 stipulates the Minister in charge of the state administrative body with competency for forestry matters, adopts more specific regulation on content of special forest management plans regarding: economic and protective purpose; forests within the protected areas; private owned forests on area less than 100 hectares; as well as the private forests that does not require preparation of special forest management plan or programme; defining therefore the way of their preparation, adoption and approval. For preparation of special plans and programmes for management of the state-owned forests, Article 33 defines it as obligation of forests users and for privately owned forests as a forests owners' obligation.

Concerning responsibilities for monitoring within framework of governing activities, user of state owned forests is responsible to monitor situation and organize monitoring of forests and forest land. Furthermore, due to conducting of intensive and permanent monitoring over forest ecosystems, (Article 79, paragraph 1) state administrative body competent for forestry matters adopts a programme of measures and activities for collecting data on forest damage and establishes a register

of forest damage prepared and implemented by “Ss. Cyril and Methodius” University, Faculty of Forestry, Skopje.

Guarding of forests within state and private sector is carried out by Department of Forest Police as body in frameworks of state administration, responsible for forestry affairs, according to Article 81, paragraph 1. For its needs, 370 forest police officers at 19 stations are employed, with head of Department, deputy head and each regional station is lead by a commander.[5]

State inspectors for forestry perform activities of inspection. The Forestry & Hunting Inspectorate has 25 employees and is consisted of 2 departments, where one is for forestry and one for hunting activities responsible. People who deal with inspection of operations of institution that manages forests are director of Inspectorate, head of department, deputy of the head of the department, 2 heads of the units of forestry and hunting and regional inspectors. There are 33 regional units in Macedonia.[6] According Law of Amending and Supplementing Law on forests ("Official Gazette of RM" br.24/2011), Article 14 states that in Article 100, paragraph 1, point 2, part of "silviculture and protection plans of forests within protected areas" comes after the word "forests".

One important issue here is that forestry and wood industry are separate areas of working, in terms of administering, although according to general world classification, forestry and wood industry, go together. Unlike forestry sector that is under MAFWE, wood industry is administered by Ministry of Economy of Macedonia.

Environmental sector

The Law on nature protection of Macedonia ("Official Gazette of RM" br.67/04) Article 1, paragraph 1, regulates the protection of nature by protecting biological and landscape diversity and protection of natural heritage, protected areas and outside protected areas (hereinafter: the protection of nature). Furthermore in paragraph 2 of this Article states that of the usage of nature for economic purposes except provisions of this Law, applies provisions of other special laws. In Article 5, paragraph 4, incorporation of the conditions and measures to protect natural heritage in the plans for managing natural resources in certain economic activities, including: general and specific plans for managing forests, common hunting grounds, program management pastures, the strategy and plan for managing water resources Strategy for Energy Development, a program for geological research and other activities are stipulated. Forests habitats and ecosystems, stipulates Article 54, conservation of biological diversity in forest ecosystems implement the protection of forests within protected areas as well as general and special plans for management and protection of forests, in accordance with provisions of this Law and other related Laws.

Concerning measures of protection enforcement, Article 108, paragraph 1, stipulates that immediate protection of protected areas is implemented by guard service, established or designated by the entities, in accordance with this law and acts of recognition are responsible for the management of protected areas and are appointed by public institution managing with national park.

Public administration body (Article 133) responsible for affairs of protection of nature in accordance with provisions of this law perform tasks related to: making and policy nature protection, protection of biological and landscape diversity and protection of natural heritage and biodiversity management landscape diversity and natural heritage and the control and supervision the implementation of the provisions of this law. The principal Government body with responsibility to deal with environmental management is the Ministry of Environment and Physical Planning (MOEPP) established in 2000.

Units concerning our investigation within MOEPP are defined as Associated Offices (falling under direct responsibility of Minister) and are responsible for development and implementing of environment policy in Macedonia organized as follows:

[5] Data based on internal documents sources of the Forest Police Department.
[6] Data based on internal documents sources of the Forestry & Hunting Inspectorate.

1. Environment Protection Administration (EPA):
    - Department for Environment;
    - Department for Nature;
    - Division of Protection of Natural Heritage;
    - Division of Protection and Management of Protected Areas and Geodiversity;
    - Division of Biodiversity;
    - Department for Management;
2. Office of Spatial Information System;
3. State Environmental Inspectorate.

The Office of Environment is established as a constituent part of the Ministry of Environment and Physical Planning for purpose of performing professional activities in the domain of environment and nature protection and improvement with bigger financial support national and international as well. In order to carry out the responsibilities assigned by Law, Ministry's organizational setup includes around 200 young, ambitious full-time employees and several part-time engaged people. And according to Article 134 of this Law it is defined as a body responsible for performing professional work in the field Nature, in accordance with the provisions of this law.

Furthermore, with Article 136, paragraph 1, because of the performance of activities of governing and protection of the National park, the Government of the Republic of Macedonia establishes public institution – National park.

With the Article 135, paragraph 1 of this Law, the governance, supervision and protection of protected areas, except strict nature reserves and national parks, is made by subjects under terms and conditions specified in the act of declaring this law. With the paragraph 2 of this Law, governing and protection of national parks is responsibility of public institutions - National Park in accordance with provisions of this Act and the Act declaring a national park. And in paragraph 6 of this Article, entities responsible for management of protected area integrally manage entire protected area territory.

Regarding Article 169, paragraph 1, the supervision over enforcement of this law and regulations adopted pursuant according to Law are under jurisdiction of State Inspectorate of environment.

After conducting of the face-to-face interview investigation, the results we obtained through were slightly different results regarding area of concern. Respondents dealing with problems regarding this issue of working, from relevant institutions of both sectors, two Ministries, Public Entities responsible for governing and management of related subjects of analysis, different bodies responsible for guarding, management, governing and inspection as well were questioned.

The answers obtained were more or less similar regarding all institutions and almost all were towards complicated and not clearly defined adoption, implementation and control of forest management plans of protected areas. This was the issue that initiates collisions between forestry and environmental sector on the ground. Public institutions managing national parks are facing with a huge problem because of overlapping jurisdiction on rulebook for forest management plans. Therefore forestry issues a forest management plan more oriented towards economic aspect, and vice versa the environmental forest management plan should be oriented towards protection and conservation of nature.

Discussion - Collisions between laws

Forest, according to the Law on Forests (article 6), represents forest ecosystem that exists on forest land covered with forest types of trees and shrubs, bare ground next to forest and other high places, meadows within the forest, forest nurseries, forest roads, seed orchard, fire averages in the woods, shelterbelts belts on the surface of more than two fires, and forests in protected areas. The forest is consist of young crops and forest plantations larger than 2 acres, as well as areas that are an integral part of forest, and occasionally are not covered as a result of human impacts and natural disasters, where natural regeneration has begun. Therefore forest does not include separate groups of trees

and an area of less than two acres, tree boundary between agricultural land, plantation types of trees that grow rapidly and coastal vegetations outside the forest, avenues and parks in urban areas.

Under Article 35 paragraph 3 of the Law on Nature Protection, Minister of Environment and Spatial Planning in accordance with the National Council for the Protection of Nature chooses strictly protected and protected forms of wild types. According to the same article (paragraph 5) he can also abolish protection of certain wild form which is no longer endangered, or can transmit from one form to another category of protection.

In relation to this regulations problem is that Minister of Environment and Spatial Planning is the state official of same rank as Minister for Agriculture, Forestry and Water Economy. Therefore he cannot act to determine its rules of conduct to Minister for Agriculture, Forestry and Water Economy.

The same objection can be made in relation to Article 36, paragraph 2, of the Law on the Nature Protection which stipulates that the Minister of Environment and Spatial Planning act of endangered wild types to be placed under temporary protection. Then, such objection may be placed on Article 39, paragraph 3, which stipulates that the Minister prescribe manner and procedure under which it can perform a limited and selective basis, taking, storing and otherwise use certain strictly protected wild forms in small populations under conditions of strict supervision.

Accordingly, this Ministry is responsible for performing administrative functions to these forests. But, as it comes from above cited provisions of the Law on Forests and the Law on the Organization and the work of the Bodies of State Administration, administrative functions in relation to these forests is done by the Ministry of Agriculture, Forestry and Water Economy. So, the two ministries carry out administrative functions in relation to the same object of legal protection. Therefore there is no better argument for collision between legal norms contained in Article 6 of the Law on Forests and in Article 66 of the Law on Nature Protection.

Since provisions of Article 6 of the forests in collision with the general norms of Article 66 of the Law on Nature Protection, they are also in collision with these special regulations on certain protected areas, which are based on the provisions of Article 66.

Collision between the general norms contained in Article 6 of the Law on forests and Article 66 of the Protection of Nature Law, causes collisions between different norms contained in other provisions of both laws. Thus, according to the provisions of Articles 154 to 159 of the Act on the protection, monitoring the states of nature, and therefore the conditions in the forests is organized by the Ministry of Environment and Spatial Planning. According to the provisions of Articles 79 and 80 monitoring of conditions in the forest makes the Ministry of Agriculture, Forestry and Water Economy. Therefore, both Ministries organize monitoring of forests and their subsidiary bodies done that, which is not good, because in well organized administrative systems it is needed to be known exactly who is responsible for what. Irregular distribution of responsibilities is a source of inefficiency in the performance of administrative activities.

The situation is identical with the provisions of the Law on Forests and provisions of the Law on the Nature protection about the inspection. According to Article 98, paragraph 2 of the Law on Forests, inspection supervision over conducting is done by the state forestry inspectors. According to article 169 of the Law on Nature Protection inspection supervision over the implementation of this law is made by the state inspectors for nature protecting. Forests are part of nature. The question is who and of what of the inspections issues, is responsible in the area of forests inspection.

There are other provisions of the Law on Forests and Law on Nature Protection which are mutually conflicting. As for the collision between the provisions of the Law on Forests and the Law on environment situation is almost identical between the Forest Law and the Law on Nature Protection. Since, our goal was to explain the nature of the collision between the Law on Forests and Law on nature protection, here we will not specifically refer to the collision between the two laws.

Collisions of legal norms of these laws are cause of many disagreements between Ministry of Agriculture, Forestry and Water Economy and Ministry of Environment and Spatial Planning and its organs. Misunderstandings are source of inefficiency in the performance of administrative functions in field of forestry. They have to be resolved.

Resolving collision of legal norms

The theory and practice are offering four methods for solving collision of legal norms. These possible solutions are normative-regulatory method, organizational method, legal-logically method and consensual method.

The basis of the normative-regulatory method is regulation of social relations in a particular area of social life in order to eliminate the legal norms in a collision. It is done by making amendments to normative acts - laws and under laws regulations.

For solving collision of legal norms applying this method in the areas of forestry and environment, we need to consider accurately all collisions of legal norms within the Law, governing social relations in these areas and their negative implications in practice. There are indications that there is currently no interest for amendments to the Law for solving collision of legal norms, because it does not suit the interests of certain interest groups in society. But the process of further democratization of Macedonian society will allow creation of objective conditions for more frequent application of this method in all spheres of social life, and of course, in areas of forestry and environment.

The organizational method consists in implementation of certain organizational solutions in organizational foundation of state administration which will eliminate or reduce conflicts of interest and thus facilitate solving collision of legal norms.

In this case the organizational solution that is offered, for now, unfortunately only in theory, the transfer of environmental protection affaires in jurisdiction of MOEPP, to the Ministry of Agriculture, Forestry and Water Economy. This organizational solution will burden the MAFWE and relieve current Ministry of Environment and Spatial Planning. Here will remain spatial planning affaires. Due to reduced volume of this Ministry, it could be transformed into Agency for Spatial Planning, which is numerically much smaller and easy economically governed authority than the Ministry. This will reduce the number of ministries, which is large and heavy burden budget of the Republic of Macedonia which is poor state.

It is possible, also only theoretically, one vice versa solution of transferring affairs of forestry from MAFWE to MOEPP. With this solution, the governmental apparatus will relieve. Now quite burdened Ministry of Agriculture, Forestry and Water Economy, and will normally burden Ministry of Environment and Spatial Planning, adding an area compatible with the sector for environmental protection. This solution does not reduce the number of ministries, but will realize correctly load of existing ministries with tasks and duties of state administration.

Third, legal-logically method of solving collisions of legal norms is to apply legal rules of application and interpretation of legal norms in case of their collision.

In the first place, set forth legal rule for solving collisions of legal norms that is included in the Latin formulation: “lex specialis derogat generali” - the special law abrogate general law. According to this rule, unless for regulation of social relations in a particular area of social life, there are two laws, one of which general, on more general way regulating social relations, and other special one regulates them in a more concrete way, or regulate only one of their segments, than norms of special law are applied. The legal logic of this rule is that a special law is more adapted to social relations in concrete area of social life or to certain segments then general law.

In this case, the Law on Forests is a specific law or lex specialis to the Law on Nature Protection and Environmental Law. Thus, in cases of collision of legal norms contained in these laws and legal norms contained in the Law on Forests, legal norms of Law on Forests are applied.

Within legal-logically method, due to circumstances, there is offered another option for solving collisions of legal norms contained in the Law on Forests and in above mentioned two laws of environmental legislation. It is the applications of rules of "lex posterior derogate priori". English translation of this rule with the Latin language means subsequent law abolishes the previous one. The legal logic of this policy consists in the fact that the subsequent and more recent legislation better adapted to the present state of social relations, very dynamic ones, should be given a priority in resolving raised legal issues in this case, fortunately, Law on Forests came into force on 30 May 2009, the Law on nature protection came into force on 12 October 2004, with in-between the Law on Environment - 13 July 2005. So, Law on Forests is much more recent date in respect of both laws on environment legislation. Therefore, in cases of collisions of legal norms it should to apply the Law on Forests rather than the Environmental Legislation.

Therefore, solving the collision of legal norms contained in the Law on Forests and the Laws on the environment, using legal-logically method is called into question. The output should be seen through making a special law on the resolution of collision of legal norms in which will be implemented above named rules of this method, and of course, and other rules for interpretation of legal norms in appropriate situation. Consensual method of resolving collisions between legal norms is implemented by the state authorities mutually agreed to achieve consensus on some content issues. Agreeing to perform according to legal provisions, for example, the provision of Article 42, paragraph 2, of the Law on Nature Protection provides that the Minister of Environment and Spatial Planning in accordance with the Minister for Agriculture, Forestry and Water Economy sets out the measures and activities for the protection of wild forms and the manner and extent of utilization of these forms.

From obtained secondary data results is visible that there are collisions regarding the context of two related Laws.

Concerning organizational set-up of public administration models the organizational method consists in the implementation of certain organizational solutions which will eliminate or reduce the conflicts of interest and thus facilitate solving collision of legal norms.

But this is not the case here and moreover, discordances regarding the rules and competences between responsible ministries in the area of laws regulation, the rules on control, and rules on forest monitoring, collaboration rules exist.

Conclusions

From the context perspective regarding the two related Laws, collisions referring to protected area issues are common. Each of the sectors regulates related area of concern covering all provisions for components needed.

The organizational set-up does not correspond to the real needs and the situation in the country because current public administration models are pretty much heavy;

The results from the interviews show that there are collisions within the written documents of the two Laws and people working within this area are facing with problems on the ground. Therefore because these problems appears in practice as a result of some not clearly and not in details defined issues within the related legislation documents, in future it should be given more attention to them in order to be resolved.

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New Forest legislation and its applicability concerning sustainable forest management practices in R. Macedonia

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Abstarct

Traditional forestry as it is currently practiced in Macedonia should be gradually abandoned. In its place, experts and scholars in this field should start promoting and introducing sustainable forest practices that fulfil the needs of economic, environment and social elements within modern society.

This paper summarizes the analyses of current Forest legislation in R. Macedonia and whether it is applicable in the field, and how it contributes to sustainable forest management.

The main documents utilized for this study were Forest Law and Strategy for Sustainable Forestry. The new forest law in R. Macedonia was adopted in 2009. It encompasses all three aspects of sustainable forest management: ecological, economical and social/cultural. The same is true of the most important document about forestry - Strategy for Sustainable Forestry, adopted in 2006.

The methods used for this study were content analyzes of the above mentioned documents with key words **sustainable, ecological, social, and cultural aspects,** and in person interviews with representatives of stakeholders from the Ministry of Agriculture, Forestry and Water Management, PE Macedonian forests and Ministry of Environment Physical Planning.

The results have shown that forestry has only written documents which implementation in the field is pending. Forestry in R, Macedonia is still oriented toward economic gain. This means that the ecological and social aspects are neglected. Therefore, the main conclusion from this paper is that although current forest legislation exists, it is inadequate and does not steer forest planning towards sustainability.

Key Words: Forest Law, Strategy for sustainable forestry, sustainability, forestry.

1. Introduction:

In the recent past forests has gain significant role in society. Concerns about forest sustanibility and biodiversity protection are no longer topics of interest only to scholars and professionalists, but are also hottly debated and discussed in the media, in policy and political fora, on the street, in schools and at home.

In Macedonia concerning forest policy, within the past few years some changes were made. In 2006 the new Strategy for Sustainable Forestry was carried out, followed by a new forest law that was adopted in 2009. Thus, the country has prepared its forestry sector for both current and future challenges and opportunities, therefore building the path toward EU membership.

Nevertheless, some questions still remain open, as position and role of private forests in Macedonia, management of state forests, the links between forestry and rural development, and the ecological and social aspects of forest management.

In Macedonia there is a discussion among forest professionals about other forest functions role of forestry and private forest owners around environmental issues, rural development and the development of mountain or Eco-tourism, but any implementation of policy that supports these forest benefits is nonexistent.

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Traditional forestry practices in Macedonia today should be gradually abandoned. Experts and scholars in the forestry field should start promoting and introducing sustainable forest practices which take into consideration an increasing understanding of the environmental and social aspects of forests and forestry in Macedonia.

This paper will try to present the current state of Forestry legislation in Macedonia, and its applicability concerning sustainable forest management practices.

What is written in the law is sometimes contrary or opposite to what is done on the operational level in the field. Legislation that is too restrictive can lead to an increase in illegal practices in forests, or loss of forests, because people cannot cope with all of the regulations that are stipulated in the law or other legislative documents. In addition, declarative provisions and by-laws that are not operationally effective do not contribute positively toward sustainable forest management.

2. Methodology

This paper is based on content analyses of forest legislation. The method that is used is qualitative research, and is based on document content analysis. With content analysis different parts of the new forest law are analyzed in order to clearly present the current situation in forestry and to show to what extent the legal provisions are applicable in practice and to what extent they contribute to sustainable forest management. The main hypotheses to be tested for this research are:

- New forest law contributes to sustainable forest management
- Forest legislation today represents the needs of all stakeholders in forestry
- Processes of democratization and decentralization are enabled in the framework of the new forest law

For this paper in person interviews were conducted in order to produce unbiased opinions. Interviews were unstructured. The interview was designed this way to allow for deep discussion of the interviewees opinion on how forest legislation is developed and how much it represents the current needs of stakeholders in this sector and the possibilities for sustainable forest management. Respondents have been selected from the following institutions: Ministry of Agriculture Forestry and Water Economy (MAFWE), Public Enterprise “Macedonia forests” (PEMF), Ministry of Environment Physical Planning (MEPP). It is important to mention that all interviewed people were part of working groups for preparation of the new forest law.

3. Results

In order to meet the requirements modern society places on forests and forestry it is necessary to adopt forest policy in Macedonia in a way that it is based on modern and legislatively acceptable provisions regarding issues such as property and usage rights, management and harvesting practices of forest resources, administration and control of forestry activities, and administration and reinvestment of public and private funds in the forestry sector.

In preparation and collection of data for this paper, regulations that are stipulated in the forest law were analyzed.

In the present forest law, Official Gazzettte of RM, No 64/2009 it is stated that forests in Macedonia are in state and private ownership (article 2). This means that there should not be any differences between the regulations and treatment of state and private forests. Unfortunately, that is not the case in practice.

An inventory of forestlands is mandated under this law (article 25). This inventory will be essential to sustainable forest management, since the last forest inventory in Macedonia occurred in 1979, and the data is now long out of date. In order to have sustainable management it must be determined how many and how large the forestlands are within the country, after which the planning and management of forest resources can begin.

Also introducing of forest and forest land cadastre is a new regulation that will contribute to improvement of the forestry sector as a whole, and will particularly target relationships between different owner groups (state, private, municipal, and churches) (Article 77). Rulebook for this purpose is adopted by the ministry where is stipulated what forest cadastre will contain and that will be archived in electronic form.

Availability of forestry data, including management plans, inventory data, cadastre documents, in new forest law are available to the public, so any interested party can obtain those documents for a fee paid to the original owner of the data (Article 40). There is also rulebook for the use of planning documents, stipulate that a 50-euro fee will be paid to the original owner of the data. Additionally, a request for obtaining the documents is needed from the physical or legal entity and explanation why those documents or data are needed.

A new information system will be introduced in forestry in order to connect all of the relevant actors in this sector in one network where all of the forestry data will be stored. This is one step toward democratization and openness in this traditional sector. In this case the public will have access to forest data and transparency in forest management will improve dramatically (Article 78).

Involvement of the public and all interested parties in the decision-making process in forestry is also stipulated within this law (Article 38). This is the first time in Macedonia that a forest law recognizes the role of other stakeholders in the decision-making processes.

A National Council for Forestry is intended to be established by this law (Article 26) that will act as a consultative body to the minister for his/her decisions regarding the forestry sector. Professionals from different stakeholder groups involved in forestry will be part of this council.

Prior to the adoption of the new forest law, the management of forests was exclusively the right of the state entity. With the introduction of the licenses and licensed foresters (Article 97), this sector has bee opened up for private entities that fulfill the requirements of the law to do professional work in forestry, including: management of forests, marking of trees, construction of forest roads, protection of forests, extension services in forestry and other professional work related to forestry. The ministry of forestry will issue licenses, and for that purpose a special commission will be established within the framework of the ministry. The license is valid for five years from the day it is issued. There is a rulebook explaining the procedure and requirements that one must meet in order to qualify for the license. However, at the moment there is the possibility of major amendments to the forest law, and these procedures will be changed. Never the less, it is envisaged in the rulebook that licenses are issued at the request of the legal or physical entity and a fee of 100 euro must be paid in advance for the license. For this reason legal entity should be officially registered for conducting forestry work, and physical entities should have a 2-year working experience in management of forests.

Financial incentives that can be used from special forest funds (simple and extended biological reproduction) are also stipulated in this law (article 94 & 95). Funds are available for state and private forests in accordance with the contribution paid by the entities in the state budget. This incentive is widely used by private forest owners, and there is also discussion within the Macedonian Ministry of Forestry to extend the program and funds dedicated to private forests, because the interest in receiving these incentives is very high and it encourages sustainable development and management of private forests.

The new law recognizes for the first time that private landowners are also stakeholders in the forestry sector. In article 93 it is stipulated that private landowners have the right to organize themselves in interest groups and associations in order to act in accordance with the rights and duties given to them by the law concerning the management and utilization of private forests.

In this law it is also stipulated that private individuals can obtain wood from state forests for their personal needs with a minimum fee paid to the entity that manages the state forests (Article 66).

Individuals can obtain up to 15 cubic meters of wood for fuel per household. This is an incentive implemented primarily for the poor and rural people who live near forests.

The new forest law is not flawless, and particularly Article 68, which deals with ownership rights and the sustainability of forests, is found by many to be lacking., Article 68 is one of the most disputed articles that is often criticized by private forest owners, NGO's working in this sector, forestry faculty, and even some people working in state forestry. This article requires that in order to get the harvest (cutting) permission private forest owners must prepare a geodetic elaborate plan for demarcation of their forest borders. Even those owners who already have valid property documents issued by an official state body (Agency for Cadastre), must fulfill this arduous requirement in order to harvest wood on their lands. This article is not favorable to private forest owners, and it is also not favorable to the sustainable management of forests. Frequently, the forest owners are not in a position to pay for expensive mapping of their land parcels, and they therefore usually choose to cut wood without permission, in other words they must 'steal' from their own forests. As a result, law enforcement agents do not always feel positively about proper forest management because their encounters with land-owning wood thieves can be frustrating as their only crime is a lack of proper documentation. Authorities in this sector must try to find another way to control cuttings in private forests, and cuttings in state forests done by private persons, that are less arduous and result in greater partnerships between private citizens and the state regulatory agencies.

The data gathered during the in-person interviews yielded similar answers from the participants. On the questions related to the fulfillment of the needs of all concerned stakeholders from the past vs. present Law on forests, most of the respondents answered that compared to the older Law on forests, the situation is now much better. Moreover, from the perspective of the private forest owners the new law has cleared up many issues from the past. The new amendments and the program of extended reproduction of forests, including the 3% of paid amount for extended reproduction now are transferred back through obtaining funds for afforestation and reforestation of private owned forest areas, for forestry practices, and clean up after forest fires. The new Law also benefits companies who buy and sell non-wood forest products. The new Law directly manages the purchase of NWFP's, and this regulation should help in improving the future work of these companies within the non-wood forest products sector.

The interviewee's answers differed greatly regarding the procedure for preparing for and adopting the new Law on forests . For some of the interviewees, the Law was introduced in a satisfactory manner and largely fulfills all requirements of stakeholders' involvement and consulting in document preparation. However, for other interviewees the entire rollout of the new Law was dissatisfactory and less transparent than they would have preferred.

Nevertheless, all of the interviewee's were unified in their answers that this new Law is more inclusive and covers far more aspects and issues concerning diverse stakeholders in the forestry sector of Macedonia, but still reality in the field is much different from the opinion of the intervieweed people.

4. Discussion / Conclusions

This paper analyzes the current policy and legislation documents in the Macdonian Forestry sector, and how this affects sustainable forest management practices.

In the past few years there have been numerous debates about what should be done in the Forestry sector and why, but many of those discussions were informal, and all conclusions or findings stayed out of today's official legislative documents. All stakeholder group meetings held in the period of preparation for the new forest law did not result in a better or more easily applicable law. This is the case because all of these meetings were declarative, and there was no political will to really change the forestry sector. This is also visible from the fact that there is no much change in the field that has resulted from the present law. The only positive change that can be applied from the new forest

law is the introduction of licenses and licensed foresters who will be entitled to do all of the work in forestry beside the Public Enterprise 'Macedonian Forests' (PEMF) and its employees. There are some articles that are even more restrictive concerning management issues of private forests especially, and some declarative articles that will hardly come out in practice, particularly those regarding the forest inventory, and forest cadastre, or forest information system. Nearly all other aspects of the Law remain the same, even if we compare it to the laws of the socialist period.

There is a need for political consensus and also for political will to bring all stakeholders around one table and include experts from the national and international field of forestry. Joint efforts are needed to prepare a forest law that will stand for years to come, and will be compatible with the needs of the forestry sector, of the society today, and with the requirements of sustainable development according to EU criteria. The last point is very important because Macedonia is serious about its aspiration to become an EU member state, and the involvement in international processes concerning sustainable development and protection of the environment are critical to that effort. The most significant steps that are required of countries that wish to harmonize their legal system with the acquis communautaire revolve around the setting of general principles of sustainable forest management and public participation. The legal framework for forestry in Macedonia will therefore have to be formed according to these principles.

The development of a democratic process and decentralization of forestry management in Macedonia is far from over. This research states that in practice democratization and decentralization have yet to begin. A lot of work must be done to promote and start this process and finally bring Macedonian forestry to a European level, where it deserves to be.

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Sustainable Forest Management in Moldova: A guiding principle to integrate public and private forestry sectors

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Abstract

The value of sustainable forest management (SFM) has been clearly articulated in the Brundtland Commission, Rio Earth Summit, and World Summit on Sustainable Development. However, SFM in the Republic of Moldova (Moldova) has not been successfully used for a variety of social, political and economic reasons. We discuss several ideas to encourage the application of SFM in Moldova and assess a new framework to integrate public and private forest sectors using SFM as a guiding principle. This research consisted of three primary objectives. First, we describe SFM and the potential role of forest ecosystem services for local people. Second, we assess the opportunity to convert marginal private agricultural land into more productive forestland. Third, we highlight the value of privately owned and managed forests and the potential to use private forestry as a new management framework for public forests. To meet these objectives, we develop a new management protocol based on the principles of SFM. We also assess the potential role of providing a broad suite of ecosystem services for local people. We examine models of public forest administration and investigate the reasons why changes in forest ownership structure may be beneficial for Moldova. We also assess the use of privately owned and managed forests as a new management framework. Finally, we develop recommendations to integrate public and private forestry sectors in Moldova using SFM as a guiding principle.

Keywords: forestry, people, public sector, private lands, Sustainable Forest Management

1. Site and the methods

Forests cover (349800 ha) comprises about 800 bodies with a surface between 5 and 5000 ha, that consist predominantly of broad-leaved trees (97.8%) including oaks, acacia, ash, hornbeam, and poplar. The total growing stock is 45 million m³, or 10.4 m³ of wood per capita, with an average of 124 m³ per hectare. While the average annual increment of the forests is estimated at 3,3 m³/year/ha, and the total increment constitutes around 1085 thousand m³/year. The forest sector supplies about 350-450 thousand m^3 of wood mass per year to the national economy, including 30-50 thousand m^3 of industrial wood and about 350 thousand m^3 fuel wood.

The principal directions of forestry sector in the second part of 20^{th} century were vegetative regeneration and reforestation with acacia (Robinia pseudoacacia) species. Consequently forest cover increased until 271 300 ha (8%) in 1986 year and until 325 400 ha (9,6%) in 1993 year, which have remained in generally on the same level until nowadays. Due to above circumstances, the significantly disturbed age structure is constituted now from young trees - 26.3%, middle-age trees - 43.7%, prime-aged trees - 17.5%, and mature trees - 12.5%. Trees older than 100 years cover only 6000 ha (including 5000 ha of oak forest). Most of the forests are pure and even-aged those create difficulties to resist against pathogenic and abiotic factors (Gulca and Herbst 2005). According to Forest Code (1996) forests belong to the first functional group, having exclusively environmental protection functions. This group of forest are divided between five functional subgroups: water protection, land and soil protection, protection against climatic and industrial factors, forest with recreational function, forest of scientific interest and conservation of geno- and ecofund.

Wildlife habitat around the world has been severely altered by the ax, plow, cow, fire, and gun. Ironically, as biologist Aldo Leopold (1933) observed nearly 70 years ago, these same tools can be used to restore altered habitats. For restoration to succeed in practice, however, our objectives must be clear and our methods must be appropriate, realistic, and lead to measurable results (Krausman,

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2002). Restoring an area to match some pre-existing condition is difficult unless you have data on historic conditions (Morrison, 2002). In order to investigate and write this paper we completed historical analysis, reviewed documents and literature relevant to the territory now called Republic of Moldova. We then hypothesised that the forest use histories as reflected in ownership pattern and forest area affected the sustainable forest management. The study is interdisciplinary and therefore qualitative and quantitative data were linked.

2. Concepts of Sustainable Forest Management

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland Commission Report, WCED, 1987). This concept implies that there are limits on environmental resources and the ability of the biosphere to absorb human activities. These limits are seen to have roots in technological inadequacies and inequitable social organisation. Thus, sustainable development must entail a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs. Poverty is seen as a major cause and effect of environmental degradation. The resource gap between industrial and developing nations is widening, rule-making on global scale is dominated by industrial nations, and much of the earth's ecological capital has already been used in industrial development. The Commission views these inequalities as the crux of both the planet's environmental and development problems. The solution lies in economic growth that is equitable, environmentally sustainable. This change will rely upon informed public participation and the political will to change.

The concept of sustainable development links the environment, society, and the economy. These three basic components or spheres of sustainable development are often stated as three independent goals of environmental protection, social well-being, and economic prosperity. The essential idea is that environmental, social, and economic issues and values must be integrated into our decision-making and actions, while accounting for future as well as present needs (Forest Service, 2004). "Any successful quest for sustainability will necessarily be a collective, uncertain, and adaptive endeavour in which society's discovering of where it wants to go and how it might try to get there will be inextricably intertwined" was noted by National Research Council's Board on Sustainable Development (NRCBSD, 1999).

Recognizing that sustainability is a global concern and a common goal for human development, the 178 nations of the world came together at the Rio Earth Summit in 1992, and agreed to take concrete steps to advance sustainable development (Agenda 21). Forest issues were a major focus of discussion at the Rio Earth Summit in 1992, and sustainable forest management was recognized as a key part of global goal of sustainable development. A Statement of Forest Principles (SFP, 1992), declaring the importance of managing all forests in a sustainable manner, was adopted as the first global agreement on forests. According to principle 2 (b) forest resources and forest lands should be sustainably managed to meet the social, economic, ecological, cultural and spiritual needs of present and future generations. These needs are for forest products and services, such as wood and wood products, water, food, fodder, medicine, fuel, shelter, employment, recreation, habitats for wildlife, landscape diversity, carbon sinks and reservoirs, and for other forest products. Principle 2 (d) designate that governments should promote and provide opportunities for the participation of interested parties, including local communities and indigenous people, industries, labour, non-governmental organisations and individuals, forest dwellers and woman, in the development, implementation and planning of national forest policies. National forest policies should recognize and duly support the identity, culture and the rights of indigenous people, their communities and other communities and forest dwellers. Appropriate conditions should be promoted for these groups to enable them to have an economic stake in forest use, perform economic activities, and achieve and maintain cultural identity and social organization, as well as adequate levels of livelihood and well-being, through, inter alia, those land tenure arrangements which serve as incentives for the sustainable management of forests (Principle 5a).

At the 2002 World Summit on Sustainable Development plan of implementation makes this statement regarding forests: "Sustainable forest management … is essential to achieving sustainable development and is a critical means to eradicate poverty, significantly reduce deforestation and halt the loss of forest biodiversity and land and resource degradation, and improve food security and access to safe drinking water and affordable energy; highlights the multiple benefits of both natural and planted forests and trees; and contributes to the well-being of the planed and humanity".

Tarrent et al., (2003) found that the public "favours a balance of environmental protection and economic development in public and private forests, but with a very strong tilt in favour of the environment". Sustaining the full range of services and benefits (environmental, social, and economic) that people desire from forests will usually require a diverse mosaic of ownerships, forest conditions, and capacities across the landscapes, as well as a variety of management emphases. Worldwide – and more specifically in developing countries – most forest areas are under the formal jurisdiction of governments, and forest management is still primarily a state matter. Excessive deforestation and forest degradation have resulted from population pressure, agricultural expansion, escalating demand for wood products, illegal logging, industrial development and rapid economic growth. This has triggered a debate not only on the effectiveness of public-sector forest management, but also on the relevance of overall state ownership (FAO, 2006a).

The role of ecosystem services for local people

Although Africa holds only 16 percent of the global forest area, from 2000 to 2005 it lost about 4 million hectares (ha) of forests annually, close to one-third of the area deforested globally (FAO, 2009). Rural people in Africa are heavily dependent on non-wood forest products (NWFP) as gums and resins, honey and beeswax, dying and tanning materials, bamboo and rattan, bushmeat, fodder, bark (johimbe, Pausinystalaia johimbe in Cameroon), wild mushrooms (various species in Malawi), quinqueliba leaves (Combretum micranthum in Benin), baobab fruits (Adansonia digitata in Kenia), leaves of the liana (Gnetum buchholzianum in Central African Republic) and a considerable number of medicinal plants for a wide range of needs including food, medicines and construction materials (Killmann et al., 2004a). With increased opportunities for local, regional and international trade, the NWFP sector in Africa is undergoing perceptible changes. Of particular significance is the emergence of markets for "ethnic foods", medicinal plants and natural or organic goods, such as honey, beeswax and shea butter. Shea tree (Butyrospermum parkii or Vitellaria paradoxa) and commonly known as karite, is one of the most popular ingredients in skin care today. In Burkina Faso, karite is the second-largest export item after cotton. In Kenya, the United Republic of Tanzania and Zimbabwe, among others, local communities are involved in managing protected areas or tourism facilities for a share of the income. Interest in a market approach for provision of watershed services is just beginning to grow. The rich wildlife is a major source of income and employment (FAO, 2009). The livestock industry is a major export earner for Namibia and Sudan, while in Senegal and the savanna ecozone of Nigeria have a culture closely linked with livestock production (FAO, 2003).

More than 150 NWFPs from Asia and the Pacific are traded internationally, although apart from bamboo and rattan the quantities are usually small. Asia is by far the world's largest producer and consumer of NWFP, not only because of its population size but even more because of traditional use of a vast variety of different products for food, shelter and cultural needs (FAO 2006a in Killmann et al., 2004b). China dominates world trade in NWFP. It is closely followed by India, and then by Indonesia, Viet Nam, Malaysia, the Philippines and Thailand (Killmann et al., 2004b). Of nearly 170 million people living in and around forests in India, more than half of them are tribal and their livelihoods largely depend on NTFP (Basu, 2010). Medicinal plants are of major importance in continental Asia, particularly for the higher-elevation regions of Nepal, Bhutan, northern India and Pakistan and southeastern China (Killmann et al., 2004b). Tendu leaves, as Diopyros melanoxylon Roxb., are locally known in the Central Indian State of Madhya Pradesh, are an important economic resource to the indigenous tribes during the summer months when they have no other form of employment (Boaz and Boaz, 2004). Nepal has a rich medicinal plant resource base, but increasing

commercial demands are exceeding supplies (Bhattarai and Karki, 2004). National Research Council (NRC), Washington, USA had reported that Neem (Azadirachta indica A. Juss): Tree for Solving Global Problem" because it has numerous utilities compare to other trees (commercial industries, medicine, agricultural aspects, and environment) (Zuraida, 2010). Bamboo is by far the most commonly used NWFP in Asia (harvesting in forests is still important in Myanmar, Lao People's Democratic Republic, India, China, Viet Nam), although its international trade is less important than trade in rattan or medicinal plants. National policies and strategies are focusing increasingly on environmental services of forests, and several countries have imposed logging bans in response to catastrophic events such as flooding and landslides. Many countries (e.g. China, India, Mongolia and Pakistan) implement tree planting and integrated land-use systems to combat degradation and desertification, including windbreaks and shelterbelts to protect agricultural land. Water scarcity is critical in some countries (especially Australia, China, India, Mongolia and Pakistan), affecting key sectors including agriculture and industry. China, the Lao People's Democratic Republic and Viet Nam are among the ten countries with the fastest-growing tourism sectors in the world. The main challenges arising from the growing demand for ecotourism are preventing environmental degradation and enhancing the income accruing to local communities, thus providing them with incentives to protect and manage natural assets (FAO, 2009).

Europe has a long tradition of multiple-use forest management with substantial emphasis on the provision of social and environmental services. The major threats to forest resources in Europe are environmental (fires, pest outbreaks and storms); some of these could increase with climate change. Switzerland's mountain forests protect hundreds of settlements and transport routes against hazards such as avalanche and rock fall (Fitze, 2007). As it is affected more than most by adjust to the fact that the risks posed by floods, debris flows, rock fall, winter storms and the heat waves are increasing, new approaches are needed to improve hazard prevention (Meuli, 2007). Although the long-term impacts of climate change on forests are uncertain, many recent catastrophic events have been attributed to it. Considerable increases are projected in the extent and frequency of fires, for example in the Iberian Peninsula and in the Russian Federation. Although not a major activity in Europe, the collection of NWFP is a common form of recreation. Key commercial products include Christmas trees, game meat, cork, mushrooms (including truffles), honey, nuts and berries. Most of these have limited but well established (and sometimes highly profitable) markets. Two recent developments include a decline in the viability of cork production (because of substitutes) and increased interest in food from forests as part of the growing consumer demand for organic products. Integrated management of upland watersheds and the linkages between forests and water are receiving increasing attention in the region. More than 90 percent of European forests are open to public access and the area of forest available for recreation is increasing. Ecotourism is popular. The transition to a green economy requires strong demand, and willingness to pay, for forest environmental services. Europe's high income, increasing area of forests and growing focus on multiple-use management with more emphasis on environmental values suggest positive movement in this direction (FAO, 2009). In Moldova the main economical benefits come from wood selling, firewood being a greater part; because of heavy grazing, poaching and other anthropogenic factors, non-wood products supplied by forests are comprised mostly from medicinal herbs, berries, hay and honey.

The most important NWFP in Latin America are edible products (nuts, fruits and palm hearts, mushrooms and maté), reins, latexes and essential oils (pine resins, natural rubber and eucalyptus oil), medicinal plants, fibers and construction materials (palm fibers, bamboo), fodder, colorants and tannins (FAO, 2006b in Killmann et al., 2004b). Most NWFPs in the region are for local subsistence use, although some are sold in national and international markets as ingredients for health and beauty care products and medicines. Brazil nuts (Bertholletia excelsa) are an important source of income for indigenous groups in Bolivia, Brazil and Peru and are also the most important commercial NWFP. Brazil nuts constitute 45 percent of Bolivia's forest-related exports (more than that of all wood products) and contribute more than US$70 million per year to the national economy

(CIFOR, 2008a quoted in FAO, 2009). In Argentina, Uruguay, Paraguay and southern Brazil, the leaves of Ilex paraguariensis are an extremely popular tea-like beverage. Brazil, Argentina (Pinus elliottii), Honduras and Venezuela (P.caribea) are important commercial exporters of pine resin. Mexico, Guatemala (Petén) and Belize are major producers of Chicle, which is a latex tapped from the sapodilla tree (Manilkara zapota) and is used for making chewing gum. Important producer countries of quinine bark are Brazil, Bolivia and Columbia. Quebracho colorado (Schinopsis sp.) is a source of tannin in Argentina and Paraguay (Killmann et al., 2004b). To reduce conflicts between NWFP-dependent indigenous communities and loggers and ranchers in the Amazon, Brazil has established extractive reserves exclusively for the collection of NWFP. This model, which grants long-term rights in public forests to groups engaged in sustainable activities, is spreading through the region. Initiatives supported by civil-society organizations and governments have improved NWFP collection, value addition and marketing, with the support of certification and fair trade organizations. The impact of deforestation on the region's provision of global and regional environmental services (biodiversity, water regulation, climate change mitigation and naturebased tourism) is drawing particular attention. Brazil, Colombia, Ecuador and Peru rank among the world's ten most biodiverse countries, while the eastern slope of the Andes is the most biologically diverse area in the world. Ten countries each have more than 1 000 different tree species. The outlook for maintaining and improving watershed services also depends on land-use changes. Water scarcity is particularly acute in the Andes and in some of the Caribbean islands. With its high deforestation rate, the region has great potential for reducing greenhouse gas emissions through slowing deforestation and degradation. The highly diverse ecosystems make the region one of the most popular ecotourism destinations. For example, Costa Rica has taken advantage of its natural attractions and made ecotourism the backbone of its economy. Today, Costa Rica is a pioneer in recognizing the vital importance of ecosystem services. This is accomplished through direct payments to landowners, which are funded through a nationwide tax on fossil fuels, international donations, and fees for the forests' environmental services (MEA, 2007). Costa Rica had 72 percent cover in 1950, it went down to 21 percent in 1987 and it has now recovered to 51 percent in 2005 (Umana, 2009). Ecuador earns more than US$100 million per year from nature-based tourism in the Galapagos Islands. Managing tourism sustainably and enhancing its benefits to the poor will remain the major challenges.

In Canada and the United States, outdoor recreation is a major use of forests and woodlands and has become an important source of income in many forested areas. Private forestlands dominate the landscape of the northeastern USA, providing economic activity, recreational opportunities, open space, clean water, and wildlife habitat (Pinchot Institute for Conservation, 2009 quoted by Brooke, 2009). The NTFPs are fundamental to many botanical, floral, and woodcraft industries and are important to medicinal and natural food industries as well (Donnegan et al., 2008). More than three-quarters of Canada's indigenous communities reside in forested areas. Rural communities in Mexico depend on NWFP for subsistence and income, although their use is declining rapidly because of urbanization, changes in employment and availability of cheaper alternatives. With a few exceptions, medicinal and spiritual use of plants by Alaska Natives has not been well documented or described (DeLaguna, 1972 quoted by Pilz et al., 2006). The activities of shamans, healers, and artisans were often suppressed (Pilz et al., 2006). Production of the few economically important NWFP with long-established markets – notably maple syrup and Christmas trees – is highly commercialized (FAO, 2006b). Canada and the United States have a robust political and regulatory framework for environmental protection (FAO, 2009). Payments for forest carbon sequestration are an emerging opportunity for small forest owners to earn additional income, and in turn to sustain both the economic and ecological values of the Northern Forest in USA (Brooke, 2009). Such owners often take great pleasure in personal use of recreational opportunities of their forests, such as hiking, picnicking, skiing, snowmobiling, and living in recreation homes, while others find their pleasure in providing host of recreational opportunities, such as hunting, for consumption by others (Ellefson, 1992). Data from the Forest Service's National Woodland Owner Survey (NWOS) show that in United State the dominant reasons for family forest owners (these

people represent 35 percent of all forest land) to own land are related to aesthetics (64%), family legacy (62%), privacy (54%), nature protection (52%), part of home (51%), land investment (48%), hunting and fishing (45%), part of farm (41%), other recreation (34%), timber production (31%), firewood production (15%), nontimber forest products (10%) (Smith, 2007). In Oregon (USA) federal owners must consider multiple management objectives including water, wildlife, recreation, conservation, biological diversity, and wood products, whereas corporate and other private owners often focus on more specific outcomes, such as aesthetics, wood production, or real estate investment (Donnegan et al., 2008). Forest sector employs 76,500 Oregonians or 4% of jobs with an average wage 43,685 $. Oregon is known for its outdoor amenities and Oregonians often cite natural beauty and recreation opportunities as the attributes they most value about living in the state (Oregon Business Council, 1993 quoted by Kline and Alig, 2005).

About 75 percent of the Western and Central Asia is arid, with low biomass productivity. Overall, forestry has low priority in the region and the sector receives minimal investment. Except in Cyprus, Lebanon and Yemen, most of the forests in the region are publicly owned. In the Soviet period, most of the forests and woodlands in Central Asia (Kyrgyzstan, Tajikistan, Turkmenistan, Armenia, Azerbaijan, Georgia and Kazakhstan) were set aside for environmental protection with a total ban on logging – a policy encouraged by the low forest cover and limited scope for commercial use of forests. Strict enforcement of rules and regulations by the well-organized state forestry administration enabled comprehensive forest protection. However, after independence, a reduction in wood and fuel supplies from the Russian Federation increased the pressure on forests and the ban on logging became ineffective. In most countries in the region, trees grown on farms in various agroforestry systems are a source of income and, more importantly, fulfill protective functions as windbreaks and shelterbelts. Date-palm cultivation in several Western Asian countries has turned deserts into oases. In the United Arab Emirates, extensive date plantations have improved the landscape while generating substantial income (FAO, 2008f in FAO, 2009). Afghanistan, Georgia, the Islamic Republic of Iran, Kazakhstan and Turkey account for most of the region's wood production. As in other regions, the pattern of NWFP use consists of many subsistence products and a few commercially important ones, many of which are domesticated and cultivated systematically (FAO, 2006e; FAO, 2007c in FAO, 2009). Subsistence use of and trade in NWFP are particularly significant for low-income rural communities. In many countries, NWFP provide more income than wood production. Commercial products include honey, mushrooms, medicinal plants, pine nuts, walnuts, pistachio nuts, bay leaves, thyme and fodder. In the more diversified economies, commercially important NWFP have been systematically developed with private-sector involvement. Lebanon's privately owned pine (Pinus pinea) plantations are managed primarily for nut production. The production and processing of, and trade in, bay leaves from Turkey have improved largely because of private-sector investments. Considering the limited potential of commercial wood production, the provision of environmental services – especially arresting land degradation and desertification, protecting water supplies and improving the urban environment – will remain the principal function of forests and woodlands in Western and Central Asia. Environmental protection and provision of environmental services are largely driven by the public sector through supportive policy measures, with varying levels of participation by civil-society organizations, the private sector and communities. In Israel, it was observed that planting trees on farms may yield more benefits than large-scale afforestation programmes (Malagnoux, Sène and Atzmon, 2007 in FAO, 2009). Water sharing among the countries is a politically sensitive issue and a primary cause of conflicts in the region. Most low-income countries lack the institutional arrangements to ensure that income from ecotourism accrues to the poor.

3. Models of public forest administration

Based on per capita income as an indicator of economic development and per capita forest cover as indicator of forest endowments, it is possible to recognize 'four realities' in the world: forest-rich developing countries, such as Brazil, Indonesia, Malaysia, Gabon, and Papua New Guinea, those view forests as an important instrument for economic development; forest-rich industrialized

countries, such as Canada, USA, Norway, Sweden, and Finland, which recognize both the economic and environmental value of forests and have the economic and technical means, as well as political and public support, to practice sustainable development; forest-poor developing countries, such as India, Kenya, Philippines, Somalia and China, those have nearly 400 million people living in and around forests who depend on forests for their subsistence and their daily needs for food, forage, fuelwood, shelter and medicinal plants; forest-poor developed countries, such as Netherlands, Denmark, Iceland, Germany, Japan, and United Kingdom, which rely on forest-rich countries to meet their high demand for forest products and services (Maini, 2003).

The forest situation in Africa presents enormous challenges, reflecting the larger constraints of low income, weak policies and inadequately developed institutions. Obstacles include: high dependence on land and natural resources and scant investment in development of human resources, skills and infrastructure; the low level of value addition in the economy, including the forest sector; the vastness of the informal sector, stemming from the weaknesses in the public sector and market mechanisms. Focusing on the unique products and services required locally and globally and strengthening local institutions can be important ways of addressing forest resource depletion. Such efforts should build on successful experience with locally based sustainable resource management integrating agriculture, animal husbandry and forestry, and take advantage of local knowledge. The growing demand for environmental services – especially biodiversity and carbon sequestration – provides a particular opportunity for Africa (FAO, 2009).

In the emerging industrial economies although a growing environmentally conscious segment of the population will spearhead environmental protection initiatives, continued pressures of industrialization and the needs of marginalized people will strain the environment, particularly in China, the Lao People's Democratic Republic and Viet Nam (Prasad and Mishra, 2001). High levels of education and access to information contribute to great concern for protection of the environment in Europe, and high incomes contribute to willingness to pay for environmental services. Land use is highly regulated and forest clearance is virtually prohibited in most of the region, particularly in Western Europe (FAO, 2009). Due to structural changes in the composition of the European and especially the German society two important tendencies have occurred over the past few years. First, in rural areas the increasing importance of a non-agricultural income has provoked a loss of identification with the use of lands – especially with the traditional forest use. On the other hand, particularly in urban areas, the interest in influencing political decision making concerning the sustainable use of lands – or even a protection against any human use – is stronger even before (Fürst, et al., 2004). Balancing the economic forces of markets and the growing public demand for environmental and social services of forests will remain the major challenge. High labour costs and the complexity of managing many small fragmented forests make it difficult to meet the high forest management standards, reducing the economic viability of forest management in many countries, especially in Western Europe. However, in countries with lower incomes, environment and sustainability issues will be a low priority and unsustainable use of forests could continue (FAO, 2009).

Preliminary comparison of Finland, Norway, Sweden, and the United States support a conclusion of forests and forestry as an important sector for cultural traditions and in the national economies (Lindstad, 2002). Family forests represent the largest proportion of forestland within the United States; revenue from timber management is insufficient at covering property taxes and that application of measures such as the sale of conservation easements will be critical in maintaining the viability of forest ownership (D'Amato, 2010). Political and administrative traditions, which differ between and within the two countries, influence the public opinion of appropriate policy measures. Long traditions of watershed management and other public values in Western forests generally make people, including NIPF owners, less hostile about regulations. On the contrary, Norway, with a share of privately owned forests similar to that in the Southern United States, has regulations more similar to the Western United States (Lindstad, 2002). In times of resource scarcity or when demand exceeds biologically sound harvest levels, subsistence would have a

priority over other consumptive uses of resources. In practice, this means that commercial, sport, or other harvests would be curtailed by state or federal fish and wildlife management authorities before subsistence harvests would be limited (Pilz et al., 2006).

Population density in Asia varies enormously, from fewer than 2 people/km² in Mongolia to more than 1000 people/km² in Bangladesh and to more than 6300 people/km² in completely urban Singapore. With poverty more pervasive in forested areas, many people depend in large part on forests for their livelihood. In most developing countries in the region, the manufacturing and services sectors are growing rapidly, with a corresponding decline in the share of agriculture in income and employment (UN, 2006a; FAO, 2007b in FAO, 2009). Conflicts disrupt forest management in several countries, and these could escalate as pressures on natural resources increase, especially if effective institutional arrangements are not in place to resolve them (FAO, 2009). Investments in biotechnology, nanotechnology, information and communications and alternative energy technologies will all have important impacts on forestry (FAO, 2009).

Increasing global and regional demand for food, fuel and fibre, especially from rapidly industrializing countries, could be either an opportunity or a challenge depending on the state of governance and institutional development (FAO, 2009). Considering the two dominant development paths – rapid economic growth through industrialization and agriculture remaining the mainstay of livelihoods – forest loss is likely to continue in most countries in the next two decades at more or less the current rates. In addition, in the more populous countries, especially those in South Asia, forest degradation will be a major problem, stemming from unsustainable collection of wood and nonwood forest products and from grazing (FAO, 2009).

In low-income countries, enterprises based on NTFPs are generally more useful to disadvantageous groups and women. They diversify opportunities for gainful employment and income generation and therefore hold potential for rural poverty alleviation (Prasad and Mishra, 2001), consequently policies for adaptation to climate change should take into account the role of these services in increasing the resilience of society (Vignola et al., 2009). The poorest households generally have the highest degree of reliance on forest products for income and food, as they have the least access to cultivable land and so supplement their production with the gathering of forest products on common-property forest lands (lands that are owned and managed collectively) or open-access forest lands (lands that have no effective collective or private ownership status) (Reddy and Chakravarty, 1999; Jodha, 1990 quoted by Lipper, 2000).

Of particular interest to forestry in Latin America are: decentralization, particularly recognition of the rights of local and indigenous communities to manage natural resources; greater private investment in managing natural and planted forests; substantial incentives contributing to the rapid growth of planted forests, including low-interest loans and tax breaks; the growing role of local, national and international civil-society organizations in forest issues, including rights for indigenous communities, forest certification and combating illegal logging and forest clearance – with special focus on Amazon forests owing to their global significance for biodiversity conservation and climate change mitigation (FAO, 2009). South America that remains dependent on natural resources will continue to lose forests to large-scale industrial agriculture and cattle ranching as long as these remain competitive. New planted forests for industrial uses, especially in Argentina, Uruguay and potentially Colombia, may partially offset the loss of natural forests, although not in ecological terms (FAO, 2009). Natural production forests are largely managed through long-term private concessions of up to 200 000 ha in Bolivia, Guyana and Suriname; medium-sized concessions in Guatemala, Peru and the Bolivarian Republic of Venezuela; and small-scale concessions in Colombia, Ecuador, Honduras and Trinidad and Tobago (ITTO, 2006 in FAO, 2009). As economies grow and urbanize and more lucrative income-earning opportunities become available, dependence on NWFPs for subsistence is expected to decline. The region has been a pioneer in implementing payment for watershed services, however, wider adoption will depend on overcoming some obstacles as ill-defined property rights; farmers' fears that their resources will be expropriated; distrust of privatization of water supply; and inadequate information on the technical linkage

between upstream land use and downstream benefits (Dillaha et al., 2007 in FAO, 2009). In both developed and under developing countries, the utilization of NTFP can extend the range of benefits from the forests and so provide further justification for their conservation (Prasad and Mishra, 2001); forests are no longer seen solely as economic development engines, but also as important protectors of ecosystems, watersheds, endangered and threatened species, and homes for endangered cultures and rural communities (Teeter et al., 2003).

4. Reasons why changes in forest ownership structure may be beneficial for Moldova

In Moldova in the beginning of 19th century the majority of the forests were owned already by monasteries, boyars, and free peasants, while the state was practically absent in the forest property statistics (Giurgiu, 2000 quoted by Gulca, 2006b). State became forests holder after annexation of Basarabia to the Russian Empire in 1812 year, when primeval oak forests (state property) were logged for the development of Russian Marine in the Black See (Vrangel, 1841 quoted by Tkacenco, 1961). Vegetative regeneration, pasturing and illegal cutting were predominated in mentioned oak forests. According to the first forest planning mentioned by Postolache (1995), realised during 1860-1861 years, forest ownership comprised monasteries (15,9%), boyars and free peasants (76,1%), Bulgarian colonists (0,1%), and state (7,9%). From 241 830 ha private forests in 1861 year (Cij, 1864 quoted by Tkacenco, 1961) until 1919 year were remained only 187 460 ha (Sabau, 1931, quoted by Tkacenco, 1961). In the base of aforesaid we suppose that in the beginning of 19th century, state encourage or even provokes forests devastation by expropriation and personal ravaged logging. The vulnerability of this territory, including of the forests, was also aggravated by border situation of Basarabia on empires and as consequence as matter of territorial conflicts continuing until nowadays. We almost convinced that governments were not interested to make big investments in the borders of empires, and local people, as consequence, had not confidence to refrain from a part of actual (in many cases vital necessary) natural benefits in favour of next generations (Gulca, 2006a).

In the 1918-year Council of Basarabia voted the Law about agrarian reform, through which was disposed expropriation (without any compensation) of the 160000 ha forests (Goga, 1923 cited by Tudoran, 2001,a) belonged to big landholders (boyars). State took predestined forests for expropriation in its property on 1 September 1921, but expropriation works were finished merely in 1923 year. The 813 bodies of expropriated forests, which covered 165031 ha, remained in the hands of previous owners until 1923 year. Private holders (in the course to lose forests) felled immense areas of mature forests, seeking to realize a last profit. Hence the law regarding agricultural reform expropriated completely private forests, and provoked another wave of forest devastation. Until January 1, 1925 were expropriated 198405 ha of forests and glades (Antonescu, 1926 quoted by Tudoran, 2001,a). Concerning to statistics from 1925 year the state held 213 898 ha of forests, than 20 306 ha belonged to private owners (Tudoran, 2001, b). According to Dinu, (1939) cited by Giurgiu, (2000), the monastery and foreign forest holders leaved the Basarabia after union with Romania, as consequence these forests were expropriated. According to this author this measure was justified by lack of the forest in the most weak afforested area of Romania and this is the reason because now in Moldova is not mooted the problem of forest restitution to past holders. Colpaci, 1940 cited by Tudoran, 2001a, mentioned that expropriation from 1918-year was a wise measure because saved forests form the certain death, and also led to afforestation of 30 000 ha during next years. We have another point of view. Analyzing the history of Moldova during the last 2000 years it is difficult to find at least 50 years without war, invasion, domination or deportation. Only during last 200 years this territory changed state affiliation about seven times. Government of Moldova was changed more than seven times in last 15 years with shifting of state forest authority through Forest Ministry, Department of Environment, Ministry of Agriculture, State Forest Service, and actually as State Forest Agency for Forestry. We hypothesize that during this non-stop historic modification the state monopoly over forests is not justified even for the state in case it is interested in this land.

The period after Second World War was characterized by entire state property over forests and a planned economy as the basis of rational use of forests. According to the Forest Code of Moldova from June 7 1979, management of state forests was realised by forestry enterprises of Forest Ministry; management of cities forests - by parties organisations; management of kolkhoz (collective farm) - by kolkhoz under Agricultural Ministry administration; control was ensured by Soviet of popular deputies and state forestry authorities. Although the goal of state forestry authorities during period of 1977-1987 was to bring the forest cover of Moldova to 500 000 ha (15%) it is still stipulated in today strategies of SFM and biodiversity with date limit for 2025 year.

A period from the beginning of 90-ies is marked as "transition". During 1991-1996 period the volume of illicit cutting constituted 1.27 ml cubic meters; damage constituted at least 70 ml $. As the illegal logging became a mass phenomenon, the Government approved in 1994 a Law "With regard to emergency state of forest and hunting funds in Moldova". Because state had been dropping the reins over forests, government adopted on the proposal of the state forest authority, Decision No. 595 from 29 October 1996, "With regard to improve financial administration of the forests and protection of green areas", which stipulates transferring of all forests into the administration of the state forestry authority. This task was one of the sorest subjects during last decade for forest, environmental, and local administrative state authorities. Hence, about 20320 ha of forests have been transferred to the state (Vdovii, 1997), but in some cases these forests were logged illegally by all villages as sign of protest against mentioned decision. Although the same task had the special government decision of Moldova in 1960 year (Kravciuc, 1966), until nowadays transferring issue is a sorest subject for forest stakeholders. We are convinced that this was a wrong decision and must be abrogated, because it leaved rural people behind the SFM (Gulca, 2006b).

5. Use of privately owned and managed forests as a new management framework

There are numerous cultural, historical and political challenges that need to be overcome in order to develop a viable multifunctional forestry program in Moldova. We hypothesised that the forest use histories as reflected in ownership pattern and forest area affected the sustainable forest management (SFM). However, the opportunities are equally great as the challenges, and the development of a SFM for Moldova can result in economic independence, security, and social health for future generations (Gulca, 2009). In this context would be useful the idea of "conservation through wise use", advanced by Theodore Roosevelt and Gifford Pinchot in 1910. According to Roosevelt's (Leopold, 1986) all these "outdoor" resources were recognised as one integral whole, their "conservation through wise use" was recognised as public responsibility, and their private ownership as a public trust, while science was recognised as a tool for discharging that responsibility.

Taking in consideration that all forests economically based on firewood are owned by public, but with a part of them utilised by community for grazing and hay collecting (for insignificant payment), we suppose that in Moldova we have a combination between nonindustrial but state forestry, agroforestry and community forest. In this context, from point of view of fragmentation, size of forest bodies, principal forest benefits we have small-scale forestry, while from the point of view of monopolistic system and hierarchical structure this is large-scale forestry. Because of this incompatible management forest practices could not have great potential to produce a wide range of forest products, to create sustainable livelihoods and to contribute to a stable and diversified local economy. As there is a great demand in Moldova to afforest 130 000 ha on public barren lands we suggest that the same results of management incompatibility and low efficiency will be in the future.

Sekot (2001) quoted by Harrison et al., (2002) presented a definition of "small-scale farm forestry" in Austria as "a private forest holding of between 1 and 200 hectares where the proprietor is a normal (and not juristic) person". In Finland, Sweden and Norway "family forestry" has a long tradition with typical size of private forest holdings from 25 to 40 ha. In Germany, like elsewhere in

German speaking areas in Europe (Germany, Austria, Switzerland), the size of private forest holdings varies considerably. On the one hand, there exists a number of forest holdings of less than 5 ha (36% of forest land), while on the other hand, 29% of forest land belong to farms of more than 1000 ha (Nain 1998 quoted by Harrison et al., 2002). In Central and Eastern Europe (CEE), it is expected that, after the privatisation process, on average approximately 35-40% of forest land will be privately owned. Most of the holdings will be of only 2-3 ha in size. Japan has a long history of family owned forests, some dating back more than 300 years. Some unique and very high value products are produced, e.g. feature poles used in living areas. According to Ota (2001) quoted by Harrison et al., (2002), nearly 90% of forest holdings are less than 2 ha, and the national average for the area of forest owned in 2.7 ha. In Australia, the term 'farm forestry' is widely used, and woodlots are common on commercial and lifestyle farms in the higher rainfall coastal areas. Over recent years, the rate of increase in private plantings has greatly exceeded that of government plantations (Herbohn 2001 quoted by Harrison et al., 2002). The term 'agroforestry' is sometimes used to describe these plantings. The logic behind this use of the term is that forestry is integrated into the farm business, generating revenue and environmental services which complement other enterprises on the farm. The term 'farm forestry' is also widely used in New Zealand. In India, planted trees have been divided into eight classes: farm forestry; village woodlots; block plantations, road, pond, rail and canal side plantations; and others (collectively social and farm forestry). Block plantations are defined as compact plantings of more than 0.1 ha on private or government land, while farm forestry includes patches of up to 0.1 ha on private land. Some of these plantings are what can be called very small-scale forestry, i.e. a few trees along a fence line or canal. Following extensive deforestation in the Philippines, and concern over environmental impacts, the Forest Management Bureau of the Department of Environment and Natural Resources has actively promoted reforestation. The initial emphasis was on industrial forestry, but in recent years the focus has switched to farm and community forestry. In Southern Africa, most countries are characterized by rural production systems and cultures, where small-scale agriculture provides a major livelihood. Forests are more generally publicly owned, or under community management. In Zimbabwe, for example, the state owns 12% of the total land area whereas communities own more than 40% on the basis of former Tribal Trust agreements (Tyynelä and Niskanen 2000 quoted by Harrison et al., 2002).

In this context with a goal to apply some forest management modes and practices from other countries to Moldova we would suggest a combination between patches of up to 0.1 ha on private land in India, switched focus to farm and community forestry in Philippines and increasing involvement of the private sector in China. Of course the direction should be hold to Japan, Finland, Sweden and Norway modes including proportion between private and public forests. Consequently small-scale forestry in Moldova in perspective will be characterized by extensive local involvement in close to home forest management, and local control of forest stewardship. Small-scale forest practices will have great potential to produce a wide range of forest products, create sustainable livelihoods, contribute to a stable and diversified local economy, and generate environmentally friendly landscape values.

Opportunity to convert marginal private agricultural land into more productive forestland

Developing sustainable energy from forest biomass presents both opportunities and challenges for the future generations of Moldova. Located in the southeastern part of Europe between Ukraine and Romania, Moldova is a relatively poor country with limited natural resources compared with other developing European countries such as Albania or Bosnia. This lack of fossil fuels (natural gas, oil and coal) has resulted in a strong economical and political dependence on large neighboring countries including Russia and Ukraine. Historically, agriculture has been the dominant land use, however, poor land practices has degraded some of the formerly richest soils in the world to a greatly diminished economy in Moldova with few alternatives. The development of a forest biomass and energy industry based on forest resources could diversify and greatly improve the economy.

Forest products and natural resources have had significant and positive effects on the economies of other countries in Europe. In Sweden, for instance, it was the development of mining, forest and hydroelectric industries from indigenous raw material that enabled Sweden to become a modern industrial nation. Denmark may soon become the world leader in straw combustion and Norway is developing a robust wood pellets industry. Developing a bioenergy program for Moldova based on forest biomass may provide a similar strategy that could greatly improve the economy of Moldova. This strategy would encourage farmers to invest money, land and time in commercial forestry practices aimed at developing a bio-energy economy. The development of a bio-energy program for Moldova could result in economic independence, security, and social health for future generations.

Moldova is a net energy importer, with only 3% of demand for primary energy covered by domestic sources. The total consumption of primary energetic resources (e.g. 6,5 million tones in 2004), could be provided by 20 million m³ of forest biomass. To meet energy demands, harvesting an average of 250-350 m³ from 55-77 thousand ha of forests would be required. By also improving the production from biomass plantations and using other renewable resources of energy such as sun, wind, water we could reduce the forest area to 30-40 thousand ha. Using forest rotation age of 15-20 years, then we would need to convert approximately 450-800 thousand ha into biomass energy plantations. This may be difficult to achieve but creating forest land for biomass and energy production from private lands would create diverse economic opportunities for private landowners and include forestry along with agriculture and livestock that is more sustainable (Gulca and Deal, 2010).

6. Services of public forestry sector for private forestry

Services of public forest sector for private forestry are provided to achieve quality land management under the sustainable yield multiple-use management concept to meet the diverse needs of people. These include:

- Advocating a conservation ethic in promoting the health, productivity, diversity, and beauty of the forests and associated lands.
- Listening to people and responding to their diverse needs in making decisions.
- Protecting and managing the national forests and grasslands so they best demonstrate the sustainable yield multiple-use management concept.
- Providing technical and financial assistance to State and private forest landowners, encouraging them to practice good stewardship and quality land management in meeting their specific objectives.
- Providing technical and financial assistance to cities and communities to improve their natural environment by planting trees and caring for their forests.
- Providing international technical assistance and scientific exchanges to sustain and enhance global resources and to encourage quality land management.
- Helping state and communities to wisely use forests to promote economic development and quality environment.
- Developing and providing technical knowledge aimed at improving our capability to protect, manage, and use forests and rangelands.
- Providing work, training, and education to the unemployed, underemployed, elderly, youth, and disadvantaged.

7. Recommendations to integrate public and private forestry sectors

From a global perspective, the change we need is overwhelming and people at times in the north don't know how to react to that, it makes you feel hopeless in your little corner of the world. But we need to do small things at the community level and to meaningfully incorporate and truly listen to all levels of knowledge. The knowledge we get from western science, local people and aboriginal people, when combined, is very powerful and respected (Wolfrum, 2009). The rural development worker essentially said that forestry affects many more people than just those who own the land and, that being the case, forestry decisions should be made in consultation with larger community (Blackmon, 2010). The Millennium Assessment asks us to think holistically about natural

resources, to evaluate the varied services they offer, and to acknowledge that intelligent resource management involves trade-offs. For example, protecting a forest may cost revenue from logging and other extractive industries, but those losses can be offset by improved ecosystem services such as flood control, and improved water quality (MEA, 2007).

First National Forest Development Plan (NFDP) (1973-1978) focusing on reforestation of denuded forestlands become a turning point in the history of Korean forestry. Various groups were encouraged to participate in the reforestation program. During the second NFDP (1979-1987) the primary objective in establishing large-scale commercial forest zones was to provide for long-term timber supply. The third NFDP was implemented with the objective of using forest resources sustainably and efficiently through increased economic value and improved public benefits from the forests. Under the forth 10-Year Forest Development Plan (1998 to 2007) Korean Forest Society put special emphasis on developing valuable forest resources, fostering competitiveness in the forest industry and enhancing forest health and vitality for the people. The objectives of the Fifth NFDP (2008-2017) are to recognize the economic value of forest resources, to protect the health of forests as environmental resources and to provide recreation areas in forests for the people (Lee, 2010).

Farm forestry is expected to continue to expand in many Asian countries, particularly Bangladesh, Indonesia, the Philippines, Sri Lanka and certain parts of India as a result of: improving security of land tenure; declining profitability of agriculture, which encourages farmers to invest in forest crops (which are less labour-intensive than agriculture); increasing demand for wood products and consequent increases in their prices, making farm forestry more profitable (FAO, 2009). The following guiding principles according to Janowiak and Webster (2010), can be incorporated in into biomass management activities: increase extent of forestland where feasible, adapt management to site conditions, retain organic legacies for soil productivity, retain deadwood and structural heterogeneity for biodiversity, evaluate role of fertilization and wood ash recycling, use biomass harvest as a tool for ecosystem restoration.

To encourage, facilitate and support the sustainable utilization of NTFP on Northern Vancouver Island and the Central Coast of British Columbia, Mt. Waddington NTFP Innovation Centre has identified five priority areas: business development, research and information development, training and education, community development/discussion forum, coordination of First Nations' interests, Center for Nontimber resources (Mitchell, 2004). The possible adaptation strategies to cope with the adverse effect of climate change for forest conservation, sustainable forest management practices, and rural development are use of NTFP, water harvesting by means of digging and drilling for drinking water, distress mitigation, formation of self-help groups in micro finance group, and agro-forestry (Basu, 2010). Possible strategies include forestation with species adapted to drought conditions and shelterbelt systems. These plantations may improve local climatic conditions for tree growth and agriculture by reducing evapotranspiration, enhancing water retention in soils, and decreasing wind speed (Ogievskii, 1974 quoted by Krankina et al., 1997). Exploring the potential for payments for ecosystem services could become a new economic opportunity for forest landowners and help to maintain working forestland in the region (Brooke, 2009).

The recognition and role of a supreme power are important for a developing country when dealing with resources like forests where direct benefits are less then externality. In this respect, the strong leadership of the then supreme power worked as a very important factor that brought success to large-scale reforestation. Although it was a top-down project that the President Park was personally involved, the program was implemented voluntarily by each villager. About 94% of total planting area was concentrated on private forests with more degraded lands (Lee, 2010). Collaborative methods such as public involvement processes, conferences, stakeholder meetings, community coordination, consultation with tribes, and marketing associations are all effective means to seek this common goal (Pilz et al., 2006). Communicating the importance and nature of effective institutions, determining methods for application of technical skills, and developing an

understanding that efforts to effect change in forest conditions in developing countries may need to focus attention on policies outside the traditional domain of the forest sector and forest policy, role for private ownership and management, the importance of free markets, public participation in federal, state, and local resource management (Brooks, 1993).

Discussion

The Swiss population's conception of the forest has changed radically, even in the mountain regions. Whereas it was once seen as an important source of raw material and income and as a shield against natural hazards, today it is frequently viewed as an amenity area, even by local residents. However, the importance of the protection function of mountain forests has actually increased due to the spread of settlement areas and proliferation of transport routes (Rey, 2007). At an appropriate time, the right people involved with the right organization can merge with a forest resource issue to form unique circumstances capable of fostering placement of the issue on an institutional agenda (Ellefson, 1992).

The action against the forces of nature required not only solidarity between upstream and downstream populations, but also financial commitment on all levels of the state (Rey and Jordy, 2007). It is important to make people aware of this natural hazard and to prepare as well as possible for its occurrence (Mühlberger de Preux, 2007). The population, buildings and important infrastructure can only be protected effectively if Swiss society does not ignore existing natural risks but deals with them in a focused and targeted way, quantifies them systematically and, as a result, reduces the potential for damage (Götz, 2010).

In some cases, management policies emphasize one good or service at the expense of others. For example, the management of designated forest wilderness precludes the production of timber (Ellefson, 1992). Wagner (2004) quoted by Fürst, et al. (2004), suggested that some functions like the provision of drinking water with high quality and the production of a high timber volume can exclude each other. Forestry benefits and the manner in which they are produced may be inadequate from a broader social perspective. Such circumstances include the incidence of public goods, externalities, monopolies and oligopolies, distributional inequities, information inadequacies (Gregory, 1987 quoted by Ellefson, 1992). Better knowledge of responses to former changes and expectations about the future could provide important information in developing effective measures to meet new policy goals (Lindstad, 2002). The yew was once a "weed tree," cleared as trash before the discovery of the importance of taxol found in its bark. The tree was then important for saving lives and was treated with new respect (Bonar, 2007). Although harvest of NTFPs is prevalent in Pacific coast forests, relatively little is known about their overall abundance or how they are affected by different land management practices. It is also not clear whether current levels of harvesting are sustainable or whether they are negatively affecting the resources (Everett, 1997 quoted by Donnegan et al., 2008). While there is considerable uncertainty about how the situation will unfold in the coming years, the crisis could also provide an opportunity to chart a new path for the development of the forest sector (Heino, 2009). There is also the need to improve the understanding of how different parts are functioning together (e.g. ecosystem or landscape approach in planning, and interactions between production of wildlife and timber) (Lindstad, 2002).

The most important lesson from the Korean experience may be that the restoration of denuded forest lands and forest protection is not an obstacle to economic development but instead a catalyst to the economic development. Through the forest restoration policy, other sectors such as agriculture and industries could be stabilized simultaneously. However, the developing countries should deliberate the unique Korean social system in order to adopt the Korean model. Korean people believe they are one ethnic group as a Korean, so that the national identity is very strong (Lee, 2010). Why is it so important for the various language regions to be appropriately represented in the federal government? Because it is a matter no less than our country's cohesion, it is about living together and not just alongside one another; in short, it is about our identity. For it is the will to continue on our chosen path together, in spite of linguistic and cultural differences, that is the defining feature of Switzerland. But solidarity is not only needed with our linguistic minorities, it

has to be applied in all situations. Solidarity is particularly important in economically difficult times. Personal responsibility is of course crucial, but it is only united that we are strong. It is essential that we stand together and jointly search for solutions to achieve our objectives (Casanova, 2010).

People must understand the importance of sacrificing in the present, trust others to also engage in differential behavior, and believe that conservation practices are the right thing to do. These conditions are generally assured by local social systems, in which people share knowledge and concern for a geographic territory, interact regularly, share moral and ethical principles, and believe such community life will persist into the future (Field and Lee, 2005). Campaigns will be conducted to raise public awareness and achieve social consensus on the necessity of green growth. This campaign is expected to induce the voluntary participation of citizens to make it the social norm to adopt environment-conscious, "green" lifestyles (GGK, 2009). It is important that effective and efficient policies, outreach, and services be provided to help the current owners achieve their goals, the new owners meet their objectives, and society to continue to receive the goods and services we have come to expect and rely on (Smith, 2007). Here only a clear analysis of the actual natural and societal situation as well as an open communication of the economic consequences of such aims will help to preclude mutual misunderstanding and to find the path for a viable forestry of the 21st century (Fürst, et al., 2004).

Conclusions

In order to integrate public and private forestry sectors in Moldova, main objectives and actions are proposed:

- to promote and practice as large as possible multifunctional and deep forestry (furniture, pulp, timber, firewood, bio-energy, hunting, mushrooms, tourism, etc);
- to encourage creation of new private forests and to create demand in all spectrum of forestry products (wood, pulp, bioenergy, mushrooms, game, medicinal herbs, berries, recreation);
- to elaborate the incentives key factors for restoration of private forests;
- rural people should be empowered with the "seven rights": the right to knowledge; to speak out, to decide, to implement, to manage, to use and to own forests;
- introduction of a compensation system due to the restrictions of forest utilization in new established protected areas;
- integration of private forestry development into the general rural development programs;
- to balance private property rights and public values.

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Comparative analysis of the legal aspects of the Tarapoto Process and the Helsinki Process

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1. Introduction

In the world there are several processes for building Criteria and Indicators for Sustainable Forest Management. The development of these Criteria and Indicators began in 1992, as a result of the United Nations Conference on Environment and Development in 1992.[2] Around this time nine such processes started in the world[3], the names of which are listed together with the years of their launch in Table 1.

Table 1. The nine processes for building Criteria and Indicators for Sustainable Forest Management that were launched between 1992 and 1999[4]

Year	Process
1992	ITTO (International Tropical Timber Organization) Process
1994	Pan-European Forest Process or Helsinki Process
1995	Montreal Process Tarapoto Process[5] Dry-Zone African Process
1996	ATO (African Timber Organization) Process Near East Process
1997	Lepaterique Process of Central America
1999	Dry Forests in Asia Initiative

The main objectives of these processes are: a) to support the monitoring of the changes in the condition and output of goods and services from forest and b) to help in the definition of sustainable forest management.[6]

The processes have different levels of development and are at different stages[7]: some of them have reports with the information collected through the application of the Criteria and Indicators (ITTO Process, Helsinki Process) and others are validating selected indicators (Tarapoto Process).

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[2] Raison, R. John; Flinn, David W.; Brown, Alan G. (2001): Application of Criteria and Indicators to Support Sustainable Forest Management: Some Key Issues. In: Raison, R. John; Brown, Alan G.; Flinn, David W. (Ed.): Criteria and Indicators for Sustainable Forest Management. Wallingford, New York: CABI Publishing (IUFRO Research Series 7), pp. 5–18. Page 6.

[3] Anonymus (2003): Criterios e indicadores para la ordenación forestal sostenible: visión de conjunto sobre progresos y problemas. In: Conferencia Internacional sobre Criterios e Indicadores para la Ordenación Forestal Sostenible: Camino a seguir. Ciudad de Guatemala, 3 a 7 de febrero de 2003. Borrador Final (unpublished final draft), pp. 1–30. Page 1.

[4] Ibidem.

[5] Until 2002 the process was called "Tarapoto Proposal", it became "Tarapoto Process" with the Resolution RES/VII MRE-TCA/7 of November 2002. See: Secretaría Pro Tempore del Tratado de Cooperación Amazónica (2002): Base jurídica del Tratado de Cooperación Amazónica. Antecedentes constitutivos de la Organización del Tratado de Cooperación Amazónica -OTCA-. La Paz - Bolivia: Producciones Cima. http:// www.otca.info/ portal/admin/ _upload/publicacoes/SPT-TCA-BOL-SN_BJ.pdf. Pages 161–162.

[6] Raison, R. John; Flinn, David W.; Brown, Alan G. (2001): Application of Criteria and Indicators to Support Sustainable Forest Management: Some Key Issues. In: Raison, R. John; Brown, Alan G.; Flinn, David W. (Ed.): Criteria and Indicators for Sustainable Forest Management. Wallingford, New York: CABI Publishing (IUFRO Research Series 7), pp. 5–18. Page 5.

[7] Rametsteiner, Ewald (2007): Opportunities to Create Synergy among the C&I Processes Specific to the Topic of Harmonization. In: Ministerial Conference on the Protection of Forests in Europe (Ed.): Inter-Criteria and Indicators (C&I) Process Collaboration Workshop. 8–10 June, 2006. Bialowieza, Poland. Report. A collaborative effort by the International Tropical Timber Organization (ITTO), the Ministerial Conference on the Protection of Forests in Europe (MCPFE), the Montreal Process, the Food and Agriculture Organization of the UN (FAO), the UN Economic Commission for Europe (UNECE) and the U.S. Forest Service. Warszawa: MCPFE Liaison Unit Warsaw, pp. 15–29. Pages 16–18.

Until now these processes have achieved that the member countries agree on a set of Criteria and Indicators that they consider most important for evaluating the progress towards sustainable forest management, these Criteria and Indicators contain elements that should be included in a definition of sustainable forest management.

In this way it is possible to build different definitions of sustainable forest management and therefore every process could theoretically have its own definition. There are also investigations on the points that these processes have in common[8], and there are meetings for improving the cooperation between them[9].

The objective of monitoring the changes in the forest has not been reached completely in any process, but partly in those processes where the countries have reported more than one time according to the processes criteria and indicators[10].

Some of the Criteria and Indicators in these processes are about legal aspects. In this article I will focus on the Tarapoto Process and the Helsinki Process because both processes began almost at the same time and are based on intergovernmental agreements, but have different conditions for their implementation.

I think that it is interesting to know which legal aspects are included in the Criteria and Indicators of the Tarapoto Prozess and the Helsinki Process because that gives us information about which legal aspects these processes consider most important for the implementation of sustainable forest management.

I will also compare the results of the countries reports about the indicators related to legal issues (qualitative indicators) in the last MCPFE report "State of Europe s Forests 2007" with equivalent information of the Tarapoto Process.

As until now no country reports have been produced in the Tarapoto Process, I will use the results of a project for analyzing the forest legislation of the countries of the Amazonian region (Proyecto ALFA[11]). This project worked out information about the difficulties in applying the forest laws in the Amazonian countries. The structure of the countries reports drawn up for the ALFA project follows partly the structure given by the system of Criteria and Indicators of the Tarapoto Process. It is therefore possible to use some of these data as reference information on one of the legal aspects pointed out in the Tarapoto Process.

2. Overview of the development of both processes

The Pan-European Process or Helsinki Process is conducted by the Ministerial Conference on the Protection of Forests in Europe – MCPFE and includes the 46 member countries of the MCPFE, its scope is the forest of these 46 countries. Besides, the Ministerial Conference develops common strategies for the sustainable management of the European forests.

The Tarapoto Process is led by the Amazon Cooperation Treaty Organisation – ACTO, all member countries of the Amazon Cooperation Treaty (8 countries) are involved in this process, the scope is the Amazonian forest. The overall goal of the Amazon Cooperation Treaty is the harmonic

[8] Anonymus (2003): Criterios e indicadores para la ordenación forestal sostenible: visión de conjunto sobre progresos y problemas. In: Conferencia Internacional sobre Criterios e Indicadores para la Ordenación Forestal Sostenible: Camino a seguir. Ciudad de Guatemala, 3 a 7 de febrero de 2003. Borrador Final (unpublished final draft), pp. 1–30. Anexo 3.

Rametsteiner, Ewald (2001): SFM Indicators as Tools in Political and Economic Contexts: Actual and Potential Roles. In: Raison, R. John; Brown, Alan G.; Flinn, David W. (Ed.): Criteria and Indicators for Sustainable Forest Management. Wallingford, New York: CABI Publishing (IUFRO Research Series 7), pp.107–130. Page 116.

[9] Examples for such meetings are the "Conferencia Internacional sobre Criterios e Indicadores para la Ordenación Forestal Sostenible: Camino a seguir" held in Guatemala in 2003 and the "Inter-Criteria and Indicators (C&I) Process Collaboration Workshop" held in Poland in 2006.

[10] This is the case for example in the ITTO Process and the Helsinki Process.

[11] ALFA: Análisis preliminar de la aplicación de la legislación forestal en la cuenca amazónica.

development of the Amazon Basin[12], we can therefore find in its framework several projects and processes oriented to the sustainable development of the Amazonian forest.

In the Tarapoto Process as well as in the Helsinki Process we can distinguish two phases: the first one is the process for obtaining the Criteria and Indicators, the second one is the improvement of the Criteria and Indicators.

2.1. Phase 1: defining the criteria and indicators

The Helsinki Process has an important basis in the Resolution H1[13] adopted at the Second Ministerial Conference on the Protection of Forests in Europe in Helsinki in 1993; this was the first time that a whole MCPFE resolution referred to the sustainable forest management.

Later on, two Expert Level Follow-Up Meetings of the Helsinki Conference held in 1994 and 1995 worked out and adopted a first set of Pan-European Criteria and Indicators for Sustainable Forest Management that was approved by the Third Ministerial Conference with Resolution L2[14] in Lisbon in 1998.

The Tarapoto Proposal began with a regional workshop organized by the Secretariat Pro Tempore of the Amazon Cooperation Treaty for discussing about the possibility of having Criteria and Indicators for Sustainable Forest Management in the Amazonian region. The Tarapoto Proposal was the result of this workshop; it contained 12 criteria and 77 indicators.

The Tarapoto Proposal was officially supported by the Amazon Cooperation Treaty in the Fifth Meeting of Ministers of Foreign Affairs[15] with the Resolution N° RES/V MRE-TCA/6. Between 1996 and 2000 the member countries organized national consultations about this proposal; in the national meetings authorities, researchers and leaders of indigenous communities participated.

In 2001 the second regional meeting for prioritizing the application of some indicators (8 criteria and 15 indicators) was held and in 2002 the Seventh Meeting of Ministers of Foreign Affairs approved the formal beginning of the Tarapoto Process.

Table 2. Chronology of the process of defining the Criteria and Indicators in the Helsinki Process and the Tarapoto Process

Helsinki Process	Tarapoto Process
1993: Resolution H1: General Guidelines for the Sustainable Management of Forests in Europe[16]	1995: Tarapoto Proposal about Criteria and Indicators for the Sustainability of the Amazonian Forest[17] Resolution N° RES/V MRE-TCA/6 that promotes the adoption of a regional document about Criteria and Indicators for the Sustainability of the Amazonian Forest[18].

[12] Amazon Cooperation Treaty. Article 1. http://www.otca.org.br/en/institucional/index.php?id=29

[13] The full name of the resolution is "Resolution H1: General Guidelines for the Sustainable Management of Forests in Europe".

[14] The full name of the resolution is "Resolution L2: Pan-European Criteria, Indicators and Operational Level Guidelines for Sustainable Forest Management".

[15] The Meeting of Ministers of Foreign Affairs is the highest organ of the Amazon Cooperation Treaty.

[16] Ministerial Conference on the Protection of Forests in Europe Liaison Unit Vienna (2000): General Declarations and Resolutions. Adopted at the Ministerial Conferences on the Protection of Forests in Europe. Strasbourg 1990 – Helsinki 1993 – Lisbon 1998. Vienna, Austria: MCPFE Liaison Unit Vienna. Pages 39–42.

[17] Secretaría Pro Tempore del Tratado de Cooperación Amazónica (1995): Propuesta de Tarapoto sobre criterios e indicadores de sostenibilidad del bosque amazónico. Lima - Perú: Secretaría Pro Tempore del Tratado de Cooperación Amazónica. http://www.otca.info/portal/admin/_upload/publicacoes/SPT-TCA-PER-29.pdf.

[18] Secretaría Pro Tempore del Tratado de Cooperación Amazónica (2002): Base jurídica del Tratado de Cooperación Amazónica. Antecedentes constitutivos de la Organización del Tratado de Cooperación Amazónica -OTCA-. La Paz -

1994: Criteria and Quantitative Indicators adopted by the First Expert Level Follow-Up Meeting of the Helsinki Conference[19]	1996 – 2000: National consultations for selecting the criteria and indicators adequate to the countries that participated in the proposal.
1995: Descriptive Indicators adopted by the Second Expert Level Follow-Up Meeting of the Helsinki Conference[20]	2001: Second regional meeting[21] that prioritized the 15 indicators that the countries should validate.
1998: Resolution L2: Pan-European Criteria, Indicators and Operational Level Guidelines for Sustainable Forest Management[22]	2002: Resolution RES/VII MRE-TCA/7. Formal beginning of the Tarapoto Process[23].

2.2. Phase 2: Improving the criteria and indicators

Not all of the approved criteria and indicators in both processes were applicable, the MCPFE therefore published an improved version of the set of Pan-European Indicators in 2002, this new version was endorsed at the Fourth Ministerial Conference on the Protection of Forests in Europe in Vienna in 2003.

Between 2005 and 2006 the Tarapoto Process conducted again national consultations, this time about the prioritized indicators, in all the member countries for knowing the countries possibilities of getting the information required by the indicators. A third regional meeting for agreeing the future development of this process is expected.

Table 3. Chronology of the process of improving the Criteria and Indicators in the Helsinki Process and the Tarapoto Process

Helsinki Process	Tarapoto Process
2002: Improved Pan-European Indicators for Sustainable Forest Management adopted by the MCPFE Expert Level Meeting on 7–8 October in Vienna[24]	2005 – 2006: National Consultations for validating the fifteen selected indicators in the countries that participate in the process.
2003: The Vienna Living Forest Summit Declaration endorses the use of the "Improved	

Bolivia: Producciones Cima. http://www.otca.info/portal/admin/ _upload/publicacoes/SPT-TCA-BOL-SN_BJ.pdf. Page 93.

[19] Ministerial Conference on the Protection of Forests in Europe Liaison Unit Vienna (2000): General Declarations and Resolutions. Adopted at the Ministerial Conferences on the Protection of Forests in Europe. Strasbourg 1990 – Helsinki 1993 – Lisbon 1998. Vienna, Austria: MCPFE Liaison Unit Vienna. Page 67.

[20] Ibidem.

[21] Secretaría Pro Tempore del Tratado de Cooperación Amazónica (2001): Proceso de Tarapoto sobre criterios e indicadores de sostenibilidad del bosque amazónico. Memorias de la reunión regional realizada en Tarapoto - Perú. 21, 22 y 23 de junio de 2001. La Paz - Bolivia: Producciones CIMA.

[22] Ministerial Conference on the Protection of Forests in Europe Liaison Unit Vienna (2000): General Declarations and Resolutions. Adopted at the Ministerial Conferences on the Protection of Forests in Europe. Strasbourg 1990 – Helsinki 1993 – Lisbon 1998. Vienna, Austria: MCPFE Liaison Unit Vienna. Pages 65–77.

[23] Secretaría Pro Tempore del Tratado de Cooperación Amazónica (2002): Base jurídica del Tratado de Cooperación Amazónica. Antecedentes constitutivos de la Organización del Tratado de Cooperación Amazónica -OTCA-. La Paz - Bolivia: Producciones Cima. http://www.otca.info/portal/admin/ _upload/publicacoes/SPT-TCA-BOL-SN_BJ.pdf. Pages 161–162.

[24] Ministerial Conference on the Protection of Forests in Europe Liaison Unit Vienna (2003): Improved Pan-European Indicators for Sustainable Forests Management as adopted by the MCPFE Expert Level Meeting 7-8 October 2002, Vienna: MCPFE Liaison Unit Vienna. http://www.foresteurope.org/ filestore/foresteurope/Publications/pdf/improved_indicators.pdf

Pan-European Indicators for Sustainable Forest Management"[25]

Parallel to phase 2, the Helsinki Process reached to have country reports, whose results were published two times, the first time in 2003[26] (with results only for the quantitative indicators) and the second time in 2007 (with results for the quantitative and qualitative indicators)[27]. The results of the third reporting on sustainable forest management in the MCPFE member countries will be published this year.

2.3. Evaluation of the development of both processes

While the Helsinki Process reached to have reports on the indicators, the Tarapoto Process has focused on making a participative process through conducting national consultations with stakeholders of different sectors. Besides, both processes have influenced the forest laws of their member countries[28].

If we consider the different conditions under which the two processes were developed, we find that in countries with less conflicts of interests regarding the use of the forest resources it is easier to reach an agreement between the stakeholders. For this reason a process for getting criteria and indicators in the Amazonian region will need more time and more public participation than in other places. In spite of this, the Tarapoto Process must go faster above all because it is necessary to have reliable data for acting against the big loss of forest cover and biodiversity in the Amazonian region.

3. Comparison of the position of the indicators related to legal aspects within the system of Criteria and Indicators of both processes

The improved Pan-European Indicators for Sustainable Forest Management (Helsinki Process)[29] provide information about the situation of the forests at the national level[30], they are divided into the indicators that give information about quantitatively measurable characteristics of the forests (quantitative indicators) and indicators that give information about policies, institutions and instruments (qualitative indicators); we can find information about legal aspects in the qualitative indicators.

The quantitative indicators are classified by six criteria regarding the maintenance of: 1. forest resources, 2. forest ecosystem health, 3. productive functions of forests, 4. biological diversity in

[25] Ministerial Conference on the Protection of Forests in Europe Liaison Unit Vienna (2003): Vienna Declaration and Vienna Resolutions. Adopted at the Fourth Ministerial Conference on the Protection of Forests in Europe. 28-30 April 2003, Vienna, Austria. Vienna, Austria: MCPFE Liaison Unit Vienna. Pages 7–9.

[26] *MCPFE; UNECE/FAO (2003): State of Europe□s Forests 2003. The MCPFE Report on Sustainable Forest Management in Europe. Jointly prepared by the MCPFE Liaison Unit Vienna and UNECE/FAO. Ministerial Conference on the Protection of Forests in Europe Liaison Unit Vienna. Vienna, Austria: MCPFE Liaison Unit Vienna. http://www.foresteurope.org/filestore/foresteurope/ Publications/pdf/forests_2003.pdf*

[27] *MCPFE; UNECE; FAO (2007): State of Europe□s Forests 2007. The MCPFE report on sustainable forest management in Europe. Jointly prepared by the MCPFE Liaison Unit Warsaw, United Nations Economic Commission for Europe and Food and Agriculture Organization of the United Nations. Warsaw, Poland: MCPFE Liaison Unit Warsaw. http://www.foresteurope.org/filestore/foresteurope/ overordnede_dokumenter/State_of_Europes_Forests_2007.pdf*

[28] Ibidem. Pages 116–117.

Presidente de la República Bolivariana de Venezuela: Decreto N° 6.070. Ley de bosques y gestión forestal, del 05 de junio de 2008.

[29] *Ministerial Conference on the Protection of Forests in Europe Liaison Unit Vienna (2003): Improved Pan-European Indicators for Sustainable Forests Management as adopted by the MCPFE Expert Level Meeting 7-8 October 2002, Vienna: MCPFE Liaison Unit Vienna. http://www.foresteurope.org/ filestore/foresteurope/Publications/pdf/improved_indicators.pdf*

[30] For the local level there is the document "Pan-European Operational Level Guidelines for Sustainable Forest Management" as Annex 2 of the Resolution L2.

forests ecosystems, 5. protective functions in forest management and 6. other socio-economic functions and conditions with 35 indicators in total.

The qualitative indicators are classified by two groups:

A. Overall policies, institutions and instruments for sustainable forest management
The indicators under this criterion show a panorama of the current framework for sustainable forest management in every country.[31] Among the five indicators of citerion A we can find two indicators that give information about legal issues: "institutional frameworks" (indicator A.2) and "legal/regulatory frameworks and international commitments" (indicator A.3). In the form for reporting on the MCPFE Qualitative Indicators for Sustainable Forest Management of 2007 information about the main characteristics of the institutional framework, the organizations involved in forest policies, and the coordination mechanisms between these organizations was required in respect of the criterion "institutional frameworks".[32] For the criterion "legal/regulatory frameworks and international commitments" information about the main characteristics of the legal framework, the main forest and sustainable forest management regulatory acts, and the main priorities and measures in international forest related commitments was requested likewise.[33]

B. Policies, institutions and instruments by policy area. There are some policy areas that are especially relevant to the sustainable forest management, for these areas additional information is required. In every of these especially relevant policy areas the member country should report, inter alia, about the main objectives and the main policy instruments used for the achievement of these objectives; some of these policy instruments are legal/regulatory instruments. In the form for reporting on the MCPFE Qualitative Indicators for Sustainable Forest Management of 2007 we can find also the requirement of informing about the main legal or reference documents in every policy area.[34]

The qualitative indicators A.2 and A.3 give only basic information about the general legal structure that regulates the use of the forests and its functioning in every country, but we can have additional and more detailed information about specific legal and regulatory instruments used within the selected policy areas of indicator group B.

The Criteria and Indicators for the Sustainability of the Amazonian Forest (Tarapoto Process)[35] are divided into Criteria and Indicators at three levels: national level, management unit level and global level (that means that the contribution of the Amazonian forest to the sustainability in the world is also considered). We can find indicators with information about legal issues at the national and the management unit level.

- National level

At this level there are three criteria. In the criterion "policies and juridical and institutional framework for the sustainable forest development" we find the indicator "policies and juridical framework for environmental organization through ecological-economic zoning", this indicator

[31] Ministerial Conference on the Protection of Forests in Europe (2003): Background information for improved pan-European indicators for sustainable forest management. Vienna: Liaison Unit Vienna. http:// www.foresteurope.org/filestore/foresteurope/Reporting_on_SFM_2007 / CI_Backgr_Info_03_02_03.pdf. Page 3.

[32] UN Economic Commission for Europe; Food and Agriculture Organization; Ministerial Conference on the Protection of Forests in Europe: Enquiry on the implementation of MCPFE commitments 2007 and Reporting on the MCPFE Qualitative Indicators for Sustainable Forest Management. http://www.foresteurope.org/?module=Files;action=File.getFile;ID=996. Page 7.

[33] Ibidem. Page 8.

[34] Ibidem. Pages 11–22.

[35] Secretaría Pro Tempore del Tratado de Cooperación Amazónica (2001): Proceso de Tarapoto sobre criterios e indicadores de sostenibilidad del bosque amazónico. Memorias de la reunión regional realizada en Tarapoto - Perú. 21, 22 y 23 de junio de 2001. La Paz - Bolivia: Producciones CIMA. Page 114.

points out the importance of the ecological-economic zoning for the sustainable development of the Amazonian region.

- Management unit level

There are four criteria at this level. Here we find two indicators that contain legal issues: The criterion "juridical and institutional framework" includes as indicators "forest managementplan approved by the competent authority" and "periodicity of evaluations of management plan compliance and average compliance percentage".

Both indicators are related to the application of the forest law at the management unit level, this reveals the accomplishment of norms as an important theme for sustainable forest management

At the national level as well as at the management unit level there are criteria about "juridical and institutional framework"; there are also other similar criteria at both levels, like "conservation of forest cover and biodiversity" at the national level and "conservation of forest ecosystems" at the management unit level. Therefore I think that some criteria of both levels are equivalent and that their main difference is the scope of application (national level or management unit level).

Looking at both processes, we can find that the Pan-European Indicators comprise the legal aspects in form of a general overview of the policies, institutions and instruments at national level, and in more detail only in some areas that the process considers important. For countries that make reports for more than one international institution (like FAO and MCPFE) it is therefore possible to use the information gathered for one report also for one or more other ones.

In contrast, the Criteria and Indicators of the Amazonian Forest require legal information only in very specific points and that makes it difficult to use data that were collected within the Tarapoto Process for reporting for other processes. Besides, at the management unit level information about the application of the forest norms is required; these data are not always available in the countries and additional work is necessary for getting it. However, for the Amazonian countries it is very important to get information about the application of the forest norms, especially if we consider the opinion of some researchers[36] who point out the lack of accomplishment of the legal frameworks as one of the biggest difficulties for the sustainable management of the forest in the Amazonian countries.

4. Comparison of the information reported in both processes

The Helsinki Process published a summary of the information received from the member countries in the MCPFE report on sustainable forest management in Europe "State of Europes Forests 2007".[37] In this document there is information about the institutional frameworks and the legal/regulatory frameworks of the member countries, whose key facts I compiled in Table 4.

The Tarapoto Process does not have any country report, but there is information available about one of its management unit indicators as a result of a project for analyzing the forest legislation of the countries of the Amazonian region (Proyecto ALFA)[38]. It should be pointed out that the results of the ALFA project are consultancy documents that were not recognized by all the countries involved

[36] Organización del Tratado de Cooperación Amazónica (2006): Resultados del Taller de la Iniciativa de Aplicación de la Legislación Forestal en la Amazonía - ALFA. Guararema-SP, 29 al 31 de agosto de 2006. Unpublished document. Pages 4, 8, 11 and 12.

[37] MCPFE; UNECE; FAO (2007): State of Europe□s Forests 2007. The MCPFE report on sustainable forest management in Europe. Jointly prepared by the MCPFE Liaison Unit Warsaw, United Nations Economic Commission for Europe and Food and Agriculture Organization of the United Nations. Warsaw, Poland: MCPFE Liaison Unit Warsaw. http:// www.foresteurope.org / filestore / foresteurope / overordnede_dokumenter / State_of_Europes_Forests_2007.pdf. Pages 110–118.

[38] Thiel, Hans; Trelles, Marco (2008): Análisis preliminar de la aplicación de la legislación forestal en la cuenca amazónica, ALFA. Brasilia: Organización del Tratado de Cooperación Amazónica. Unpublished document.

in the process, therefore they are no official documents. For the mentioned lack of country reports from the Tarapoto process, I will use the information of the ALFA project in the following table:

Table 4: Results of the reporting on the indicators related to legal aspects in the Helsinki Process and the Tarapoto Process

Helsinki Process	Tarapoto Process
Qualitative indicators	Management unit level
A. Overall policies, institutions and instruments for sustainable forest management	Criterion: Juridical and institutional framework
A2. Institutional frameworks - In more that two-thirds of countries, forest policy is directed mainly by central government administrations. - State forests are increasingly managed by separate bodies, which is the current model used in about two-thirds of countries reporting. - Reorganization of forest research is mainly undertaken with a view to create larger research units by merging institutions. - Coordination and consultation mechanisms are still rare.	Indicator a: Forest management plan approved by the competent authority[39] The countries have different levels of forest management in their forest laws according to the size of the place, the type of product (wood product or non-wood product), or the people that make the extraction (it can be an enterprise or an indigenous community); in every case the countries require different types of forest management plans. In all the countries involved in the process it is required that a forest management plan is approved by the competent authority for the logging in big areas. Two of the eight countries that are part of the process do not ask the indigenous communities for management plans.[40]
A3. Legal/regulatory frameworks and international commitments - Since 2003, more than one-quarter of the reporting countries have adopted new forest laws. - In almost all countries, forest related laws or regulations were amended, with many changes in particular in Central and Eastern European Countries - New and revised forests laws incorporate the principles of sustainable forest management as defined by MCPFE - Most MCPFE countries have ratified or signed the major regional and global forest-related commitments. - Many but not all countries periodically report on the implementation of commitments.[41]	

According to the indicators, the information collected in the Helsinki Process gives an overview of the forest institutions and some characteristics of their forest laws including their last changes. Even if this is still general information, this is a good starting-point for analyzing the development of the forest norms and the institutional framework.

In the Tarapoto Process, following the results of the ALFA project, we find different levels of forest management with different types of forest management plans including a category for the

[39] Secretaría Pro Tempore del Tratado de Cooperación Amazónica (2001): Proceso de Tarapoto sobre criterios e indicadores de sostenibilidad del bosque amazónico. Memorias de la reunión regional realizada en Tarapoto - Perú. 21, 22 y 23 de junio de 2001. La Paz - Bolivia: Producciones CIMA. Page 44.

[40] Thiel, Hans; Trelles, Marco (2008): Análisis preliminar de la aplicación de la legislación forestal en la cuenca amazónica, ALFA. Brasilia: Organización del Tratado de Cooperación Amazónica. Unpublished document. Pages 44–45, 53, 63, 71–72, 78–79 and 88.

[41] MCPFE; UNECE; FAO (2007): State of Europes Forests 2007. The MCPFE report on sustainable forest management in Europe. Jointly prepared by the MCPFE Liaison Unit Warsaw, United Nations Economic Commission for Europe and Food and Agriculture Organization of the United Nations. Warsaw, Poland:MCPFELiaison Unit Warsaw. http:// www.foresteurope.org / filestore / foresteurope / overordnede_dokumenter / State_of_Europes_Forests_2007.pdf. Pages 110–118.

indigenous communities, which reveals different levels of planning in the logging areas. This information should be complemented by the results of indicator b of the same criterion: “periodicity of evaluations of management plan compliance and average compliance percentage”; with these data it could be possible to examine the application of the different forest management plans in the Amazonian forest.

5. Conclusions

- The improvement of the Pan-European Indicators for the Sustainable Forest Management has been made through expert level meetings with researchers and other experts; the improvement of the Criteria and Indicators for the Sustainability of the Amazonian Forest has been made through national consultation in all member countries of the Tarapoto Process, among the participants were authorities, researchers, members of indigenous communities, and other people interested in the forests. Therefore the Pan-European Indicators are mainly the result of the work from experts in forests and forestry and the Criteria and Indicators for the Sustainability of the Amazonian forest are the result of the work of people from different sectors, including local people that live in the forest. Both processes have advantages and disadvantages: while the Pan-European Indicators have a stronger coherence between each other, the Criteria and Indicators for the Sustainability of the Amazonian Forest reflect more the topics of interest of the people involved in forest activities.
- The more natural resources and groups of interest the region has, the more time and public participation is needed for getting agreements, therefore the Amazonian region will need more time for building their criteria and indicators than other regions.
- The Helsinki Process as well as the Tarapoto Process have influenced the national forest laws of their member countries through the inclusion of the concept or the principles of sustainable forest management.
- In the case of the indicators related to legal issues, it is possible to choose between indicators that give a general overview of the current legal framework and indicators that require information about the application of the norms. While in the first case it is easier to get the information, in the second case the information can be more useful for some processes.
- It is very important to have reports on the application of the Criteria and Indicators for Sustainable Forest Management in the participating countries. Only in this way it will be possible to monitor the progress towards sustainable forest management within a certain period of time.

Acknowledgement

This article would not have been possible without the kind institutional support of the Amazon Cooperation Treaty Organisation (ACTO), Brasilia, and of the Institute of International and European Law, Göttingen. I thank Mr. Jan Carl Welzholz, Göttingen, for several fruitful discussions.

Development of forest related legislation and ownership categories in Serbia after the world war II – from socialism to democracy

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Abstract

Changes in the world politics as well as in Serbia and Yugoslavia after the World War II were quite dynamic. For the Kingdom of Yugoslavia post war period was crucial, whereas after its abolishment in 1945 era of socialism has begun. Throughout the period of socialism in Yugoslavia until 1990's, development of seven Constitutions and nine Laws on Forests were initiating changes of forest related legislation, ownership categories, and in general management of the forests. State establishment had not had capacity to understand and divide sectors related policies from politics in general at the state level. The period from 1990-2000 was colored by the strong political influence on the forestry sector and international economic sanctions against Serbia/FRY. The new era of democracy started in 2000, followed by proclamation of Republic of Serbia as independent state in 2006. As of year 2000 until 2011 Government is trying to place Serbian forestry sector into up-to-date processes on the national, regional (Europe) and global level, developing Forestry Development Strategy of the Republic of Serbia, National Forest Action Plan-draft etc. The final results of the current improvements are visible through the emphasis on decentralization and equality of all forest ownership categories.

Key words: Socialism, forest legislation, ownership category, management, democracy

1. Intoduction

Flow of the general political and social changes after the WWII in Serbia and Yugoslavia was very dynamic, and could be vividly showed through changes which were happening on the state's level. Legal successor of the **Kingdom of Yugoslavia** was short-lasting **Democratic Federal Yugoslavia (DFY),** of which the **Federal State of Serbia** was one of the six federal states. On November the 29th 1945, the Constituent Assembly declared the state as republic – DFY became the **Federal People's Republic of Yugoslavia (FPRY). People's Republic of Serbia** was one of six members of the Federation. By the 1963's Constitution, the state changed its name into **Socialistic Federal Republic of Yugoslavia (SFRY),** and Serbia became **Socialistic Republic of Serbia (SRS)** while Kosovo was given a status of the Autonomous Province. In 1974 the most controversial federal constitution was ratified, giving more autonomy to the individual republics. Provinces, as a part of the republic of Serbia, were given similar status to the status of the republic. At the beginning of 90's SFRY faced with political crisis, resulting with state's dissolution and wars. Slovenia, Croatia, BiH and Macedonia gained independence, while Republic of Serbia and Republic of Montenegro agreed to form the new Yugoslav state – **Federal Republic of Yugoslavia (FRY),** declared in 1992. After Kosovo Crisis in 1999, and democratic changes in 2000, the federal state changed its name in 2003 into the **State Union of Serbia and Montenegro (SCG)** but two constituent republics functioned almost separately. In 2006, after independence referendum was held, Montenegro declared its independence. Consequently, and as a kind of absurd, the Republic of Serbia was given the independence by the will of 55, 5% of Montenegrin voters. Then, the Autonomous Province of Kosovo and Metohija[4] unilaterally declared the independence in 2008 as the Republic of Kosovo. As such, it is recognized by more the 70 states of the world[5], but

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[4] Since 1999 governed by the UN under the UNSCR 1244

[5] 22 of 27 EU members, 3 of 5 permanent UNSC members

independence status is still disputed. This may be considered as the end of the historical adventure called Yugoslavia.

Development of forest related legislation and forestry in general on the territory of Serbia could be observed in the context of directions of general society's and political system development.

2. Development of forest related legislation and ownership categories after W.W.II

Development of social-political and economical system of Yugoslavia has passed through several main phases[6]:

1) 1946 – 1950; characterized by adoption of The FPRY Constitution in 1946 as well as The Law on the State Commercial Enterprises; marks the period of so called State or administrative Socialism;
2) 1950 – 1963; characterized by The Law on Management of the State Owned Enterprises and Advanced Commercial Unions by Workers' Collectives in 1950 and The Constitutional Law on the Basis of Social and Political Organization of the FPRY and Federal Bodies of Power in 1953;
3) 1963 – 1974; characterized by The SFRY Constitution in 1963, social-economical reform and The Constitutional Amendments in 1968 and 1971;
4) 1974 – 1988; characterized by The SFRY Constitution in 1974 and The Law on Associated in 1976;
5) Started by adoption of The Constitutional Amendments in 1988; within this phase adopted acts were The Law on Enterprises in 1988, The Law on Public Enterprises in 1989, and The Constitution of the Republic of Serbia in 1990.

The last mentioned phase is also characterized by political crisis erupted in the SFRY, lead to wars and its final dissolution. In following period it is also possible to differentiate several phases:

1) 1991 – 2000; characterized by The FRY Constitution in 1992, war in surrounding countries, sanctions, autocratic government, and Kosovo and Metohija crisis in 1999;
2) 2000 – 2006; democratic changes in Serbia in 2000, opening towards international community, The Constitutional Chapter in 2003 – establishing The State Union of Serbia and Montenegro, independence of Montenegro in 2006;
3) 2006 – 2011; The Republic of Serbia as independent country, adoption of The Constitution in 2006, self-declared Kosovo independence in 2008, intensive negotiation with the EU.

Defined and above mentioned phases will be used as a framework for conducting analysis of the social and political changes reflected on the forestry legislation and ownership categories.

2.1. 1946 - 1950

The first Constitution of the FPRY[7] was unanimously declared at the joint session of both chambers of the Constitutional Assembly in January 1946. FPRY a federal people's state, republican in form, made up of six republics out of which Serbia also included the Autonomous Province of Vojvodina and Autonomous Region of Kosovo and Metohija. Although it was organized on the federative principle, in the initial stages new Socialist Yugoslavia had the markings of a centralized federation, which was reflected in the division of jurisdiction between the federal state and republics, with the stressed domination of federal bodies.[8]

This Constitution inaugurated the system of "state socialism" or "revolutionary etatism" with the dominant role of the state and the Communistic Party as its main characteristic, and the basic form of property was – state property.[9] It forecasted that the state gives direction to the economical development by a general economical plan based on **state and cooperative economy sector**,

[6] Rakocevic V., Nikolic D. (1992)
[7] Official Gazette of the FPRY 10/46.
[8] www.arhivyu.gov.rs
[9] Rakocevic V., Nikolic D. (1992)

conducting total control over private sector of the economy. By the Constitution, the private property and its inheritance were guaranteed with a possibility to constrain or expropriate the private property when/if in line with the public interest, as well as to nationalize particular economy branches.

The Article 44 stated that forest enterprises of general-state importance and adoption of basic framework for forestry related legislation and management on the level of republics are within competences of the FPRY.

In 1946 The Basic Law on Procedure with Confiscated and Expropriated Forest Lands was adopted, relating to forest property confiscated from its previous owners[10]. Part of the confiscated forest properties (according to the Federal Law on Agrarian Reform and Colonization) became privately owned, mostly by farmers „with no land" and a part of it by forestry cooperatives that were established with an aim to uplift the forest management.[11]

Within such a social-political-economical circumstances, in 1947 The General Law on Forests[12] was adopted, first of a kind in a post-war period regulating functioning of forestry as a sector of the economy. The law was in power on the whole territory of federal state until the adoption of separate laws of forest in each republic. Basic point of the law was that all forests in the FPRY, regardless the ownership type, serve to general interests of the public community and are under the protection of the state.[13]

By this Law and according to the importance, forests were divided into forests of general-state, republic, provincial and local importance. Regarding ownership, state, cooperative and private forests were differentiated. The General Law on Forests states that the state keeps control over utilization and cultivation of cooperative and private forests, while the Government is given a power to regulate this matter in details by its regulations. Forest holding (state commercial enterprise) is defined as the basic organ of state owned forests management.

2.2. 1950 - 1963

After the dispute with the Union of Soviet Socialistic Republics (USSR) in 1948, FPRY was searching for the way to increase its economical and political independence, making itself different than other Socialistic countries were. Transformation of the whole social and political system started in 1950, whereas the most important introduced features were: emphasizing the economic independence of individual enterprises, decentralization of planning, and introducing the principle of ownership transition – from state to social ownership over the means of the production, recognizing the right of working organizations to manage enterprises and to participate in the distribution of work surplus. Also, functions of governance and management within enterprises were separated. Governance was conducted by working people collective through representative organs – governing board and workers' council, while management was conducted by the director.[14]

10 Forest domains confiscated according to articles 3, 10 and 26 of the Law on Agrarian Reform and Colonization and other relevant laws, were previously owned by: persons having no status of farmers; forest domains of the German Reich, citizens of the German Reich and persons of German nationality; forest domains of persons convicted war crime, "national betrayers" and other persons, confiscated according decisions of the courts… All mentioned forest domains were transferred into the state ownership as all people's property and were merged to the forest domains of that constitutive republic that were located in. Those domains were confiscated with no any compensation (Nonic, Milijic, 2008).

[11] Nonic D., Milijic V. (2008)

[12] Official Gazette of the FPRY 106/47.

[13] Rakocevic V., Nikolic D. (1992)

[14] *The most important legislative acts were* The Basic Law on the Management of State Economic Enterprises and Higher Economic Associations *(1950),* The Law on Planned Management of National Economy *(1951), and* The General Law on People's Councils *(1952).*

In accordance to transformations, the first postwar Law on Forests in Serbia was adopted in 1950 in the context and based on the federal law in this field, fully following its intentions regarding status, importance and position of forests as socio-economical category. Management of the state owned forests was commended to state organs and enterprises (forest holdings), while the state was conducted control over cooperative and private forests. [15]

As it is showed in the Table 1, there were two categories of forest ownership in Serbia at the beginning of this period.

Table 1. Forest area in Serbia according to ownership (1951)

	Ownership category	Forest area	
		ha	%
1.	State/public owned[16]	1,348,333	64.0
2.	Private sector[17]	765,557	36.0
Σ	**Total area of forests and forest land**	**2,113,890**	**100.0**

Source: (Nonic, 2010)

During this period, some constitutional changes happened on the state's level. The Constitutional Law on the Basis of Social and Political Organization of the FPRY and Federal Bodies of Power was adopted in 1953. This act was not a new constitution in a full sense and by its adoption the previous Constitution from 1946 was not suspended, but some parts of the Constitution were changed and abolished. One of the most important novelties was the provision providing (establishing) the basis of the social and political organization of FPRY: social ownership of the means of production, self-management of industrial producers, and self-management of the working people in municipalities, cities and circuits.[18]

Considering constitutional changes, provisions of the Serbia's Law on Forests adopted in 1950 by which considerable competences over forestry were given to the state, were in collision with the process of decentralization of state administration and transfer of its functions on the people's committees. That was the fundamental reason for adoption of new Law on Forests in 1955. Regarding the structure, this Law was very similar to the previous one, but some novelties were introduced. Control over management of forests within circuit was to be conducted by People's Committee of the Circuit through its holdings as self financed institution, while according to the previous law forest holdings were founded by the republic. Also, provisions on division of forests and holdings by importance were taken out.[19] Ownership categories basically stayed unchanged.

Rapid social-economical development between 1957 and 1960 initiated creation of different various problems in the forestry sector. Therefore, adoption of the new General Law on Forests in 1961 was important regulative measure in forestry field on the federal state's level, in context of general economy sector reform in that period. That provided a possibility for acceleration of necessary reorganization of forest holdings and self financing institutions into enterprises of the integral forestry-commercial organization type with workers' self management, and with exploitation incorporated into its activities.[20]

According to the provisions of this Law, and due to implementing principles of modern forest management, forest-economic areas were established, as working areas of forest holdings. At the same time, administrative regulating influence was minimized especially in forest management

[15] According to: Rakocevic V., Nikolic D. (1992)
[16] All people's forests and forests previously owned by cooperatives
[17] Forests owned by individuals, churches and monasteries
[18] www.arhivyu.gov.rs
[19] According to: Rakocevic V., Nikolic D. (1992)
[20] Rakocevic V., Nikolic D. (1992)

issues, emphasizing a wider responsibility of municipalities in this field. According to the purpose, forests were divided into commercial, protective and special purpose forests.[21]

Ownership structure in this period is showed in the Table 2.

Table 2. Forest area in Serbia according to ownership (1960)

	Ownership category	*Forest area*	
		ha	*%*
1.	*Public owned*	*1,172,915*	*51.6*
2.	*Forests owned by citizens*	*1,096,861*	*48.4*
Σ	***Total area of forests***	***2,269,776***	***100.0***

Source: (Nonic, 2010)

According to Rankovic, this Law defines different relation of the one who manages public forests towards forest itself, stating that the forests "are assigned for utilization" to the certian subjects. By this the status of public ownership was stressed, i.e. forest management organisations are not owners of the forests but only managing theme in the name of general public community.[22]

Generally speaking, on the level of the FPRY, more that 30% of forest area were privatly owned forests, whereas private forest owners should have been more adequat included into socialistic forestry sector.

2.3. 1963 - 1974

In 1963 new Constitution was adopted. This new constitution is known as "Self-management Charter" because the self management model was applied in all spheres and levels of social life. The name of the state was changed into the Socialistic Federal republic of Yugoslavia (SFRY), while the Autonomous Region of Kosovo and Metohija were declared as Autonomous Province of Kosovo and Metohija. The role of social-political organizations (Communistic Party of Yugoslavia – KPY, Socialistic Union of Working People of Yugoslavia – SUWPY, etc.) in political system was defined. Under the term "social-political community" municipality, circuit, autonomous province, socialistic republic and federation were considered. Their duties and obligations were determined.[23]

The Law on Forests of the Socialistic Republic of Serbia was adopted in 1967 based on the existing regulative on the federal level. Eventhough the structure was set in different way in comparison to the federal Law on Forests from 1961 there were no considerable differences in the content.[24] The Law foresaw that forest-economic areas to be established by assembly of the republic, or the province. According to Rankovic[25], changes introduced by this Law were reflected mostly in the fact that forest management was connected with forestry development program (idea of long term plans was lost) to be adopted on the level of the republic. This program obviously represented basic document for conduction forest policy in Serbia.

It is important to mention that in this period important changes in the structure of the federation did happen by adoption of the Constitutional Amendments to the Constitution of the SFRY, in 1967, 1968 and 1971. Afterwards the process of relationship change between the federation and republics has started, leading to the substantial transformation of the federation. Monolith social and political state system gave a place to the "self-governing federalism". Competences of the federation were reduced. Republics as social-political communities were treated as national states. Status of the autonomous provinces was extended and "sovereign rights" started to be used in provinces as well. Result was "two level federation". Position and status of Serbia and autonomous provinces in federation were basically equal. By the Amendments, provinces were given a right to adopt its constitutional law. Territorial integrity of provinces was also guaranteed, and their borders could be

[21] Nonic D. (2010)
[22] Rankovic N., Keca Lj. (2005)
[23] www.arhivyu.gov.rs
[24] Rakocevic V., Nikolic D. (1992)
[25] Rankovic N., Keca Lj. (2005)

changed only with an approval of provincials' assemblies. Federal organs were foreseen to be established based on parity between republics. Besides the Yugoslav Peoples Army (YPA), Territorial Defense was introduced as a military power in SFRY. Those facts will have long-term considerable consequences during the processes of Yugoslavia's dissolution.[26]

2.4. 1974-1988

Solutions adopted by the Amendments were incorporated into the new Constitution, adopted in 1974. Consensus of republics and provinces in decision making process was established, including changes of the Constitution. Right to self-determination and separation was introduced, but it stayed unclear if the bearers of that right were nations[27] or republics. Public property was declared as the basis of economical system. The Constitution clarified and defined "self-governing interest institutions"[28] as relatively new form of self-managing connections. Obligation of establishing Local Community[29] as the main form of self-managing organization of working people and citizens on local level was also introduced. [30]

Decentralization and de-etatisation of socio-political and economical system of the SFRY after adoption of 1974's Constitution in general legislation framework, including forestry sector, led a transposition of important normative prerogatives and competences from the federal state to lower social-political communities. Therefore, the Law on Forests of the Socialistic Republic of Serbia adopted in 1974, opposite from previous law from 1967, was not anymore a result of federal legislation's transmission but a substantive law. [31]

According to Rankovic, this Law promoted social self-management in forestry field while confirming that joint-work organizations govern forests in the name of general society, and Forestry development program definitely becomes the basic document for conduction forest policy. Important part of the Law was related to establishing, functioning and financing of new forestry related institution – Forestry Self-governing Interested Institution. This institution was meant to take over functions of previously established funds, including financing of some important investments in forestry, especially those of infrastructural character. Financial means were to be provided by participation of all active joint-work organizations (enterprises) from the territory the Institution was active in (republic, provincial, circuital, regional and local level). Thus, the important principle was fulfilled – all the actors have either direct or indirect benefit from forests were to take part in its regeneration and improving of conditions.[32] At the same time, this was the first time where a kind of "ecosystem payment services" was introduced on the Serbian territory.

This Law was amendment in years to follow (1975 and 1977), tackling functioning and financing of Forestry Self-governing Interested Institutions.[33]

Ownership structure in this period is showed in the Table 3.

Table 3. Forest area in Serbia according to ownership (1979)

	Ownership category	*Forest area*			
		Serbia with APs		*Serbia without APs*	
		ha	*%*	*ha*	*%*
1.	*Public forests*	*1,143,334*	*49.4*	*778,983*	*43.7*
2.	*Forests under ownership right*	*1,169,533*	*50.6*	*1,002,152*	*56.3*
Σ	***Total area of forests and forest land***	***2,312,867***	***100.0***	***1,781,135***	***100.0***

Source: (Nonic, 2010)

[26] www.arhivyu.gov.rs
[27] Serbs, Croats, Slovenians, Macedonians, etc.
[28] Difficult to translate, due to the context. Self-managing/governing interest unions, or self-managing/governing interested communities could also be used. Well known abbreviation in Serbian was – SIZ.
[29] Sub-municipality administrative unit
[30] According to www.arhivyu.gov.rs
[31] According to: Rakocevic V., Nikolic D. (1992)
[32] According to: Rankovic N., Keca Lj. (2005)
[33] According to: Rankovic N., Keca Lj. (2005)

In this period, one more Law on Forest was adopted in 1982. This law foresaw development of forest management plans both for forests encompassed by forest-economic areas and forests which are not. Rankovic emphasized introduction of obligations to be followed by forest owners, whereas law had obligatory character and in organizational sense, citizens were given wider possibility to take part in forestry related activities. This law was amendment in 1986.

2.5. 1988-1991

This period was characterized by strong process of de-etatization of society in general and forestry as strategic branch of the economy. Ownership categories established in previous period were finally given a permanent status and the state accepted the fact that private ownership over forests became permanent category. In that context ownership over forests was apparently equalized, especially related to management issues, and responsibility over private forests was transferred on the local (municipal) level. Also, managing of public owned, in the process of overall de-etatization and partial decentralization of the state, was put on the level below by being delegated to municipalities and local self-governments, in accordance with defined forest-economic areas.

All mentioned was materialized by adoption of the new Law on Forest[34] in 1989. The law foresaw establishing of public enterprises for forest management on the local level, as well as the Public Fund for Forests of Serbia.

Ownership structure in this period is showed in the Table 4.

Table 4. Forest area in Serbia according to ownership (1989)

Ownership	*Area*	
	000 ha	*%*
I. State and public forests	*1.384*	*56,2*
II. Private forests	*1.078*	*43,8*
TOTAL	*2.462*	*100,0*

Source: Yugoslav survey, No. 3, 2000.

Strong political influence of local self-governments on forestry, as well as changes introduced in forest management system, resulted in organizational fusion of forestry and wood-processing into forestry-industrial combined facilities, whereas forest as resource was usually "paying the bill" for unrealistic social policy of local self governments directed towards intensive employment in wood processing sector. This approach resulted in over dimensioning of wood processing capacities compared to existing resources, clearly jeopardizing the sustainability, so numerous wood processing industry units in Serbia were orientated towards other parts of the SFRY (especially BiH) for raw material supply. Competences over private forests management were transferred to local self governments, causing increasing of administration (forestry inspection on municipality level was introduced).

Positive segments of this period were reflected mostly through providing stabile system for functioning of the profession, especially through established Public Fund for Forests of Serbia, successor of the Forestry Self-governing Interested Institutions, allocating financial sources for protection and improvement of forests condition.

At the end of the period, political tensions erupted in SFRY, leading to separatism tendencies in western republics, finally resulting in armed conflict.

2.6. 1991-2000

Problems noticed and defined in previous period „forced" the introduction of solution considered to provide substantial improvement, both for forest as resource and forestry as branch of the economy.

[34] Law on Forests of the Socialist Republic of Serbia; Official Gazette of the RS No.: 45/89, 49/89, 21/90, 23/90, 32/90.

The solution was materialized through the new Law on Forest[35], adopted in 1991. The whole different territorial organization and responsibility in forest management was defined.

Centralization of forest management was realized by establishing of the Public Enterprise for Forest Management "Srbijasume", whereas the local forest holdings became integral part of the system, without any influence of local government and politics. Public owned forests became state owned forests and intensive separation of forestry and wood processing industry was conducted as well, followed of by establishing market relationship between them. This resulted in decreasing of wood processing industry production, decreasing of capacities' engagement (both production and human ones) and as the final result lead to bankrupt of so called "political wood-industry capacities" at the local level.

Additional obstacle to wood processing industry was brought by outbreak of the political crisis and armed conflict in the SFRY, when channels for supplying with raw materials from the rest of the federal state (especially BiH) were cut, so the wood processing industry was determinate only towards local resources in Serbia. Governance and management with private owned forests was transferred under competences of the Public Enterprise, resulting in further ignorance of almost 50% of Serbian forest resources. Notable conflict of interests regarding private forests management[36], resulted with corruption within this sector, as well as with increasing of illegal cut in private owned forests.[37]

Ownership structure in this period is showed in the Table 5.

Table 5. Forest area in Serbia according to ownership (2000)

Ownership	***Area (1000 hectares)***			
	1991		***2000***	
	Forest	***%***	***Forest***	***%***
Private ownership	*1,170*	*48.2*	*1,214*	*49.3*
Public ownership	*1,143*	*49.4*	*1,246*	*50.7*
Other ownership	*-*	*-*	*-*	*-*
TOTAL	***2,313***	***100.0***	***2,460***	***100.0***

Source: FRA 2000

One of the characteristics of this was excessive centralization of forestry sector in the decision making sense and strong influence of political centers of power on appointments of Public Enterprise's and forest holdings' management. Imposed international sanctions also strengthened the mentioned centers of political power, in front of which the profession withdrew, causing negative consequences to resource and profession as well. Strategic determinations were led more by political constellation then by real needs of the profession and condition of forests. Abolishing of the Fund for Forests of Serbia[38] in 1996 also gave negative momentum to forestry sector, because the whole system of permanent and successful financing of reproduction in forestry sector was cut.

2.7. 2000-2011[39]

Democratic changes in Serbia occurred in 2000. Period that followed was characterized by abolishing of international economic sanctions against Serbia/FRY and attempts to integrate the

[35] Law on Forests of the Republic of Serbia; Official Gazette of the RS No: 46/91.

[36] Begus, J. (2006): Report of International Consultant for Capacity Development of Public Forest Service and Private Forest Owners' Associations. FAO/GCP/FRY/003/FIN Project "Forest Sector development in Serbia", www.forestryprojectserbia.org , Belgrade.

[37] World Bank and Savcor Indufor Of-Ensuring Sustainability of Forests and Livelihoods Through Improved Governance and Control of Illegal Logging for Economies in Transition-Study (2005)

[38] Official Gazette of the RS No.: 54/96

[39] Not in accordance with periods mentioned at the beginning of the paper, differentiated based on important political changes followed by forestry legislation changes as well. In 2006 important political change happened on the states level, but was not follow with forestry legislation changes. Therefore, it was reasonable to merge two periods for the purpose of analysis.

Serbian forestry sector into up-to-date processes on the regional (Europe) and global level. Serbian forestry authorities were very active in adoption and ratification of numerous international conventions, treaties and processes (MCPFE, UNFF, UNECE, etc.). Also, setting the EU accession as the main political goal caused the array of changes, but obstacles as well. It became clear that anachronous approach of forestry sector in general towards socio-political happenings was not to be sustained anymore and could not be kept isolated, because social demands towards forests were changed rapidly. Foresters started to learn and use new terms: sustainability and sustainable development, participation and participative approach, forest certification, forest policy, national forest program, etc.

On the national level, this period was characterized by starting of forestry sector decentralization process (establishing of the Public Enterprise "Vojvodinasume"[40] with competences on the territory of the autonomous province), restitution ownership over forests to private persons and religious institutions[41], adoption of the key strategic documents - Forestry Development Strategy for the Republic of Serbia[42], activities on developing the National Forest Programme, and new Law on Forests[43]. The new Law foresees introduction of forest ecosystem services fee for all legal persons on the territory of the Republic of Serbia in amount of 0,025% of total yearly income. The Law also foresees decentralization and transfer of competences on the provincial level, but still keeps certain unequal approach towards state owned and private owned forests, eventhough not complete unequal, because it foresees that private forest owners associations comprises more than 100ha of private forest areas may choose to whom will delegate responsibility of conduction technical measures in forests: public enterprises or private forestry professional of their own choice.

Substantially, abreast to introduction new categories related to forest engineers licensing and the institution of Forestry Chamber, the new Law brought three key aspects:

- decentralization,
- sustainable financing of forestry through ecosystem services valorization payment,
- equality of state and private ownership over forests in the context of law implementation.

Ownership structure in this period is showed in the Table 5.

Table 6. Forest area in Serbia according to ownership (2010)

FRA 2010 Categories	***Forest area (1000 hectares)***			
	2005	***%***	***2010***	***%***
Public ownership	*1,252*	*50.6*	*1,382*	*50.9*
Private ownership	*1,224*	*49.4*	*1,213*	*44.8*
...of which owned by individuals	*1,224*	*-*	*1,213*	
...of which owned by private business entities and institutions	*0*	*-*	*0*	
...of which owned by local communities	*0*	*-*	*0*	
...of which owned by indigenous / tribal communities	*0*	*-*	*0*	
Other types of ownership	*0*	*-*	*118*	*4.3*
TOTAL	***2,476***	***100.0***	***2,713***	***100.0***

Source: FRA 2010

In should be stressed that for the first time the possibility of implementing activities in forestry, including overall forest management in private owned forests and forests owned by religious communities, has been given to other legal persons besides public enterprises.

[40] The Law on Determing the Jurisdiction of the AP Vojvodina, Official Gazette No.: 06/02
[41] The Law on Restitution of Property to Churches and Religious Communities, Official Gazette No.: 46/06;
[42] Official Gazette of the RS No.: 59/06
[43] Official Gazette of the RS No.: 30/10

3. Conclusions

Sublimating previous periods in development of forest legislation in Serbia, but also overviewing historical decisions especially in the period after WWII, through period of socialism and post-socialism era, known as transitional period, it can be concluded about very intensive and dynamic legal activities.

Frequent changes of strategic orientation towards different legal solutions was not a common practice in other socialistic countries, but the fact is that former Yugoslavia (in all constitutional forms) was not (from western's point of view) typical "communist country", but the country which has preserved different ownership forms and market orientations compared with other Eastern Block countries.

Overviewing historical context 70 years backwards, it could be concluded that until XXI century there was no officially proclaimed forest policy, which was inheritance of socialistic period where only the Governments had autonomous right for bringing and adopting different policies and politics determinations whether it was even expert/sector oriented. Taken in general, state establishment had not had capacity to understand and divide sectors related policies from politics in general at the state level. Since forestry sector became aware of this problem, it tried to define the issues of forest policies through different legal solutions, but it had not provided appropriate results because the forest policy was the category of general forestry sector determination which initiates legal provisions, but not the category needed to be fit into a narrow legal frame.

Very early in the socialist period the need for sustainable financing system in forestry became realistic, because of fact that significant resources from forestry sector "overflew" to wood industries where the social balance at the local level had the priority compared to market competitiveness. The establishing of the public Fund for Forests of Serbia can be evaluated as one of the most significant heritage of socialist period, and thanks to this fund more than 100,000 ha of bareland have been afforested in Serbia, contributing to increasing of forest land and improvements of forests in general. Such fund was the precursor of later defined ecosystems valorization of all benefits from forests.

For a long period, property related issues were among burning issues in forestry sector during early phase of state socialism. Also, there was a permanent tension over nationalizations of private property (forests), along to the 1974 Constitution when SFRY officially accepted the decentralization concept and private property rights on forests as a permanent category. Final confirmation came with the Law on Forests from 1974, 1989 and especially 1991, in which the issues of private forests "occupied" a significant part of mentioned laws.

Problem with private forests in the 1991 Law was related to typical conflict of interest, reflected in the fact that the public enterprise for management of state owned forests was obliged to provide expert and technical support in private forests as well. This was even more significant being consider from global (state) aspects, because the ratio of private forests was about 50%, and was unsustainable looking from the market aspects.

Even the Law on Forests adopted in 2010, has not disclaimed the control of private forests by public enterprises, even though different organizational schemes were foreseen. Nevertheless, if private forest owners association has more than 100 ha of forests, it could choose whom it will entrust the management of its forests – to another certified/licensed forest engineers/technicians or company (not necessarily public enterprise).

Through the whole period of socialism, but later during the ninetieths as well, there was a strong political influence on forestry sector, directly and indirectly causing a number of negative connotations, first of all in financial segment, but also in public image of forestry profession.

One of significant characteristic of forestry sector in transitional period was traditional conservativeness, causing confusions and non-readiness for fitting into changed society's needs

from forest and forestry in general sense. This could be explained through incompatible education system of forest personals at all levels.

Efforts of "repairing and improvements of conditions" were very visible in the period after the year 2000, when Serbian forestry sector became an active partner in almost all international processes, resulting in a whole spectrum of strategic projects and documents such as three FAO international projects, Forestry Development Strategy of the Republic of Serbia, National Forest Action Plan-draft, the new Law on Forests adopted in 2010 as a final result emphasizing decentralization, ecosystem payment services and equality of all forest ownership categories.

Besides mentioned, the law defined establishing of the Forestry Chamber as well as process of licensing for professionals and activities in forestry sector.

Important restitution aspect during the socialistic period has not been an issue, because the former Yugoslavia was one of the rear socialistic countries which kept the private property even on natural resources. Some nationalization concepts in early stage of socialism failed with strong resistance of all nations in Yugoslavia, and communist establishments finally gave up of such idea. Initially, political conflict with the USSR in forties and fifties provide additional "support" for this. Only the property of churches and other religious communities was under the strike of such nationalization law, and finalization of the restitution processes from 2006, gave additional input to the components incorporated in the new Law on Forests.

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Recognizing forest governance principles in state forest service's tasks prescribed by national forest legislation – case study Serbia

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Abstract

During the last decades, there were dramatically changes in forestry decision making processes worldwide, which resulted in a shift from government to governance mode. Although these changes partially affect formulating of new forest legislation, State Forest Services in countries in transition still remains the key actor in both, creation of national forest policy and implementation of forest related laws. This paper analyses State Forest Service in Serbia which includes Ministry of Agriculture, Forestry and Water Management and Public Enterprise Srbijašume. The aim of this paper is to explore whether and how State Forest Service in Serbia had adopted international principles of forest governance while conducting its legally prescribed obligations and tasks.

There is a great variety of principles of good governance concept. For the purposes of this paper, so-called Lockwoods' principles of good governance have been chosen as follows: legitimacy, transparency, accountability, inclusiveness, fairness, integration, capability and adaptability. These principles were analysed through six large groups of legally prescribed tasks which State Forest Service is dealing with. Not surprisingly, the administrative tasks are identified as the most frequent ones, covering almost 60% of all tasks prescribed by the Law on Forest. The qualitative data gathered by analysing Serbian Law on Forests have been processed by MAXQDA 10 in order to identify the frequencies of all tasks of State Forest Service. The results point out that all principles of good governance are integrated in Serbian Law on Forests to the certain extent. While the principles of legitimacy and integration are recognized through multilevel decision making process and clear definition of rights and duties of State Forest Service, the principle of transparency is achieved by informing public and promotion of cooperation. Furthermore, the cooperation with other branches pictures the principles such as inclusiveness, adaptability and capability for fulfilling obligations prescribed by Law. Based on this, one can treat current forest legislation in Serbia as a solid regulatory instrument for promotion of forest governance concept and improving national forest policy. Still, it is too early to conclude that all regulations of the Law will be implemented consistently, particularly having in mind current capacities of State Forest Service.

Key words: forest legislation, governance principles, State Forest Service, Serbia, forest policy

Introduction

As in all countries in South East Europe, the administrative, economic and political system in Serbia was highly centralized during the previous period. This system, also known as *"centrally-planned economy"* was characterized by top-down organized government structure, economy directed entirely by the state as well as relatively unorganized non-government sector. As political system in Serbia has changed towards modern democracy, a number of new demands have been derived from both, domestic policy actors and external influences (e.g. Europe Union). To satisfy several EU and international principles, the national mode of governing starts changing from state-direction to the concepts characterized by the principles such as participation and transparency.
Among other things, these changes have been reflected in formulating new laws including those related to forest and nature protection. The most remarkable developments occur in East and Central European states, where political and socio-economic changes imposed creation of

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completely new forest legislation (Stevanov and Krott, 2006). Nevertheless, in almost all countries in transition State Forest Service (hereinafter: SFS) still remains the main actor in implementation of forest related laws. New Law on Forests in Serbia was proclaimed on May 7th, 2010, regulating forest conservation, protection, planning, silviculture, utilization and management of forests and forest lands, the supervision of its implementation, as well as other issues related to forests and forest lands. The importance of SFS is manifesting in its role of managing state owned forests which occupy 43% of whole forest area. (Gluck at al., 2010) as well as providing different services in private forests (e.g. preparing forest management plans). Thus, SFS still have the strongest influence on decision making processes related to both, state and private forests in Serbia. On the other hand, there is a need to recognize, and understand the international forest governance principles by all forest policy actors (particularly by SFS as the strongest actor in national forest policy system) as well as to integrate them properly into the forest legislation as key regulatory instrument of national forest policy. Although SFS has the most important role in forestry sector in Serbia, there is a modest amount of research papers dealing with assessment and integration of forest governance principles in SFS's tasks and national forest policy in general. This paper could be interesting for wide research and professional audience, and serve as basis for future studies dealing with this topic at national and regional scale. It should also provide information about extent of integration of internationally recognized forest governance principles into SFS's tasks prescribed by national legislation.

Research question and methodology

Forest laws formulate complex objectives concerning sustainable forest management (Schmithüsen, 2000), appointing state forest institutions with many diverse implementing tasks (Krott, 2001). Therefore, this paper tries to answer on the following research question "How forest governance principles are recognized and integrated within SFS's tasks prescribed by the Law?"

For the purpose of this paper, organization of forestry sector in Serbia is presented trough the most important component of SFS: Ministry of Agriculture, Forestry and Water Management and Public Enterprise Srbijašume. In order to analyze the responsibilities and duties of SFS the following six groups of the tasks prescribed by the Law on Forests have been identified:

1. Administrative tasks (all duties and obligations regarding prescribing and drawing forest programs and plans, authorization of these plans and programs, and also authorization of establishing different institutions such as chambers, boards, and associations),
2. Management tasks (regulations related to wood and non-wood products, silvicultural measures, recreation uses and multifunctional forestry, including forest protection, regardless it's conducted by SFS or another institution),
3. Monitoring tasks (regulations referring to implementation of forestry programs and plans, forest health conditions, and forest law implementation in general),
4. Tasks referring to other organizations (support to the organizations such as private owners, research institutions, licensed persons, chambers, etc.),
5. Financial tasks (regulations including obligation and duties regarding financing monitoring, managing regulation, and support to private owners),
6. Cooperation with other sectors (this includes all types of consulting and cooperation with other sectors and branches within the national economy).

The collected data were mainly qualitative (these were gathered by analyzing Serbian Law on Forests). Thus, adequate software (MAXQDA 10) for qualitative analysis has been used. All six groups of SFS's tasks prescribed by the Law were carefully analyzed in order to evaluate to which extent they recognize, respect and integrate to principles of good forest governance. "By *governance* we mean 'the interactions among structures, processes and traditions that determine how power and responsibilities are exercised, how decisions are taken, and how citizens or other stakeholders have their say'. The term *good governance* (Howlett and Rayner, 2006) has emerged to describe a mode of governing that shows a preference for collaborative approaches among

government and non-government actors from the private sector and civil society."(Lockwood et al., 2009)

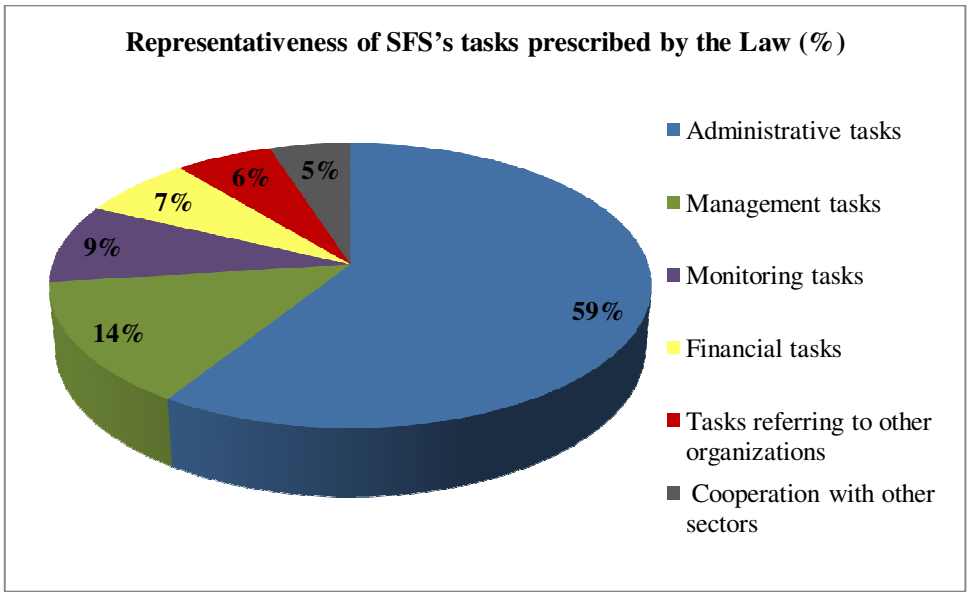
So called Lockwood's principles of new governance were chosen (Lockwood et al., 2009) in order to analyze to which extent the regulation of Serbian forest legislation corresponds to the concept of good forest governance. These principles are as follows:

1. *Legitimacy* is 'the acceptance and justification of shared rule by a community…the question of legitimacy concerns who is entitled to make rules and how authority itself is generated' (Bernstein, 2005),
2. *Transparency* refers to visibility of decision making process and logic used for deriving decisions,
3. *Accountability* imply responsibility taken over for decisions derived from decision making process and in implementing these decisions in practice,
4. *Inclusiveness* refers to opportunities for different stakeholders to take part in decision making process, to participate and influence on it,
5. *Fairness* is attention and respect given to all stakeholder, and mean absence of bias in decision making processes,
6. *Integration* is related with multi-level governance. It means connections and cooperation as on same level of governance, as on different levels of governance, and between same and different branches of economy,
7. "*Capability* refers to the systems, plans, resources, skills, leadership, knowledge and experiences that enable organizations, and the individuals who direct, manage and work for them, to effectively deliver on their responsibilities".(Lockwood et al., 2009 ibid),
8. *Adaptability* implies incorporation of new knowledge, and management of associated risks, treats and opportunities.

The visualization of SFS's tasks and their subcomponents was possible by using MAXQDA. For each of the task (including their subcomponents), the frequencies of occurrence of 8 Lockwood's governance principles have been identified by applying in-depth text analysis. The frequency for each task was calculated with respect to amount of subcomponents of all tasks within the Law. If sum of occurrence of all subcomponents of all tasks represent 100%, then number of occurrence of subcomponents of one task is X%. Following the same method, frequencies for Lockwood's principles were calculated for entire Law. In order to understand how forest governance principles are integrated within SFS's tasks prescribed by the Law, frequencies of all Lockwood's principles were calculated for each task. If sum of occurrence of all principles in one task is 100%, then number of occurrence of one principle in that task is X%.

Results and discussion

SFS have many diverse tasks and obligations, due to changing demands of the society towards forests. By analyzing the Law regulations, the following six groups of the tasks have been identified (Graph 1).

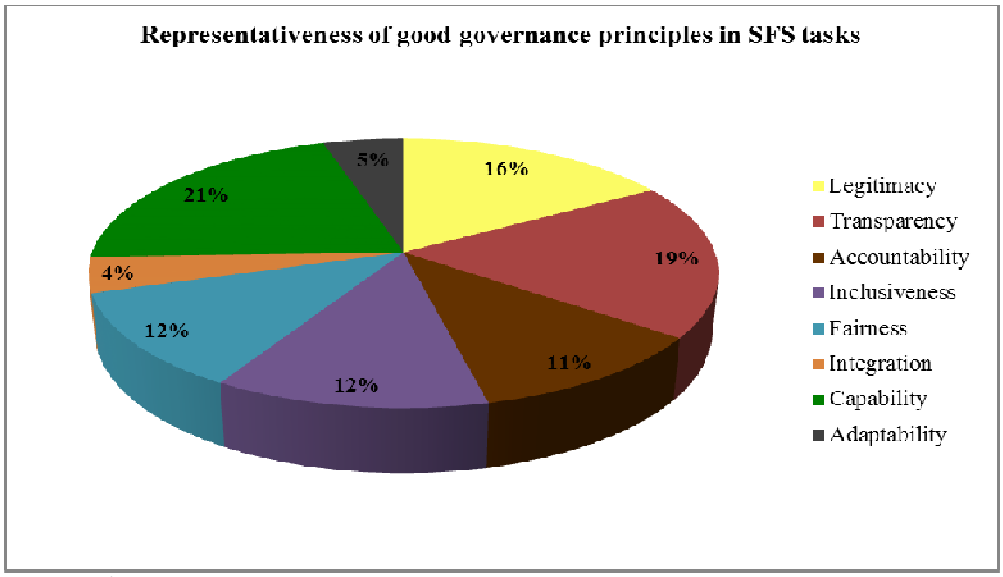


Source: Authors

Graph 1. Representativeness of SFS's tasks prescribed by the Law (%)

From the previous Graph, it is obvious that administrative tasks are prevailing in the Law on Forests (59% of all tasks prescribed by the Law). Percentages of other tasks are relatively harmonized and vary from 5% (cooperation with other branches) to 14% (management tasks). These tasks are more precisely described in other documents, mainly in management plans at different levels (regional forest development plans, forest development plans in national parks, forest management programme, annual plan of forest management, operational project of forest management etc.). The measures of protection, silviculture and utilisation are prescribed in details in these plans, therefor are less prescribed by the Law on Forests.

Comparing to the Graph 1, the representation of good governance principles in entire Law on Forests (which prescribe all SFS's tasks) is not as nonhomogeneous as representation of SFS's tasks (Graph 2). However, differences in frequencies of good governance principles are significant. To understand these differences, they were analysed for each group of tasks (and their subcomponents) and discussed in details bellow.



Source: Authors

Graph 2. Representativeness of good governance principles in entire Law on Forests

Administrative tasks include all duties and obligations regarding prescribing and drawing forest programs and plans, authorization of these plans and programs, and also authorization of establishing different institutions such as chambers, boards, and associations. Administrative tasks include the subcomponents such as laying down plans and programs by National Assembly, Ministry for agriculture, forestry and water management and user, prescribing content of plans and programs and authorization by Minister, giving permissions to use forest and forest products, informing public, etc. Comparing to Graph 2, frequencies of good governance principles in administrative tasks only, significantly vary from frequencies of the principles in all SFS' tasks (Table 1).

The principle of *legitimacy* is represented with highest percentage through the institutions at several levels of decision making process; the National Assembly, the Ministry and user (Public Enterprise Srbijašume). The main tasks of the Ministry stipulated by the Law is prescribing details in planes and programs, defining methods of record keeping, etc. The principle of *transparency* is also underlined in administrative tasks. It can be explained by duties of the institutions involved in decision making process to make their work "visible" to the public. Another pronounced principle is *capability* which is associated with assigning certain responsibilities to private owners and their interest associations (e.g. planning and carrying out obligations prescribed by those plans and programs). However, in most cases capability refers just to capability of the Ministry to deal with all obligations that had been prescribed by the Law.

Table 1. Frequencies and percentages of good governance principles in SFS's administrative tasks

Principle of good governance	*Frequency*	*Percentage*
Legitimacy	*24*	***25,53***
Transparency	*23*	***24,47***
Accountability	*5*	***5,32***
Inclusiveness	*7*	***7,45***
Fairness	*7*	***7,45***
Integration	*1*	***1,06***
Capability	*21*	***22,34***
Adaptability	*6*	***6,38***
Sum	*94*	***100,00***

Source: Authors

Fairness and *inclusiveness* are the principles represented with the rights of private forest owners to establish their interest organizations. The principle of *adaptability* relates only to risk management of forest, more particularly to measures that should be taken by SFS in cases of forest fires and diseases, while the principle of *accountability* is represented with clear division of duties and obligations, such as drawing forest management plans and programs, reporting, etc. Eventually, the principle of *integration* refers to prescribing authority in forest management, from highest to lower level of SFS. The great difference between integration of some principles in administrative tasks (e.g. *legitimacy* covers 26% while *integration* includes only 1%) points out that the most of authority is still very much centralized and given to SFS. Lover level of authorities are still rigorously controlled by higher level (such as the Ministry), which clearly illustrates top – down approach in decision making process.

Management tasks include regulations related to forest utilization and wood production, production of non-wood forest products, recreation uses as well as using of other forest functions. It also includes protection of forest, irrespective it's conducted by SFS or another institution/service specialized for this issue. Management regulations are divided on: protection of forests, silviculture, utilization, reforestation, restoring damaged forests, managing forests, implementation of forest management plans and programs by user, and delineation. Represented with 14% in all SFS's tasks (Graph 1), management tasks are mainly obligation of forest user (Public Enterprise Srbijašume).

The percentages of good governance principles indentified in this tasks are presented in Table 2 are presented .

The principles of *capability* and *inclusiveness* are mostly represented in SFS's management tasks which come from obligatory rights of forest user (the Public Enterprise) or forest owner to manage forest and prepare forest management plans and programs. This is also the reason why the principle of *accountability* is relatively high represented in these tasks. The principles of *transparency, fairness* and *integration* are represented less while the principle of *adaptability* is not integrated in management tasks at all. The main reason for this is probably the traditional way of forest management which is still treated as the only one, without prescribing the new methods and approaches of forest management by the Law. This reflects mostly on practical forest management planning where seven different types of forest management plans and programs still exist.

Table 2. Frequencies and percentages of good governance principles in SFS's management tasks

Principle of good governance	*Frequency*	*Percentage*
Legitimacy	*4*	***12,90***
Transparency	*3*	***9,68***
Accountability	*6*	***19,35***
Inclusiveness	*7*	***22,58***
Fairness	*2*	***6,45***
Integration	*1*	***3,23***
Capability	*8*	***25,81***
Adaptability	*0*	***0,00***
Sum	*31*	***100,00***

Source: Authors

Monitoring tasks refer to monitoring implementation of forestry programs and plans, forest health conditions, and the Law on Forests in general. Monitoring tasks have the following four subcomponents: monitoring organizations, monitoring of implementing plans and programs, monitoring of drawing plans and programs, and monitoring of forest health conditions. The percentages of good governance principles integrated in monitoring tasks are presented in Table 3.

Table 3. Frequencies and percentages of good governance principles in SFS's monitoring tasks

Principle of good governance	*Frequency*	*Percentage*
Legitimacy	*2*	***9,52***
Transparency	*2*	***9,52***
Accountability	*5*	***23,81***
Inclusiveness	*2*	***9,52***
Fairness	*4*	***19,05***
Integration	*0*	***0,00***
Capability	*5*	***23,81***
Adaptability	*1*	***4,76***
Sum	*21*	***100,00***

Source: Authors

The principles of accountability and capability are the most integrated ones, due to responsibility given to SFS to conduct some specific monitoring tasks. By doing so, the processes of decision making and implementation are quite fair and visible. The principle of inclusiveness is presented by engaging forest users in monitoring of forest health but also with establishing Forest Inspectorate. As this is prescribed by the Law, the principle of legitimacy is also brought to these decisions. Similar to the previous SFS's tasks, (administrative and management ones) the principles of integration and adaptability are poorly integrated in monitoring tasks. There is a lack of connectivity which could be threat to consistency of prescribed objectives and its implementation in

practice. Furthermore, the monitoring tasks prescribed by the Law do not include some innovative approaches in identifying, assessing and managing risks in case of forest fires or disease.

Financial tasks include obligation and duties regarding financing monitoring and managing forests, support to private forest owners as well as monitoring regulation. Financing obligations of forest users and owners as well as regulations related to penalties are not discussed in this paper. Most attention is given to financing and compensations paid from the Budget of Republic of Serbia, financing administrative and management tasks, establishing new organization and compensation for use of forests and forest land. The frequencies and percentages of good governance principles integrated in financial tasks are presented in Table 4.

Table 4. Frequencies and percentages of good governance principles in SFS's financial tasks

Principle of good governance	***Frequency***	***Percentage***
Legitimacy	*0*	***0***
Transparency	*3*	***30***
Accountability	*1*	***10***
Inclusiveness	*0*	***0***
Fairness	*5*	***50***
Integration	*0*	***0***
Capability	*0*	***0***
Adaptability	*1*	***10***
Sum	*10*	***100***

Source: Authors

The principle of fairness is the most underlined principle in financial tasks of SFS. It is reflected in financing all important processes of forest management, starting from drawing forest management plans and programs to monitoring. Furthermore, integration of the principle transparency is secured by clear regulation what will be financed from the Budget. Accountability refers to refunding of all damage made in forest by the physical persons. SFS is obligated to pay same compensation for use of forests and forests land as private forest owners. As in previous tasks, the principle of adaptability refers only to risk management. Other principles are not represented at all.

Regulations referring to other organizations include regulations related supporting of private forest owners and their associations, licensed individuals who perform tree cutting and other forest utilization activities, supporting research organizations and establishing Chamber of Forestry Engineers. The frequencies and percentages of good governance principles integrated in regulations referring to other organizations are presented in Table 5.

Relatively harmonized integration of good governance principles in regulations referring to other organizations points out that different stakeholders are included in forest management activities which leads to more transparent process of decision making. The principle of accountability is brought to specific organizations interested in performing specific tasks while principles such as fairness, inclusiveness and integration are achieved by engaging diverse organizations from and out of forestry sector in decision making process. This is related with the principle of capability in a way that most qualified persons can deal with tasks that belongs to their sphere of knowledge, constantly working on improving it. As concerns decision making process and redistribution of power in this, associations of private forest owners are excluded from forest management and utilization insomuch that the principle of legitimacy is not represented in these SFS's tasks. The same as the management tasks, the principle of adaptability is not represented in regulations referring to other organizations.

Table 5. Frequencies and percentages of good governance principles in regulations referring to other organizations

Principle of good governance	*Frequency*	*Percentage*
Legitimacy	*0*	***0***
Transparency	*2*	***11,11***
Accountability	*3*	***16,67***
Inclusiveness	*4*	***22,22***
Fairness	*4*	***22,22***
Integration	*3*	***16,67***
Capability	*2*	***11,11***
Adaptability	*0*	***0***
Sum	*18*	***100,00***

Source: Authors

Cooperation with other sectors comprises cross-sectoral harmonizing of management plans and programs (forestry versus spatial planning, management of protected areas etc.). The Law on Forests explicitly prescribes cross-sectoral cooperation such as: "strategic planning, other State bodies, other branches of economy, national defense, research and development …" (Article 38). The frequencies and percentages of good governance principles integrated in cooperation with other sectors are presented in Table 6.

Table 6. Frequencies and percentages of good governance principles in Cooperation with other sectors

Principle of good governance	*Frequency*	*Percentage*
Legitimacy	1	*5,26*
Transparency	2	*10,53*
Accountability	1	*5,26*
Inclusiveness	3	*15,79*
Fairness	5	*26,32*
Integration	3	*15,79*
Capability	3	*15,79*
Adaptability	*1*	*5,26*
Sum	*19*	*100*

Source: Authors

Cross-sectoral cooperation is probably one of the most important indicators of good governance. It brings almost all principles of good governance in relatively harmonized package. These principles are reflected in regulations that prescribe cooperation of forestry sector with other branches of national economy, mutual adaptation of sectoral management plans and programs as well as clearly defined division of responsibility.

Conclusions

As most nation states in South- East Europe, Serbia is passing through a process of transition. This ongoing process brings dynamic changes in different aspects of social and political realities, including legislation reforms and economical adaptations. These changes by all means reflect in shift from government to governance-the trend which is eminently a basis for further democratization of whole Serbian society. Adopting good governance principles and their integration in national legislation is certainly continuous process, and therefore very hard to be measured. Thus, the approach used in this paper might be useful to assess to which extent good forest governance principles are recognized and integrated in SFS's tasks prescribed by the national forest legislation.

Although any another set of governance principles could be used for the same exercise, Lockwood's principles seems to be appropriate as they have no precise criteria developed. The Serbian Law on Forests is adopted recently, so all prescribed tasks are not introduced into the practice yet. The goal of this paper was to analyze whether the general governance principles are represented in the Forest Law, so analysis of well-defined criteria is not possible at this stage of the research. However, the further research of governance principles and their integration into Serbian forest policy should include analysis of detailed criteria and indicators, particularly in the context of practical implementation of governance concept in day-to-day forest practice. Anyhow, methodological approach used in this paper proved as very practical. It could be used for analysis of legislation and other documents regardless what principles are chosen.

The results show that all principles of good governance are included in Serbian law on Forests. Due to well-balanced and relatively high level of some principles (capability, transparency, legitimacy, fairness, inclusiveness and accountability), SFS has solid legislative preconditions for introducing good governance concept in Serbian forestry sector and further improvements of national forest policy. On the other hand, the current institutional capacities of state forest service are facing a serious challenge of practical implementation of the tasks assigned by the new Law on Forests.

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Legal aspects of non–wood forest products in Serbia

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Abstract

Demand for high-quality products of biological origin has been increasing, in accordance with changes in objectives of forest management, which are caused by socio-economic development. Although non-wood forest products (NWFPs) have been collected and used for generations, only in recent decades their importance is recognized. The aim of this paper is to analyze legal framework important for NWFPs in Serbia.

In recent decades, gathering and utilization of non-wood forest products (NWFPs) have enjoyed a noticeable increase in the interest of both scientific and professional organizations, as well as non-governmental institutions and private sector. Since the Western Balkan countries have a very rich biodiversity, collection and use of NWFPs have a long tradition in this region. Although in the last decade in the region a number of modern laws and regulations in the field of forestry, which in some articles regulate NWFPs have been adopted, it is important to emphasize that these products are issues of laws in other areas, particularly the laws on nature and environmental protection.

The methods applied in this paper were selected according to the nature of the problem and purpose of research. Because of the specificity and comprehensiveness of the problem, the various primary (specific) research methods are applied. The research is based on a review and comparative analysis of laws and regulations in the field of forestry, nature conservation and environmental protection in Serbia.

In the analysis of the law, need for a multisectoral approach to this area is respected. Aim of this paper is to determine legislative points governing the area NWFPs through examination and analysis of laws and other legal documents in Serbia. It has been analised four important documents: Law on Forests of the Republic of Serbia, Serbian Law on Nature Protection, Rulebook on declaration and protection of protected and strictly protected species of plants, animals and fungi, Law on Environmental Protection and some other decrees.

The first part presents the results of analysis of legal regulations, technical literature and Internet sources, which refer to the institutions that are responsible for NWFPs in Serbia. The second part presents the results of the analysis of laws and other legal documents regulating the area of NWFPs in Serbia. In one very brief part it has been presented the organization of state forestry administration in Serbia, because it has been important for comprehensing the exact place of NWFPs in the system.

Througout the analyse of legal aspect of NWFPs it was very important to point out the facts regarding: definition the issues of institutional solutions, term of NWFPs, access rights, fee payment, control of utilization, organizational structure and issuing licenses.

Richness of biodiversity of Serbia, long tradition in collecting and use of NWFPs in this area and increased demand for NWFPs in foreign markets are good potential for further development of NWFPs sector. Because of this fact it is necessary to point out their importance through laws, acts, etc.

Key words: non - wood forest products, Serbia, law on forests, law on nature protection, act, rulebook

Background

The economic contribution of timber products, specifically in temperate forests and developed world, is fairly well understood, quantified, and recorded. Hence, normally, policy makers often

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assume that forests are of no economic value unless they are harvested. However, non-wood forest products (NWFPs), that include all biological products other than timber, are a traditional source of household income in rural areas around the world. Non-wood forest products can be divided into the following general categories:

- wild edible mushrooms;
- floral and greenery products;
- medicinal and pharmaceutical products;
- wild berries and fruit;
- herb and vegetable products;
- landscaping products;
- miscellaneous botanical forest products, such as honey and smoke woods for example (Sinclair T. et al., 2000).

As a result, NWFPs can provide an important means for economic growth, specifically to man-made resource poor and forest resource abundant geographical areas (Green S. et. al., 2000). It is the case with Serbia, too. Non-timber forest products (NWFPs) are a traditional source of income for households in central Serbia for generations (Nedeljković J., Keča Lj., 2010). The main products in Serbia are: wild berries (cash income about 5.5 mil. EUR in 2006, from which Vaccinium myrtillus is 2.2 mil. EUR), fungi (cash income is about 510 000 EUR in 2006, which is insufficient, because Serbia has much more potential for collecting fungi), medical herbs about 85 000 EUR, from which is the best cash income from Hypericum perforatum, honey (cash income about 7.5 mil. EUR)(2007).

Under the impact of climate changes it is increasingly obvious that forestry should rely more strongly on the multi-functional character of the managed resources. In addition to wood, there is a series of non-wood products and services offered by forests. Non-wood forest products and services consist of various fruits of forest trees and shrubs, mushrooms, various objects made of non-wood material, and especially forest social services, such as recreation, tourism, hunting, photo-safari, etc (Keča Lj. et al., 2009).

At the UN conference, held 1992 in Rio de Janeiro, it was agreed to promote the efficient use of all products and services from forests (Glück P., 2000). In this area are of importance Helsinki (H1) and Lisbon resolution (L1). In the Helsinki resolution states that it is necessary to encourage use of NWFPs in accordance with the principles of sustainable forest management (1993). Stressing the importance of socio-economic importance of NWFPs and services, Lisbon resolution states that their contributions to society and sustainable rural development should be included in policies and development programs of forestry and other sectors (1998).

Demand for high-quality products of biological origin has been increasing, in accordance with changes in objectives of forest management in Serbia, which are caused by socio-economic development. Although NWFPs have been collected and used for generations, only in recent decades their importance has been recognized in countries of Western Balkan. NWFPs can play an important role in improving the profitability of forest-based enterprises and maintaining competitiveness of the forest product to consumer chain in Serbia. The main driving forces for this trend are: the decreasing prices of wood products; the growing demand for environmentally friendly products, and policies supporting rural development. This was the basic idea to analyze the laws which are important for NWFPs.

Even if the demand for NWFPs in Serbia is increasing, there are still many obstacles to overcome before their full market potential can be realized. One of the greatest problems lies in successful legislative regarding these products.

The **aim** of this paper is to analyze laws regarding NWFPs in Serbia. Due to the specificity and comprehensiveness of the problem, the various general and specific methods and techniques, which are used in the study of analyzing legal aspect, have been applied. The main **goal** of this paper is to study similarities and differences in legal treatment of the NWFPs, based on an analysis of

legislative framework in Serbia and based on these facts find opportunities for improvement and harmonization of NWFPs legislation in Serbia.

Although, in the last decade in Serbia a number of modern laws and regulations are created in the field of forestry, it is important to mention that some of them regulate NWFPs.

Research Method

This paper is based mainly on the results of individual research activities and collective discussions. It was also very valuable to collect the experiences from different European network of scientists and professionals sharing information about experiences on the basis of legislative describing NWFPs at national level.

In order to carry out the investigation two major questions have been considered in this article:

- Which are the most important **laws** and the main factors affecting the competitiveness in the NWFPs in Serbia and which are the most important **problems** in each of them have to deal with?
- Which are the **key factors** affecting legislation of various types of NWFPs and, as a consequence, which are the possible **development paths** in order to improve the "state" of NWFPs in Serbia?

The research is based on a review and comparative analysis of laws and regulations in the field of forestry, nature conservation and environmental protection in Serbia. The method of analysis of content and composition are applied in the survey of legal regulations governing the area of NWFPs and in determination of the content of the law.

Analysis of results of NWFPs legal framework in Serbia

During the last decade, there was an adoption of a number of laws and regulations in the field of forestry, which also regulate NWFPs in Serbia. Nevertheless, in this area has not done enough to define legal framework. It is important to emphasize that NWFPs are issues of laws in forestry as well as in other areas, particularly the laws on nature and environmental protection. Therefore, it is necessary to apply multi-sectoral approach, while study the legal regulation of NWFPs in Serbia. Analyzed legal documents that regulate NWFPs were adopted in the last two decades in Serbia. This fact suggests that the governments made some step forward in recognizing their importance, after the political and social changes that have occurred in this region during the transition period (Nedeljković J. et al., 2010).

Laws, regulations and rule-books important for NWFPs are:

1. Laws of National Parks (2005/a)
2. Rulebook about circumstances of establishment of bank of gene of wild plants, animals and fungi (2009/a)
3. Rulebook about compensation measures (2010/a)
4. National strategy of sustainable development (2008/a)
5. Strategy of biodiversity in Serbia (2011)
6. Act about control of use and trade of wild flora and fauna (2010/b)
7. Law on Nature Protection (2009/b)
8. Law on Forests of Republic of Serbia (2010/c)
9. Law on Environmental Protection (2009/c)
10. Rulebook on declaration and protection of protected and strictly protected species of plants, animals and fungi (2010/e).

In **Law of National Parks** (2005/a) there are no directly and explicitly to provide information about NWFPs, but in §15, it is mentioned prohibitions and fine rules no appropriate using of forest products.

Rulebook about circumstances of establishment of bank of gene of wild plants, animals and fungi (2009/a) it is prescribed terms for one who wants to establish bank of gene: space, equipment, working mode, and also way of acting with biological material (§2,3,4).

Rulebook about compensation measures (2010/a) establish the measures for the most appropriate compensation measure and mitigating circumstances in nature (remediation, rehabilitation, establishment of new locality, etc.). In some places especially in national parks some species are much endangered (Vaccinium myrtillus) on Mountain of Kopaonik.

National strategy of sustainable development (2008/a) mention principles in the sector of forestry for multifunctional principles with the main idea of establishment of ecological balance. NWFPs are the part of multifunctional forestry.

Strategy of biodiversity in Serbia (2011) gives the list of protected plants (some of them are forest plants) and the conditions for commercialization and collecting of NWFPs.

Act about control of using and trade of wild flora and fauna (2010/b) gives the exact list of wild plants which can be collected and the compensation for its collecting (§1), register of number of permits, using and trade (§4), about skilled training regarding collecting NWFPs (§8), about way of collecting fungi and truffles and restrictions for each species (§9), about the way of obtaining the permit for collecting NWFPs (documentation, limits, deadlines, amounts, skills, equipment, etc.) (§15), total permitted amount of collected NWFPs is determined each year, based on the monitoring, which is conducted by the Institute for Nature Protection (§ 13 and 14), amount of 10% from collected products one pay to Ministry and the prices are previously established by Ministry of Trade (§17), fine rules (§21-23). Legal entity that has permission shall submit to the Ministry and Institute data of collected species, as well as species placed on the market, not later than January , 31 of current year for the previous year (§ 20). An entrepreneur who is engaged in the collection of protected species has an obligation to organize skill training of collectors, and to test theirs knowledge each year. Also, legal person shall issue to collectors a certificate of professional qualification that is valid for collecting season. One may collect protected species for commercial purposes only if has a certificate of professional competence (§. 8). This act (decree) gives the most information about NWFPs in Serbia and puts under control collection, use, and trade in wild species and determines amount of the fee. For the first time it has been mentioned something about ownership on NWFPs (in private forests, gathering of protected species can be done only with the permission of forest owner, and in state with the permission of the Ministry §5 and §14).

In the part of the **Law on Nature Protection** (2009/b), relating to the protection and preservation of wild species, states that it is forbidden "to destroy plants and fungi and their developmental forms, by picking, collecting, cutting or pulling from the root, at all stages of biological cycle and endanger or destroy their habitats" (§ 74). Processing, trading, import, export, transit, as well as plantation and farmers' cultivation of protected wild species and their parts can be made only by permit issued by the Ministry of Environment, Mining and Spatial Planning (§ 76 and 94). It has been mentioned which are the strongly prohibited techniques for collecting plants and fungi (§ 79).

In **Law of Forests** there are just a few sentences about NWFPs which is very insufficient. Article 20 of the Law on Forests of Republic of Serbia (2010/c) determines forest management plans. Among others, they include the project of other forest products' utilization, which is adopted for a period of five years and should include the location, total reserves, type, quantity, time and method of use and value of products (§ 32). They are mentioned like "other forest products" and not like non-wood forest products. The law requires that utilization of NWFPs could be done only with the permission of user of state forests or private forest owner and only in accordance with the project of utilization (§62).

The **Law on Environmental Protection** (2009/c) states that certain types of wild plants and animals can be collected and put into traffic only by permit issued by the competent ministry "after obtaining the opinion of the organization responsible for nature protection" (§ 27). "The permit is

issued to a legal entity, which is obligated to pay fee, whose amount is determined by special Act of putting under control the use and trade of wild flora and fauna. Funds generated from these fees are used specifically for the protection and improvement of the environment (§ 27). Import and export of endangered and protected species can be carried out under condition that there is no ban on trade and that exported quantity will not endanger the survival of the species and are based on the license issued by the Ministry of Environment, Mining and Spatial Planning (§ 28). Beside affairs of state administration with regard to inspection in the field of sustainable use of natural resources and environment, the Ministry issues permits for collecting and trade of wild species of plants and animals and approves cross-border traffic of protected plant and animal species. The Minister determines the scientific and professional organizations that provide evaluations that the export of endangered and protected species in the requested amount will not endanger survival of the species (§ 28)" (Nedeljković J. et al., 2010).

As a result of cooperation between the Ministry of Environment, Mining and Spatial Planning and the Ministry of Agriculture, Trade, Forestry and Water Management, the **Rulebook on declaration and protection of protected and strictly protected species of plants, animals and fungi** (2010/e) was adopted (Keča Lj. et al., 2009). The purpose of making a Rulebook is declaration of wild species of plants, animals and fungi, i.e. species that have special importance from the ecological, ecosystem, biogeographical, scientific, health, economic and other aspects for Serbia, for strictly protected or protected, in order to preserve biological diversity, natural gene fund, as well as establishment of measures for the protection of these species and their habitats (§ 1). In Appendix I and II, which are an integral part of the Rulebook, there is a list of strictly protected and protected wildlife species.

Discussion

There are few facts that can be noticed regarding NWFPs in all laws, rulebooks and acts in Serbia.

There is no exact **definition** of NWFPs in any Law, and that is the lack in the first place of Law of Forestry. On the other hand, worldwide attention is given to the wide range of functions forests have. The term Non Wood Forest Products and Services (NWFPS) is one of the terms used when talking about the broad scope of functions, besides timber production, that forests fulfill. International organizations and conferences are increasingly paying attention to the subject: In 1991, the Forest Products Division of the FAO Forestry Department established the program "Promotion and Development of Non Wood Forest Products" as one of the FAO's priority areas (FAO, 2002). At the 1992 UN Conference on Environment and Development (UNCED) in Rio de Janeiro consensus was achieved on promoting efficient utilization and assessment for recovering the full valuation of the goods and services provided by forests. One of the objectives of this initiative (laid down in Agenda 21, Section C of chapter 11) is "to improve recognition of the social, economic and ecological values of trees, forests and forest lands, including the consequences of the damage caused by the lack of forest". This message was taken over in Europe, both by the Helsinki Resolutions H1 and H2 as well as by the Lisbon Resolutions L1 and L2 (Glück, 2000). In H1 the following is stated: Forest management should provide, to the extent that it is economically sound to do so, optimal combinations of goods and services to nations and to local populations. Multiple-use forestry should be promoted to achieve an appropriate balance between the various needs of society.

A lot of terms are used interchangeably to describe the things we get from the forest other than timber. These include, but are not limited to: Non Wood Goods and Services (NWGS), Non Wood Goods and Benefits (NWGB), Non Timber Forest Products (NTFP), Non-timber Resources and Values (NTRV), Special Forest Products (SPF), Minor Forest Products and Miscellaneous Forest Products (MFP), etc. (Lund H.G., 1998). In Serbia synonym for NWFPs is secondary forest products. Also, in Act about control of using and trade of wild flora and fauna (2010/b) it is exactly **listed (defined)** which are wild plants which can be collected and most of them are NWFPs.

When the term NWFPS is clarified it is useful to try and make a classification of it. A number of approaches are possible. One approach is to look at the wide variety of different **values** that forests represent. If (some of) these values, from an economic point of view, are seen as (potentially marketable) products and services forests have to offer, the characteristics of these products and services need to be explored. Another approach is to take a look at the **legal or institutional framework** surrounding the different NWFPS.

According to the Law of Forests, individuals are entitled to **enter the forest** (**access to forests**) at their own risk, and to collect for their own needs any forest berries and dry waste-wood lying on the ground. While doing so, they shall be obliged not to damage the forest, not to interfere with the forest environment and to follow the instructions of the owner or tenant of the forest and their staff. This statement means that all forest stands are accessible to people, and people can pick NWFPs freely, and free of charge, basically irrespective of kind of forest ownership. Unfortunately, the Law of Forests does not mention mushrooms and medicinal plants explicitly, which can cause certain confusions and misunderstandings. But these products are widely collected and treated in the same way as forest berries. Another problem can result from the unclear statement, "for their own needs", which could be interpreted that NWFPs collected free of charge by forest visitors can not be sold. But in practice, NWFPs are sold freely (with exception of licensed sales of mushrooms). Regulation of **access rights** is under the jurisdiction of the Ministry of Agriculture, Trade, Forestry and Water Management in Serbia. In private forests, gathering of protected species can be done only with the permission of **forest owner**, and in state with the permission of the Ministry. Access right is tightly connected to **fees** paid for collecting NWFPs in commercial purposes. It has been made distinguish between commercial and individual uses of NWFPs in Serbia. The fee amount is prescribed by law and in Serbia is 10% from collected products one pay to Ministry and the prices are previously formed by Ministry of Trade in Serbia (2010/b).

If someone wants to collect NWFPs for commercial use he must have **permit** for NWFPs gathering. The procedure for obtaining the permit is quite simple. Permission is issued by the Ministry of Agriculture, Trade, Forestry and Water Management, after obtaining opinion of the professional organization that deals with nature conservation (Institute for Nature Conservation). Ministry issues permits for import, export and transit of these products as well. It has been issued about 850 permits in Serbia per year. This number varies by the year.

It has been established **inspection control** in protected natural resources which deal with the environmental protection over collecting NWFPs. Law on Nature Protection (2009/b) indicate strongly prohibited techniques for collecting plants and fungi. One who does not accept these rules are financially fined (2010/b). However all commercial collectors must have passed **skill exam and obtain license** for gathering NWFPs (2010/b). That license is valid for collecting season. In Serbia amounts of NWFPs, which are considered as personal use, have been clearly defined through Act about control of using and trade of wild flora and fauna (2010/b).

A precondition for the sustainable use of NWFPs is their involvement in the processes of forest management planning (Nedeljković J. et al. 2010). According to this, the laws of forests in Serbia require preparation of **special planning documents** (programs/projects of NWFPs use), which are related to these products and good because one can follow the way of commercialization of these final products.

It can be realized that a lot of **organizational structures** have been involved in NWFPs issues. On one hand that are different stakeholders, Ministries, Nature protection organizations, collectors, etc. The main actors are: Institute for Nature Conservation of Serbia, Province Institute for Nature Conservation of Vojvodina, Ministry of Environment, Mining and Spatial Planning, Ministry of Agriculture, Trade, Forestry and Water Management (Forest Directorate), Therefore it can be concluded that the vertical organization regarding NWFPs is not so simple.

Conclusions

Forest concepts and policies concerning NWFPs can be generally seen in the following aspects.

Beside the fact that Serbia is very big treasure of NWFPs it can be concluded that they are not very good defined in any legal document in Serbia.

The most information about NWFPs one can get from Act about control of using and trade of wild flora and fauna (2010/b), and the most date should be in Law of Forests. Therefore, it should be suggested to wide out the Law of Forests in Serbia and paid more attention to NWFPs, because cash income from NWFPs in Serbia is not neglect.

Formulation of laws regarding NWFPs is satisfactory, but the implementation of it in practice is unsatisfactory. It can be suggested that the act or rule regarding NWFPs can be created on the state level, where all the necessary information can be found (about collection, permits, fees, inspection, etc.).

During transition period in Serbia legal aspects regarding NWFPs have been occurred. The most acts and laws date form the first decade of XX century. They have to be innovated and modernized, because in some parts of Serbia NWFPs are very significant income.

In order to implement sustainable NWFPs utilization, it is necessary to include them in process of forest management planning (Lund, H.G., 1998). Considering the laws of forests in Serbia predict existence of specific planning documents, representatives of regional and local authorities and local population, should be included in their preparation, but also in preparation of rulebooks and regulations, and eventual strategy for sustainable utilization of NWFPs, in order to ensure the presence of all interest groups. This would ensure the introduction of local communities with opportunities to increase income by using NWFPs, but also with obligations, the methods and conditions of gathering and utilization of NWFPs. In this regard, it is necessary to connect the political objectives with efforts to achieve sustainable NWFPs utilization, through the cooperation of all stakeholders and interested parties.

A lot of stakeholders are included in NWFPs affairs. Competence in the field of NWFPs is divided between state administration responsible for forestry and nature conservation and protection, and on the other side trade and business.

As we can see from the descriptions and examples above, the different influencing factors are strongly interrelated regarding NWFPs in Serbia. Describing one factor automatically leads us to consider direct or indirect influences from other factors. It is not easy to say if one factor or law is a stronger influence than the rest. If we do have to highlight some determinants than it would probably be the availability of forest resources and the fact that building and planning legislation is often perceived to be a limitation on legislation possibilities in Serbia. But the main conclusion remains that all laws, acts, regulations and rulebooks are strongly interwoven.

Inevitably the total range of possible influences must be considered in order to come to a better understanding of NWFPs in Serbia (Janse G., 2002). If factors are neglected when we are making decisions on NWFPs, we will not be making optimal decisions, neither for the public nor the forest owners.

Acknowledgement: Scientific researches on the paper are financed by the Ministry of Science and Technological Development of Republic of Serbia, in the framework of scientific projects: “Sustainable management of forest potential in Republic of Serbia”- ЕВБР 37008. and "Forest plantations in the function of increase of fores afforestation in Serbia” - ТР 31041.

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Forest Law regulations on private forests in Serbia, the Federation of Bosnia-Herzegovina and Macedonia

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Abstract

Private forests in Western Balkan countries occupy significant part of total forest area, and the share of private forests in these countries varies between 10% in Macedonia and 47% in Serbia. Nevertheless, a significant lack of research on private forests in this region remains, especially related to social, economic and policy aspects. Due to formal political tendencies to join EU, the legislative framework including forest legislation in these countries should be adapted to EU directives and international forest policy principles. Among the new forest policy actors, private forest owners seem to be the strongest ones, so there is a need for better understanding of the regulations on new Forestry laws referring to the issues on private forest ownership. Forest laws in Western Balkan countries are relatively new and they caused some changes in rights and duties of private forest owners. This paper offers an overview of national forest legislation concerning private forests in Serbia, Federation of Bosnia-Herzegovina (hereinafter: FB-H) and Macedonia. For this, a text analysis of both Forestry laws and related scientific papers is used. Furthermore, an appropriate SWOT analysis is conducted as a tool for comparative analyses between the countries.

The results point out almost the same level of legally prescribed obligations for private forest owners and State Forest companies. However, new forest legislation regulates rights and duties of private forest owners more precisely than the previous one. The new Forest Laws prescribe some stimulating regulations for private forest owners such as support for creation of private forest owners associations, incentives and subsidies, participation in decision making process etc. Although some improvements of current forest legislation in terms of precise regulation of private forest ownership are obvious, the fact that this type of ownership has significant potentials for wood mobilisation, biodiversity protection, carbon storage and rural development, refers to the need for further research focused on political and economical aspects of private forests in Western Balkan countries.

Keywords: forest legislation, private forests, Western Balkan countries, forest policy.

Introduction

As the result of tremendous political changes in Serbia, the Federation of Bosnia-Herzegovina, and Macedonia during the nineties of the past century, and at the beginning of this century, forest ownership pattern in these countries changed and private forests surface increased. Due to this, private forest ownership became an important issue in national forest sectors. Still, it is about small-scale forest estates, with relatively low wood production, aimed mainly to satisfy domestic needs for fuel wood. The share of private forest varies between 10% (Macedonia) and 47% (Serbia). The basic data on forests in three analyzed countries are shown in Table 1.

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Table 1. Basic forest data in Bosnia-Herzegovina, Macedonia and Serbia

Country		Private forests (ha)	State forests (ha)	Total (ha)
B-H	FB-H	293.563	1.206.616	2.709.769
	RS	229.874	979.716	
FYR Macedonia		109.185	1.006.693	1.091.857
Serbia		1.171.248	1.081.152	2.252.400

Sources: http://www.usitfbih.ba/sumarstvo_bih.html and http://www.mkdsumi.com.mk/, http://www.mpsv.gov.rs

The new forestry legislation in these countries was enacted in the past decade (Table 2.) and it regulates private forest ownership more accurately than the previous ones.

Table 2. Laws on forests in Bosnia-Herzegovina, Macedonia and Serbia

Country		Year of adoption	Status
B-H	FB-H	2002	Not valid[8]
	RS	2008	Valid
Macedonia		2009	Valid
Serbia		2010	Valid

Source: Authors

In the previous period, forestry research in Western Balkan region has been mainly focused on state owned forests and bio-technical aspects of forest management. Relatively modest part of this research has been focused on forest policy and economics. Thus, very few studies dealt with legislative issues in private forests (Avdibegović, 2004; Nonić et al, 2008; Glück et al, 2010). Since it is dealing with forest law regulations on private forests in Serbia, the Federation of Bosnia-Herzegovina and Macedonia, this paper might be interesting for wide audience. Private forest owners (hereinafter: PFOs), will be able to understand to which extent legislative framework in analysed countries may limit or promote different aspects of private forests management. Moreover, the officials of public forest service, that traditionally have the strongest role in national forest policy, will get a regional overview of the legislation related to private forests issues. Although private forest owners have more rights than before, the biggest part of forests management activities, particularly in small scale private forests, is still either controlled or even executed by public forest service. On the other hand, public forest service provides a number of supporting measures to private forest owners. This paper offers a comparative analysis of Forestry Laws provisions on private forests, useful for both private forest owners and public forest service.

Methodology

The aim of this paper is to offer comparative analysis of the Forestry Laws in Serbia, the Federation of Bosnia-Herzegovina and Macedonia as well as to point out similarities and differences related to the regulations on private forests. In order to investigate how new forestry laws are dealing with private forest ownership, two main questions were identified as follows:

- To what extent forest legislation is dealing with private forest ownership issues?
- What is the level of applicability of current forest law regulations related to private forests?

To investigate similarities and differences in these laws, the following aspects of private forest ownership have been identified and used in comparative analysis:

- Rights and duties of private forest owners

[8] Law on Forests is not valid from the end of 2009. because the Constitutional Court found that it is not in accordance with the Law on principles of Local self-government (2006). The new Law on Forests is in parliamentary procedure.

- Forest management planning documents in private forests
- Financial instruments for improving private forests
- Interest associations of Private Forest Owners
- Management and utilization of private forests
- Technical support in private forests

The analysis of forest legislation of these three countries offers some qualitative data that are used for further comparison and SWOT analysis at the national level. Within SWOT, internal and external factors are analyzed and summarized in order to attain a systematic decision situation. However, there are several shortcomings of using SWOT, because it results in listing and quantitative examination of internal and external factors, and groups the factors in strength, weakness, opportunity and threat groups, but it is not able to identify or analytically determine the most significant factor or group in relation to the examined strategy.

Results and discussion

Forest Laws in the FB-H and Macedonia have no regulations specifying rights and duties of private forest owners toward their forests. Nevertheless, in these two laws, rights and duties of PFOs are to carry out forest protection measures and improve conditions on their forests. In Serbian Law on Forests: "Forest owner, i.e. forest user shall implement the measures of forest protection, to protect forests and forest lands against degradation and erosion, to execute forest management plans, and to perform other measures stipulated by this Law and regulations passed based on the Law."[9]

Types of forest management plans and programs for private forests in FB-H, Macedonia and Serbia as well as their validity are presented in Table 3. In FBiH, the Law on Forests prescribes that forest management plan has to be prepared for all forests on the territory of one municipality, and it shall be drawn up for period of 10 years. Adopting of forest management plan for private forests is under the authority of the Cantonal Forest Office. Project of Execution is laid down for the territory of one Cadastral Municipality if the annual felling exceeds 200m^3. Cantonal Forest-Development Plans are prepared for the territory of one Canton, for the period of 10 years and must be in accordance with the Federal Forestry Program, which is a long term document, and defines general forestry and wildlife management policies of FB-H..[10] In Macedonia, the strategic document for national forest policy is Strategy for Sustainable Development of Forestry and it is laid down for the period of 20 years. Lower level document is Special Forest Management Plan, which is obligatory for private forests that cover an area of more than 100 hectares, and is laid down for the period of 10 years. The costs of preparation this plan are covered by private forest owners. Forest Management Program is a separate category, and it is laid down for the private forests which cover an area of less than 100 hectares. The finances for preparation of this program are covered also by PFOs. Two documents, which are also important for private forests, are Annual Plan and Plan of Execution, which is the part of Annual plan.[11]

[9] Law on Forests Serbia,§7
[10] Law on Forests FB-H,§17,§18,§20,§22
[11] Law on Forests Macedonia, §23,§24,§29,§30,§31,§32

Table 3. Types and validity of forest management plans and programs concerning private forests

Country	*Types of plans and their validity (years)*
Federation of B-H	- Forestry Program of the Federation of B-H (long term) - Cantonal Forest Development Plan (10) - Forest Management Plan at the level of one municipality (10) - Project of Execution
Macedonia	- Strategy for Sustainable Development of Forestry (20) - General Forest Management Plan - Special Forest Management Plan (10) - Forest Management Program - Annual Forest Management Plan(1) - Plan of Execution
Serbia	- Program of Forestry Development (10) - Forest management Program (10) - Regional Forest Management Plan (10) - Annual Forest Management Plan (1) - Operational Project of Forest Management - Project of Utilization of other forest products - Project of Utilization of other forest functions

Source: Authors

In Serbia, umbrella document for the entire forestry sector is Program for Forestry Development, which determines the directions of forestry development, with the Action plan for their implementation. This program is laid down by the National Assembly for the period of ten years. Regional Forest Management Plan is obligatory for the forest owners whose individual property is larger than 100 hectares, and it is financed by the owners. Forest Management Program is laid down for managing units encompassing the forests of several forest owners whose individual holding does not exceed 100 hectares, on the territory of one municipality, for period of 10 years, and it is financed and laid down by the Ministry. The implementation of this Program is enforced by the following documents:

- Annual Forest Management Plan
- Operational Project of Forest Management
- Project of Utilization of other forest products
- Project of Utilization of other forest functions[12]

In Federation of Bosnia and Herzegovina, private forest owners are obliged to allocate funds for basic biological reproduction (15% of the gross income from the approved quantity of wood, calculated on the basis of market prices). These funds should be paid to the Fund for Enhancement of Forests.[13] In Macedonia, private forest owners are paying only for the extended reproduction, in the amount of 3%, calculated on the basis of timber value free on board lorry road. The finances for simple forest reproduction are provided only by the entities that manage State owned forests in the amount of 10%, of the value of the timber, free on board on lorry road.[14] In Serbia, PFOs or their Associations which owns more than 100 hectares are obliged to allocate resources for the forest reproduction, and for the depreciation of intensive forest plantations. Basis for this calculation is market value of the wood products at the felling site, in the rate of 15%. Private forest owners are also obliged to pay the compensation for the utilization of forests and forest land in the rate of 5%, calculated on basis of market value of wood products produced at the felling site decreased for felling costs. The evaluation of wood products is done during the process of tree marking by the Public Forest Service or a legal entity with the appropriate licence for this kind of activity.[15]

[12] Law on Forests Serbia,§19,§23,§30,§31,§32
[13] Law on Forests FB-H,§25,§26
[14] Law on Forests Macedonia,§94,§95
[15] Law on Forests Serbia,§77, §78, §85

Law on Forests in FB-H prescribes that: "The Cantonal Forest Office shall provide financial and professional support for the establishment and functioning of different forms of forest owners associations where the reduced sizes of forest parcels, the fragmentation, or dispersal of parcels of different owners are contrary to sustainable and efficient forest management."[16] Macedonian Law on forests also prescribes that private forest owners can organize themselves into a Private Forest Owners Associations (hereinafter: PFOAs) which should inform their members about the programs, procedures, and possibilities for supporting private forestry sector. Also, these associations should perform expert and technical activities in private forests, and represent the interests of Association members.[17] In Serbia, PFOAs, which own more than 100 hectares of forests (owned by individual owners), have the priority for getting the subsidies from the Budget funds. Advantages of organizing private forest owners are that these Associations protect their rights and interests, in compliance with special regulations on associations. The Law also prescribes that private forest owners and Private Forest Owners Associations shall be entered in the Register of forest owners.[18]

According to the Law on Forests in FB-H, private forest owners are responsible for managing their forests, according to the management plans, which are co-financed by owners' own means and the Cantonal Ministries (from the Cantonal funds). Private forest owners are obliged to make tree marking before felling, and this should be done on the basis of decision of the Cantonal Forest Office or other authorized person, in accordance with the Forest Management Plan. Forest infrastructure must be planed, built and maintained with respect to the technical and economic circumstances and ecological conditions of the forest ecosystem. Before a road is built, investors must prepare the project, and the permission for the construction should be required. For the construction of forest roads, means from the Cantonal fund for biological reproduction can be used. PFOs are obliged to protect their forests against fire, and Cantonal Forest Offices shall regularly report on all fires in the forests of private forest owners. It is forbidden to deposit waste, garbage and polluting substances in forests, and owners are obliged to displace waste from the forest. They have the right on compensation of costs from a legal entity or a physical person that deposited waste in the forest. Also, owners must protect their forest from pests and diseases, and protect endangered species. PFOs can cultivate and use secondary forest products or allow their utilization to other legal and physical entities in the quantity designated in the Management Plan. The Law also provides the list of plants that are forbidden to use.[19]

In Macedonia, the Law on Forests prescribes that management activities in private forests shall be performed by the forest owners, private forest owners associations, legal entities and licensed persons. Tree marking according to this Law shall be done by Public Forest Enterprise "Makedonski Šumi", or by a legal entity or a physical person who owns the license. Felling in private forests can be done with the approval that is issued by state administrative body competent for forestry matters, which also issues delivery notes for timber. The design and construction of the forest roads are elaborated in special plans, and the optimum of openness of forests is defined by the general plan. Construction and maintenance of forest roads in private forests are co-financed, but this is done under the supervision of entity that manages the private forests and the representatives of local self-government. Other users of forest roads in private forests are obliged to pay a usage fee to the owner of the forest. According to this Law:" The protection of the forests and forest land includes measures and activities implemented with the aim of carrying out protection of the biotic, abiotic, and other factors that can cause damage in the forests."[20] The owners of the forests shall implement the measures for protection of the forests in cooperation with an authorized person who is responsible for diagnosing and reporting the situation in the private forests, and if the owners don't implement protection measures, then forestry inspector shall instruct their implementation and the costs shall be covered by the owner. Other forest products can be used in the

[16] Law on Forests FB-H,§55
[17] Law on Forests Macedonia,§93
[18] Law on Forests Serbia, §73, §74
[19] Law on Forests FB-H,§6,§7,§9,§10,§13
[20] Law on Forests Macedonia§47

forest only if they are envisaged by the special plan and in the manner that shall not cause extinction of certain plant species or shall not damage the forest.[21]

Management of private forests in Serbia with individual estate exceeding 100 hectares can be done by their owners or by a legal entity with the license. In Associations, which own more than 100 hectares, management can be done with professional support of a legal entity with the license.[22] Management of private forests whose individual property does not exceed 100 hectares is done by Public Forest Service. Legal entity or Public Forest Service provides the professional and advisory support to the owners of private forests for the following activities:

- Drawing up of Annual Plan;
- Drawing up of the programmes of new forests establishment and enhancement of the existing forest;
- Tree marking;
- Other professional-advisory affairs.

Tree marking in private forests shall be performed by the Public Forest Service or by the legal entity with the license, and it is allowed only in the presence of the forest owner or the person authorized by the owner, and shall be allowed only to the owner who provides the proof of the property and show the boundaries of his forest on the spot. Marking of felled wood, and wood assortments as well as maintenance and establishment of forest order shall be done by forest owner. Trade of wood and wood products cannot be done if wood is not marked and without delivery note. Planning, construction and maintenance of forest roads shall be performed by a professional employed by a legal entity with financial support from local self-government. These roads shall be maintained regularly by the forest owner, and forest owner can set the terms under which forest roads can be used by the other persons. Forest owner shall monitor the effects of biotic and abiotic factors on forest health and timely undertake measures for the protection of forests and forest lands and if forest owner does not fulfil these obligations, the competent organ shall ensure the execution of the obligation at the expense of the forest owner. If a physical or a legal entity makes damage to forest, they shall compensate for the resulting damage to the forest owner.[23] In this Law it is prescribed that:" The harvesting of other forest products (forest fruits, medicinal and other plants, quarrying of stones, sand, gravel, humus, as well as bee-keeping, etc.) can be done with the consent of the forest user or owner, and in compliance with the Project of utilisation of other forest products."[24]

From Table 4 we can notice that technical support in private forests in Federation of B-H is provided by Cantonal Forest Office and Cantonal Public Forest Enterprises. In Serbia and Macedonia, technical support in private forests is provided by Public Enterprise and a legal entity with the license.

Table 4. Providers of technical support in private forests

Country	*Technical support*
Federation of B-H	*Cantonal Forest Offices* *Cantonal Public Forest Enterprises*
FYR Macedonia	*Public Enterprise Makedonski Šumi* *Legal entity with the license*
Serbia	*Public Forest Enterprise* *Legal entity with the license*

(Source: Authors)

[21] Law on Forests Macedonia,§48,§67,§69,§72,§74,§75
[22] Law on Forests Serbia,§70,§71,§72
[23] Law on Forests Serbia,§42,§44,§58,§60,§61,§65
[24] Law on Forests Serbia, §62

SWOT Analysis of Forest Laws in Serbia, the Federation of Bosnia-Herzegovina and Macedonia

Table 5. SWOT analysis – Law on Forests Serbia

	INTERNAL	*EXTERNAL*
POSITIVE	***STRENGTHS*** - Getting financial support for making annual plans - Association is enabled (§73) - All owners and associations must be registered in PFOs register (§74) - Property fragmentation is prevented - *Law support establishing of Associations (§73)* - Compensation for protection, utilisation and enhancement of multiple-use forest functions - 0,025% (§86) - Making of planning documents for PFOs who do not own more than 100 ha is financed by the State - *The state must compensate damage to PFOs* - To be a members of forest council (§75) - *PFOAs have an advantage for getting subsidies (§73)* - *Expert and financial support for road construction (§65)*	***OPPORTUNITIES*** - Possibility of enlargement of parcels in exchange with the State (§98) - Participation of private sector in forest management is available - Budget Fund provides subsidies to PFOAs - EU funds for rural development (§82) - Support to Associations providing help for lower costs and higher profit - Associations have a chance to get subsidies from other sources (§82) - Strengthening PFOAs and participation in decision making process - Participation in Forest Council provides a chance for PFOs to change some provisions of the Law (§75) - Law on Restitution strengthens the position of actors in private sector – Law on restitution of forests and forest land to the Church(adopted), and general Law on restitution (in process of adopting)
NEGATIVE	***WEAKNESSES*** - *Still strong dependency of PFOs on Public Forest Administration* - *Obligation for management plans (§20)* - *Obligation for tree marking (§57)* - *Obligation for transport licenses (§60)* - *Some articles of the Law leave space for corruption* - *Some articles in the Law are not precisely defined* - *High amount of penalties (§111)*	***THREATS*** - *PFOS indifference to the provisions of the law due to the small area* - *Different interests of owners living in rural and urban reas* - *Cadastre-tardiness* - *Indifference to education* - *Lack of a strong interest associations of PFOs so far (in terms of number of members)*

Source: Authors

Serbian Law on Forestry prescribes a lot of new possibilities for development of private forest ownership, particularly ability in cooperation among PFOs and between PFOs and the Public forest administration. Public forest administration provides two types of support for certain activities in management of private forests; the direct ones (e.g. financial subsidies), and indirect ones (e.g. advisory services). Furthermore, it is prescribed that PFOs should have a representative in Forest council, and has more opportunities to influence decisions on the national level. Also, normative

preconditions for the consolidation of private forest holdings are created to avoid further fragmentation of forest holdings (size of individual parcels cannot be less than 0,5 hectares).

The fact that PFOs are still dependent on Public Forest Administration can be treated as a shortfall of this Law. Besides, it proposes that PFOs pay penalties for each task of management plan which they do not fulfil. One of the weaknesses is that planning is complicated, because PFOs need different types of management plans for their forests, as well as administrative procedure when they want to do certain kind of activities in their forests (e.g. felling). Also, some of the articles in this Law are not well defined, and it is possible to abuse them. The amount of money that PFOs and Associations that own more than 100 hectares are paying for biological reproduction are equal to those which has to be paid by the State forest enterprise.

Table 6. SWOT analysis – Law on Forests FBiH

	INTERNAL	***EXTERNAL***
POSITIVE	***STRENGTHS*** - *Rights of PFOs are well defined* - *Strong support on Cantonal level (§6)* - Right on compensation for any kind of damage (§7) - *Included in planning process (§17)* - Paying for biological reproduction – permanent financing for jobs in forestry (§26) - Trading of wood is banned if it is not marked (§37) - Association is enabled (§55)	***OPPORTUNITIES*** - *Reduced responsibility of the owner in case of violation of third parties in their forest (§15)* - *Public access to plans is provided (§18)* - *NGOs involvement in assessing whether and how planned work are carried out (§29)* - For the development of the underdeveloped parts funds from the Cantonal Fund are allocated - This law prescribes training of forest owners in connection with performing works in forest (§30)
NEGATIVE	***WEAKNESSES*** - Contradiction on management levels - Contradiction in financing (§47) - Complicated planning (§17,§18,§19) - Limited rights when purchasing a state forest - High penalties	***THREATS*** - Amount of funds for biological reproduction that they are paying is high (§26) - Only Cantonal Public Forest Enterprises provide technical support in private forests

Source: Authors

Advantages of the Law on Forests in FB-H are that the rights and duties of PFOs are clearly defined, and they have very strong support on Cantonal level for all activities in their forests, which is very important for the quality of works carried out. PFOs are paying for biological reproduction in a same way as Cantonal Public Forest Enterprises, and through that is ensured permanent financing in forestry. One of the strengths is that for any damage that is committed in their forests, PFOs have right to be compensated. Association of PFOs is enabled, and for the development of undeveloped regions, funds are prescribed on Cantonal level. To raise the quality of performed works, this Law prescribes training of PFOs. Also one of the advantages of this Law is that private sector and NGOs are included in process of evaluating of performed works, so transparency is on higher level. A shortfall of this Law is that it prescribes more taxes and penalties than subsidies for PFOs. Amount that they are paying for biological reproduction is high, so that can be a trigger for criminal activities in forestry. One of the treats can be that only Public Forest Enterprises provide technical support to the private forest owners and the Law does not prescribe technical support from the legal entities with the license for doing professional jobs in private forests.

Table 7. SWOT analysis – Law on Forests Macedonia

	INTERNAL	EXTERNAL
POSITIVE	**STRENGTHS** - For any activities in private forests, physical or legal subject must have prior license (§93) - Forest management unit may be also comprised of forests of several owners and users which jointly possess more than 100 ha of forests and forestland and then they can make management plan (§27) - Obligatory management plans, which can be updated during the planning period - Required scope of silviculture works executed is defined (§44) - Public Forest Administration help PFOs with expertise to protect their forests - In case of forest fire private owners are entitled to compensation from the initiator of the fire (§56) - Forests will be guarded by Forest police and no compensation is required for that (§81) - Allocating funds for extended reproduction (§95) - Associations of interest are enabled(§93) - Financial and technical support for road construction (§74)	**OPPORTUNITIES** - *PFOs can enlarge their properties in exchange with State (§17)* - PFOS can be a members of Forest Council and to have influence on decision making process (§26) - PFOs have to participate in preparation of planning documents (§38) - Including public in planning process for establishing Strategy and General Management Plan - Data are available for public but they need to pay for that (§40) - Getting subsidies from the extended reproduction
NEGATIVE	**WEAKNESSES** - *Rights of private forest owners are not detailed regulated* - Complicated planning (§23) - Concerning the average size of parcels in private forests, the majority of subsidies are unavailable to them - Some articles in the Law are not precisely defined - Complicated administrative procedures	**THREATS** - *Complicated administration, and permits (§67)* - *In case of exchange of forests, evaluation is done by State (§17)* - *High penalties for offence in managing of forests* - *Supervision of performed works is done only by State Forest Service*

Source: Authors

Advantages of Macedonian Law are that each person who manages private forests needs a license, so the quality of performed works is ensured. One of the strengths is that the volume of performed works is prescribed, and PFOs cannot perform works in the amount less than 50% of the plan. Advantage is also that they pay only for extended reproduction so they will more likely pay for this because the amount is not high (3%). In the case of forest fires in their forests that has been committed by a physical person or a legal entity, PFOs have right to be compensated, and in the protection of their forests from pests and diseases State Forest Service helps them with the expertise. One of the opportunities of this Law is that PFOs should have a representative in Forest Council, so they can have certain influence in decision making process. An opportunity is that they can enlarge their parcels in process of changing their forests with the State, and that for certain

activities in their forests they will get subsidies. Also the association of PFOs is enabled. Economic capability of PFOs for performing some activities in their forests, which they are obliged to do, is not taken into consideration. Planning is complicated as well as administrative procedure for performing certain kind of works. A weakness is that the size of parcels in private forest is not large, and some subsidies, which are prescribed by the Law, are unavailable for them.

Summary and Conclusions

The current conditions of private forests in Serbia, the Federation of Bosnia-Herzegovina and Macedonia as well as their high productive potentials, require an organized and effective support from public forest administration but also an active participation of PFOs in order to improve ecological, social and economical functions of these forests. Analysing Laws on Forests in these countries shows that the majority of provisions concerning private forest ownership are either applicable or it will be applicable after adoption of some regulations. These Laws are now dealing more with private forest ownership then the previous ones and according to these laws, private forest owners now have more rights. In Serbia and Macedonia they are more included in decision making process through participation in the Forest Council. Rights and duties that PFOs in these countries have are similar to those prescribed for Public Forest Enterprise. It holds particularly for the content of forest management plans, obligatory tree marking and required cutting permits. As concerns forest management plans, the situation is similar in Macedonia and Serbia where PFOs and Associations which posses more than 100 hectares need to posses different types of plans, and to finance their preparation, while the plans for PFOs with smaller property size are financed by State. The situation in the Federation of Bosnia-Herzegovina is different - PFOs are less burdened with management plans and their preparation is financed by the Cantonal institutions. Amount of means that PFOs are allocating for basic reproduction are the same in Serbia and FB-H (15 %), but basis for calculation is different. PFOs in Macedonia are not obliged to allocate these funds. Extended biological reproduction is prescribed in Serbia (5%) and Macedonia (3%). All three Laws support formation of Private Forest Owners Associations, which will represent the interests of their members. These associations should put interests of their members in public political agendas, and by doing so protect the rights of their members. In the Federation of Bosnia-Herzegovina, the financial support for the members of associations can be provided. All three Laws prescribe that private forests are managed by their owners. Besides, in Serbia and Macedonia, private forests can be managed by the Private Forest Owners Associations, with professional support of legal entity with the appropriate license. As concerns utilization of private forests, all activities must be in accordance with management plans, and PFOs need to do different administrative jobs before cutting (e.g. obtaining cutting permits and delivery notes). The main difference between technical support in private forests are that in Serbia and Macedonia it can be provided by Public Forest Enterprise or legal person with licence, while in FB-H it can be done only by Public Forest Service. The Law on Forests in Serbia prescribes that owners of forests can set up forest guard service, which will protect forests against unlawful activities, while Macedonia Law prescribes establishing of the Forest Police (financed from the State budget) to protect State and private forests. All three laws are quite environmentally oriented, for example in the Law of FH-H the list of endangered plant species is prescribed. All three Laws have in common that too many charges and taxes are prescribed comparing to relatively modest possibilities for subsidies for certain activities in private forests. Forest management planning is too complicated and from that view, private forest ownership is probably over-regulated by these Laws. One can expect that after finishing denationalization, restitution and privatisation processes, the new actors of forest policy will emerge in all three countries. It would certainly lead to redistribution of power, and request different attitude of public forest administration towards private forest ownership issues. Involvement of private forestry sector in forest policy making processes will increase legitimacy of agreed decisions and lead to more plural and democratically-oriented forestry sector – the key preconditions for further development of national forest policies.

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Transition process in forestry in Serbia and selected CSEE countries: policy and property rights reforms

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Abstract

The term transition means the process of transformation from a socialistic to capitalist socio-economic system, i.e. transformation from centrally planned to a market-oriented economy. The existence of private property is a basic element of market economy and private sector development is the main feature of transition process.

In the former socialist states of Central and Eastern Europe, the process of economic transition is mainly connected with nineties of the XX century. However, in Serbia process of transition has truly started in 2000, when favourable social and political conditions for its implementation were gained. This process started significant socio-economic reforms, which have had great influence on forestry sector.

The aim of this paper is to analyse reforms that occurred in process of transition in forestry sector, above all, policy, legislative and institutional reforms, as well as reforms in ownership structure, i.e. restitution process and associating of private forest owners in Serbia and in selected Central and Southeastern European (CSEE) countries. In the first part is given an overview of main transition processes in forestry sector in Serbia, and in a second analysis and comparison with reforms in forestry sector of former socialist countries of Central (Czech Republic, Slovakia) and Southeastern Europe, which are EU members (Slovenia, Romania) or in final stage of joining EU (Croatia).

The purpose of this comparison is to determine the similarities and differences in the reform of selected countries, as well as interpretation of processes occurring in the forestry sector in Serbia. Despite the obvious changes (adoption of new strategic and legal framework, reform of state administration, as well as restitution of forests to churches and monasteries), it can be concluded that the forestry sector, after more than 10 years since the beginning of transition process in Serbia, is still not fully reformed. Above all, it is related to the necessity of adopting and implementing of NFP, the development of decentralized forest service, ownership transformation of public enterprises, organization of small and medium enterprises, finalization of privatization and restitution and so on.

Key words: forestry, transition, reforms, ownership, restitution, Serbia

1. Introduction

In Central and Eastern European countries that were under the central planned economies, forest resources and forest management were controlled by the state for more than four decades (FAO, 1998). With the political changes during the transition period, countries have begun to explore the possibility of reforms in the forestry sector, as well as the return of confiscated property to former owners through the process of restitution. Most of the countries clearly announced intention to restructure the society, starting hesitantly (as in Romania in the 1990s) or rapidly (as in Hungary),

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but as the time evolved, also the speed of the reforms and restitution progressed in all countries (Tykkä et al., 2010).

Restitution process in forestry is very important, mainly because of large areas of forests, which should be returned to previous owners and because of significant influence of restitution on current forest ownership structure.

Public forest administrations in most of the analyzed countries, because of lack of political lobbying and large public pressure, very quickly transferred large areas of forest resources to private ownership. In that way, because of the hastiness procedure, additional problems were caused, such as fragmentation of already existing small forest holdings.

Considering this, the main goal of this paper is to analyze policy, legislative, institutional and property rights reforms that occurred in process of transition in forestry sector in Serbia and to compare these reforms with changes in selected Central and Southeastern European (CSEE) countries. Purpose of this comparison is to determine the similarities and differences in the reforms of selected countries, as well as interpretation of processes that have occurred in the forestry sector in Serbia.

In this paper were applied different research methods. The method of comparative analysis was applied for the analysis and mutual comparison of the similarities and differences of the reforms that occurred in analyzed countries. Beside that, the case study method was also applied. In total, six countries, including Serbia, were analyzed. Four countries are members of the EU: Czech Republic, Romania, Slovakia and Slovenia, while two countries, Croatia and Serbia, are in the process of joining the European Union.

These countries were selected based on similarities to Serbia in the distribution of forest resources and possibilities of comparison of processes that follow transition period in forestry. In addition, some of the analyzed countries are good examples of the implementation of these processes, which experiences could be very helpful for future EU members.

2. Policy, legislative and institutional reforms

2.1. Serbia

The transition process, which in Serbia truly started after political changes in 2000, caused significant socio-economic reforms that had a great impact on forestry sector. The main stakeholders in forest policy in Serbia in this period are: state forest administration (ministries and other state bodies), public and private enterprises for forest management, professional associations, private forest owners, scientific and educational institutions and NGOs.

During transition period, great importance for development of forestry sector had the definition of strategic and legislative framework, as well as institutional changes. By 2006, there was no comprehensive development strategy in forestry sector in Serbia. In 2006, Forestry Development Strategy was defined and adopted, as a result of cooperation[6] of Ministry of agriculture, forestry and water management, i.e. Directorate for forests and UN/FAO. This Strategy is the main policy and strategic document of forestry sector in Serbia, by which are set development objectives, measures and means of support for their implementation, based on guiding sectors' principles. Purpose of the Strategy is to "co-ordinate the general development goals of the forest sector of Serbia and to define the measures for achieving the goals" (2006/b).

In addition to the adoption of the Strategy, the other result of cooperation of Directorate for forests and UN/FAO is drafting of new Law on forests, which was adopted by Serbian Parliament in 2010. The main reason for the enactment of new law is, first of all, the need for creation of legal preconditions to improve current situation if forestry, as well as multifunctional use of forest resources. Enactment of new Law on forests (2010) created the material, financial, human and

[6] *Project* „Institutional Development and Capacity building for the National Forest Program of Serbia" *(FAO TCP/YUG/2902)*

institutional preconditions for implementation of policies established in Forestry Development Strategy of Republic of Serbia.

Compared with the previous Law on forests from 1991, there are several important differences, related to: (i) equation of rights of private and public sector, (ii) support to the establishment of private forest owners associations, (iii) additional employment opportunities for forestry engineers to perform professional and technical activities in private forests (possession of license), (iv) establishment of new bodies (Council for forests and Chamber of forest engineers), (v) organization of state forests management.

In the period after 2000, there have been significant changes in the organizational structure of state administration responsible for affairs in the field of forestry.

Directorate for forests was formed in 2002 within the Ministry of natural resources and environment. With the formation of an independent administrative authority, forestry sector has received a much more significant role within the state administration. Ministry of agriculture, forestry and water management was formed in 2004 and Directorate for forests remained the state authority responsible for formulation and implementation of national forest policy and legislation, and for the performance of supervising functions and improvement of private forests condition.

Recent changes in state administration have led to the merging of ministries for agriculture and trade, but the status of Directorate for forests remained unchanged, except jurisdiction over the forests inspection, which is returned to Directorate for forests.

2.2. Central and southeastern European countries

During transition period, in all analyzed countries there have been significant changes in forest policy and legislation.

In the Czech Republic, since 1990, major reforms in forestry sector have happened: formation of completely new state forest administration and establishment of new system of forest management, emergence of private property and establishment of new funding system in forestry. Also, a significant impact of forest policy had Czech accession to the EU in 2004 (Tykkä et al., 2010). The most important document in the forestry sector in the Czech Republic is the National Forest Programme, which was approved in 2008. This document is the basis for the implementation of national forest policy and, at the same time, the Forest strategy for the European Union is implemented through it.

Another important document the Czech forest policy is Forest Act[7]. This Act was adopted in 1995 and still is in force.

State authority, which is currently in charge for forestry, is Forestry Division, under the Ministry of agriculture.

During the transition period, there were significant institutional reforms in the Czech Republic, especially when it comes to the management of state forests. So now, instead of former seven enterprises for state forest management, state forests are managed by State Enterprise "Forests of the Czech Republic", State Enterprise "Military forests and Farms", 2 Agricultural Universities (Faculties of Forestry) and the Office of the President of the Republic – Lany Forest Administration[8] (Tykkä et al., 2010).

In Romania, the main forest policy actors are state and municipalities, while communities and associations of private forest owners, which recently have been gaining in importance, are the most significant in the private forestry sector (Abrudan et al., 2009). National Forest Policy and Development Strategy, which was adopted in 2000 and revised in 2005 has set the following

[7] Forest Act 285/1995 Coll.

[8] Lany Forest Administration is organizational structure within the Office of the President of Republic and manages around 6000 ha of forests

strategic objectives: (i) changes and development of the forest administration organizational structures, (ii) establishment of the institutional framework for implementation of the principles of sustainable forest management, (iii) assurance of the integrity and enlargement of the forest resources, (iv) support to private forest owners in sustainable forest management, etc. (Abrudan et al., 2009). Although these general objectives are considered as acceptable, still there is no operationalization of specific objectives, because there are no indicators, timetables, activity planning, and budgets (Tykkä et al., 2010).

First Law on forests, after political changes in Romania was adopted in 1996. Law recognized apparition of private forest ownership, but makes no distinction between the public and private ownership in terms of enforcement of certain provisions. New Law on forests from 2008 does not bring essential changes in comparison to the previous law from 1996 and is in accordance with basic principles of forest policy (Tykkä et al., 2010).

Before the transition period, all regulatory, supervisory, ownership and management functions were entrusted to the ministry in charge for forestry. In early nineties, the management of the state-owned forest property was entrusted to the National Forest Administration – Romsilva. State authority, responsible for forestry sector, is Department of Forests, within the Ministry of Environment[9].

In Slovakia, the significant political changes occurred in 1989. As in other analysed countries, these changes had a significant impact on forestry sector. National Forest Programme was adopted in 2007 and it is fully in accordance with EU forest legislation.

All until the adoption of new Law on forests in 2005 in Slovakia was in force Law from 1977. Draft of new Law on forests was prepared within the framework of FAO/TCP project in the period 1999 – 2000.

After political changes in 1989, new Ministry for forests and water was established and it later was transformed into the Ministry of agriculture. Currently, Ministry of agriculture and rural development, i.e. Forestry Section is in charge for forestry sector in Slovakia.

Forest management is entrusted to the state enterprise "Forests of the Slovak Republic", state enterprise Forest-agricultural estate Ulič, and to "Military Forests and Estates", as well as to the State Forests TANAP, which carry out management activities in the forests of national parks Tatra and Pieniny.

In Slovenia, the strategic directions of forestry sector development are defined in the Forest Development Programme, adopted in 1996. Strategy for close-to-nature forest management is the main part of the Programme and is based on the Law on forests from 1993 and European legislation that regulates forestry and environmental protection.

Law on forests (1993) was adopted as a result of political and economic changes, primarily state independence of Slovenia. It brought a fundamental changes in forest management, financial investments in forests, elaboration of forest management plans and in organization of forestry.

Law stipulates establishment of Slovenian Forest Service, whose work area includes, in addition to administrative tasks, also advisory and technical assistance for private forest owners. In addition to Slovenian Forest Service, as state forest service, Ministry of agriculture, forestry and food has responsibility for the tasks of forest policy.

National Forest Policy and Strategy (2003) is adopted in 2003 in Croatia. This is a strategic document with the general guidelines of the development of forest policy, which is in line with the European principles.

New Law on forests was adopted in 2005 and brought changes in financing of activities in private forests, establishment of Forest extension service and Forestry Chamber (2005).

[9] Until 2001, Ministry of environment was responsible for forestry sector in Romania, and from 2001 to 2010, it was Ministry of agriculture. Forestry sector was returned to the Ministry of environment in 2010.

Significant institutional changes occurred in 2004, when Department for private forests was established within the Ministry of agriculture, forestry and water management.

Forest extension service was established in 2006, as a public institution specialized in providing advisory services in private forests. Within the reconstruction of the Government, Forest extension service was cancelled in 2010, and its tasks are now in responsibility of "Hrvatske šume" Ltd. Croatian Chamber of forestry and wood technology engineers was established in 2006, in accordance with the Law on Croatian Chamber of Forestry **and Wood Technology Engineers (2006/c).**

3. Reforms of property rights

3.1. Serbia

Today, in Serbia there are two types of forest ownership, private and state. According to data from the National Forest Inventory, on the territory of Serbia, without province Kosovo and Metohia (table 1), state forests cover 53% and private forests 47% of total forest area (Banković et al., 2009).

Table 1. Forest areas by type of ownership in Serbia (2008)

	Type of ownership	*Forest area*	
		(ha)	*(%)*
	State forests	*1.19*	*53,0*
	Private forests	*1.05*	*47,0*
	Total forest area	*2.25*	*100*

Source: Banković et al., 2009

In the category of private property, church forests appear after the adoption of Law on Restitution of Property to Churches and Religious Communities (2006/d).

3.1.1. Restitution process in forestry sector

Restitution of forests acknowledges the ownership rights to the former owners or their heirs and/or to local communities and institutions.

Basic elements of restitution process are directed to restitution of private property in forestry, and reforms of management system of previous state forests, all for the purpose of creating favourable environment for commerce in forest sector (Dudutis, Lazdinis, 2008).

In Serbia, the process of restitution started in 2006 with adoption of the Law on Restitution of Property to Churches and Religious Communities (2006/d). The law regulates only part of the restitution, the one that concerns only one category of subjects, churches and religious communities, their endowments and societies. It is a property that was seized from churches and religious communities and their endowments, according to the regulations on agrarian reform, nationalization, sequestration and other regulations that were adopted in period after 1945 and all other acts by which property was seized without compensation.

The most important institution in the process of restitution of confiscated property is Directorate for Restitution, which is formed under the Law on Restitution of Property to Churches and Religious Communities. In the structure of the state administration, Directorate is an independent organization, which has no legal status and is financed from the budget of the Republic of Serbia. Its main task is to keep the actions and decisions on applications for return of property or payment of monetary compensation or damages, provides technical assistance to applicants, etc.

During the two-year deadline for filing claims for restitution (1st October 2006 – 30th September 2008), all churches and religious communities have submitted to the Directorate for Restitution 3.049 claims for the refund of property. Almost all areas of forests and forest land (99%) required the Serbian Orthodox Church (SOC), which is 33.798 ha, and other religious communities required around 70 ha. So far, the process of restitution of churches and religious communities in Serbia has

returned 23.195 ha of forests and forest land, which present around 69% of total claims, and 1% of total forest area of Serbia.

The legislator has chose a cascade denationalization, i.e. gradual denationalization by type of property and by subjects, with the goal to implement the general denationalization by which will be completed the return of property to former owners in Serbia.

When it comes to management of returned forest, the situation is quite complex in Serbia. Holder of returned property in some cases is monastery, in some cases that is diocese, depending on the internal solution in the Serbia Orthodox Church. Depending on the solution of right-holder, dioceses or monasteries created its own service (Šabac diocese), or forest management is given to the private entities engaged in these activities (Braničevo diocese).

In situations where forest management is done by an enterprise established in the monastery ("Monastery Forest"), majority of professional staff comes from PE "Srbijašume". Smaller forests complexes (monastery Kaona) are managed by monasteries themselves and forestry professionals provide expertise. In cases where restitution is not completed or is in the process, forests are state-owned, management is still done by PE "Srbijašume".

3.1.2. Private forest owners associating

The structure of private land in Serbia is mostly fragmented (large number of owners with small parcels of land), which greatly hinders the ability of their sustainable management. However, the adoption of the Law on Restitution of Property to Churches and Religious Communities (2006/d), and its implementation, led to the formation of the new owners with large forest estates.

The main goal of management in private forests is "the improvement of their condition, and thus achievement of higher revenues". On the basis of forest owner attitudes, there is a problem in management, primarily as a result of inadequate state relations, and lacks of owners' interest in management of their forest lands (Glück et al., 2009). Private forest owners in Serbia do not know their rights and obligations (Glück et al., 2009). This can indicate that forest owners are not sufficiently aware of their rights and responsibilities concerning their forest properties. It also means that professional and technical support to private forest owners, provided by the public enterprises, is not directed to provide the needed information on legislation and other issues, but it is only directed to implementation of obligatory activities such as tree marking, etc. The majority of forest owners are farmers or pensioners, living in rural areas, in most case in proximity of their forest properties. Bearing in mind that forest owners consider income originating from their forest properties as a significant contribution to their household budget, the role of private forests in poverty reduction in rural areas should be emphasized, especially since most of the forest owners are pensioners and unemployed.

Because of the large number of private forest owners that were not organized, in the period 2006-2009, 19 private forest owners' associations (PFOAs) were established in Serbia. Their aim is to represent the interests of their members. Every owner manages his own forests, while associations coordinate joint works like forest infrastructure, and joint marketing activities.

Activities supported by CEPF/PROFOR project led to establishment of the Serbian Federation of Private Forest Owners' Associations (SFPFOA) in the end of May 2009. Although the Federation is very young it is expected that it will eventually lead to further development of private forest sector and to the improvement of the private forest owners' position in forest policy processes (Nonić et al., 2009).

3.2. Central and Southern European countries

In most countries of Central and Southeastern Europe, the adoption of the new legislative framework in the field of forestry has led to the changes in ownership structure (table 2) and to the formation of a number of different interest groups in forestry.

Table 2. Forest ownership in selected countries

Country	*State forests (%)*	*Non-state forests (%)*				
		Private	*Municipal*	*Churches*	*Communal*	*Other*
Croatia	*78*	*22*	–	–	–	–
Czech Republic	*60,5*	*19*	–	*0,1*	*1*	*19,4*
Romania	*59*	*15*	*14,5*	*1,5*	*10*	–
Slovakia	*41*	*13*	*10*	*3*	*25*	*8*
Slovenia	*26*	*74*	–	–	–	–
Serbia	*52*	*47*	–	*1*	*0,01*	–

Source: Tykkä et al.*, 2010 and original*

In all analyzed countries after the return of seized property were created new forest owners that have a significant impact on public administration in forest management. Important ownership categories that are quite different from the others are cooperative (e.g. in Czech Republic) and church (e.g. in Serbia) forests.

3.2.1. Analysis of restitution process in forestry sector

Restitution process in various countries of Central and Southeastern Europe began in a different periods (Table 3).

Unlike Serbia, all other selected countries have started much earlier with the process of transition, and therefore with the restitution. Consequently, these processes in most countries took place for a longer period and are in final stages.

Table 3. Legal framework of restitution process in selected countries

Country	Law on restitution	Year of adoption
Croatia	√	1996
Czech Republic	√	1991
Romania	√	1991
Slovakia	√	1991
Slovenia	√	1991
Serbia	√	2006

Source: Original

As we can see from the previous table, in most countries, except Croatia and Serbia, restitution began in 1991. Although the restitution of seized property started 20 years ago, the process is still ongoing, i.e. restitution is not complete. Of all selected countries, Slovenia is the most progressed in restitution and the process is in final stage.

In all countries, the implementation of process was faced with many problems and difficulties. In Croatia, as the main problems occurred participation of state companies, lack of transparency, the inability of public access to information about the restitution process and the stages in which is the process. The most important problem in the Czech Republic is returning of confiscated property to churches, primarily due to the later establishment of relevant institutions, while conducting the process in Slovakia is difficult because of the complicated ownership structure and the discrepancies of the data in the cadastre with real estate. The main difficulties for the smooth implementation of process in Romania were the short terms for the returning of property, as well as illegal logging of forests on returned lands.

Serbia is the only of all analyzed countries that do not have adopted law on restitution, which applies to all entities who lost property after World War II, but only to churches and religious communities.

In all analyzed countries, there are two models of restitution, natural and model of compensation. Natural model is based on restitution of previously nationalized property in its natural form. In

situation where it is not possible to return original property, Government offers financial compensation. Compensation model includes physical restitution only in limited number of cases, and the owner receives compensation for nationalized property in finances, stocks, vouchers, and state bounds.

Management of returned forests is defined in different way. In the Czech Republic, this problem is solved quite easily and effectively. Each forest owner is obliged to prepare a forest management plan in collaboration with professionals in forestry, which can be selected by the owners or administration of country government. In Slovakia, management of returned forests is regulated by the engaging owners themselves or by professionals.

In Romania, the management of returned forests is defined by two options. The first option is a contract with the national forest authority, in which the contract can be signed only with the associations of private forest owners. Second option is an independent management structure, which is similar to the previous. These are, in fact, private forest districts.

Also, in Croatia private forest owners have the right to choose between two ways for the management of their forest possessions. First way is to self-employment, with a power of attorney in the preparation of simple management plans, and must submit report on activities to the competent state authority. Second way of management is to join to the local association of forest owners. The association should have a professional person who would be responsible for the management of these forest holdings (Posavec et al., 2006).

The question is whether the process of restitution caused typical new forest owners. In most cases, they are defined as new forest owners who have lost their relationship to the forest or they are very alienated from the forest, living in urban areas, and in this way, they do not perceived forests as part of their assets. Therefore, management of returned forest is neglected. The level of knowledge that a new owners have in the field of forestry and forest management is often very low. In some countries, such as Slovakia and Slovenia, there are specialists (physical or legal entity that has licence for these activities, which is issued by competent state authorities) in the field of forestry, which provide skills and knowledge that are necessary to forest owners for the management with their holdings.

3.2.2. Analysis of private forest owners associating

When it comes to the size of forest holdings, most of the analyzed countries are dealing with small areas, which are usually around 5 ha, so those owners with small forest possession generally have a little understanding for forestry.

Large changes in the number of PFOs happened in Czech Republic, because in 1990, there were no PFOs and after restitution, there are around 134,000 of PFOs. In future, restitution process should increase private ownership in Croatia, because it is considered that another 2-3% of the forests and forest lands should be returned to the previous owners, which is somewhere around 80,000 hectares (Palandić et al., 2006). Romania is a country where major changes in the ownership structure have happened, primarily because of large forest areas (2.6 million ha) that were returned to former owners. In Slovakia, the process of restitution is still ongoing and the largest area of unresolved forests is in private hands.

In all analyzed countries, except Slovenia, there is a lack of financial resources in the private forestry sector, low level of education, and lack of knowledge about legislative framework, and therefore the rights and obligations. In the Czech Republic as the main problem arises quality of management of forests, which are in private ownership. The reason is the fact that whole private sector in this country was created after the implementation of the restitution process, and all forest owners are new and usually do not have full rights in terms of land ownership.

Level of associating in the sector of private forestry is very low. The analyzed countries started with associating in forestry in a different period of time (Table 4).

Table 4. Beginning of associating in private forestry sector in selected countries

Country	Name of the association	Year of establishment
Croatia	Associations at local level	2004
	Croatian Union of private forest owners associations	2008
Czech Republic	Association of Communal and Private Forest Owners	1992
Romania	Association of private forest owners	1998
Slovakia	Association of private, associated and communal forests	1991
	Union of Regional Associations of Non-state Forests	1996
Slovenia	Associations at local level	1999
	Association of private forest owners of Slovenia	2006
Serbia	Associations at local level	2006
	Serbian federation of private forest owners associations	2009

Source: Authors

As data in the table show, the first associations of private forest owners were established in Central Europe, and accordingly they are at the higher organizational level. Besides of associations, in these countries there are appropriate forums on the level of cities and municipalities where private forest owners can be informed and share their experiences in the field of forestry.

In Southeastern Europe, the first associations of private forest owners were formed later, especially in Croatia and Serbia, and therefore their organization is on lower level.

In all countries, the main objectives of the associations are to represent the interests of landowners, cooperation in sharing of equipment, greater awareness, the realization of economic interests, and the protection of forest resources from illegal logging. Private forest owners in most countries are in the rural areas where they live near their forest holdings. Exception is the Czech Republic where owners usually live far from their forest estates and work in other industries. The new forest owners are primarily interested in the activities related to the harvest as a source of income, which causes problems related to illegal logging.

Also, associations of private forest owners in the Czech Republic, Slovakia and Romania were established because of the problems expressed in the process of restitution, unresolved relationships in terms of type of property and ownership categories.

In Romania, the association was formed primarily to prevent illegal activities in private forests, and only later for representing the interests of owners and lobbying in political institutions. A significant change in private forest management occurred in 2002, with establishing of private forest districts. More than 110 private forest district have been established since then and in 2004 an umbrella organization - Association of Forest Administrators from Romania. It is expected that the number of private forest districts will increase in the coming years, in parallel with the reduction of NFA Romsilva forest districts, as a consequence of the restitution process (Abrudan et al., 2009).

It should be noted that, in addition to associations of private forest owners in some analyzed countries, there are associations of private entrepreneurs in forestry. In the Czech Republic, there is association of small and large companies in forestry, which beside the entrepreneurs also include large-scale private forest owners. In Romania, several trade associations were formed to carry out most of the activities in logging and wood processing around the country.

4. Conclusions

Transition process in analyzed CSEE countries i.e. transformation from centrally planned to a market-oriented economy, is characterized by a number of features that had significant impact on the progress of the process. In selected countries of Central and Southeastern Europe, the current laws on forests were adopted at different times (Table 5). Accordingly, period in which these laws are applied is different, as well as theirs compliance with contemporary needs of forestry sector and the whole society.

Table 5. Legal forestry framework in selected countries

Country	Law on forests	Year of adoption
Croatia	√	2005
Czech Republic	√	1995
Romania	√	2008
Slovakia	√	2005
Slovenia	√	1993
Serbia	√	2010

Source: Tykkä et al.*, 2010; Law on forests of the Republic of Slovenia*[10]*;*
Law on forests of the Republic of Serbia[11]*; Law on forests of the Republic of Croatia*[12]

All analyzed countries have begun review of legislation in the field of forestry since 1990. In this period of 20 years, forest policy and legislation have changed several times in order to fulfil demands and challenges of international politics.

It is necessary to make distinguish between countries that are EU members (Czech Republic, Romania, Slovenia and Slovakia), which had to harmonize its legislation with requirements of EU and countries that are not yet EU members (Croatia and Serbia).

Of all analysed countries, Slovenia has the oldest legislation in the field of forestry. Unlike Slovenia, Serbia has the most current law on forests, which has a number of changes compared with the previous one.

Analyzed Central European countries that faced many difficulties in the early stages, now, as members of the EU have right to certain support from this organization as well as from other international donors.

According to Dallago, the EU membership was important to these countries in two ways: (a) as a stabilizing and coordinating factor, and (b) as a donor of financial resource. There is a range of supports from the EU: the EU monetary and fiscal policy offers other countries a more stable environment, technical advice, and political support, technology transfer, financial funds, and an opportunity to become part of trans-Europe industrial and trade networks (Dallago, 2003).

Base for the successful development of forestry sector and forest policy is equal participation of all stakeholders in the creation of forestry policy, as well as the development and implementation of national strategies. It is necessary to establish trust between all stakeholders, through the implementation of new institutional relationships, increased efficiency and professionalism.

Interest groups that have a growing influence not only in private forestry sector, but also in the process of creation of forest policy are private forest owners associations. They are formed in order to advance the status of private forest owners, representing their interests and solving certain problems.

In the Czech Republic and Slovakia, associations were established because of the problems in the process of restitution, unresolved relationships in terms of type of property and ownership categories. In Romania, the associations were established primarily to prevent illegal logging and other illegal forest activities in the private forests.

Support of the state in the formation and further functioning of the association is crucial. In most cases, it was poorly expressed and usually implemented only at the beginning of the formation of interest organizations, and later the associations were left to itself.

[10] Official Gazzete of the Republic of Slovenia, No. 30/93
[11] Official Gazzete of the Republic of Serbia, No. 30/10
[12] Official Gazzete of the Republic of Croatia, No. 140/2005

In Serbia, numerous workshops for private forest owners within the FAO projects (2006/a) have resulted in an increased interest of owners for associating. During period 2006-2009, 19 private forest owners associations were established.

The process of returning seized property, especially forest area, is of great importance, as for the former owners, so for the State. Adoption of legislation and implementation of related rules in countries, which are not EU member, is a necessary step towards the European Union.

Legislative frameworks and institutions that serve to implement them are not defined in the same way in all countries. Legislation is different to each other in time of adoption, in solving the problems of confiscated property, as well as in the possibilities of management of restored forest land.

Of all analyzed countries, the restitution process is most advanced in Slovenia, where it is nearly finished. Romania is characterized by the fact that the most forests and forest land (about 2.8 million ha) of all countries analyzed in this paper are returned to former owners, by the process of restitution.

The biggest changes in the ownership structure under the influence of the restitution process were detected in the Czech Republic, where until 1990, the major part of forests belonged to the state.

In Serbia, in contrast to all other countries, basic change in ownership structure in related only to the appearance of church forests, as new ownership category.

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New forest regulation and protection of environment in Serbia

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Introduction

Tree is a symbol of life and there are many proofs that our ancestors, especially ancient Greeks worshiped it. In such a way, for example in Esculap' s shrine on the island of Kos, it was prohibited to cut down cypresses. Till today on that Greek island the platanus was preserved, under which is believed that Hypocrat tought students of medicine in the open.
Forests and protective greenery, as regulative and protective factor of living world development, create significant quantities of biomass, first of all woods.

Contrary to what is happening in some other parts of the world, forest cover in the European Union is slowly increasing. The EU-27 has approximately 177 milion hectares of forests and other wooded land, just over 42% of its land area, and the area of land devoted to forestry is gradually increasing. About 60% of wooded land is under private ownership.

Situation in the Republic of Serbia today

In the meantime in Serbia, our forests suffer and are being reduced, in our cities the centennial trees are cut down because of widening of the streets and thefts of trees became more often. In connection with that Ministry for internal affairs and Public enterprise for forest management in the Republic of Serbia „Srbijašume“ will work together in the future on the prevention of thefts of different kinds of trees from private and state owned forests. The Forestry inspection of the Republic of Serbia joined to this action. Drivers who do not have the necessary documents will be excluded from the traffic and criminal and infraction charges will be brought against them.

Ministry established uniform information system for forests and forestry of the Republic of Serbia by which are provided all necessary information on the condition and changes of the forest fund for the needs of planning, monitoring and reporting.

Serbia (88.361 km²) stands at the crossroads of Eastern and Western Europe and from the agricultural regions of the Pannonian Plain in the north, across the fertile river valleys and orchard-covered hills of Šumadia, the landscape of our Republic continues southward, gradualy giving way to mountains rich in canyons and well-preserved forests. Total surface of the forestes in Serbia is 2 252 400 hectars. There are 53,0% of state forests and private forests cover 47,0% of the total overgrown surface. In the Republic of Serbia there are five national parks*:* “Djerdap“, “Fruška Gora“, “Kopaonik“, “Tara“ and “Šara“ Mountains of the surface of 246 hectares, as well as 50 natural reservations of the surface of 569.000 hectares.

Serbia has for centuries been the scene of frequent wars, devastation, fires, and mass-migrations. The optimal afforestation of the Republic of Serbia is 41%, but nowadays is afforested only 29% of the territory.

In Serbia exist significant forest resources. The area of our country is characterized by the wealth of forest communities, prairie, mountain, mountainous and subalpian forests and united forest ecosystems. The resources of Serbia include 205 autochtone species of trees and bushes (175 deciduous and 35 coniferous). In the forest fund of central Serbia, beech, otherwise dominant, is represented on 660.000 hectares, and in state property is around 372.600 hectares /4/.

In Belgrade, the capital of Serbia for a few months the Strategy for afforestation of the capital (by which is planned 100.000 new trees in the next few years) should be adopted. In this way 30% of city area would be covered by trees instead of 11, 2% today. Draft Law on the capital predicts that Belgrade gets from the Republic more authorities in some inspection servicies, cadastre, supervision of forests. In the town of Novi Sad the horticultural arrangement of the Boulevard of Europe, one of

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the most frequent streets of the town with aim to reduce negative effects of traffic and preserve environment has started.

New Law on forests ("Official Gazette of the Republic of Serbia", number 30/2010) in the Republic of Srbia adopted in May 2010 regulates preservation, protection, planning, raising and using of forests, disposal with forests and forest land, supervision over enforcement of this law, as well as other questions important for forests and forest land. By this law special working group – Council for forests is established for considering of professional issues, giving of professional opinions and participation in realization of project tasks in the area of advancement of forests and forestry. Members of the Council are representatives of the Ministry, competent body of autonomous province, distinguished professional and scientific workers from institutions and organizations in the area of forestry and related areas, as well as representatives of forest owners.

For enforcement of regulation on environmental protection extremely important are already known principles: integration, prevention and precaution, natural values preservation, sustainable development, application of motivation measures.

Anyhow, Serbia is one of the few ex-socialist states that did not return property to the previous owners. The exception was made only for churches and religious organizations for whose property was adopted the special Law on giving back of the property to churches and religious organizations in 2006. The enterprise “Srbijašume” without objection is giving back the property to churches, but the macroeconomic stability of the state could not be taken in question by the restitution although it was logical that the laws on privatization and denationalization were adopted simultaneously.

Owners of private forests are obliged before planned felling of trees to notify, i.e. declare that to the enterprise “Srbijašume”, in order that forester performs supervision, determines which trees can be cut down and marks them in a suitable way. If illegal felling happens, forester sends report to the Forest inspector of the Republic, who brings charges against responsible persons. With hope that these regulations will be respected, first common actions have started in August 2010, and the most frequent irregularities were noticed in the directions from Niš to Kragujevac toward Belgrade and Vojvodina, as well as on the approaches to Leskovac, Vranje, Šabac, Novi Pazar and other bigger centers of fuel woods.

Positive example is that in our neighborhood Big War Island was afforested and on around 4 hectares 2 500 nursery plants were planted. Big War Island is protected area and region of exceptional characteristics, and increasing of wooded area on this island influences on the local climate, planned utilization of space for recreation and scientific-research purposes, as well as improvement of special zones for birds protection. On this protected natural good forests are extend and are located in lines on the surface of around 120 hectares.

In 2006. The European Commission underpinned its support for enhancing sustainable forst management and the multifunctional role of forests by adopting an EU forest action plan. This action plan provides a framework for forest-related actions and will serve as an instrument of coordination between Community actions and the forest policies of the Member States, with 18 key actions proposed by the Commission to be implemented jointly with the Member States during the period 2007 to 2011.
The action plan focuses on four main objectives:

- improving long-term competitiveness,
- improving and protecting the environment,
- contributing to the quality of life,
- fostering coordination and communication.

In year 2006. between 1/5 and ¼ of forest and forest land throughout EU-27 was suffering from moderate or worse defoliation. This share grew on more than 1/3 of all trees in France and Bulgaria, and over 40% of all trees in Luxembourg and on around half of all trees in Chech Republic. Anyway, the health condition of forest in Serbia is far from being satisfactory. Just in the last

decade in our Republic the two attacks of pest were noted. Beside that during the summer 2007 on more than 100 localities in Serbia the fires broke out.

Our aim is to reduce as much as possible the level of pollution. We celebrate the 21. of March as the World Day of Forests and there is the tradition to give on that day, as presents to inhabitants in our capital, nursery plants of conifers. This year on the occasion of the World Day of Clean Air the Major and general Director of the public enterprise "Srbija šume" gave to the citizens 10 000 of nursery plants of conifers. This is continuation of the action, because in March to citizens has already been given 9000 nursery plants of white pine tree and 1000 nursery plants of spruces.

On the 2nd of December in 2010 by the Decision of the Parliament of the Town of Belgrade arboretum of the Faculty for forestry, "open" botanical garden established in 1957, "reservation" of 242 kinds of trees on the north-west hillside of Košutnjak, was protected as the monument of nature. In accordance with that status arboretum can look for resources in the budget of the Republic of Serbia and also abroad in order to maintain and enrich its fund of species in the next decade.

Conclusions

The General Assembly of the United Nations declared Year 2010. as the International Year of Biodiversity and because of preservation of biological diversity of our Planet gave the appeal that all the countries in the world give their contribution to its preservation.

Experts clain that daily in the world 3 to 4 plants disapear, and in Serbia endangered will be conifers, like spruce. Present boundaries of natural habitat of trees will be changed.

In 2009 Serbia formally submitted its application for European Union membership and it should be taken into account that Republic of Serbia is making significant efforts in the field of harmonization of national law with the EU legislation.

New Law on forests adopted in May 2010 in the Republic of Srbia offered us good basis for the future efforts in preservation and improvement of the state of forests in our country. Experience of the European Union can be valuable asset for us in order to avoid the same mistakes and win in the everlasting fight for better environment.

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Turkish forestry organization and nature conservation studies

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Abstract

Forest policy mainly focuses on the relations between forest resources and demands of society. To balance the needs of society and forest resources, forest policy utilizes legal arrangements and forestry organization as the two of the tools that have close interaction. Also the harmony and complementarities between organization and legislation is one of the basics of effective forest policy making and implementation processes. On the other hand it is known that nature conservation-related issues have gained importance among forest policy aims in Turkey and many other countries for the last decades. Thus the legal framework and organizational structure is evaluated in this study within the scope of nature conservation. More specifically, protected forest areas-related issues are examined.

In this context the aim of the paper is to introduce the Turkish forestry organization and its main studies within the framework of national legislation, focusing on the nature conservation- related studies. Parallel to this purpose the problems that occur during the forestry activities are examined in terms of forest policy with specific emphasis on the structure of forestry organization and related legislation. Also the questionnaire on forest functions and the main forestry issues that were applied to forest managers in the previous study (Kuvan et al, 2007; Kuvan et al., 2011) are used as well as the national forest legislation and organizational evaluations. On the basis of the findings, the current situation is evaluated and problems are determined. Finally, a general assessment is made and also some suggestions are presented for solving problems.

1.Introduction

Legal arrangements and forestry organizations are the two of the main components and instruments of forest policy. With concern to forestry, the clear concept of regulatory instruments means that maintenance of forestland is secured by means of prohibitions and regulations, and that its utilization is subject to those limitations required to ensure sustainability (Krott, 2005). In this context constitutional law, laws, related regulations and international agreements as the components of legal structure are also one of the main indicatives of Turkish national forest policy.

Administration takes on the executive tasks in state, i.e. it implements political programs in the form of concrete measures (Krott, 2005; Özdönmez et al., 1998). On the other hand it is not possible to reach the forest policy aims without an effective organizational structure even if there is an ideal legal framework (Kuvan & Erdönmez, 2010). Decision making, planning, implementing and controlling forestry actives are under the forestry organizations' authority and responsibility. So there is a close interaction between these two forest policy tools. Legal arrangements determine the duties and responsibilities of forestry organizations and also form the frame for forestry activities.

Once the policy statement (law, rule) is adopted, government must implement the policy and administrative agencies are the most important actors in implementing process (Cubbage et al., 1993). In Turkey forestry organizations as the authorized units to manage and control the forests are the main implementing institutions of related legislations. Thus the harmony and complementarities between organization and legislation is one of the basics of effective forest policy making and implementation processes.

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In the last decades, the ecological-environmental functions of the forests have been gained importance among forest resources management approaches. Also awareness of forestry organizations' managers and decision makers on nature conservation is increased. Kuvan et al. (2011) found that the most important function of the forests is recognized as environmental and ecological functions for today and future by forest managers. Also forest managers emphasized that "conservation forestry (Protected areas, bio-diversity etc.)" is one of the primary issues to gain importance in the future. The other results of the study show that "sustainability", "environmental problems-forest interactions", participation", "improving the multi-functional forest management", "protected areas - biodiversity", "public relations" and "forest certification" are the other stressed issues. Undoubtedly these issues are very important in reaching nature conservation-related policy objectives.

Parallel to national and international trends nature conservation related issues is largely expressed in country's policy documents. Thus some new related legal arrangements enacted and forestry organization's responsibilities are increased. In this context the aim of the paper is to introduce the Turkish forestry organization and its main studies within the frame of national legislation, focusing on the nature conservation related studies. Also the bottlenecks related to organizational structure and legal arrangements both for general forestry and nature conservation issues are examined.

2. Main Features of Forest Resources and the Forestry Organization in Turkey

Turkey has a total of 21.188.746 ha. forest area, 10.621.220 ha. of which is productive and 10.567.526 ha is unproductive (Table 1). The forest area comprises 27,2% of the total territory (DPT 2006). A large part of the country's forests are located in the northeastern and southern parts of Turkey. In terms of geographical regions 24% of the country forests are located in the Black Sea Region, 19% in the Mediterranean Region, 18% in the Aegean Region, 14% in the Marmara Region, 11% in the Central Anatolia Region, 8% in the East Anatolia Region and 6% in the South East Anatolian Region. Turkey's forests sequestrate 46 tons / ha. of carbon and release 1.5 tons / ha. of oxygen per year (OGM 2006).

Table 1. Forest Areas in Turkey

Quality of Forests	Coniferous	Non-Coniferous	High Forest	Coppice Forest	Total
Productive	6.280.245	1.298.806	8.940.214	1.681.006	10.621.220
Nonproductive	5.123.546	532.730	6.499.380	4.068.146	10.567.526
Total	11.403.791	1.831.536	15.439.594	5.749.152	21.188.746

Turkey is located at the crossroads of the continents of Europe, Asia and Africa have coast with the Black Sea, Mediterranean Sea and Aegean Sea. Turkey's forests are extremely rich, in terms of biological diversity because of the geographic position. There are 9000 plant species, 3000 of which are endemic, in the country and most of the species are found in forest areas (MoEF 2004). It has also a very rich biodiversity in terms of the fauna species with 160 mammals, 454 bird species, 150 reptile and amphibian species and over 400 fish species (DPT 2006). Forests under the status of protected areas cover 1.030.445 ha. in the country. These protected areas consist of national parks, nature parks, nature monuments and nature conservation areas which are designated by the National Parks Law No. 2873 of 1983. The Law No 4915 of Law on Land Hunting is another arrangement about the Wild Life Protection and Development *Areas.*

The number of national parks and other protected areas in the country has gradually expanded since the first national park was created in 1958. Today, there are 41 national parks covering an area of 898.044 hectares. They cover the largest area among the other protected areas within the forest regime and they account for 87,2% of the total protected area. In addition to national parks, the protected area system under the forest regime comprises 42 nature parks, 31 nature protection area, and 105 nature monuments. Table 2 show that protected areas located inside and outside the forest regimes in Turkey. The total protected area under the forest regime is 4,86% of the county's total forest area with a total of 1.030.445 hectares. Also, Special Environmental Conservation Areas, Ramsar Sites, Natural and Archeological Sites are the protected area categories outside the forest

regime in the country. There has been a substantial increase in protected forest area numbers and extent in the country.

Table 2. The number and size of Turkey's protected areas

Category	*Number of sites*	*Area covered (ha)*	*Percentage of total area protected (%)*
Inside the forest regime			
National Parks	*41*	*898.044*	*87,2*
Nature Parks	*42*	*80.203*	*7,8*
Nature Protection areas	*31*	*46.657*	*4,5*
Nature Monuments	*105*	*5.541*	*0,5*
Total	*219*	*1.030.445*	*100,0*
Outside the forest regime			
Special Environmental Conservation Areas	*15*	*1.336.200*	
RAMSAR Sites	*13*	*179.898*	
*Natural Sites**	*1.234*	-	
World Heritage Sites	*9*	-	
Total	*234*	*2.316.699*	

**There are also natural sites except of archaeological, urban and historic sites.*

Among 41 national parks, the Beyşehir Lake National Park, covering 88.750 hectares, is the largest area, whereas the smallest area is the Bird Paradise (Kuşcenneti) National Park, with an area of 64 hectares. The vast majority of the national parks are located in forested lands; however, there are a few exceptions. For instance, the Munzur Valley, Göreme, Boğazköy- Alacahöyük, and Nemrut Mountain National Parks were established in areas where steppe-type vegetation predominates. They represent mainly culture-oriented resources. On the other hand, the park resources may contain both natural and cultural features affecting for selection as a national park. Some of the parks, such as the Olympos-Beydağları, the Köprülü Canyon, and the Dilek Peninsula-Menderes Delta, consist of not only archeological and historical values, but also a high biodiversity, endemic-native species, and/or geomorphologic features. In accordance with these features, the country's parks also provide different types of recreational opportunities, including beach-based, culture-based and mountain-based activities.

3. Turkey's Forestry organization and legislation in terms of nature protection

The legal experience of Turkey on national park and protected areas dates back to 1956 year. The Forest Law No. 6831 enacted in 1956 sub-divided the forests into conservation forests, national parks and production forests in terms of theirs characteristics. This was the first legal arrangement on protected areas in Turkey. At present, one of Turkey's forest policy objectives is to benefit from forests in terms of environmental conservation, especially through protected forest areas (Kuvan, 2001; Kuvan, 2005a). Protected area-related issues receive increasing attention in the country's forestry agenda recently.

Similar to international developments, protected areas were created and managed by government action in Turkey. Especially since 1950s, in environmental conservation studies in Turkey in-situ and ex-situ conservation activities and projects have been conducted by the public authorities with the support of NGOs (Akesen, 1997; Kuvan et. al, 2011). In-situ conservation areas include national parks, nature parks, nature monuments, nature protection areas, gene conservation and management areas, wildlife conservation areas within the forest regime, as well as special environmental conservation regions, natural and cultural sites outside the forested lands (Kuvan, 2010). The Forest Law No. 6831 distinguished national parks from conservation and production forests, with respect to their qualities and functions. The Yozgat Pine Grove National Park declared in 1958 is the first national park of Turkey. Considering the Yellowstone National Park established in 1872, the concept of national parks in Turkey is relatively new (Ekizoğlu and Kuvan, 2010).

The National Park Law No. 2873 of 1983 defines protected areas within the forest regime and indicates management, planning and operation activities. The purpose of this law is to establish the principles relating to the selection and designation of national parks, nature parks, natural monuments and nature protection areas of national and international value, and to protect, plan and manage these areas without spoiling their qualities. A national park is defined by this law as "a natural area including, rare natural and cultural values at the national and international level from the scientific and aesthetic aspect, and conservation, relaxation and touristic areas" (Kuvan, 2005a). According to Turkish legislation on protected forest areas, national parks are principally state-owned areas of high natural, historical, archaeological, recreational, scientific and aesthetic values. Actions to disturb natural-cultural values are prohibited; also wood production, settlements, mining, and hunting are not allowed in the boundaries of these areas.

Also some other legal arrangements are acted respectively. Some of them can be listed as; "Environmental Law" (1983), "Law of Cultural and Natural Assets" (in 1983), "Regulation on National Parks" (1986), "Legislative Decree on Specially Protected Environment Area" (1988), "Regulation on Trade of Endangered Species of Wild and Fauna and Flora" (2001), "Regulation on Environmental Auditing" (2002), "Terrestrial Hunting Law" (2003), "Regulation on Environmental Impact Assessment" (2003), "Regulation on Wetland Conservation" (2005), "Regulation on Game and Wild Animals and Conservation Their Habitats" (2005), "Regulation on Recreational Areas" (2006).

The Ministry of Environment and Forestry is the leading organization of the country for the formulation and implementation of policies and associated legal arrangements concerning the conservation and use of natural resources, especially forests and wetlands.

The MoEF has the responsibility for co-ordination the studies conducted related to the Environment Chapter of EU legislation. The Ministry plays a crucial role in the monitoring and control of activities that impact the environment, together with other ministries, government agencies and local authorities. The Law on Establishment and Duties of Ministry of Environment and Forestry No. 4856 (Official Gazette: 08 May 2003, No. 25102) defines the mandate of the MoEF as identifying appropriate technologies for environmental protection and pollution prevention; setting the environmental standards which are applicable in Turkey; developing waste management policies; inspecting the installations for waste, fuel and pollutants; issuing guidelines for emergency cases and risk management; establishing laboratories for analysis, checks and measurements; identifying and monitoring the sectors and zones prone to pollution and executing the necessary studies for technical, administrative and financial solutions for such areas; conducting and supervising environmental impact assessment and strategic environmental assessment studies; and raising awareness, starting from the local administrations, by holding continuous training programs (MoEF, 2011).

Figure 1 shows the organizational structure of Turkish forestry activities. There are four general directorates to manage the forest resources. General Directorate of Forestry (GDF), General Directorate of Nature Protection and National Parks (GDNPNP), General Directorate of Afforestation and Erosion Control (GDAEC) and General Directorate of Forest Village Relations (GDFVR). Forestry units in the country within MoEF are 81 Provincial Directorates of Environment and Forestry and 27 Regional Directorate of Forestry attached to GDF. GDF is generally focus on wood production however it has responsibility in forest conservation trough firefighting, preventing illegal activities (forest crime), management of conservation forest, recreational services, combating biotic and abiotic threats, and maintaining and improvement forest health.

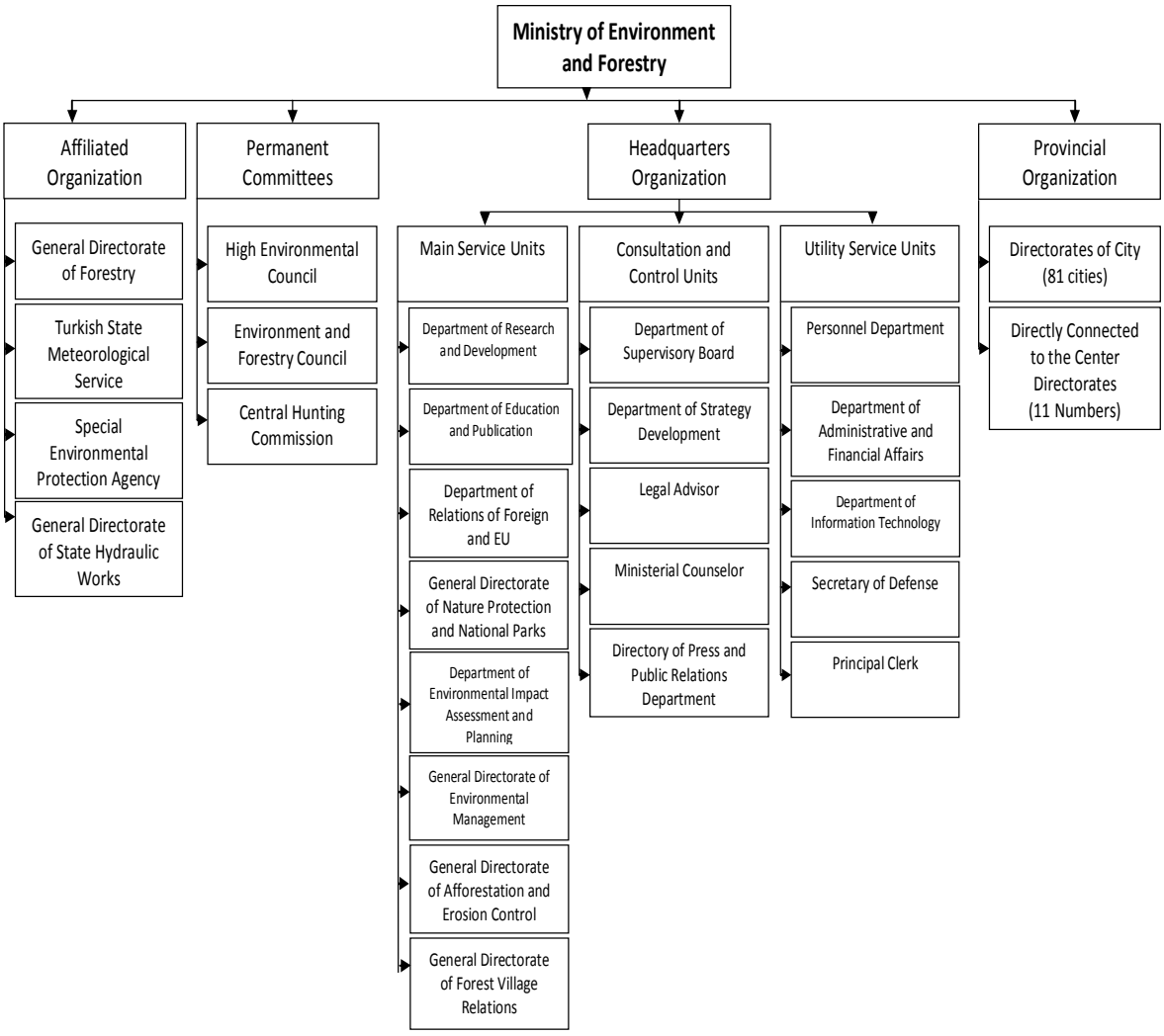

Figure 1. The Ministry of Environment and Forestry Organization

The General Directorate of Nature Protection and National Parks (GDNPNP), currently under the Ministry of Environment and Forestry is responsible for making and implementing decisions and policies, and planning and management on protected areas that enter into the forest regime (Akesen, 2005; Kuvan, 2005a; Ekizoğlu et al., 2010). The department of National Parks attached the general directorate undertake the direct management in the country's national parks at the national level. There are also national park offices at the site level to manage individual parks. The GDNPNP' services support the dual mission of the protected forest areas system: visitor enjoyment and conservation of natural-cultural resources. Figure 2 shows that GDNPNP's organization structure in Turkey.

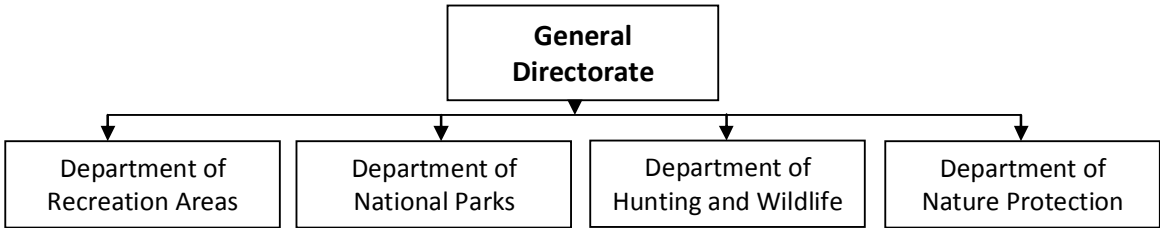

Figure 2. Central Organizational Structure of The General Directorate of Nature Protection and National Parks

Major problems seen in managing protected areas into the forest regime in Turkey can be classified into following items: administration-legislation, planning, finding additional sources, public participation, data collection and inappropriate uses such as mass tourism (Kuvan, 2005b). Especially, nature conservation-related provincial units have some difficulties in terms of personnel insufficiency, financial problems, lack of equipment, and problem parallel to national human resources policy.

4. Forest Functions, Problems, Issues to gain importance on nature conservation context

The questionnaire on forest functions and the main forestry issues was applied to forest managers in the previous study (Kuvan et al., 2007; Kuvan et al., 2011). The results of the questionnaire have also important outputs in terms of national nature conservation aspects. Especially some findings on forest functions and main forestry issues play critical role to consider forestry issues in conservation activities. Thus the related findings of this previous research are summarized in this part.

The importance level functions of forests for today are evaluated by forest managers and environmental-ecological functions are assessed to be important today, they are expected to become very important in the future. Managers recognize that the function of forest products production has a certain importance both for today and in the future. Also it is stated that socio-economic and cultural functions are important for today and will become more important in the future. Apart from these findings the most important function was recognized as environmental and ecological functions. This function group was followed by socio-economic and cultural functions and forest products production. The functions were ranked in the same way for the future as well: environmental-ecological functions, socio-economic and cultural functions and forest products production (Kuvan et al, 2011).

In the evaluation regarding the functions of forests, managers think that the importance of wood production for today remains high but it will decrease in the future, however it is stated that the importance of non-wood forest products will gain more importance in the future. Managers also emphasize the current importance of socio-cultural and environmental-ecological functions and point out that these functions (except the function of employment opportunities provision) will become much more importance in the future. These evaluations comply with the international and national trends showing forest services based on socio-cultural and environmental functions receive priority (Kuvan et. al., 2011). This results show that the stand points especially in regional level has been changed. The priorities of wood production started to give its privileged place to social and environmental based issues. On the other hand the importance of protection and improvement of ecological functions of the forests is expressed in National Forestry Program (2004-2023) and also these functions are considered as one of the main circumstances of sustainable forest management (MoEF, 2004).

Parallel to these approach “sustainability” is identified the main issue for the future of Turkish forestry by the forest managers. “Environmental problems-forest interactions” was another issue received a very high score among the issues related to the country’s forestry agenda in the future. In this manner, the managers recognizes that effective implementation of sustainable forest management and environmentally sensitive approaches are vital to maintain and enhance the economic, social and environmental functions of forests, for the benefit of present and future generations. Public demands for greater conservation of forests and associated international/national/local pressures from environmental groups and civil society have prompted the forestry organizations to adopt a much stronger commitment to effective forest conservation and sustainable use of all types of forests throughout the world (Kuvan et al., 2007). The other primary issues to gain importance in the future were ranked as the following: participation, improving functional management of forests, conservation forestry, public relations, certification, plantation and regeneration activities and transparency in management.

These issues are also highlighted in some country level policy documents like development plans, national forest program (DPT, 2001; DPT, 2006; MoEF, 2004). All of these trends also find some

reflexions on country's legal arrangements as another forest policy tool. And also the responsibilities of forestry organizations are increased through maintaining the balance among foremost forestry issues and meet the changing needs of society.

The other findings present that the most important problem that the regional forest directorates face while implementing their activities is related to cadastral and ownership. Additionally, other main problems affecting the activities of the directorates are deficiency of personnel motivation, conflicts in forest-public relations and lack of professional staff. Furthermore lack of decentralization, illegal actions toward forest resources, having vast forest areas in responsibility region, lack of participation of interest groups in the decision-making and implementation processes, insufficiency of legal arrangements are the some other problems that effects forestry actives in regional level.

It is seen that all of them are interested in socio-economic issues pay special attention. In this context, it is very important to take into account these problems and take necessary measures throughout the policy-making and management processes. Also it can be seen that the big amount of the problems are related with administrative and organizational issues. Thus solving these problems have critical importance to sustain the forests and implement the legal arrangements more effectively.

The other issues that have negative effects on forestry activities in Turkey can be listed as: bio-physical threats related to forest protection (forest fires, flood, erosion etc.), problems related to interpretation-education studies on the forestry activities, financial problems, inefficiency of forest inventory and other socio-economic data and lack of equipment and physical opportunities. These problems also have to be solved to develop the effectiveness of forestry and conservation activities but they have secondary priority.

5. Discussion and Conclusion

The need and importance of valuation of forest services and products and also providing effective utilization from forest resources was emphasized in UN Conference on Environment and Development (1992). After then the place of multiple-use forestry concept is increased in international and national documents. Among the forest services, the maintenance and enhancement of biological diversity and (parallel to this concept) nature conservation has received specific attention over the past decades by a number of additional legally and non-legally binding instruments (Glück, 2000). Ramsar Convention on Wetlands, Convention on Biological Diversity, CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), BERN Convention on the Conservation of European Wildlife and Natural Habitats, Barcelona Convention, European Landscape Convention and Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean are the some of these international and regional arrangements.

In this context Turkey has a big potential of biodiversity and nature conservation. Both by the effects of international developments and national potential nature conservation has became as one of the priorities of Turkish Forest Policy. Thus Turkey has ratified lots of international conventions like Ramsar, CITES, Convention on Biodiversity, European Landscape Convention. Also some new arrangements on environmental impact assessment, CITES Regulation, Wetlands Regulation, new laws on terrestrial hunting and also game, wildlife and habitat protection are made. Furthermore, a new law on nature and biodiversity protection is preparing now to re-design the national protected area system.

Moreover the forestry organization has accelerated its studies on nature conservation. The national environment strategy and action plan, the national biodiversity strategy and action plan, the local agenda 21 program and some research projects (such as "awareness rising on wetlands project", "bird sanctuary project", "landscape management, conservation and planning project", "conservation and sustainable utilization of Turkish wetlands to protect biodiversity and reduce climate change", "Nature 2000 strategies for turkey project", "strengthening management of forest

protected area project", "life, biodiversity and natural resource management project-GEF II") are taken effect.

Inspite of these developments there are some insufficiency on legal and organizational structure about nature conservation in Turkey. Apart from the National Park and Forest Law, there are a lot of laws in relation to national parks and other protected areas. In addition, some areas have more than one protected area status (like both national park and natural/cultural sites), thereby causing conflicts of powers and responsibilities among organizations (MoEF, 2004; MoEF, 2007). Thus, conflicts may take place in the administration of the area because of the lack of the coordination among the public agencies. On the other hand the same problem is seen in trans boundary (city border) protected areas, so some challenges on continuity of protection and control activities, integrity of administration can be seen.

Generally Turkey hasn't maintained a sustainable organizational structure on protected area management yet (Akesen, 2005). All statutory agencies should be required to coordinate their activities within the national parks, and the authorized agency must be clearly identified. Parallel to this situation managing all the protected areas (inc. national parks, natural protected areas, nature parks, specially protected environment area etc.) under the same organizational unit is one of the priorities of Ministry of Environment and Forestry (MoEF, 2010a, b).

Legal arrangements concerned with national parks should be reviewed and amended in order to eliminate the existing conflicts. With regard to legal harmonization, a new framework law on nature protection is needed. The new law should contain detailed provisions in the field of institutional arrangements describing the authority-responsibility relations in addition to items regarding objectives, concepts and management of protected areas and other habitats/species with conservation priorities in the country. Also Aydın Coşkun (2010) expresses the importance of balance of protection and utilization in terms of natural resources legislation which is also significant for protected areas.

On the other hand, staff numbers, staff training and skills, and equipment are inadequate for various management activities in the country's protected areas. Conservation measures and managerial activities in especially each of the parks are conducted by only one forest engineer and a few forest conservation officials at the site level.

Also some national parks have not yet a management plan. The scope and content of the existing plans doesn't meet sufficiently international standards and local needs. No regular work plan exists and many managerial actions are not monitored against the management plan's targets. In addition, there is not an established schedule and process for updating of the management plan. In addition, a national land-use plan and a national system plan for protected areas have not yet been prepared until today. Furthermore local management of national parks requires a high intensity of interactions with local governments and agencies, resource user and local community. Local management based on stakeholders' participation is becoming increasingly important for the park and local people in achieving strategic nature conservation, development objectives and sustainability. Thus special attention should be given to stakeholder participation with education and awareness programs for different target groups including locals, users and students. Also lack of financial resources, baseline data and inappropriate uses in protected areas are the other important problems in terms of protected area management (Kuvan, 2005a).

Although Turkey has many laws, regulations, programs, governmental and non-governmental organizations on nature conservation, application of these guidelines requires more effective commitment and control. However, the legal arrangements should be reviewed as looking for new management policies for effective and scientific conservation program. To overcome the current problems, Turkish government should pay more attention to the wider socio-economic and environmental benefits of protected areas in their decision-making processes including biodiversity conservation, land-use and funding. The Government and protected area authorities should establish

more effectively managed system of protected areas considering international criteria and national conditions/priorities (Kuvan, 2005a).

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