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Legal Aspects of European Forest Sustainable Development

Proceedings of the 15th International Symposium Albania

Editors
Haki Kola, Peter Herbst and Rastislav Šulek

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IMPRESSUM

Haki Kola, Peter Herbst, Rastislav Šulek (Editors)

Legal Aspects of European Forest Sustainable Development

Proceedings of the 15th International Symposium, Albania

The authors are fully responsible for the content of their articles included in the proceedings

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PREFACE

IUFRO research group 9.06.00 (former 6.13.00) 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, in Lemesos (Cyprus) in May/June 2010, Kaunas (Lithuania) in May 2011, and Minsk (Republic of Belarus), in September 2012. Fifteen years of intensive research work resulted in the allocation of a session on “Innovative forest and environmental legislation for better diversity” to our group, during the XXIVth IUFRO World Congress in Salt Lake City, USA, in October 2014.

On the occasion of the 15th International Symposium on “Legal Aspects of European Forest Sustainable Development” in Tirana, fifty-four researchers and practitioners originating from twenty-one different countries used that unique opportunity to get acquainted, involved and familiar with the new legal situation mainly in European forests, but also were profiting from the presence of participants from across the world, including Israel, Iran and Japan. Longstanding group member Dr. Marius Lazdinis (EU Commission) created special interest by presenting and discussing the upcoming EU IPRAD 2 program, where forestry is expected to be supported under EU pre-accession assistance again.

Not the least because of the number of group members involved in LPA (legally binding agreement on forests in Europe) negotiations, latest developments (especially in the context of Intergovernmental Negotiating Committee’s INC 4 negotiations) were broadly discussed.

The symposium was kindly hosted by CNVP (SNV's Connecting Natural Values & People Foundation, cf. http://www.cnvp-eu.org/) and supported by the host organisation, the Ministry of Environment Forestry and Water Administration and Academy of Sciences of the Republic

of Albania, as well as the Eva Mayr-Stihl Foundation and the Swiss Federal Institute of Technology, Switzerland. The meeting was organized by Haki Kola (CNVP Country Director) and Peter Kampen (CNVP Executive Director) and their respective staff at CNVP Tirana, as well as Peter Herbst (IUFRO 9.06.00).

Interested in IUFRO 9.06.00?

You are welcome to visit *http://www.iufro.org/science/divisions/division-9/90000/90600/* for more information, or directly contact the coordinator via email, <*HP@net4you.at*>.

Peter Herbst

Coordinator

IUFRO Forest Law and Environmental Legislation, 9.06.00

TABLE OF CONTENTS

Land registration and title deed types of the Ottoman empire

Sedat Ayanoglu*, Cagla Tuzcuoglu*

Abstract

Designating and determining the rights on immovable properties require assessment of various documents and certificates that have emerged over a long time. Evaluating the documents issued for different land types and purposes in at least the past hundred years – sometimes in the past six hundred years, like the case of the Ottoman Empire –, and finding actual owners of such land is undoubtedly a very difficult and complex problem to solve. Therefore, cadastral laws include provisions on which documents and evidences constitute proof of possession or ownership. Such documents are the basis to determine the rights on land as well as owners of such rights in case of any ownership dispute that for various reasons may arise both during and after cadastral works. Knowing the nature and validity of the said documents is very important for Turkey, the successor of the Ottoman Empire, as well as for the other countries, that were controlled by the Ottoman Empire for a long period, but still could not solve their cadastral and ownership problems and try to implement new arrangements. Therefore, general information about classification of lands; manner of disposition and use of different land types; documents proving the rights on lands, and issuance method of such documents; persons and offices authorized to issue the said documents; and registration systems in the Ottoman Empire are given on the basis of the basic sources. Finally, attention is given to issues not to be overlooked when evaluating the said documents.

1. Introduction

The Ottoman Empire did not implement a single land system across the whole empire. A separate state law was applicable for each state before the enforcement of the Land Code, 1858. However, the land system was addressed in details and collectively by the new rules under the Land Code, 1858. Thus, a single system applicable across the empire was created, and uniformity of land law was enabled.[1]

Regulations related to the Ottoman land system should be outlined in the first place in order to be able to make healthy comments on the purpose and enforcement of the Land Code, 1858.

2. Ottoman land system

Ottoman land system is generally examined in two periods: prior and after the Land Code, 1858.[2]

* e-mail: aayano52@istanbul.edu.tr,

** e-mail: caglatuzcuoglu@gmail.com

[1]Şahin, C., 'Osmanlı Toprak Sistemi Hakkında Genel Bir Değerlendirme' *[Ottoman Land System: A General Assessment]*, International Journal of Social Science, p. 434-461, December 2012,

[2]Şahin, C., 'Osmanlı Toprak Sistemi Hakkında Genel Bir Değerlendirme' *(Ottoman Land System: A General Assessment)*, International Journal of Social Science, p. 434-461, December 2012, Sh: 437-438

Land system prior to the Land Code, 1858

There were three categories of land in the Ottoman Empire until the Land Code, 1858 was prepared.[3] These categories are as follows:

- **Lands subject to *öşür [tax of tithe]***

These lands were owned by Muslims before their conquest, or occupied by Muslims after such conquest.[4]The key point of the lands subject to tithe was their cultivation and ownership by Muslims. These lands could be sold, inherited, and disposed of as wished.[5]

- **Lands subject to *harac [a tax levied on non-Muslim subjects]***

These were the lands that remained the property of the residents, non-Muslim subjects after their conquest. *Harac-imukaseme [tax levied depending on the crop yield]* (tax rate ranged from 1/10 to 1/2 of the crop yield), as well as *harac-imuvazzaf [tax annually levied based on land area, that varied between twenty to thirty acres]* were levied over these lands. The lands subject to *harac* were legally different from the lands subject to *öşür*. Owners of the lands subject to tithe were the actual owners of the land they used, having the right to sell and buy these lands, and dispose of the same by any method.[6]

- ***Miri [state-owned]* lands**

These lands were subject to neither tithe nor *harac*. These were called *arz-imemleket [state lands]*, meaning *miri*. *Miri* lands were basically *haraciye [land owned by non-Muslims and subject to harac]*, but they remained the property of the state. *Rakabe [ownership]* of these lands belonged to the state, while *reaya [land cultivator] had* the usufruct rights *Timar* system *[a timar was the land granted by the Ottoman sultans between the fourteenth and sixteenth centuries, with a tax revenue annual value of less than 20 000 akçes]* was applicable to these lands.[7]

2.1 The Ottoman Land System pursuant to the Land Code, 1858

Through the Land Code of 1858, it was aimed to bring a new order to the Ottoman land system with a dispersed structure. The Code paved the way for private landownership. Furthermore, foreigners were allowed to become property-owners of the Ottoman lands thanks to an amendment made in 1867.[8]

The aim of the Code was land distribution to peasants in the form of small enterprises The peasants could dispose such lands at their own discretion, grow any crop selected by them , as well as let out and sell the said land to any party they choose.[9]

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[3]Düren, A., Toprak Hukuku Dersleri *[Land Law Classes]*, (Ankara, Publications of Faculty of Law, Ankara University 1972), p. 16.

[4]Nisancı, S., '15-16. yy'lerde OsmanlıİktisatZihniyeti' *[Economic Mentality in the Ottoman Empire, 15th-16th Centuries]*, (Istanbul: Okumuş Adam Yayıncılık, 2002), p. 83.

[5]Düren, a.g.e., p. 16.

[6]Nisancı, a.g.e., p. 83.

[7]Düren, a.g.e., p. 16.

[8] http://kybele.anadolu.edu.tr/tezler/2005/338594.pdf

[9] http://www.dpt.gov.tr/DocObjects/View/14037/tez-ptopcu.pdf

Article 1 of the Code divided the lands of the Ottoman Empire into 5 categories:

- ***Mulk [privately-owned]* Lands**

A *mulk* land means a place, private ownership of which is granted to an individual in return for his services to the state. These were lands possessed in full ownership, and the owner could use them at his own discretion. Use of land at owners discretion in other words meant to sell the land, grant it, plant trees or construct buildings within the limits of the Code. In case of death of the landowner, he wnership right was transferred to his heirs. In case there were no heirs, such land was reverted to the state, and considered as *miri* land.[10]

The above mentioned uses of land were entered in Shariah Records in order to prevent any dispute that may occur in the future.

- ***Miri* Lands**

Lands of the Ottoman Empire consisted mostly of *miri* lands, in other words owned by the state. *Miri* lands mean lands the ownership[11]of which *belonged to the state and the usufruct rights to peasants against a price (title deed) for an unlimited period of time.*[12] There were 3 categories of *miri* lands: *has, zeamet, and timar [if revenues produced from a timar were from 20,000 to 100,000 akçes, the timar was called zeamet, and if they were above 100,000 akçes, the land was called has.]*.

A land became *miri* in the Ottoman Empire under the following cases:

- If the land acquired by conquest was not granted to the public, but moved into state ownership;
- If the system, according to which a conquered land was used, could not be determined during conquest;
- If a *mulk* land was transformed into a *miri* land; and
- If a *mulk* land, owner of which was unknown due to lapse of time, moved into state ownership.
- Furthermore, usufruct right of a dead land was vested to the person who revives such land, while the state retained the ownership on it.

The peasants cultivating a land could be granted the usufruct rights under a *tefviz [delegation]* contract. We can say that holders of the usufruct right also held the right of disposition which is the same as full ownership, except for transfer and assignment rights. This system was somehow complicated. For example, the said peasants could cultivate or let out to others the said land, or leave the same to their heirs, even if the rates changed over the time. Furthermore, there were 2 categories of heirs: heirs paying title deed fee and heirs not paying title deed fee.

Holders of the right to dispose these lands, could partially transfer the right to any other party by permission of the state and execute some transactions by permission of the authorized officer, but never be entitled to execute certain legal transactions. As the owners of *has,*

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[10]Ayni, A. , 'Osmanlı İmparator luğunda Eyalet Taksimatı, Toprak Dağıtımıve Bunların Mali Güçleri' *[State Organization and Land Distribution in the Ottoman Empire, and their Financial Powers]*, 1062, Sh: 5

[11]Çıplak Mülkiyet *[Bare Ownership]*

[12]Cin, H., a.g.e., p. 67.

zeamet, and *timar* were considered as *sahib-iarz [owner of land]*, holders of the right to dispose lands could do it only by permission of the said owners. For such dispositions, holders of the said right were given a document called *temessuk* by the *sahib-iarz*, a system that continued until 1839. This administration method, which became out of date and corrupted over time, was put aside during the *Tanzimat* Reform Era.

It is said that the first legal regulations on this type of land were enforced during the reign of Sultan Suleiman I *[the Magnificient]*.[13]

- ***Mevkuf* Lands**

They are also known as *waqf* lands. These are basically *mulk* or *miri* lands transformed into *waqf* lands in order to use their incomes as charity funds. Any disposition of ownership of these lands was subject to strict rules. Trustee of a *waqf* could make all dispositions of the endowed lands, except for transfer and assignment of ownership. The authority to issue title deeds related to disposition of these lands was the Land Registry under the regulations of 1876.[14] There were 2 categories of *mevkuf* lands:

- The lands dedicated to a certain purpose and consisting of *mulk* lands. Provisions of the Land Code were not applicable. Fiqh rules apply.
- Waqf lands constituted by dedication of disposition rights of a part of *miri* lands, or only income of *miri* lands, or both to a certain purpose, subject to permission of the Sultan. Provisions of the Land Code applied to such lands.

- ***Metruk* Lands**

These were not agricultural lands, but lands that were allocated by the state for the purpose of public activities of villages or towns. They are also known as protected lands. *Metruk* lands could not be owned or disposed. Only the village or town, for which *metruk* lands were allocated, had the right to dispose such lands. *Metruk* lands could not be bought or sold. They could not be allocated to any group or person.[15] These lands were not subject to title deeds.

There were 2 categories of *metruk lands*:

- Places open for use by the general public:
- Roads, bridges, picnic areas, bazaar spaces, *namazgah [outdoor prayer space]*, fair spaces open for the general public.
- Places allocated for the people of one, or a few, particular village(s) or town(s):
- Places like pastures, summer pastures, winter pastures, threshing floor etc. Usufruct right of these places belonged only to the people, to whom these places were allocated; and use of the same by other people was prohibited.

[13]According to the records, Sultan Suleiman I made a Land Law called *Kanun-iArazi.*

[14]Kaçıkcı, O., 'Tasarruf Belgelerinin Günümüz Hukukunda Geçerliliği' *(Validity of Disposition Documents in Today's Law)*

[15]Barkan, *'Türk Toprak Meselesi' (The Issue of Land in Turkey)*, Sh. 252

- ***Mevat (Dead)*** **Lands**

These lands, which can be called dead lands, did not have owners or possessors. They were not granted or allocated to anyone. Non-arable and vacant lands covered with little herbs and bushes constitute *mevat* lands.

Legal status of *mevat* lands is similar to the status of "lands under the sovereignty and disposal of the state" defined in today's law. *Mevat* lands could be ameliorated and acquired by possession.

3. Disposition of Immovable Property in the Ottoman Empire

There were 2 ways to dispose immovable properties in the Ottoman Empire: undocumented disposition, and documented disposition. Recorded title to a property was not required for undocumented dispositions, while a title deed was a must for documented dispositions.

3.1 Undocumented Dispositions

Disposition of immovable property based on the documents and certificates issued by a *sipahi [Ottoman feudal cavalryman]*, a *multazim*, or a trustee, or *huccets [certificates given by Shariyah Courts]* issued before the Regulations of 1875, or dispositions without having any of the said documents or records of title were considered as undocumented dispositions. Undocumented dispositions were applicable only to *mulk* and *waqf* lands (land owners called *sahib-iarz* issue disposition documents in case of *miri* lands). In 1874 (1290 in the Islamic Calendar), all immovable property owners started to posses a title deed, while undocumented dispositions were prohibited.

3.2 Documented Dispositions

The authorization to deal with all immovable property transactions after 1874 (1290) was given to *Defter-iHakani [land registry, also used for tax purposes]* officers. All immovable properties were registered again from 1874 (1290) to 1883 (1299), and the books kept for this new registration process were called *emlakyoklama defterleri [property inspection books]*. These books were created by an administrative board member, a cadastral registry official, and a real estate clerk through examination of evidences and documents presented by the immovable property owners or conducting investigations to determine whether disposition by those, who did not have any document, constituted the ground for ownership, in the presence of *imams, mukhtars*, and council of neighborhood elders, where the relevant immovable property was located. The books created as described above were examined, and if deemed acceptable, approved by the administrative board. The property registration books, which were not approved as such, did not have any legal validity. A copy of each approved book was sent to *Defterhane [central registry office]*, and a temporary certificate was issued – to be used until the original book was approved and sent back by *Defterhane* – to the relevant real property owners by a *naip [deputy]*, an accountant, a *Defter-iHakani* official, a treasurer of a province, a *kaymakam [county governor]*, a *deputy kaymakam*, land registry clerk, or treasurer of a county.

The Ottoman Empire kept a separate book for each type of land until 1884 (1300), after which one book was kept for all types of land.

3.2.1 Disposition Documents and Their Legal Status

There is no provision on legal status of title deeds and records in the Land Codes of 1847 (1263) and 1859 (1275). Undocumented dispositions of *miri* lands were prohibited by the Regulations on Title Deeds of 1860 (1276). However, the said Regulations did not mention the legal status of title deeds. In the civil code of the Ottoman Empire called *Mecelle* (Article 1737), it was stated that "*Kuyud-iHakani"s [Ottoman land registry records]* constituted absolute proofs, while there were no provisions on other documents. The said land registry records constituted absolute proofs, unless rebutted, pursuant to Article 7 of the Civil Code. However, we must point out that the Civil Code did not include any provision on probative force of today's title deeds. It was stipulated that disposition of immovable properties could only be made through land registry records, and such rights had to be proven by land registry records.

- ***Defter-iHakani* Records**

These records consisting of approximately 970 books were kept during the reign of Ottoman Sultans, particularly Suleiman I and Murad III. As we mentioned above, *Defter-iHakani* records, which are also known as *Kuyud-iKadime* or *Kuyud-iHakani*, date back to the reign of Seljuks. All residential centers, arable lands, summer and winter pastures, and other lands, as well as individuals and institutions related thereto were carefully entered in the said books. It should be noted that the immovable properties entered in the said books were properties of state and charity organizations. The reason of such entries was to determine incomes of *has, zeamet, and timar* holders.

Personal immovable properties were entered in the property inspection books mentioned above. These entries were made by special committees of clerks according to the available documents, older books, and results of on-site examinations. Furthermore, if the records mentioned above were checked by a high-rank official called *nisanci [an official responsible for sealing royal precepts]* and then approved by the Sultan, were maintained in the imperial treasury called *Hazine-iAmire* and constituted the healthiest evidence for land affairs. The following method was applied in cases where any lawful amendment to these records was necessary for the public benefit: Firstly, a firman was issued by the office handling the paperwork for *Divan-iHumayun [Imperial Council]* with permission of the Sultan. Secondly, a summary of the firman was written on the top of the book before the intendant of *Defter-iHakani*, and signed by the writer. Furthermore, the firman was maintained by the relevant official.

Defter-iHakani records have the same force and effect as today's land registry records. However, it is not possible to say the same about the other documents, because creation of *Defter-iHakani* records is more beyond doubt than other documents. Furthermore, the cadastral records, which caused issuance of the said documents, were primarily for taxation on immovable properties rather than proving ownership of immovable properties. Particularly in *miri* lands, the relevant individual had only the right of disposition of the *miri* land, not the title to such land. Bare ownership belongs to the state.

- ***Atik* Certificates**

Until 1847 (1263), holders of *has, zeamet, and timar*, as well as *Koru Agalari [officials responsible for the forests dedicated to imperial use]*, "*Subasi"s [ancient version of chief of police]*, *Multazims*, and *Muhassils* were responsible for managing *miri* lands, and fulfilling the procedures for dispositions such as delegation *[tefviz]*, conveyance, and inheritance of *miri* lands, and issuing documents that show such dispositions to the concerned. The

disposition documents mentioned above were called *Sipahi* Certificate, *Zaim [zeamet holder]* Certificate, and *Tapu Temessuku*. These documents were altogether called *Atik* Certificates. *Atik* Certificates were entered in daybooks called *Ruznamçe Defteri*, which were kept for registering owners of *has*, *zeamet*, and *timar*, and are still maintained at *Kuyud-iKadime* Department, the General Directorate of Land Registry and Cadastre.

Atik Certificates constitute the proof of the right to dispose a property according to today's legislation, on condition that their seals are legible. The Regulations on Title Deeds, 1860 (1276), Article 12 stipulates as follows: "papers without a seal or with an unknown seal shall not be considered authentic".

- ***Mulkname***

Mulkname is an official document that shows assignment of a place as a privately-owned place to an individual, and it was issued by Sultans, especially in case of a deficit in the imperial budget, to provide the money required. *Mulk name* was issued to prove ownership in case of any dispute arising out of the relevant land. *Mulk name* was approved firstly by the Sultan. *Divan-I Humayun* approved compatibility of *mulk name* with the relevant laws and Sultan's orders. Therefore, *mulk name* constituted, and still constitutes, an absolute proof.

- ***Huccet***

There are three categories of *huccet*: *mubayaa huccet [purchasing deed]*, *ihbar huccet [certificate based on witness statements]*, and *istihkam huccet*. A document issued in the form of a purchase and sale agreement by a court would be called *mubayaa huccet*. A document issued by a court, if an individual proved his disposition of a land for a long time by statements of two witnesses would be called *ihbar huccet*. A document issued by a court to prove dispositions such as purchase, sale, and grant would be called *istihkam huccet.* For example, when an individual appeared before a judge after selling his property and acknowledged that he sold his property to another individual, the court issued a document that shows such acknowledgement, namely *istihkam huccet*. *Huccets* constituted absolute proofs unless there was any intervention that would impair the free will in issuance of *huccets*.

- **Inspection Documents**

Occasional inspections were carried out to prevent undocumented disposition of lands in the Ottoman Empire. During an inspection, inspectors entered the owner of each land, reasons, limits, and amount of disposition of such land in inspection books, and issued temporary title deeds to the concerned, which were to be replaced by the original title deeds. Most of the said temporary title deeds somehow survived until today without being replaced by the original ones.

The books kept by inspectors were not considered as registration until they were examined and certified by administrative boards and delegation committees. The documents issued by the inspectors but not certified by the said boards and commissions were called *uncertified documents*. Needless to say, the temporary title-deeds did not have any legal force. However, the original title deeds issued based on the certified inspection books constituted absolute proof of disposition rights of a property and reason of acquiring the same.

- ***Gedik* Certificates**

These are the certificates for *gediks* that were established by owners of *mulk* lands and called *orf-u belde*. In this system, a land owner granted the right to construct buildings or plant trees on his lands in return for an annual rent, as a result of which *gedik* became entitled to

ownership of the said planted trees or constructed buildings on the said land, although title to the said land remained with the land owner.

The land, building, and trees had separate land registry records. Until 1874 (1290), the said lands could only be sold before a judge of a court, while the said buildings and trees could only be sold before the relevant land owner; and the certificates related to the sale could only be issued by the land owners. The certificates issued by land owners were called *orf-u beldegedik* or just *gedik certificates*.

The Regulations on Gediks of 1861 (8th day of *Zilhicce[twelfth month]* in 1277 according to the Islamic Calendar) made dispositions as described above easier. *Orf-u beldegedik* granted the right of disposition of the said buildings and trees to the owner of such buildings and trees, while the land owner was entitled only to annual rent of the relevant land. The same rights were transferred to heirs of the parties. *Gedik* holder could sell or grant his rights. In case of inheritance, assignment, or grant, the contract relating thereto was made before the land owner. Such contracts were of a permanent nature, not limited to a certain time period. The Law on Enforcement of Civil Code, Article 39 prohibits establishment of rights like mentioned above.

- ***Temessuk Certificates issued by Waqf Trustees***

Certificates and *temessuk* certificates for waqf lands were issued by waqf managements and trustees until the power to issue the same was vested in *Defterhane*by the Regulations of 1876 (1292). However, it was found that records of many waqf lands had not been transferred to *Defterhane* despite the said Regulations, and that such waqf lands were disposed of based on the said *temessuk* certificates. *Temessuk* certificates document the grounds for entitlement to disposition, and have the probative force depending upon their compliance with waqf records.

4. Land Registry System in the Ottoman Empire

- **From 1535 to 1847**

During this period, there was neither a land registry and cadastre organization nor a land registry in technical terms. However, inspections and recordings of *miri* lands, which constituted the majority of Ottoman lands, were made and the information obtained was entered into books, although such records were kept for tax purposes. The first land records were kept during the reign of the Sultan Mehmet II *[the Conqueror]*. The books kept from 1534 to 1634 for land registration purposes during the reign of the Sultan Suleiman I *[the Magnificient]* were called *Kuyud-iHakani*. These books, that are kept in the archives of the General Directorate of Land Registry and Cadastre, consist of 2322 volumes.

The books mentioned above were delivered to the office handling paperwork for *Defterhane-iAmire [central registry office]*. Information about *dirlik* lands *[has, zeamet, and timar]* and their owners were entered in the said books. *Dirlik* owners *[sahib-iarz]* issued a certificate showing their disposition rights and presented it to the peasant (land cultivator or holder of disposition right), to whom such disposition rights were delegated. These certificates were called *sipahi certificates, zaim certificates,* and *tapu temessuku*.

Neither the records and copies of the said certificates nor the said books themselves were found in the land registries established after the said registry. However, the said certificates may still be valid proofs of ownership rights. For a certificate to be a valid proof, it must be proved that the seal imprinted on the certificates is the true seal of the relevant *dirlik* owner. This may be verified by *Kuyud-iHakani* records.

Tanzimat Firman issued in 1839 recognized immunity of property, while were initiated legal arrangements required for such immunity.

- **From 1847 to 1874**

The land registry called *Defter-i Hakani* was established in 1847. This registry is the first official land registry in Turkish history, and it was run directly by the imperial government. As *dirlik* system was abolished by *Tanzimat* Firman in 1839, the land owners' rights of disposition of *miri* lands was automatically revoked. And *miri* lands were started to be registered with *Defter-i Hakani*. In addition to responsibility of land registration transactions, the power to issue title deeds was granted to *Defter-iHakani*. The Land Code, 1858, Article 3 stipulated that lands could be disposed of by permission of and upon delegation by the officials appointed by the state. According to Article 36, the said officials were revenue officers. However, the officals appointed after 1874 were land registry officials.

Furthermore, all land records for the whole country were collected by *Defter-iHakani*, and the right of disposing *miri* lands without holding a title deed was prohibited. A Regulation made in this period stipulated that all *miri* lands must be entered in books. However, one page was reserved for each piece of land, and the information was entered based on the names of cultivators, not the property.

A copy of each book, in which *miri* lands were entered, were approved by administrative boards and then sent to *Defter-i Hakani* in Istanbul. Upon receipt of such books, *Defter-iHakani* issued a certificate bearing a tughra and called *inspection record* to the relevant holder of disposition rights. However, inspection records were not of a title deed nature, but constitute proofs of existence of disposition rights, because most of the books were not approved by administrative boards.

- **From 1874 to the 1923**

Emlak-iSirfa Regulations made in 1874 required registration of all *mulk* lands (buildings, business places, real estate) with the land registry, and issuance of title deeds to the relevant owners by *Defter-iHakani*. Acquisition transactions of *mulk* lands were handled by *Shariah Courts*, if the relevant parties wanted to do so, and certificates called *huccet* were issued by such courts to the owners, until the said regulations entered into force. According to Article 167 of the civil code of the Ottoman Empire called *Mecelle*, sale of *mulk* lands was not subject to a specific method (official method). Title of *mulk* lands were transferred by sale agreements between the relevant parties. Inspection and registration of *mulk* lands began in 1883. Most of the books kept for this purpose were sent to *Defter-iHakani*. These books were called *emlakyoklama [property inspection]* or *emlakdaimi [permanent property]* books.

Keeping the records of all lands, without separating lands as *miri*or *mulk*, in a single book called *Zabit Book* was made obligatory in 1899. On the other hand, the Sultan issued a direct order called *irade-iseniyye*in 1902 to make it compulsory that sale transactions of *miri* lands be made before a land registry official. The said *irade-i seniye* allowed registration of the sales previously made without registration with land registry (external sales). The *Law on Disposition of Immovable Property Documents"* made in 1913 stipulated that conveyance transactions of all types of land, namely *miri, waqf,* and *mulk* lands, must be made before a land registry official.

Transactions related to waqf lands were handled by waqf trustees in the earlier times. However, the Regulations made in 1875 and 1876 stipulated that transactions relating to waqf

properties be handled by the land registry, and title deeds be issued to the right-holders. The books kept under supervision of waqf managements were transferred to the land registry.

The purpose of all books kept until issuance of the *Tanzimat Firman* was to collect the information required for contributions to state army and incomes. None of the said books were kept for the purpose of recording individuals' rights on immovable properties.

Certificates showing individuals' rights on *miri* lands were issued by the Sultan and his representatives (*sipahis*). In other words, if the right to collect *öşür [tithe tax]* and other taxes over a land in return for public services belonged to the imperial treasury, *timar* would be called *has*, while it would be called *sipahitimari* in cases when the said right belonged to *sipahis*.

The authority to handle transactions of *miri* lands, ownership of which were transferred to the imperial treasury upon abolishment of *timar* system by *Tanzimat Firman*, belonged to in *multazims*[16] and *muhassils*[17].

State treasury was called *Bayt al-mal*. If the right to collect *öşür* and other taxes over a *miri* land was granted for the purpose of starting and sustaining charities, and expenses of such grant was covered by *Bayt al-mal*, such *miri* land was called a *waqf* land.

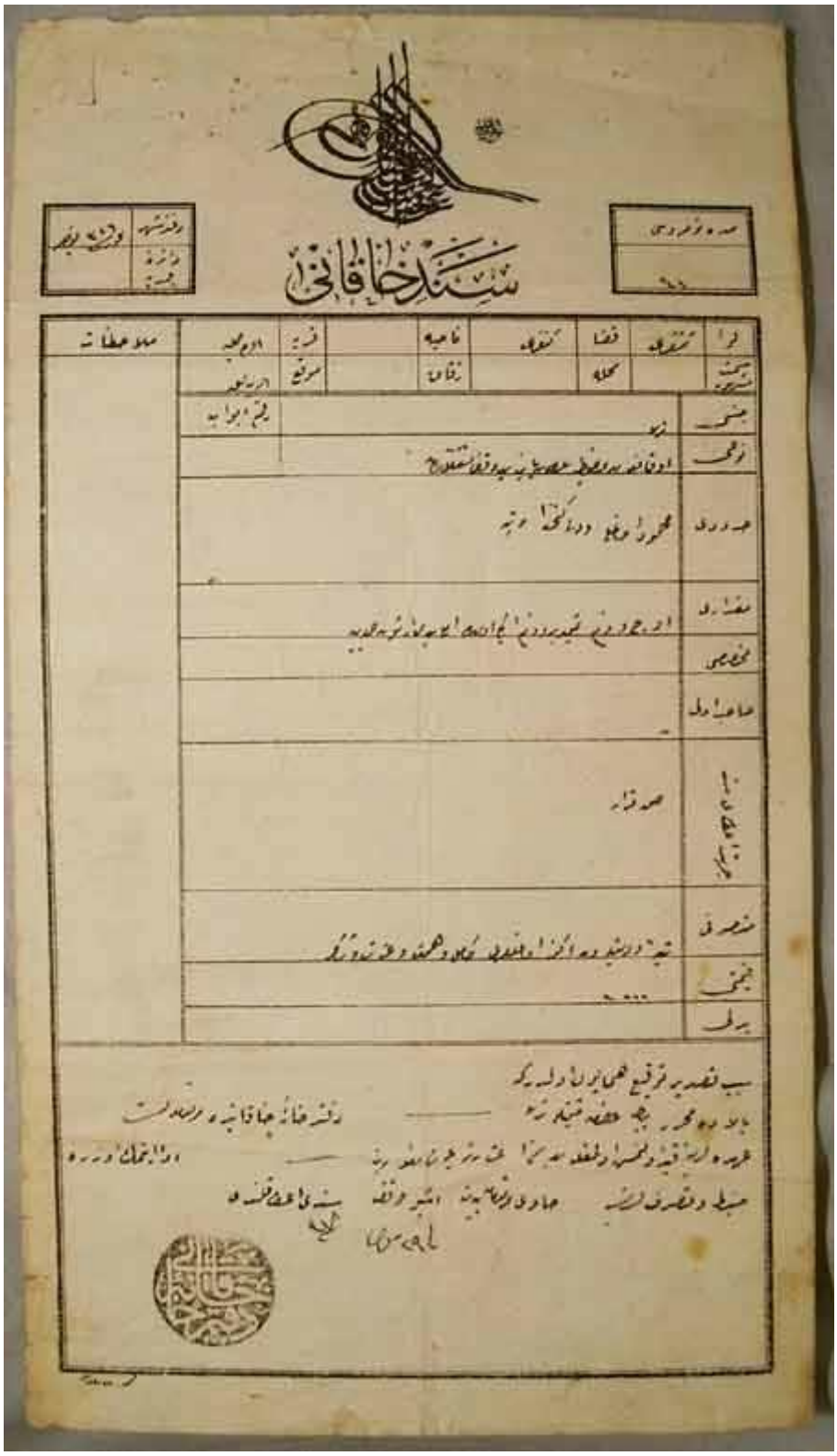
Regulations of 1847, namely "Arrangements Applicable to Land Registry", revoked the power to execute agreements made for parties such as *sipahis*, *multazims*, trustees, *muhassils*, etc., and stipulated that the certificates previously issued by the said parties be issued by the office handling paperwork for *Defterhane-iAmire* from the effective date of the said regulation; thus registrations began to be arranged in 1848. As a result of the foregoing process, the necessity of registering immovable properties with a specific registry was recognized, which laid to the foundation of today's land registry system.

[16]An individual, who pays a certain amount in advance to the state in return for becoming entitled to the revenues, namely *öşür* (tithe) and duties, generated from a certain region like a village or a town.

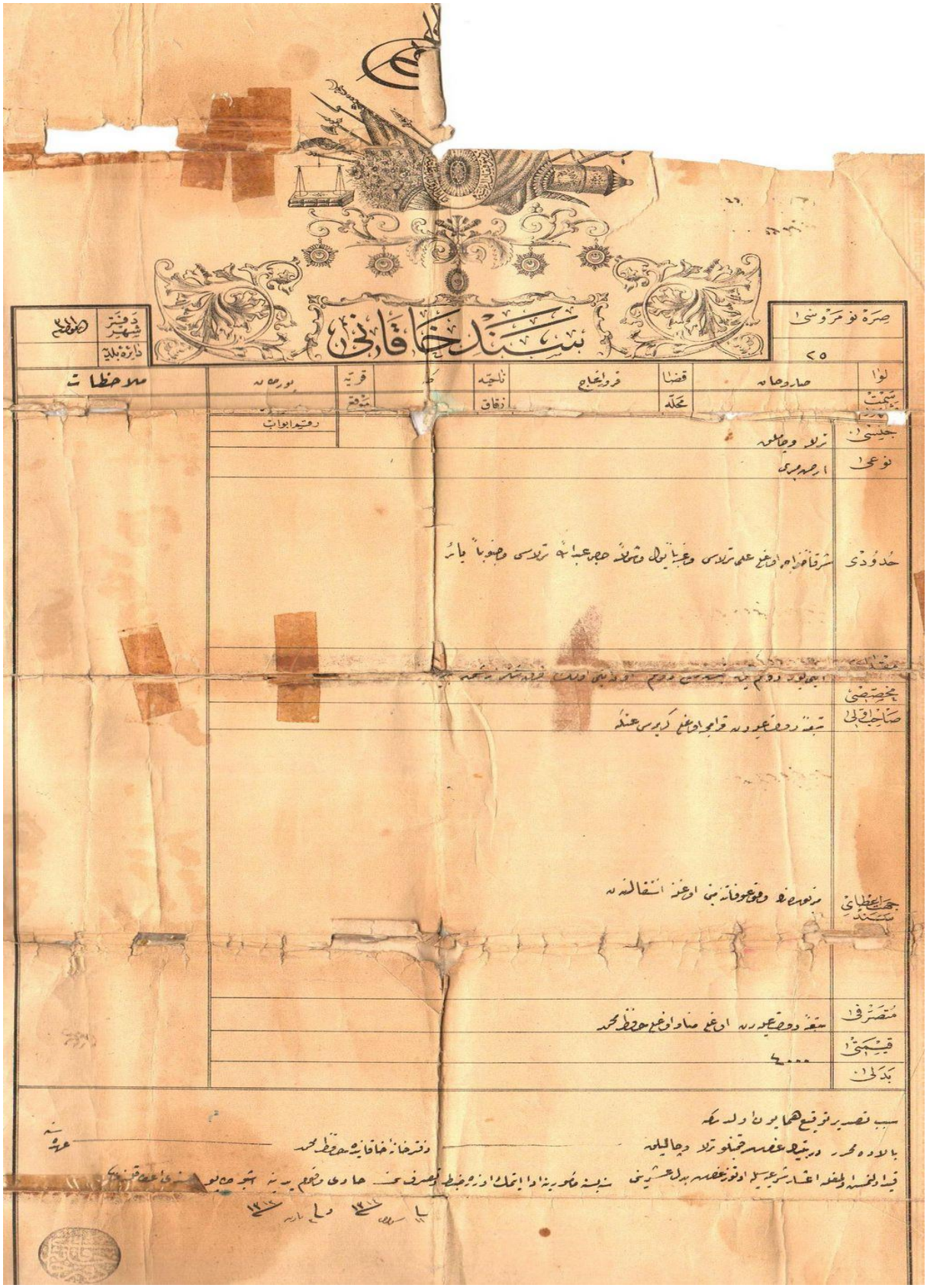
[17]An official, who provides security of a county or a *sanjak [administrative division]* or a province and who is authorized to state revenues.

APPENDİX - Some examples of Ottoman Land Titles

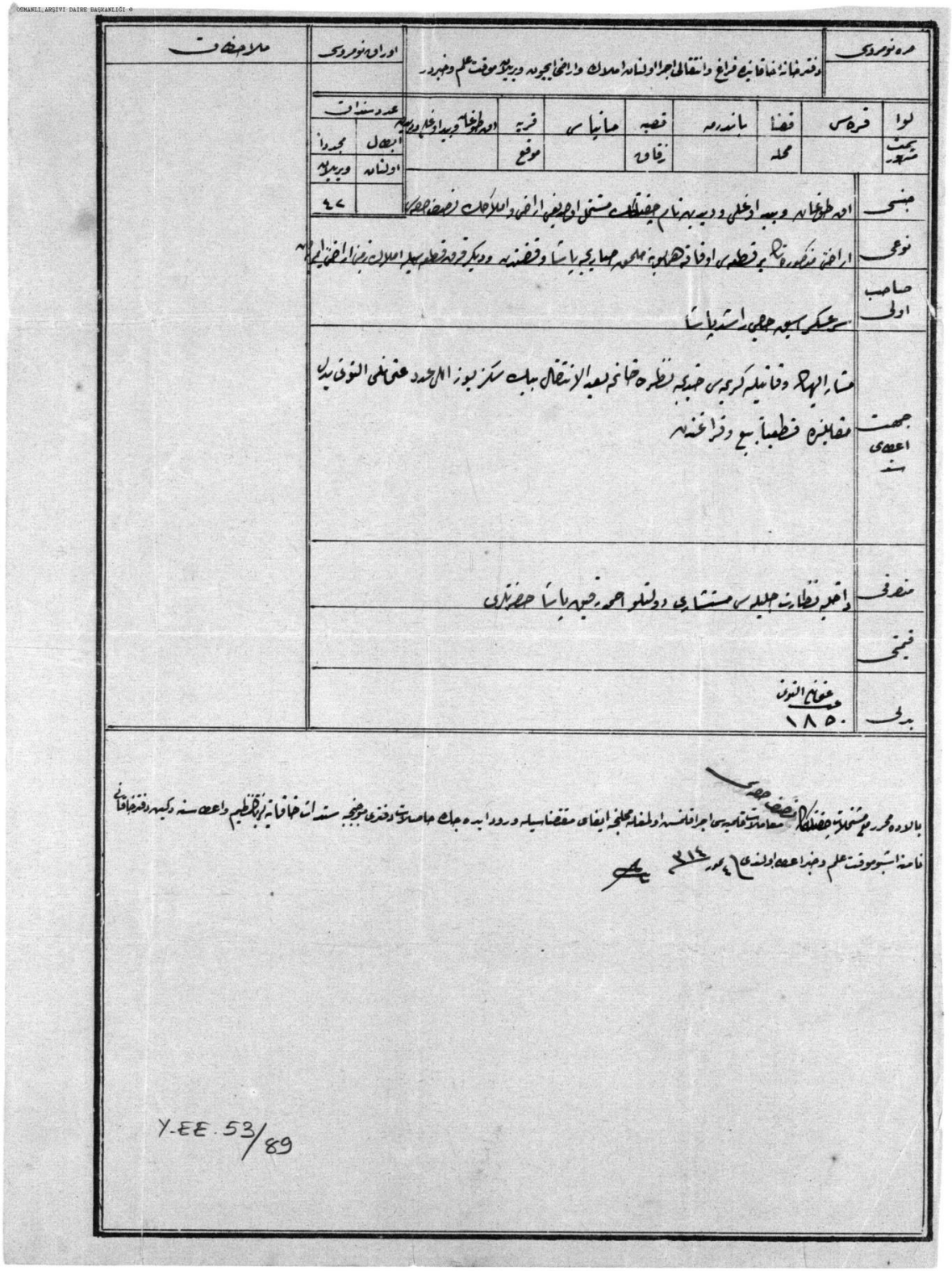
An example of farmland title (Senedi Hakani)



An example of farmland and pinetum title (Senedi Hakani, created by the "*tevfiz*" *procedure*)

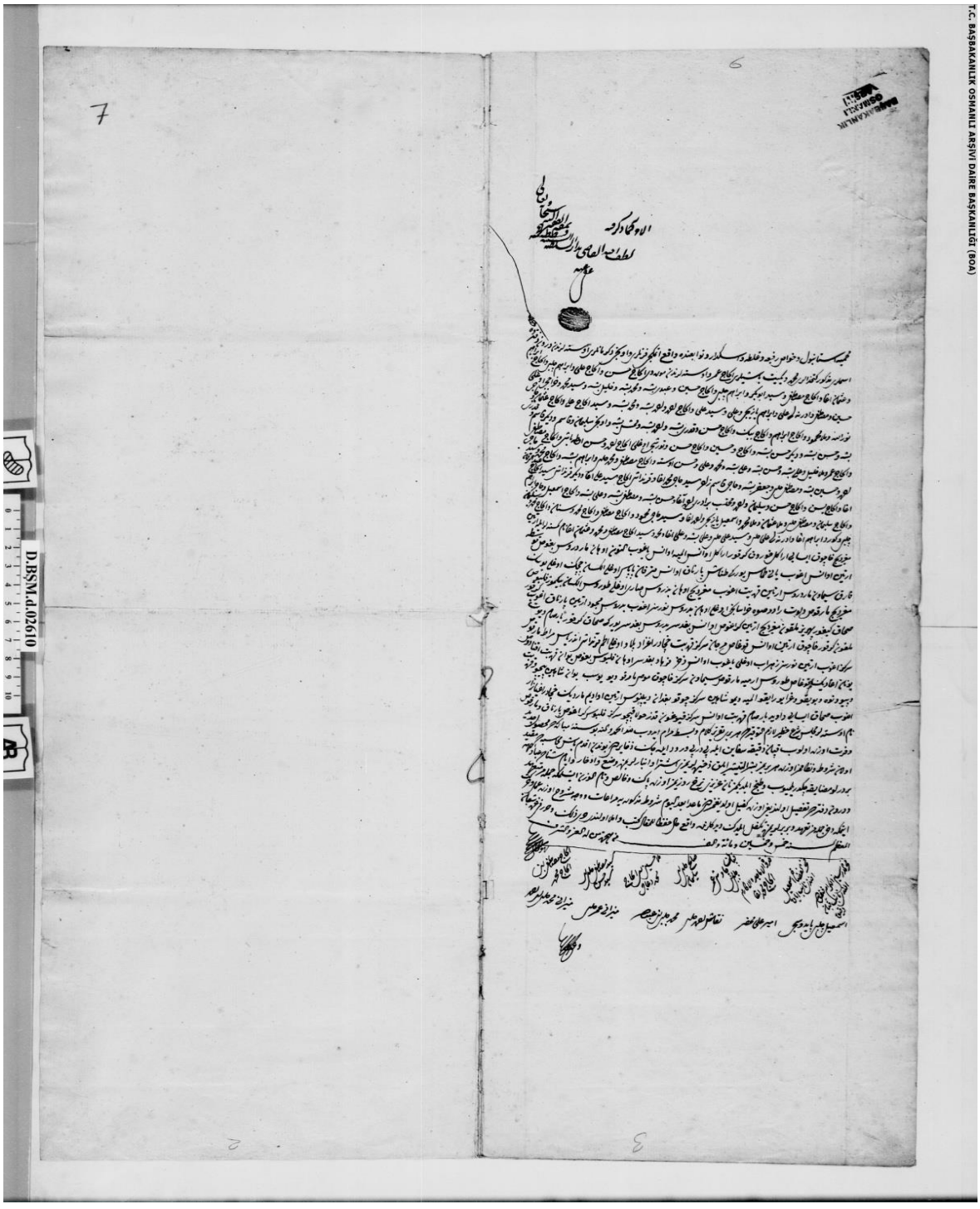


An example of land registry that shows transfering of ownership right (Senedi Hakani)

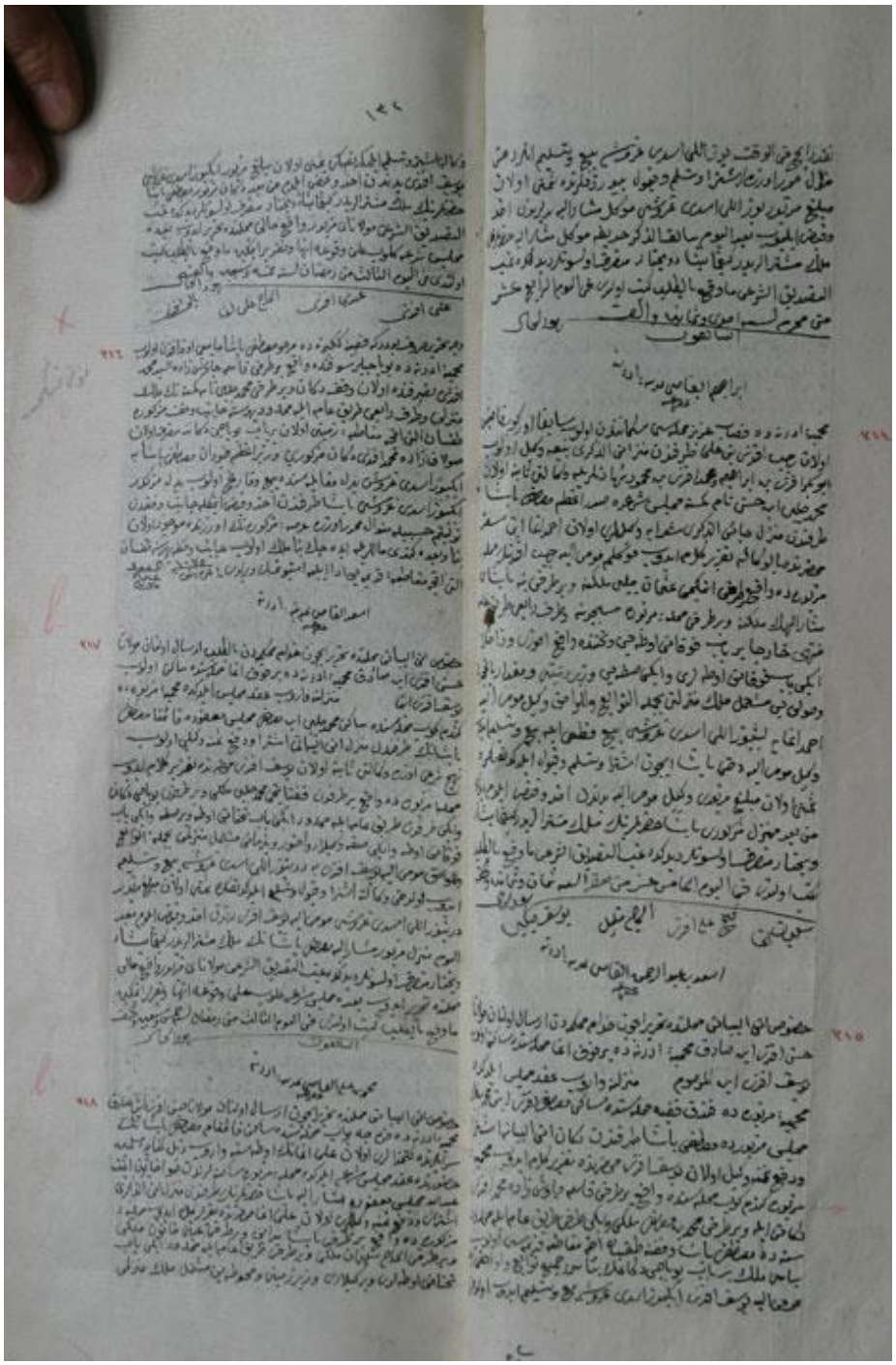


Y.EE.00053

An example of verdict given by Sharia Court that shows transfer of land ownership (Hüccet)



An example of "*Hüccet*" that shows transferring of ownership right Vakıf Land. (Merzifonlu Kara Mustafa Pasha)



An example of "*Atik Certificate*" (shows disposition of use right on miri land)

Y.EE.00094

Another example of land title that shows disposition of use right on miri land.

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The Cibal-i Mübaha: A Special Type of Forest Available for Public Use in the Ottoman Empire Period

Üstüner Birben[*], *Yusuf Güneş*[**]

Abstract

Turkish forestry legislations can be historically analyzed in two periods: The first period is the era of the Ottoman Empire, and the second one has begun with the foundation of the Republic of Turkey and extends to present days. However, this study is mainly focused on the period of the Ottoman Empire and the forestry legislations related to Cibal-i Mübaha[1]. Although there is not many considerable legislation on this issue, the Land Code of 1858 (Arazi Kanunnamesi), the Forestry Decree of 1870 (Orman Nizamnamesi), and the Mecelle[2] will be investigated to be able to understand both the legal dimensions of the Cibal-i Mübaha and the rights of the people on such forests.

In accordance with the above-mentioned legislation the concept of land tenure system will be examined considering the land system of the Ottoman Empire, and then the types of the forest ownership that could be established on such lands will be reviewed. Then, the Cibal-i Mübaha, which is our main topic, will be studied in detail considering relevant provisions of the Land Code of 1858 (Arazi Kanunnamesi), the Forest Decree of 1870 (Orman Nizamnamesi), and the Mecelle. To increase the understanding of the subject, the debate and definitions in Turkish doctrine about the Cibal-i Mübaha will be investigated. In the last section of the study, the debate in the formation of the Cibal-i Mübaha and the forest ownership during the transition period from the Ottoman Empire to the Republic of Turkey will be explained.

Keywords: the Cibal-i Mübaha, the Land Code of 1858, the Forest Decree of 1870, the Mecelle

1. Ottoman Land System and Property Regime on Forests

In the empire, where most of the land was owned by the State, manorial system began to get corrupted over time; manor and feoff were distributed to those who undeserved it, thus were seen as tools of speculation. This territorial organization, which had lost its importance over time, was repealed by Land Code in **April 7, 1274 (1858)** and instead a comprehensive Land Code, which considered local and national principles and traditional habits, was enacted (Köprülü, 1958). Before and after the Land Code, there was no major difference in number and legal properties of land types in Islamic Law. Land Code has organized the existing land

[*] Çankırı Karatekin University, Faculty of Forestry, Department of Forest Economics, Çankırı, birben@karatekin.edu.tr,

[**] İstanbul University, Faculty of Forestry, Department of the Law of Environment and Forestry, İstanbul, gunesy81@yahoo.com

[1] The forests used to be open for public use and exploitation in the era of the Ottoman Empire.

[2] The Mecelle was the civil code of the Ottoman Empire in the late 19th and early 20th centuries. The code was prepared by a commission headed by Ahmet Cevdet Pasha, issued in sixteen volumes (containing 1,851 articles) from 1869 to 1876, and enacted in 1877. It covers most areas of civil code but is exempted family law, which remains the domain of religious law.

types that were occasionally described in several ways, under one Law (Cin ve Akgündüz, 1996).

According to Land Code of 1858, that regulated Ottoman land regime, there are five different land types. The first article of the Law stated these types as:

a) Private Lands (Arazi-i memlüke)

b) Foundational Lands (Arazi-i mevkufe)

c) State-owned Lands (Arazi-i emiriye) (***Miri***)

d) Assigned Lands (Arazi-i metruke)

e) Dead Lands (Arazi-i mevat) (Eren, 1991). Provisions on forests are also provided based on the land types they are located. Bingöl (1990) explains the property regime of forests during Ottoman reign based upon the understanding as follows:

1. **Forests on Private Lands:** These forests are not included in Land Code of 1858 but in Mecelle.
2. **Forests on State-owned Lands** (Arazi-i emiriye)
   a) Forests on mere miri lands (arazi-i emiriye-i sırfa)
   b) Forests on miri lands converted to foundational lands (arazi-i emiriye-i mevkufe)
   c) Forests on Cibal-i mübaha
3. **Forests on Foundational Lands**; divided into two categories as revenue generating and non-revenue generating.
4. **Forests on Assigned Lands**; Village coppice forests (coppice forests belong to village legal entities)
5. **Forests on Dead Land**; Article 13 of Land Code of 1858 defines evergreens (pırnallık) as dead land (Bingöl, 1990).

Another classification that is included in the doctrine and does not consider land property is worth mentioning. Koç (2005) assessed forests in the frame of their assigned institutions, and classified as follows:

a) Forests and groves that are used to address military needs of the State:

Forests and groves assigned to Tersane-i Amire and Tophane

b) Forests and groves assigned to palace stables:

Forests and groves of Istabl-ı Amire

c) Forests and groves reserved for hunting activities of the members of the Dynasty:

Hassa şikar groves, Hassa şikar-gahı groves

d) Forests and groves assigned to dervish lodges and hermitages:

Forest and groves that are under the responsibility of Tekaya and zevaya

e) Coppice forests and groves reserved for villages and towns:

Coppice forests and groves assigned to towns and villages

f) *Forests and groves of Cibal-i Mübaha.*

2. Forests named as Cibal-i Mübaha

"Cebel" means 'mountain' and "Cibal" means 'mountains'. "Mübah" means open to all, something that everyone can benefit from. So, "Cibal-i Mübaha" is the mountains at nobody's possession. Article 1243 of the Mecelle, rules that naturally grown trees in the mountains, while being in nobody's possession are open for anyone's usage. Also in 104th article of Land Code "Cibal-Mübaha" forests were attempted to be distinguished from village and town forests by using the statement "…does not belong to forests and groves assigned to public…" Thus, forests that are nobody's possession and are not defined as coppices for villages and towns are called "Cibal-i Mübaha" (Cin, 1978).

When the development process of the concept of "Cibal-i Mübaha" is investigated, it was encountered in the Land Code for the first time. However, as it is indicated by some historical papers, the concept of "Cibal-i Mübaha" was not established at the time of the Land Code of 1858, but was being used long before it. (Toygar, 1964).

Forests on "Cibal-i Mübaha" during Ottoman history represent a dynamic property regime rather than a static one... This forest class maintained their legal and characteristic ambiguity until Forest Decree in 1870 as stated in the doctrine. One of the reasons for this could be as stated at the government's description of miri as "*Cibal-i Miri*" in an 1839 memorandum[3] before Land Code and Forest Decree.

When the subject is examined from Islamic Law point of view, in article 1045, the fourth section of the Mecelle that consists of fundamental case laws belonging to Hanafi sect, it is emphasized the concept of "***Şirket-i ibaha***" . ***Şirket-i ibaha*** states that everybody has the right to obtain property of things that is in nobody's possession such as water through taking and possessing. ***Şirket-i ibaha*** consists of seven chapters and Cibal-i Mübaha[4] is explained within the section regarding forests. These provisions in the Mecelle indicate that the concept of Cibal-i Mübaha was present long before Land Code of 1858.

Although there are articles regarding Cibal-i Mübaha in the Land Code of 1858, it is not stated to which class it belongs. Cibal-i Mübaha forests, which are accepted as ***Miri*** in Forest Decree of 1870 and called today as State Forests, still does not have a solid status against Land Code of 1858 (Tunçsiper, 1964).

3. Remarks in the Doctrine Regarding Cibal-i Mübaha

In the Turkish Law Doctrine, Göktürk (1945) argues that "*... since they are in nobody's possession like big forests, there is no objection to count big terrains that belong to the State as miri in the spirit and philosophy of Land Code…"* regarding Cibal-i Mübaha.

Köprülü (1948, 1949) describes Cibal-i Mübaha as forests and groves that consist of naturally grown trees in the mountains that are in nobody's possession and propose following conditions for a forest to be classified as Cibal-i Mübaha:

a) Unallocatable immemorially condition: The most important legal aspect of Cibal-i Mübaha is that these forests should have never been subject to a private property institution.

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[3] Halil Kutluk, 1948, Türkiye Ormancılığıyla ilgili Tarihi vesikalar Cilt I, Belge 160,161.

[4] Article 1243: Naturally grown trees in Cibal-i Mübaha, i.e. at mountains in nobody's possession, are licit.
Article 1253: Naturally grown trees in Cibal-i Mübaha can be lumbered and gathered by anyone. Tying is not necessary.

b) They have limited area. These forests are located at the top of mountains and the Balkans. Köprülü also argued that these forests couldn't belong to any class in the Land Code.

Barksız (1957) uphold that these forests are located on dead land and Cibal-i Mübaha is an unregulated public property regime.

Eranıl (1957) defends that Land Code accepts forests as Cibal-i Mübaha, however depending on their being in the vicinity of village or town; there are provisions that enable beneficial use of these forests.

Kutlutan (1957) describes Cibal-i Mübaha in the Land Code as forests that are far from settlement, available for lumbering and any kind of utilization.

Toygar (1964) describes Cibal-i Mübaha as forests that are not in anyone's possession, neither real nor corporate but under the State's ruling and possession; or are not assigned to feudal needs such as shipyard and armory; and that are open to everyone's use without fee and exemption.

Cin (1978) states the argument that **"***Cibal-i Mübaha or free forests as regarding their legal status are neither assigned nor dead land. However, there is a fundamental similarity between dead land and Cibal-i Mübaha***".** Cin and proposes that Cibal-i Mübaha, in today's definition, consist of land that is under the State's ruling and possession. Furthermore, Cin recalls the argument of Galip Esmer, which states **"***Dead land offers similarities between the land that are regulated with the article 641 of Turkish Civil Code.",* and states that Halis Eşref also counts Cibal-i Mübaha as Miri.

Tunçsiper (1964) states that Cibal-i Mübaha cannot be classified as private or foundational land because their bare ownership is in Treasury. Meanwhile, at first sight, Cibal-i Mübaha can be considered as assigned land since everyone can benefit from it, due to the fact that there is no mandatory assignment in Cibal-i Mübaha and it is distinguished from forests that are assigned to villages and towns in the Land Code, it also cannot be counted as assigned land; and since it is clear that Cibal-i Mübaha is not such land as grassland, stony area, evergreen land, and also since Land Code especially prohibits title deed on Cibal-i Mübaha (articles 30, 91, 92 and 102 of Land Code), it cannot be classified as dead land. Furthermore, on the subject that weather Cibal-i Mübaha is a special type of miri or not, Tunçsiper defends that since miri's bare ownership belongs to Treasury, conquered lands are considered as miri, and also converting miri to private property involves harsh conditions, although Cibal-i Mübaha shows similarities to miri, it is separated from other type of miri lands for the fact that delegation and disposal of it is not possible.

Özdönmez Ark.. (1996)'s definition for the Cibal-i Mübaha is that forests consist of naturally grown trees, which are located on scattered and steep lands, are not subject to property and possession and usually open to everyone's use without a fee.

Koç (2005); defines Cibal-i Mübaha as forests that are reserved for public needs such as timber, firewood and architectural needs and states that these forests were open to public for economical and religious reasons; the economical reason is to improve the prosperity of the nation and the religious reason stands with the Islamic understanding, that "people share grass, water and fire".

Ayanoğlu ve Birben (2008) have the opinion that according to both 1858 Land Code and 1926 Turkish Civil Code, Cibal-i Mübaha are "forests, that have no owners, and, that are not

assigned or left to any public use that is in the State's possession, and are open to anyone's usage without any exemption and fee".

Akgündüz (2009) the opinion that: *"... in fact Cibal-i Mübaha consists of three sections: The First section is composed of lands that are not protected by the State. The Second section is composed of lands that are protected by the State and are called as miri. The third section is composed of woody lands located in these types of mountains but not covered with enough trees to be defined as forest and that are left and assigned to everybody's use. They are not classified as miri."*

Cibal-i Mübaha, as it is explained in Forest Decree justification[2], are wide and ancient forests, that are not assigned to any specific public need, but anybody can benefit from them as according to their needs. However, it is important to point out that utilization is more to accomplish the household needs rather than for commercial use.

In justification of Draft Forest and Pasture Decree prepared by Hoca Ali Rıza between 1909 and 1917, the subject is summarized as follows: *"...in Forest Decree, because of the fact that it is not clear what kind and type of land that contains the forests constitutes as state forests, in Lawsuits on the forests that contain young trees to be used as firewood and coal , such defenses stating that* ***'Miri are the forests that contain Shipyard timber. The forests that are being logged are not miri, because there are no trees that are fit to be shipyard timber in these forests.'*** *are listened and accepted by courts, while sometimes such defenses as* ***'I did not log in miri'***, ***'I logged from Cibal-i Mübaha'*** *are observed.. For this reason, definition of state forests and description of their borders are necessary".* Article 13 of Draft Forest and Pasture Decree addresses this issue and by stating that "even Cibal-i Mübaha, which is in nobody's possession, is included in state forests." This way the status of Cibal-i Mübaha is clarified. Article 13 of the draft also states *"Forest and pastures that belong to the State are on dead land and are under nobody's administration."* As it can be understood from the statement, Cibal-i Mübaha, which is in nobody's disposal, is classified as dead land and gains the status of being State forest.

As it is stated in both Forest Decree's and draft Forest and Pasture Decree's justifications, State-owned forests on Cibal-i Mübaha can be accepted as vacant public lands that are in State's supervision regarding both old and new practice of Law. As a matter of fact, according to old Law, these forests cannot be possessed either by right or through title deeds issued by officers. These rules are repeated in a similar way in articles 639 (new 713) and 641 (new 715) of Turkish Civil Code.

4. Given Rights in Cibal-i Mübaha in the Axis of the Mecelle (Ottoman Civil Code) and Land Code of 1858

There are five fundamental criteria in doctrine that describe how people can benefit from Cibal-i Mübaha that is stated with similar definitions in the doctrine. These are as follows:

1. A forest on Cibal-i Mübaha cannot be a subject of property:

According to article 104 of Land Code, title deed cannot be issued for these forests. Also, these forests cannot be transferred into private ownership through acquisitive prescription. Although land ownership is not possible, it is possible to obtain ownership of trees in these lands. This exception derives from 1245th article of Mecelle [5]. Based on this article, when a

[5] Mecelle Article 1245: If a person grafts a tree, not only the sprouts from the split but also the fruits will be his property.

tree on Cibal-i Mübaha is grafted, sprouts and fruits that are grown from the slip are transferred into grafter's ownership.

2. ***Anyone has the right to benefit:***

According to Mecelle's 1253rd article[6], naturally grown tress in these forests can be logged by anyone. Logging of the tree and gathering of the wood are sufficient processes. There is no need for tying. By article 1254 of Mecelle, requirement of benefit is described as not harming the remaining trees.

3. ***Utilization of forests and groves in Cibal-i Mübaha is free of charge:***

In an order dated 1793[7], it is clearly stated that officers, who ask for money from people that login Cibal-i Mübaha, should be precluded. Moreover, according to the 104th article of Land Code, people who benefit from these lands are not responsible for paying any kind of tax.

4. ***Utilization of these forests is protected from interference:***

Since Cibal-i Mübaha is in nobody's possession, no one can keep others against utilizing it according to article 1255 of Mecelle[8]. Also, according to 1258th article of Mecelle, no one can confiscate the wood, which is gathered from these forests previously. If done so, the person, who gathered the wood, has the right to reclaim.

5. ***Characteristic of these forests is ancienty***

By the Forest Decree of 1870-- by issuing General Directorate of Forestry ordinance power for the aim of merging Cibal-i Mübaha with Shipyard and Armory forests as State forests, removal of Shipyard and Armory's right of direct operation of forests, regulation of operational and beneficial rights over foundational forests, regulation of grazing in forests under special conditions, preventing unregulated lumbering --the goals, which were set in the first Forest Decree dated 1861 ,that passed into law despite not constituted , were reached (Acun, 1945).

There were many disagreements while enforcing the Forest Decree of 1870 related to the Cibal-i Mübaha. In an appeal of a ruling made by Kütahya Court of Appeal Penal Chamber, a decision that would end the disagreements about forests was ruled by Supreme Court in September 18, 1330 (1914)[9]. In the last paragraph of the rule, it is stated that "… generally, until forests' owners are decided, they are considered as ***miri***…". By "generally", Supreme Court points to Cibal-i Mübaha forests and in the case of a disagreement over forest property, the forest in question should be considered as State forest unless proved otherwise.

The consideration of Cibal-i Mübaha forests as miri and changing the property regime had adverse effects on the sustainability of forests. People responded with a concern about the State's measures to prevent interference to these forests, and started to destroy miri rather than forests, which were reserved for their needs. On one hand, with the State goals to profit from miri, and the other hand with the people's increasing pressure on these forests, has resulted in the destruction of the forests with an increasing tempo nation-wide. Especially, with the 5th article of Forest Decree of 1870, which states that villagers can obtain wood for housing and fuel needs free of charge, while they have to pay a certain amount of tax if market profit is

[6] Mecelle Article 1253: Naturally grown trees in Cibal-i Mübaha can be lumbered and gathered by anyone. Tying is not necessary.
[7] Halil Kutluk, 1948, Türkiye Ormancılığıyla ilgili Tarihi vesikalar Cilt I, Belge 59.
[8] Mecelle Article 1255: No one can prevent another from taking and obtaining something that is licit.
[9] Halil Kutluk, 1948, Türkiye Ormancılığıyla ilgili Tarihi vesikalar Cilt I, Belge 331.

considered, rendered expected benefits from the Decree ineffective (Uslu 1951). The situation has so aggravated that villagers illegally obtained timber and wood for private needs from nearby forests and sold the legally obtained wood for profit with the help of free licenses issued to them. Similarly, trade licenses were generally used by unauthorized merchants to generate profit. Since Statue did not limit the amount of timber that villager can use for trade, interfering merchants paid license fees that are issued to villagers and took the timber for themselves, and obtained great profit by paying the villagers only for logging and transportation. (Özdönmez et. al, 1996). The fifth article of the Statue is a necessity of Empire's religious and earthly character. By this way, people's reaction to removal of Cibal-i Mübaha was tried to be prevented while maintaining compliance with the sharia Law (Diker, 1947).

5. Discussion and Results

Forests on Cibal-i Mübaha should be considered in two separate periods as Land Code of 1858 and Forest Decree of 1870. In the light of Land Code provisions, forests on Cibal-i Mübaha could not subject of property. Right to benefit was issued to anyone and it is free of charge. Individuals' right to benefit is protected from interference. Above all, these forests have the characteristic of being ancient. With the Forest Decree of 1870, forests on Cibal-i Mübaha were accepted as State forests and put into possession of public property. Even today, the origin of most State Forests is based on the forests that were on Cibal-i Mübaha.

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Payments on Environmental Services (PES) - as a tool to get financial support for implementation of Communal Forest Management Plans (CFMPs) in Albania

Nehat Çollaku[*]

Abstract

The Government of Albania has transferred from the state to the ownership of Local Government Units (LGUs), more than 750, 000 ha (60%) of forests and pastures so far. Most of the forests and pastures transferred to the communes are in poor condition facing soil erosion problems. Also, changes in agricultural practices and migration of population away from the rural areas have caused the abandonment of fields and pastures.

The Environmental Services Project (ESP) will build on and expand the success of the Albania Natural Resources Development Project (NRDP), implemented from 2005 up to 2011. One of the objectives of the ESP will be to identify means to secure funding for these essential operations through further protecting the land use rights and tenure, sharing the benefits of the sustainable land uses, through payments for environmental services- e.g. sequestered carbon and avoidance of damages through reduced erosion.

1. Implementation of NRDP

The communal and participatory forest and pasture management plans prepared under NRDP for 251 communes cover a ten year implementation period. The NRDP project lifespan was six years, and many of the plans were prepared during the last years of the project. Therefore, most of the plans have only been partially implemented. Thus, the Forest and Pasture User Associations (FPUAs) will require further support for implementation of the specified activities.

The Communal Forest and Pasture Management Plans (CFPMPs) are prepared based on community participation, and identification of traditional land use rights between the community, families, clans and individuals. This has resulted in a strong sentiment among the majority of clans and individuals with traditional rights to go further into acknowledging private forest land within the communal forests. This could lead to new patterns of ownership within the communal forests, which would then require new and different management in the forest areas..

Most of the forests transferred to LGUs were highly degraded. Further investments are required to continue with the implementation of the plan and to secure ongoing communal support. Although the communes supported by the NRDP understand the principles of sustainable forest management they lack the resources to continue implementation.

The types of activities to be implemented include:

- remedial forest operations (e.g. coppicing, cleaning, re-spacing, selective silvicultural thinning); construction of anti-erosion measures such as check dams,

[*] Ministry of Environment, Forestry and Water Administration. nehatcollaku@gmail.com

- reduction of grazing pressure in pasture lands through construction of watering points to allow use of alternative currently under utilized pasture areas, planting of fodder crops, artificial insemination etc.

In 24 communes have been implemented carbon sequestration project, where the implementation of the plans also has carbon sequestration benefits, which are hoped to be attractive to financing from the private corporate sector, based on the experience and methodology developed under the Clean Development Mechanism (CDM) carbon sequestration implemented under the NRDP. The total area under carbon sequestration (after full verification of CS Project, in July 2012), is 4,779 ha, where implementation area under carbon sequestration was 3,990 ha. The total GHG removals over the monitoring period amount to 128 757 tons CO_2. After implementation of carbon sequestration project for 7 years, Albania has benefited 454,000 USD from carbon credits.

2. Overview on Payment for Environmental Services

A PES scheme is a transparent system for the additional provision of environmental services through conditional payments to voluntary providers."

Its Principles are:

- Voluntary: stakeholders enter into PES agreements on a voluntary basis;
- Beneficiary pays: payments are made by the beneficiaries of ecosystem services (individuals, communities and businesses or governments acting on their behalf);
- Direct: payments are made directly to ecosystem service providers (in practice, often via an intermediary or broker);
- Conditionality: payments are conditional on the delivery of ecosystem service benefits (in practice often for actions agreed likely to deliver the desired ecosystem services);

There is an increasing attention focused on the important services that ecosystems provide to humans. These services include carbon sequestration, watershed protection, and landscape beauty and biodiversity conservation. Worldwide, a new generation of conservation initiatives aims at creating systems in which the users of one or more environmental services compensate resource managers for improved conservation of these services.

Such systems, termed 'payments for environmental services' (PES), may have the potential to protect environmental services while at the same time improving local livelihoods. This presentation provides an overview related to the application of PES as a tool for getting financial resources in the implementation of CFMPs in Albania.

- service, at least one buyer, at least one seller,
- transaction.

PES mechanisms compensate individuals or communities for undertaking actions that increase the provision of ecosystem services such as water regulation, flood mitigation, or carbon sequestration. PES programs induce behavioral change by providing an economic incentive, and as such are considered part of the broader class of incentive - or market-based mechanisms for environmental policy.

There are different steps in designing the PES:

- Identifying possible ecosystem services, their marketable value and potential buyers & sellers
- Assessing institutional and technical capacity
- Structuring PES agreements
- Implementing PES agreements

3. Preparation of PES in Albania

After implementation of NRDP, Swedish Government is supporting Forestry and Pasture Sector under Improved Natural Resources Management Project (INRMP). Under INRMP it is foreseen the preparation of a new operational project called "Payment for Environmental Services''. Based on that, Ministry of Environment, Forests and Water Administration (MoEFWA) together with World Bank have prepared a concept note on PES. MoEFWA will hire an international consultant to prepare the detailed project on PES.

Today's challenge is to scale up and replicate this approach and more important to make it financially sustainable through developing financial and business planning capacity and providing access to funding lines through both:

- competitive grants,
- Payments for Environmental Services (PES)

The development objective of the project is to continue and extend:

- environmentally, socially, economically and financially sustainable, community based natural resource management planning and implementation,
- in erosion prone upland areas, reversing land degradation and sediment runoff, while increasing carbon sequestration and biodiversity benefits

One of the main components of the project will be Payment for Environmental Services (PES). As communes, FPUAs, and other stakeholders will create environmental benefits in up-stream areas, other down-stream located people and companies will benefit from these environmental activities, among others: less erosion and consequently less downstream sedimentation and less soil and silt entering into dams; less illegal logging and therefore fewer landslides; more catchment areas and therefore better water supply for hydro power companies; etc..

Serious talks between up-land land managers and down –stream beneficiaries will be needed, so that the beneficiaries might also pay for these environmental services. Such services are not yet known in Albania, but quantified measurements could provide the basis for the up-coming negotiations. Therefore, ESP will quantify the effects and benefits of different soil conservation practices.

The ESP will also analyze the Government taxation on beneficiaries and the provision of payments for improved sustainable upland management practices, which might lead in the long run into environmental EU payments.

There are different ways to get payments from environmental services, like carbon financing, payment for watershed services, etc.

Carbon financing:

Based on the experience from NRDP, additional and alternative approaches to mobilize financing from the voluntary carbon market will be assessed. Lessons and success of the NRDP in framework of CDM project will be considered. If strategies chosen by the NRDP are found successful and replicable, ESP could support similar land use options to allow tapping the voluntary carbon market.

Suitable voluntary market methodologies will be identified to support the development of Verified Emissions Reductions (VER) to access voluntary market carbon finance. Options beyond replicating the strategy selected for the CDM project under NRDP will also be assessed to allow potential scaling up the carbon finance and, hence, the additional stream of income that can play a significant role in supporting sustainability of the ESP.

Potential voluntary carbon standards to be used to access voluntary market carbon financing will be identified.

It is unlikely that the financial returns from investments in forest, pasture and watershed management oriented agricultural land-use will provide sufficient financial incentive for sustained involvement of participating farmers and community members in the short to medium term. If, however, their direct financial return is complemented by payments for the environmental services that the sustainable management of upland resources provides to downstream users (and other beneficiaries), then the long term sustainability and short term financial viability are much more likely. This calls for negotiations between the down-stream beneficiaries, such as power generation, irrigation, and water companies and the up-land land managers, and other potential beneficiaries such as the voluntary carbon market.

Successful negotiations would require a research-based quantification of the effects of different soil-conservation practices, such as cost/benefits to reduced erosion on the life of dams. Initial research has now commenced as part of the PROFOR supported work mentioned above.

The ESP will replicate, monitor and verify the estimates of reduced soil erosion and the impacts on downstream beneficiaries over a larger area, and will quantify the effects of different soil-conservation practices as the basis for payments for soil and silt not entering into dams, watercourses and irrigation infrastructure. The project will work with the down-stream users to establish their willingness to pay for these services and to develop appropriate mechanisms. Initial discussions with the local power producer indicate that they are extremely interested in investing in methods to prolong the life span and decrease the maintenance costs of their infrastructure whilst at the same time reducing the likelihood of catastrophic failure.

Various payment methods will be investigated, such as: the direct economic settlement between the up-land and down-stream parties; Government taxation on beneficiaries and provision of payments for improved sustainable upland management practices; and, direct investment by the down-stream beneficiaries in the upper catchment areas (i.e. the power generation company or drainage/irrigation services, providing communities directly with support to improve sustainability/reduce the erosion of the upper catchments).

The environmental services from sequestered carbon under the NRDP, will be paid for through an Emissions Reduction Purchase Agreement (ERPA) – a ‘carbon offset contract for the sale and purchase of Certified Emissions Reductions from Clean Development Mechanism projects under the Kyoto Protocol’ – between Albania and the World Bank administered Bio-Carbon Fund.

The conditions for such formal **carbon credit payments** are constrained by CDM regulations, for example they could not apply to carbon benefits in land formally defined as forest after 1990, even if the forest was severely degraded and improved forest management would lead to increased biomass production. Currently, there is no follow on agreement to the Kyoto Protocol and with the first commitment period ending in 2012, there is a major uncertainty over the future of the regulated carbon market.

Scaling up the carbon component of the NRDP, and developing a landscape program in Albania would be a perfect fit for the new generation Bio-Carbon Fund, given the innovative poverty alleviation, rural development approach already tested under the NRDP. The initial quantification of sequestered carbon could be based on the measured and validated experience of carbon sequestration from the NRDP pilot activity (i.e. around 146,000 tones of CO_2 Emission Reductions from 2007 to 2010) in that the monitoring system for the Voluntary Carbon trading is likely to be similar to that of the ERPA agreement. It is expected that these numbers would increase under a landscape carbon finance program, as several activities would count toward emission reduction targets.

4. Some Conclusions

1. There is a long list of potential financing sources for the foreseen activities, and also for generating revenues through these natural resource activities:
   - Matching grants
   - Downstream beneficiaries pay for environmental services according to the value of generated benefits (measured in avoided oil erosion).
   - Government collects taxes and reinvest this earmarked tax money for uphill activities.
   - Direct support (by the Government for environmental services).
   - Carbon credits
   - Bio-Carbon Fund of the World Bank
2. The Payment for Environmental Service scheme should fit within the existing context (e.g. laws, policies and institutions).

   Taken into consideration that Payment for Environmental Services are a new concept for our country, it is proposed to include na article regarding PES in the new Forest Law in Albania, which is under preparation. This article will complete the legal framework for payment of environmental services. This article will enable a legalized application of payment for environmental services in Albania.
3. The experiences and lessons learned through the implementation of carbon sequestration project under NRDP will be used as a good model of payment for environmental services. We think to go further with carbon sequestration project, but in the same time we have in mind defining of the new other ideas and alternatives of payment for environmental services.
4. Technical capacity required for developing PES deals:
   - Scientific and technical knowledge
   - Facilitation, negotiation skills and contractual experience
   - Implementation, monitoring and verification expertise

The World Bank /PROFOR work performed as a pilot scheme at Ulza watershed in Albania on studying the environmental value of tree/forest cover and willingness of downstream beneficiaries to pay for the services is under way at the moment. Using of the findings of PROFOR Project will be a good base for starting the discussion and negotiations of different companies in down-stream area, that benefit from the well managed forests in upper stream area.

5. These kind of innovative mechanisms are needed to diversify the income of the forest managers and the same time to develop mechanism to support afforestation/rehabilitation of existing forest areas and modify the way they are managed.
6. There are different options for PES payments
   - User-led (private businesses)
   - Government-led
   - Partnership between public and private sources of funding

   All these options will be elaborated in more details during the preparation process of the new operation project, in a way to identify the best options that could be implemented in Albania.
7. In order to implement PES, there are some necessary conditions to be completed, like:
   - willingness of key sectors and stakeholders to participate;
   - beneficiary willingness to pay;
   - clear land ownership and use rights.

   PES will encourage sound business ideas, increasing productivity of pastures and prepare the beneficiaries for future opportunities from IPARD Agri-environment measures and LEADER approach. Therefore, through PES there are a lot of opportunities to get incomes from environmental services, which can be used for the implementation of CFMPs.

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Public right of access to private land: some examples and considerations

Asta Ervola, Jussi Uusivuori***

Abstract

Public right of access, everyman's right, freedom to roam, right of public access to the wilderness and the right to roam are terms used for concepts that give people an independent right of access to countryside or forest areas for recreational or passage purposes. The access is not a self-evident right, nor are the practices in different countries resolved alike. The code regarding public access depends largely on cultural, historical, and political differences and thus has no international or unambiguous definition as to what it include or should include. It may concern only a right to walk or allow a variety of activities in the forest or countryside, regardless the ownership of the land. Finland and Sweden hold similar traditions of extensive access rights, more commonly called "everyman's right". These custom-based systems have been later outlined in a bundle of regulations, but have remained open to all and comparably inclusive. The concept has worked considerably well throughout time but, as the original reasons for the right have declined and recreational use and demand have increased, the question has been raised whether everyman's right should be redefined to prevent complications between users and landowners and overexploitation of nature. In this paper we review how the public right of access is resolved in different countries, with a focus on cases in Sweden and Finland. We also discuss problems that arise when the right of access enables extent use of the land by public and make everyman's right prone to features related to the tragedy of the commons.

1. Introduction

Most countries have private, common or state ownership for the countryside and forest land and often the access right is determined differently for each. Passing through, camping, swimming or any other forms of activity exercised on someone else's property are not universal rights but instead are almost everywhere controlled by some kind of code or agreement. The coding regarding access to private land varies between countries and regions and it may be either highly permissive or exclusionary, depending on settings such as cultural traditions and geographical and social conditions (Mortazavi, 1997). Due to the diversity of the approaches, any categorization in terms of the access rights is very suggestive. However, Robertson (2011) divides the policies into three categories according to the degree of the right of access to private land and the legislative context. The most extent form is found in Sweden and Finland where the public right to access forest and countryside is not written in law itself or delimited by single body of legislation, but is considered more as a default, rooted in to the culture. Norway, Iceland and recently also Britain, Scotland and some other countries in Europe represent another rather liberal practice, which may be based on old tradition but is nowadays specifically defined in law. The third practice is common in e.g. Southern Europe and found also elsewhere in the world. The premise is that access to private land is very limited and the landowner has the right to exclude people from entering (Robertson, 2011).

* Finnish Forest Research Institute. asta.ervola@metla.fi

** Finnish Forest Research Institute. jussi.uusivuori@metla.fi

In economics property right regimes are divided into four categories; private property, common property, state property and open access. The definition of open access property (non-excludable but rival good) describes partly the situation prevailing when the most extent form of public rights of access apply. However, in the open access regime property is not owned by anyone but the public access right may also be practiced on private property. The arrangement may thus arouse conflicts between landowner and the user of the access right, when the activities put pressure on the land use (Mortazavi, 1997; Hardin, 1968; Sténs & Sandström, 2013).

1.1 The Nordic countries

The most liberal policies regarding access to privately owned land are found in Finland, Sweden, Norway and Iceland, but the approaches and content vary. In Finland and Sweden the rights allow diverse recreation activities and use of some of the forest products such as flowers, mushrooms and berries (non-wood forest products, NWFP's) (Tuunanen;Tarasti;& Rautiainen, 2012). In Norway and Iceland the rights are specified by law and are slightly narrower. The principle is however the same; the right of access is an old established custom where distinction between public and private land is not strict (Robertson, 2011).

Denmark differs from other Nordic countries with its stricter coding. The difference may be explained by population density, geographical characteristics and land use intensity. Denmark has smaller land surface area and higher population density compared to the rest of the Scandinavia (Saastamoinen, 1999). Cultivated land covers about 63 % of the whole land area and forests only about 13% (The World Bank, 2013). The Danes do have an access to public forests which cover about 36% of the forest area, but private forests are open only for pedestrians and bicyclists on paths and roads and only during daytime. The forest owner may also prohibit the access if the forest area is smaller than 5 ha (Saastamoinen, 1999). The Danish code regarding public access is of a rather recent origin. The enactment expanding the landowner's right to exclude was imposed in the 19th century. Before that, the access right in Denmark was closer to those in Finland and Sweden. However, more recently again, exclusion rights of land owners have been alleviated with the objective to secure recreation opportunities for all. As most of the land is in private ownership, the right of access is an important issue to the nation (Højring, 2002).

We will later, in the second chapter, return to the cases prevailing in Finland and Sweden.

1.2 Eastern Europe

Estonia has also quite extensive rights of access to private land. Similar activities than those in Nordic countries are in principle allowed, but narrowed by stricter coding. Picking berries, mushrooms and other forest "by-products" is allowed as an important part of Estonian culture. Camping is in general allowed but, staying on private land from sundown to sunrise is prohibited, which limits overnight camping on public land. Also, if the landowner has set fences or other blockades, a permission to proceed is required (eesti.ee, 2012; Saastamoinen, 1999). As well some other former socialist countries have given the public access right to private land, for example in Slovakia and Czech Republic recreational use of private forests is allowed (Finnish Forest Research Institute, KIEMET). Access is allowed also in various other Eastern European countries, for example in Belarus, Ukraine and Poland, but activities such as berry picking are only allowed on public (state owned) land (Gerasimov & Karjalainen, 2010; Finnish Forest Research Institute, KIEMET). Similar rights on private land are less common. However, e.g. in Belarus the state owns all the forest land (Gerasimov &

Karjalainen, 2010). Similar situation prevails in Russia where 95% of the forest land is owned by the federation but the forest act gives the right for everyone to wander and to pick mushrooms, berries etc. Collecting the non-wood forest products (NWFPs) continues to be both economically and nutritionally highly important for many Russian households (Finnish Forest Research Institute, idanmetsatieto.info).

1.3 Central and Southern Europe

In general, the further south you go in Europe, the more limited the public access rights become. However, in many countries, where landowners have otherwise generic right to exclude public from their land, the coding is more permissive when it comes to activities that hold high cultural and traditional value. For example among the alpine countries, especially Switzerland and Austria have expanded the access to private land especially above tree line to enable the culturally important recreation activities; hiking and skiing. Also in France where private properties and right to exclude are very important and strongly defended, the code is slightly more liberal in the alpine region. Then again in countries where trekking and roaming have not similar cultural importance, the access right has never been established (Robertson, 2011). In Southern Europe beaches and shorelines are however often for public use regardless of the ownership. Spain has legislation especially for coastal areas which allows access to seashore for everyone for swimming, fishing and sailing (Ministerio de Agricultura, Alimentación y Medio Ambiente, 2013). Note that also in Estonia the landowner may not restrict access to shoreline if it is on bodies of water that are public or designated for public use (eesti.ee, 2012).

A common practice in some European countries (France, Spain, Italy) is that the landowner has the right to collect a fee for the use of his lands for recreational purposes or collecting non wood forest products (Robertson, 2011). In Italy where mushrooms such as truffles and boletuses are highly valued and their picking is a popular hobby, permission for picking is demanded also on public land. There the permission system was imposed when the picking started to wear both landscape and mushroom yields. Since its inception, the permission system has proven to be very profitable for landowners. The system and pricing vary between provinces in Italy, but in general the permit defines the picking seasons and the maximum amounts for each species (Matilainen, 2005; Pettenella, et al., 2005).

Although public right of access is based on traditional customs, some countries have only recently started to change their coding. Great Britain, which formerly had given extensive rights for landowners to exclude trespassers, has now shifted towards more permissive policy resembling that of e.g. Norway. England and Wales introduced the Rights of Way Act in 2000, which basically withdrew landowners' right to exclude public from private land and gave the audience considerably more rights to use private "open" land for recreation. Open land means any land that is not in landowner's active use for cultivation, or is a private park or a yard. Formerly passing on private land was possible only with landowner's permission or on footpaths designated to public use (Natural England). In England people were campaigning for over a century for open access before the amendment. The Crow Act was a response for the need to expand recreational opportunities (Defra, 2008). Also Scotland introduced in 2003 a new amendment to an old law to secure public access to private land for recreation (Scottish Natural Heritage, 2012).

1.4 Other examples

Outside Europe landowner's right to exclude is common and roaming is generally allowed only with landowner's permission or on designated areas. E.g. in the United States and Australia the landowner's rights are very extensive and public right of access does not practically exist (Robertson, 2011; Hughes;Tye;& Zulfa, 2010). However, the practices in New Zealand seem to be changing. In New Zealand private land has not been for public access, but all water bodies and water ways are in public owning and thus also for public use. Part of the coastland and water bodies is however surrounded by privately owned land which has stimulated a development of the access policy in general in New Zealand. In 2008 a Walking Access Act 2008 was founded to secure the access to foreshore via private land. For now the walking access does not cover the land adjoining walkways, but the Act has derived new pathways for public use on private land (Hughes;Tye;& Zulfa, 2010). In New Zealand a commission founded in pursuance of the Walking Access Act continues to promote more extensive right of access to "achieve free, enduring and practical walking access to the outdoors in a way that respects everyone's rights and the environment " (New Zealand walking access commission, 2010).

2. Liberal access rights and their use in Finland and Sweden

Everyman's rights in Finland and in Sweden date back at least to the Middle Ages. The exact origins are not known but are expected to have developed from the ancient practices that enabled living in sparsely populated countries. Officially the concept was recognized in both of the countries only much later (Mortazavi, 1997; Tuunanen;Tarasti;& Rautiainen, 2012). In Finland everyman's right originates from the time when the first settlers began to populate the country. In sparsely populated land anyone was allowed to take parcel of land for cultivation or use the forests and their products freely. Only a century ago everyman's right was still a precondition of surviving for many. Products provided by the forests such as firewood, berries, and mushrooms were important source of food and energy especially for the poor (Lehtonen;Heikkinen;& Hirvonen, 2007; Sandell & Svenning, 2011). In historical Sweden people tolerated strangers to pass through their land as in sparsely populated country moving from one area to another would have been otherwise challenging. Making contracts with the landowner would have been difficult including large transaction costs. Geographical circumstance was a base for a mutual understanding regarding entering private property and use of non-wood forest products (Mortazavi, 1997). Today, everyman's rights in Sweden and Finland resemble much each other. They include all, local or foreign citizens and tourists, who wish to enter private or public property that is not in active use as a field or as a home yard (that is, undeveloped land). Both still allow people to camp, fish with a rod and line, ride a bike or a horse, practice mountain climbing, sailing, canoeing, swimming, picking berries and mushrooms, skiing or hiking (Mortazavi, 1997; Lehtonen;Heikkinen;& Hirvonen, 2007).

Although everyman's right is since turned from a necessity to a precondition for recreation, it still has only a loose legislative basis, both in Finland and Sweden. Although freedom to move about is mentioned in constitutions and other legislations, the practice is rather based on a norm and strong cultural tradition. However, different written laws do define its limits. For example in Finland the legislation outlining everyman's right relates to constitution, penal code, water legislation and nature conservation act. These codes forbid for example picking endangered plants or any part of growing trees, entering private yards or houses, lighting open fire and harming private property (Tuunanen;Tarasti;& Rautiainen, 2012).

The basic principle outlining the right is that any actions on someone else's land may not cause more than minor damage to the landowner or the nature. Thus, walking on cultivated field is in principle allowed, but it may not cause damage to the yield or land. Landowner may post signs or fences that indicate susceptibility to damage on e.g. newly planted forest, but usually the practice is based on common sense (Tuunanen;Tarasti;& Rautiainen, 2012; Mäntymaa, 1997). It is for example not defined how close to private gardens and yards you are allowed to go within everyman's right. You are not allowed to go too close but the distance is not given. A proper distance is to be evaluated by a common sense. If you see a house, cottage or other people, you are probably already too close.

About 96 % of the Finland's surface area is for everyman's use and Finns utilize the right actively (Tuunanen;Tarasti;& Rautiainen, 2012). Two thirds use private land for recreation and half of them every week. 79 % use the right for roaming and about half also for picking berries and mushrooms (Sievänen & Neuvonen, 2011). Berry and mushroom picking is traditional part of the outdoor recreation and promoted by government with training and research. Unique feature regarding Finnish (and Swedish) everyman's right is that commercial berry picking and recreational activity is in principle also allowed, whether the land is private or public. In Finland a commercial berry and mushroom picking is even encouraged by a tax exemption. Income from selling berries or mushrooms that you have picked yourself are spared from income tax (Pouta;Sievänen;& Neuvonen, 2006). Although the picking is a tradition and again increasing in popularity, only a fraction of the yearly mushroom and berry yields get picked. Estimation is that about 3-10 % of the annual berry yield is picked from which one third is for commercial use. About 3 % from the edible mushrooms gets picked. Naturally, there is a substantial regional distribution in this respect (Tuunanen;Tarasti;& Rautiainen, 2012)

As said, Finnish legislation, or rather the lack of it enables commercial use of the everyman's right. In principle, if the activity complies with the legislation and the principle of responsibility, nature tourism, events and organized berry and mushroom picking on private land are possible. Landowner's permission is not required as long as the activity is temporal, it does not cause harm to the land and the size of the participating group is moderate (Tuunanen;Tarasti;& Rautiainen, 2012). Hence it is not uncommon that nature recreation organizations are at least partly utilizing private properties in their services. Generally however, the landowner and tour operator etc. have at least a verbal agreement to avoid conflicts that may hinder the setup altogether.

Forest berry industry has benefited from the everyman's right for decades, but recently the berry picking for the industry has been under changes. Finnish wild berry business is dependent on berry pickers as well as on the tax exemption given to the pickers (Saastamoinen, 1999). Berry pickers nowadays are increasingly seasonal immigrant workers. The number of local pickers has declined as new generation is not interested on the low paid, hard work job. Foreign work force has been used in the industry to complete the need for decades, but the volume has grown significantly in 2005-2010. Today, about 3000 pickers from Thailand, Russia and Baltic come for a few months to pick bilberry and lingonberry, and then return back home (Rantanen & Valkonen, 2011; Karkinen, 2010). In 2011, 78% of the pickers came from abroad, in 2012 about half (Mavi, 2012).

2.1 Conflicts between interest groups

While everyman's rights are appreciated among population both in Finland and Sweden, it has been discussed whether the rights are too inclusive and encroach landowners' rights and

exposes nature to a too heavy pressure (Sandell & Svenning, 2011; Lehtonen;Heikkinen;& Hirvonen, 2007; Viljanen & Rautiainen, 2007). Currently for many people the most important benefits provided by the everyman's right are the various outdoor activities made possible by accessing nature. Mountain-biking, paragliding, white-water rafting and climbing are activities that are growing in popularity. Also the number of people engaging in outdoor recreation has increased, because of population growth and increased leisure time (Lehtonen;Heikkinen;& Hirvonen, 2007) Environmental organizations and landowners are worried about increased pressure towards the nature and question the activities that are allowed within the everyman's rights. Environmental organizations criticize especially activities on conservation areas that may affect the environment, such as rock climbing and bouldering (HS, 2002). However, often the activities experienced disturbing by the interest groups, relate only indirectly to everyman's right. Landowners report littering, unauthorized off-road driving, unleashed dogs and use of private roads which all exceed the actual given rights (Viljanen & Rautiainen, 2007). However, over 90% of the respondents in the study performed by Viljanen & Rautiainen (2007), say that different forms of use of everyman's right has created harm to the landowner either never or seldom. Outdoor recreationalists have experienced given problems even less frequently.

Although there are occasional disagreements between landowners and the public regarding what the rights include, they are only rarely solved in court. Very often the disagreements are resolved between the parties by themselves. Often the user steps aside (Viljanen & Rautiainen, 2007; Lehtonen;Heikkinen;& Hirvonen, 2007). When the issues end up in court, the court settlements have been based on written law and not on customary law (Tuunanen;Tarasti;& Rautiainen, 2012), which diminishes the users' chances for success in civil-trial compared to those of the landowner.

Compared to the "regular" use of everyman's rights, a larger issue recently has been the commercial exploitation of the right for nature tourism and commercial berry picking. Over 60 % of the landowners report that inappropriate entrepreneurship practiced on their property has created harm to the landowner seldom or often (Viljanen & Rautiainen, 2007).

In Sweden the Ministry of Environment and Farmers Federation have demanded limitation of the rights from commercial users which would mean that any commercial actors would need permission from the landowner. Landowner may also be able to ask a fee from the use. (Svenska Dagbladet, 2011). In Finland the discussion has evolved especially around the commercial forest berry picking. Although the berry industry is content with the secured source of berries, the commercial picking annoys landowners, local people and other interest groups for several reasons (MTK, 2012; MT, 2013; Yle, 2012). Living and working conditions and social status of the foreign pickers have raised concern. As the pay depends on the berry yield and natural conditions, the income is not guaranteed (Peltola & Hallikainen, 2010a). News have reported in both Finland and Sweden about pickers who have had no funds to return back home after a poor berry year (Yle, 2009). The lack of employment contracts and mutual communication have left many of the immigrant pickers with uncertainty concerning the liability issues and risks involved in undertaking the berry picking work (Karkinen, 2010). Organized berry picking has also some regional impact on the berry yields and thus limits recreational picking, even though its portion of national berry yield is still marginal. Probably the most important reason for objection is that the berry picking has become very organized and that pickers are increasingly from abroad. Using "under-paid" work force from Thailand instead of native pickers has also raised objection, even though native pickers are not always available for the berry-using entrepreneurs. According to a recent survey, 92 % of the respondents accepted local berry picking for your own use without

restrictions but only 28 % accepted the very same for foreign pickers. The more commercial and organized or the more remote the home country of pickers was, the more people wanted to restrict the picking (Peltola & Hallikainen, 2010a).

Many of the opponents of the current extent of public access rights in Finland and Sweden are criticizing the possibility to exploit the right for commercial activities without charge. Some even question whether everyman's right should be free of charge for foreigners all together. In recent years, several reports have been commissioned and conducted regarding the commercial berry picking in Finland and its relation to everyman's rights (e.g. Ministry of the Interior, 2007). For now the authorities are not going to take action to limit everyman's right but try to handle the conflicts with other means. One reason is that limiting the right of picking berries in terms of nationality would not follow the principle of equality. Everyman's rights are also considered so important that any restrictions would need to be well justified (Rantanen & Valkonen, 2011). Ministry of the Environment and Ministry of the Interior in Finland prefer using educational means, good practices and common sense with the commercial use (Ministry of the Interior, 2007; Lehtonen;Heikkinen;& Hirvonen, 2007). Also the buyer's responsibility for the pickers is emphasized (Rantanen & Valkonen, 2011) and authorities are urging the industry to educate new pickers regarding the legislation, sustainable picking methods and responsibilities regarding everyman's right (MMM, 2013). Forest berry and mushroom picking trade is considerably large in Finland. In 2012 the forest berry trade made its record with net income from picking of over 25 million euros. Mushrooms picking had a net income of 630 000 euros, which is smaller than normally. Foreign pickers and a good berry year were the main reasons for the record result in berry trade (Mavi, 2012).

However, in general Finns are quite pleased with how everyman's right works. According to a survey made by an outdoor recreation organization, 39 % find that everyman's right works very well, 58 % find it works fairly well and only 1 % considers it works poorly (Viljanen & Rautiainen, 2007). The attitudes are more negative towards commercial exploitation than towards frequent local users (Lehtonen;Heikkinen;& Hirvonen, 2007; Peltola & Hallikainen, 2010a).

2.2 Economic value of everyman's right

Economic value of everyman's right consists of the market and non-market value of the goods and services it is indirectly providing. The resources available for utilizing by the right are e.g. the non-wood forest products but also the recreational opportunities and access to exercising, socializing and relaxation that affect the quality of individual's life (Fredman;Boman;Lundmark;& Mattsson, 2012). Nature based activities available in both private and public properties (parks, nature reserves, national parks etc.) create both non-market and market values from which the latter includes e.g. consumption of travels, food, accommodation, and guiding services. The market value is fairly easy to measure especially locally. Non-market goods and services consumed are e.g. public trails, landscape and health promotions. The value of non-market services is more difficult to measure, although they are an important part of the total welfare nature based recreation is creating (Fredman;Boman;Lundmark;& Mattsson, 2012).

A synthesis report done by Fredman et al. (2012), review the economic value of outdoor recreation in Sweden on rural and urban-proximate location. The study was compiled by using several findings in scientific publications regarding the market and non-market values of nature based recreation. The perceived value of recreation on forest and agricultural areas

using the everyman's right (private property) was estimated to be 216 SEK (20 €)/visit day and 130 SEK (12 €) per person/year for forest and agricultural areas, in respective. For forests this would be approximately 1.16 billion SEK per year (105 million €/year) when multiplied with the Swedish population and proportion of people visiting forests at least once a year. For agricultural areas the value would be about 820 million SEK/year (75 million €) [1]. The study has also collected data about the economic values of hunting and fishing, mountain tourism, services provided by outdoor recreation organizations and commercial players, and value of outdoor recreation equipment. The researchers behind the study are however very careful not to present any aggregated numbers regarding the total value of the industry, as the figures collected from various studies have different study limitations and definitions (Fredman;Boman;Lundmark;& Mattsson, 2012)

Compiling studies about the net value of outdoor recreation or the net value of everyman's right in Finland are also missing. Few have studied the valuation of the public access to private land and economic impact of outdoor recreation on public land. Mäntymaa (1997) has examined the valuation of everyman's right with a questionnaire where individuals willingness to pay (WTP) for the common access was asked. The respondents were requested to estimate how much they would be willing to invest in a year to maintain the current access rights to private land for recreation. The respondents were told that without the common access right they would still have "recreational rights" that would allow access to and recreation activities in certain limited areas, such as national parks and nature reserves. The average value the respondents gave to the current level of the access rights was about 59 euros per year (converted from 260 FIM). (Mäntymaa, 1997). The figure is rather high considering that recreation would be possible on public land even without the common access rights. The net value for population aged 15-74 years, would be about 239 million euros. For comparison, the value the respondents gave to the access right to private land is over twice higher than another similar study performed a few years later regarding the valuation of state-owned outdoor recreation areas and national parks. In 2002 the possibility to use these services was estimated to be worth of about 23 euros (converted from 110 FIM). The study did not take into account other land areas that would be similarly in public use, such as state owned forests and parks (Huhtala;Horne;Ovaskainen;& Sievänen, 2001).

The studies estimating the non-market or market value of everyman's rights in Finland are generally national studies, which do not take into account the potential tourism from outside the country, although nature tourism is important part of the industry. Studies that handle the economic impacts of nature tourism are often local examinations from certain active tourism area. Tourism that is exploiting everyman's rights is difficult to observe as the use may partly be independent and not involved with the industry itself.

Another way of valuing the access rights to private land could be based on monetary benefits granted to private landowners who open their land for public, in conditions where public access rights do not in general apply. For example, in the United States some states grant tax allowances to private landowners if they open their land for hunting and other recreational purposes. In these cases, the tax allowances reflect the society's preferences and willingness to pay for the public access rights to private land.

[1] The estimation is for year 2009, rate between Euro and SEK being 1:11

3. Can everyman's right lead to the tragedy of the commons?

The concept of everyman's right seems to serve well as long as the principle of responsible use prevails, that is, as long as the users do not cause any harm to the property, and thus to the environment. However, either the principle is not always fulfilled, or the position what is harmless and what is not, is not sufficiently defined. Problems arise when the demand for the services provided by public access increases or changes. In Finland activities that require skills (mountain biking, hiking and rock climbing) have grown in popularity (Sievänen & Neuvonen, 2011) and the amount of picked forest berries for industry has increased (Mavi, 2012) as has also the use of foreign berry pickers (Rantanen & Valkonen, 2011).

Everyman's right allows access to forests for everyone for different purposes. No-one can be excluded from the right. However, a parcel of forest is not unchangeable or limitless in size or quality and increase in the demand may stretch the limits of sustainability of the use and activities. A camping spot is possible to be used only by one person or by a single group of people at a time and a bilberry can be picked only once a season.

Economic theory classifies four types of goods, which are defined according to their position in terms of rivalry and exclusionary. *A public good* (air, a beautiful scene) is both non-rival and non-excludable. Scenery is not diminished whether one, two or more people are viewing it and no-one can be excluded from the view. *A private good* on the other hand is both rival and excludable (clothes, apartments). The owner may exclude others from using for example the apartment and there are no possibilities to build similar for everyone. Everyman's right could be stated to be located somewhere between these two classifications as it is non-excludable but its objects are rivalrous, in other words, *a common good*. Another type is a *club good, a* non-rival but excludable good such as satellite TV or golf fields.

A common good is available for everyone to exploit, but it is also finite or fragile. Increase in its demand may lead to problem named in economic theory as the tragedy of the commons, describing a situation where the use of a common good exceeds the carrying capacity level of the good. The theory was introduced by G. Hardin in Science magazine in 1968 where the author states that as people have the tendency to maximize their own private welfare the common good will probably be overexploited if the property rights are not properly defined. According to the theory, people would not have incentives to consider or negotiate with others about the carrying capacity or sufficiency of the good, nor consider the social benefits of their actions, but try to maximize their own benefits from the good. Hardin states that; "commons are justifiable only under conditions of low population density". If for example national parks are treated as commons, they will have no value for anyone in the future (Hardin, 1968).

The tragedy of commons could show up in more subtle ways than as wearing of the landscape or overexploitation of berry or mushroom crops. Namely, it is possible that public access affects private forest owners' land management decisions, e.g. in such way that they favor timber production at the cost of non-wood forest products. This possibility arises from the freeriding behavior allowed by the public access to private land.

Hardin (1968) suggests that the only solution to maintain the common good is either to limit the use or privatize the good. Libecap (2009) suggests that command and control tactics such as regulations and taxes could control the overexploitation. However, centralized regulation involves often inefficiency in maximizing the welfare or to prevent the overexploitation and freeriding. To implement efficient tax or regulation system, the officials would need to hold great amount of knowledge about the social costs, limitations of the resources and costs for private user's costs of compliance, private production or opportunity costs (Libecap, 2009).

Mortazavi (1997) presents a theory that the users also may have divergent motives to comply with the regulations. Although maximizing one's private welfare does not in principle involve preservation of the good to next generations, some users do put value to the prospect that future generations have the possibility to experience the nature as they have. Thus it is possible to divide the users between long term players and short term players according to their interests. Representatives of the two users could be tourists and locals. Mortazavi (1997) explains the behavior of different users by game theory, where long-term and short-term players play different game and the game changes if played together. The game between long-term players works only if the misusers are excluded. However, short term players do not respond to punishment mechanisms, such as exclusion, as long-term players do. Long-term players simply spend more time on the spot and have greater chance to get caught (Mortazavi, 1997).

More formal property rights would mean that the private forests are for private or community owner use only, or the use would at least somehow be excluded from outsiders. As pointed out before there are several countries that have chosen this course of action. Property rights address the problem directly and give incentives for the owner to use the resources sufficiently and allow markets to give information about the costs and benefits of the use. Generally, when talking about common or public goods, property rights are either difficult or expensive to define as goods such as fish stock or clean air are divided between various interest groups. However, regarding the use of forests and overexploitation of everyman's rights, the issue wouldn't be as complicated. As the ownership of forests is already defined, only the definitions what the property rights include open the possibility for the tragedy. By defining the everyman's rights more exclusive would automatically limit the overexploitation. This would mean either removing the whole concept of everyman's rights or limiting its range either only on private land or equally on private and public land.

Finland and Sweden have been reluctant to limit the unique and traditional concepts, although in Sweden the issue has already been discussed in the Swedish Environmental Protection Agency (Sydsvenskan, 2011). The reason for the willingness to maintain the current extent of the rights could be that dramatic overexploitations have not yet occurred in Finland or Sweden, as opposed to the Italian case where permission system was imposed when public access started to wear both landscape and mushroom yields. In other words, so far the condition of "low population density" has been fulfilled. From the economic point of view the everyman's right is also justified if the social welfare is higher when the forest provides both recreational services for all users in addition to private profit from timber (Mortazavi, 1997). Removing the right of recreation on private land could have substantial political and social impacts. Losers of the measure, that is the recreationists who would end up with lower accessibility to forests, would probably demand compensation from lost rights (Libecap, 2009). According to the study conducted by Mäntymaa (1997), this compensation could be rather large.

Nevertheless, the issue remains on the table as the demand for recreation areas rise in the vicinity of larger tourist or urban centers, the number of foreign professional berry pickers continues to grow and as new leisure activities increase in popularity. Pressure to the environment and local communities has grown and this will probably continue in future. However, as the unique and generally well-functioning system has a substantial group of supporters, alternative options for removal of the extensive rights have been suggested. Mortazavi (1997) proposes that to respond to the problem of different players (long term, short term) different activities in forest could be under specific permits. Permit system is not a new concept as it is already implemented for rod fishing both in Finland and Sweden.

Recreational fishers need to pay a fishing management fee and possibly also provincial fishing fee to be allowed to fish with a lure. Similar system could be applied to for example commercial activities or nature wearing recreation activities. A limit to the amount of sellable permits is set to the level that secures sustainable use. If the visitor violates the rules, he loses the permit. Mortazavi (1997) suggests that the permit system would concern only tourists and users outside the community. Locals would not need to purchase the permit. The permit system would thus involve also e.g. the berry pickers outside the community, which could possibly increase communities' income, control the berry picking on certain areas and restrain the conflicts between the local and foreign berry pickers. A picker who hurts e.g. the berry twigs would either lose the permit. This would be an economic setback for the picker and would work as an incentive to handle the berry yield with caution.

The permit system would again need a monitoring and governance system, that would either be highly costly or if lighter, not as efficient to exclude the misusers. Those, who consider that the risk of being caught is small enough, would continue to act as free-riders.

4. Conclusions

No single exact body or legislation regulates public access to private land. Rights and responsibilities have evolved in the course of history. The legal codes underlying the practices vary between countries and regions and they may be based on ancient tradition or on newer contractual agreements of law. In Sweden and Finland the observance of public rights to private land is mostly based on tradition and common sense.

In Finland and Sweden the extensive public access rights are considered as valuable part of national identity. Also other Nordic countries and Estonia have extensive access rights to private land. In general, the further south you go in Europe, the less public access comprises. However, many countries, where landowners have otherwise generic right to exclude public from their land, are more permissive when it comes to activities that hold high cultural and traditional value.

Recently in Finland and Sweden criticism towards the system has however increased equally on the side of landowners, private users, and civic organizations as the rather open concept is not taking into account the growing and changing demand for recreational services of land. For example there have been some demands on the landowners' side to exclude commercial activities from everyman's right, referring especially to berry picking and a more formal control of the trade (MTK, 2012). The Finnish Government has suggested alternative ways including education and guidance methods regarding the everyman's right. Hence, the objective is to decrease the conflicts between pickers and interest groups without interference with the current legislation or common practice (MMM, 2013).

It still could be questioned whether the current extent form of the rights is reasonable to maintain if it leads to excessive pressure on the environment and whether it is reasonable to have commercial activity practices under the everyman's right, without compensation to the landowner. According to the economic theory, people have tendency to maximize their welfare which will eventually lead to overexploitation of a common good. Although everyman's rights have worked considerably well up until recently, this situation can be viewed as stemming from the low population density and thus from the low usage rate. As the rate of use increases or more nature wearing activities become more frequent, the carrying capacity of popular recreation areas probably decreases. It can also be argued that locals have different tendency to respect the nature and sustain it to next generations and also to more incentives to comply with the given regulations, compared to those who are only visiting the

area. A theory regarding different players using the same area would validate a differentiated policy for tourism and locals.

Finland and Sweden could also benefit utilizing the concepts of public access rights in nature based tourism. For example, different forest ecosystem types and biotomes could be demonstrated to interested visitor groups. However, if this sort of practice will become more common, it is likely that more defined owner-organizer communication and contractual agreements are needed with possible compensatory elements included.

Any limitation of the rights would need a comprehensive valuation of the costs and benefits that the rights are creating. By no means does the economic value be limited to the financial value of the trade chain of the forest berry and mushroom industry or the outdoor recreation industry. Although most of the aspects contributing to the market and non-market values of the rights have probably been recognized in literature and public discussion, the full value of the rights has not yet been estimated on a national scale.

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Development of the Slovenian forestry sector after 1993 and proposals towards its first institutional reform

Franc Ferlin*

Abstract

First part of the paper presents the main Slovenian forest development and forest management trends, functioning of forestry institutions and financing of the forestry system, including their positive issues and problems, in the period after 1993. The second part deals with current forest sector reform, launched in 2012, with particular attention to intended changes of the forest law, including at the first stage the forestry technical and administrative procedures, and forestry (re)organisational models in the second stage. The conclusions and recommendations are mainly based on official forestry reports and statistics, compared to adopted forest policy and legislation objectives and the situation in European countries, taking into account also personal experiences of the author. In general, it could be concluded that positive developments in forests, forest management and functioning of public forestry service clearly prevailed. However, currently unsustainable state budget financing, a non-appropriate organisation and functioning of state forest concession system, as well as non-competitiveness of the domestic wood value chains, require a serious forest sector reform. First stage of the reform has been prepared already within a proposal of the forest law change, while considerations on possible future forestry (re)organisational model are currently still at the beginning. A feasibility assessment of the proposed models was made within this paper.

Keywords: forest sector reform, forest legislation, forestry administrative procedures, forestry organisational models, Slovenia

1. Introduction

Current Slovenian forestry system has been established by the 1993 Forest law [9], the 1993 Agricultural land and forest (ALFF) law [10], and their regulations. A unique forestry organisation model was introduced. The model was based on separation of the forest management and forest service functions also in the state forests. The state forest management function was entrusted to the ALFF, established in 1993 as an independent state agency and the concession awarding authority. Financing of the ALFF was based on revenues from forest concessions and agricultural land rents. To perform the public forestry service (PFS) function in all forests, an independent and budget financed state agency - the Slovenia Forest Service (SFS) - was established in 1994, after the separation and transfer of appurtenant forestry employees and assets from the former public forest management enterprises (16 of them). After that, the enterprises became subject to privatisation, without public forests as their previous assets, based on private company legislation. As a compensation for the lost assets, the enterprises received the right to continue with carrying out their forest management operations, which has latter been legally transformed into long-term (20 years) concession right. The right corresponded to the forest, within the region, that was previously managed by them.

* Sustainable forestry consulting, Slovenia, ferlin.franc@gmail.com

In 1996 the first Forest development programme of Slovenia [14], containing the policy, strategy, planning and financing aspects, has been adopted by the Parliament. For implementation of the programme an operational plan was endorsed by the Government. Based on it, a solid level of its implementation has been achieved (Ferlin, 2003). In 2007, a detailed revision of the programme occurred, leading to adoption of the second National forest programme in form of a Parliamentary resolution [15]. It has been anticipated by the programme that operational plans for its implementation will be adopted by the Government, but until now this has not happen. As a consequence, the programme remains more or less a paper resolution in all segments outside of influence of the state forestry institutions. To overcome this fact and, at the same time, to stimulate the domestic wood processing industry and increase the competitiveness of the entire forest and wood chain, an inter-sector action plan [16] has been adopted in 2012.

Until now, only minor changes of the Forest law [9] (in 2002 and 2007) and the 1993 ALFF law [10] with its concession regulation [13] (in 2000 and 2010), without any changes of the forestry organisational set-up and/or mechanisms, were endorsed. In spite of several individual or institutional proposals and initiatives, the decision for such a reform has not come earlier. It was obvious that the given situation, although institutional changes and developments were urgently needed, corresponded to certain key players, among them in particular the concession holders. The need for urgent changes was introduced indirectly, by serious general state budget restrictions that endangered the functioning of the SFS/PFS and state budget-dependent forestry measures. The second strong reason for change was in long-lasting, economically unsustainable concession relations for the state as forest owner, that the former Government intended to change or even brake, before expiration of the concession contracts (in 2016), and to replace that system by establishing of a new state forestry company. Final touch on the reform decision of the former Government was however given by a report of the Court of auditors of the Republic of Slovenia (in 2012) [19], which has very objectively and critically assessed the Slovenian forest governance and required also certain legal and other changes of the forestry system. Now there is however a new Government in charge to continue the reform developments, but its main intentions regarding the key issues, except probably for its preference to continue with the concession system, are not known yet.

The reform process initiated by the former Government (in the middle of 2012), for which a special working group (WG) was appointed, has been divided in two steps. The first one was oriented to urgent changes of the forest law which have already been prepared for public and Governmental consideration. However, the law proposal [11] has not been put in further adoption procedure because of the Government change. The second step was anticipated for a complex and long-term adaptations and/or changes of the forestry system, with particular attention to possible forestry (re)organisational models and appurtenant mechanisms. In the second part of 2012, the WG prepared a general proposal on possible (re)organisation models as well as proposals for other system changes [12]. As the first step changes have not been adopted, it is probable that the two stages would now be joined.

The first aim of the paper is to analyse the main Slovenian forest development and forest management trends as well as the functioning of forestry institutions and financing the forestry system, in the period after 1993. The second aim is to analyse the current forest sector reform proposals, with particular attention to changes of the forest law, and the feasibility of possible (re)organisational models. The feasibility analysis however will depend on given, until now quite moderate specifications of the models, and on existing data and experiences.

2. Materials and methods

The analyses of forest and forestry development indicators, functioning of forestry institutions and financing of the forestry system, as well as assessments of the proposed forest law solutions and the possible (re)organisational models, are mainly based on official forestry reports and statistics (for selected years 1990, 2000 and 2010 or 3-year periods 1995 - 1997, 2002 - 2004 and 2009 - 2011) and compared with adopted forest policy and legislation objectives and the situations in other European countries, taking into account also personal experiences of the author[1].

For comparisons of the development of forest and forest management indicators, the SFS reports have been used, based on forest management planning inventories[2]. Economic feasibility analysis of the proposed (re)organisational models were partly based on existing reports on wood prices and costs of forest operations, reported by concession holders and the ALFF, partly on independent calculations of economic feasibility of new regional forest management plans (RFPPs) as well on some additional, own calculations, particularly of the SFS and the ALFF expenditures for their services and for additional human capacities needed to implement the models. For the last, common Slovenian technical standards have been used. The following main criteria have been used for feasibility evaluation: (a) number of state forestry stuff the lowest, (b) the state forest net revenue the highest and (c) the economic result of state forest sector the best. A two additional criteria were: (d) net income from state forest should remain inside the forestry system, i.e. is not transferred to the state budget, and (e) enable the possibility to cover (a part) of the PFS expenditures for private forests based on state forest incomes.

3. Results and recommendations

3.1 Development and functioning of forests and forestry after 1993

3.1.1 Forest condition and purpose

Forest resources (Table 1) had strongly positive development trend after 1990, stronger than before that. Thus, the forest area has increased by 11%, reaching the forest coverage of 58.5% in 2010. It is self-understandable that further increase in the forest area is not part of a forest policy objective any more. Instead of it, the forest management is oriented to maintenance and tending the existing forests [14, 15]. The growing stock and the volume increment have also increased, the first even by 44% (on 279 m^3/ha) and the second one by 39% (on 6.85 m^3/ha). A part of that increase was also due to a more accurate recent forest inventories in younger forest development stages.

If the total volume increment is considered in terms of CO_2 sequestration, there was a remarkable accumulation of it in forests (about 8.5 t/ha of CO_2 equivalents annually) [15]. However, only 1.1 t/ha annually was recognised under the Kyoto 2008 - 2012 provisions [23].

[1]The author was, as state secretary and head of forestry sector in Slovenia between 1993 and 1997, engaged in establishment of the current forestry system, as well as in its governance and supervision during his mandate. As expert, latter he was engaged in evaluation of performance of the Slovenian forestry system and the development of the public forest service activities. He has been also actively engaged in the administration and supervision of the Slovenian forestry service (as president of its Council) between 2003 and 2007. During this mandate, he initiated, among others, the preparation of a Strategic plan for development of the SFS.

[2]That inventories systematically provide (10 - 20%) lower values than the national forest inventory, mainly because of their lesser accuracy and the fact that their data are 5 years old on average.

Taking into account that the average growing stock is already close to the optimum level [15], there is no need for so high accumulation of the increment and carbon in future. This fact has already been integrated into the 2011 - 2020 regional forest management plans (RFMPs), by which the annual allowable cut has been increased on 6.5 m^3 per year [22].

Table 1. Indicators of forest development in Slovenia after 1993

Indicator	Year			Basic sources
	1990	2000	2010	
Forest area (in 1000 ha)	1071	1134	1185	Statistical Yearbooks and SFS Reports
Forest coverage (%)	52,8	55,9	58,5	
Growing stock (m^3/ha)	193,5	231,7	278,9	
Annual volume increment (m^3/ha)	4,95	6,06	6,85	
Share of broadleaves in growing stock (%)	48,0	51,6	53,6	
Dead wood volume (m^3/ha, above ground)	6,72	7,89	10,11	SFS Reports
Forest openness with forest (and public) roads (m/ha)	11,2 (20,0)	10,8 (19.8)	10,5 (19,6)	SFS Reports, RNFP 2007
Percentage of private forests	62,4	69,0	74,7	Statistical Office and SFS Reports
Average size of private forest holdings (ha)	2,3	2,6	2,8	
Share of private forests with holdings < 5 ha (%)	44,0	…	36,8	

Note: SFI - Slovenian forestry institute, RNFP - Resolution on National forest programme in Slovenia (2007).

From the biodiversity aspect it is important that even 43% of Slovenian forests became part of EU NATURA 2000 network after 2004 that covered 35.5% of country's territory [18]. Thus, forests are dominating (71% of area) habitat types of that network. In this way, favourable conservation status of the forests was indirectly justified. In terms of biodiversity, it is also important that share of broad-leaved tree species in the growing stock is increasing (from 48 to 54%) on the account of introduced Norway spruce and Austrian pine [17], in line with natural forest vegetation. Natural forest regeneration is also highly prevailing [8]. An important amount of dead wood, which is increasing through the analysed time in correlation with the growing stock (e.g. from 7 to 10 m^3/ha aboveground), is present in Slovenian forests.

There was no further increase in the openness of forests with roads after 1990, which reached a significant value (of 20 m per ha of forest and public roads or 11 m per ha of forest roads) until 1990. However, differences between state and private forests are high, meaning that the second ones are much less open. The new forest roads in the last 20 years have been built to really a minimum extent. The openness with forest roads has thus slightly even decreased, because of a greater forest area increase.

3.1.2 Development of forest ownership

Forest ownership and its structure (Table 1) have been changed after 1991 due to denationalisation, which is still not accomplished. The share of private forests has increased from 62 to 75 % (in 2010). Average forest holding has also increased, from 2.3 to 2.8 ha. Thus, the holdings over 30 hectares present now 31% of private forest area [17]. As private forests in general are still very small-scaled and their owners mainly not organized yet for the joint forest management and utilisation – that is not also to be expected in the near future - higher priority in the PFS activities should be given to the larger forest holdings.

3.1.3 Development of forest management

The forest management trends (Table 2) were also positive after a significant depression in early 1990's. Thus, the gross felling volume has increased from the first to the last observed period by 41% (from 2.1 to 3.0m^3/ha). The share of sanitary felling, that was very high in the first and the second period (39 % and 35%) - due to biotic reasons - has decreased significantly in the last period (on 22%). And the share of registered sanitary felling, which was low already at the beginning (4%), has been halved.

Table 2. Indicators of forest utilisation and export of wood in Slovenia after 1993

Indicator	Period			Basic sources
	1995-1997	2002-2004	2009-2011	
Gross felling volume (m^3/ha annually)	2,11	2,48	2,99	SFS Reports
Net felling / removals volume (m^3/ha annually)	1,80	2,14	2,60	
Intensity of felling (% of volume increment)	37,6	39,4	43,7	
Share of sanitary felling (% of total volume)	39,1	35,1	21,7	
Share of registered illegal felling (% of total volume)	4,3	1,4	1,9	
Annual share of silviculturally treated forest area (%)	0,83	0,93	0,68	
Extent of (re)construction of skidding ways annually (m/ha)	0,61	0,58	0,63	
Share of logs in removals (%)	50,0	51,5	49,1	Statistical Yearbooks
Share of fuelwood in removals (%)	18,7	18,4	37,0	
Share of exported industrial round wood (%)	7,1	10,2	32,1	

In spite of increasing felling, its intensity - with respect to the volume increment - still remains much to law (44%). Based on allowable cut for the new planning period 2011 - 2020 and the fact that the felling increase in state forests is easy to achieve, PFS should orient much more efforts towards promotion of forest management and utilisation of private forests. The mentioned was also included as one of the objectives in the 2012 Forest and wood chain action plan [16].

Intensity of silvicultural works has been increasing during the period 2002 - 2004 only - in parallel to the increased felling - while recently has decreased (from 0.93 to 0.68% of the total forest area treated annually). The decrease was mainly a consequence of decreasing budget co-financing of silvicultural measures in private forests. Intensity of (re)construction of forest skidding ways has slightly increased in the last period (from 0.58 to 0.68 m/ha annually), because of available EU funds for that sort of subsidies in private forests. It is to hope that the new EU programming period (2014 - 2020) will provide opportunities also for co-financing of silvicultural measures, among them particularly thinning.

3.1.4 Development of wood production and export of wood

The net felling volume - calculated[3] from the gross felling volume of trees marked for felling - has increased with the same percentage as the gross volume. The roundwood wood production (Table 2) structure shows quite a constant share of logs (around 50%) through analysed timeframe and a strong increase in the share of fuelwood (from 18 to 37% of roundwood) in the last period, on the account of other industrial roundwood. Increase in the fuelwood was a consequence of both, the increased demand for (renewable) energy and the non-competitiveness of appurtenant domestic wood industry. The export of roundwood experienced also a very strong increase in the last period (from 10 to 32%), also mainly because of non-competitiveness and/or even collapsing of appurtenant wood industry. Main destinations for the export were Austria - for qualitative coniferous' roundwood - and Italy - for less quality broadleaves and woodfuels [17]. Measures for stimulation of the domestic wood industry and improvement of its competitiveness have been adopted within the inter-sector Forest and wood chain action plan in 2012 [16].This plan anticipates, among others, that policy for granting the state forests concessions, or supplying the wood from state forests, should be adapted in the way that prospective local forest and wood chains, particularly the ones with low carbon footprint, wood be given priority. However, implementation of this action plan in general has not started yet and might be questionable also in the future because of non-cooperativeness of stakeholders along the wood chain(s).

3.1.5 Functioning of the public forestry service

The SFS experienced a moderate reduction in number of its PFS employees (from 6.9 to 6.0 persons per 10.000 ha) (Table 3), due to state budget restrictions. In comparison to central European forest administrations, such a number was considered as a quite rational one (Ferlin 2004). In general, it could be stated that the PFS's mission to forests was fulfilled quite successfully, as justified by the indicators of forest development, conservation and management. The PFS's mission to people, particularly to private forest owners could also be assessed as very successful in terms of provision of the forestry extension services. Thus, a remarkably growing number of forest owners participated in individual forestry extension activities of the PFS (i.e. from 64 to 97 per one PFS employee annually) that have been offered during the performance of tree marking for felling in the owners' forests. A remarkably growing number of forest owners, although much smaller than the before mentioned one, participated also in group type of extension activities (training courses, workshops, lectures and study tours), after a modest start in 1995. Based on the above, the

[3]The nation-wide data are available only on such calculation bases, as there is no obligatory reporting on actual realisation of felling from private forests, i.e. amount and structure of removals. The assessment of removals volume is made on the assumption that all trees marked for felling in a certain year have also been felled.

SFS as relatively new institution can now walk well along with the traditional forestry services from the European countries.

Apart from the above strengths there were, however, also certain weaknesses in the PFS functioning. First, the catalyst role of the PFS for private forest management, which would result in additional utilisation of the allowable cut, could be higher, in spite of reduced co-financing of silvicultural works from state budget. One of the reasons for that lied in a predominantly administrative and budgetary status of the PFS, which had not enough interests to offer also commercial forestry services to private forest owners (e.g. on organisation of harvesting and selling of wood), that would surely enhance the intensity of private forest management. Thus, the commercial services by the SFS/PFS have been provided to some bigger owners only. The commercial services have actually been reserved for the forestry extension service within the Chamber of agriculture and forestry of Slovenia which, however, has never established its corresponding human capacity for such a mission. Also private forest owners have almost no interests on commercial services. It is to expect that this will continue also in the future. From this aspect, the small-scaled Slovenian private forestry situation is quite different compared to the middle European countries (Ferlin 2004), where such services are traditionally usual. That is why, an appropriate solution for more efficient and large-scale enhancement of the private forest management in Slovenia would be to enable legally to perform such commercial services also by the PFS, in addition to private service providers. This solution, that would bring also additional resources for functioning of the SFS, has already been adopted by the Government.

Table 3. Indicators of organisation and functioning of forestry administration / service in Slovenia after 1993

Indicator	Period			Basic sources
	1995-1997	2002-2004	2009-2011	
Number of public forestry service (PFS) employees per 10.000 hectares	6,9	6,3	6,0	SFS Reports
Number of FTEs engaged in state forest concession management per 10.000 hectares	1,1			ALFF Reports
Number of administrative permissions issued by a PFS employee annually	64	83	97	SFS Reports
Amount of permitted harvest (m^3) per administrative permission	61	59	61	
Number of forest owners involved in all forestry extension activities as per one PFS employee annually	67	90	107	
Number of forest owners involved in group-wise forestry extension as per one PFS employee annually	3,0	6,8	9,8	
Share of total forest owners involved in all forestry extension activities annually (%)	16,8	17,5	16,3	

Rationality and efficiency in carrying out the PFS administrative procedures for private forest owners was also under question, apart from general rigidity in implementation of administrative procedures. Namely, in the process of adoption of the 1993 Forest law it has been anticipated that forestry technical and administrative procedures will follow correspondingly the complex approach in terms of type (e.g. a joint permission for regular felling with requirements on forest protection and silvicultural measures, instead of separate ones), space (i.e. if appropriate, to be issued, for the entire forest holding and not for the individual parcels only) and timeframe (i.e. to be issued, if appropriate, for a number of years, and not only for just one year) for which they are issued (Ferlin, 1998). However, for some objective and subjective reasons, e.g. starting the procedure on the request of forest owners only, or the need for establishing the annual felling records based on the annual administrative decisions, these principles have mostly not been respected by the SFS. Thus, the number of issued administrative decisions was growing (from 64 at the beginning to 97 as per one PFS employee annually), instead of at least stagnating, although the increase could partly be justified through correlation with the increasing felling volumes. On the other side, the amount of felling per permission remained nearly unchanged (around 60 m^3 per permission), although it should increase. Another aspect of rationality in the administrative procedures as well as, for example, differences between state and private forests in terms of carrying out these procedures, could not be evaluated as the appurtenant PFS's database does not exist yet.

3.1.6 Functioning of the state forest concession management service

In the state forest concession management for which the ALFF was in charge, there was quite a constant but small number of full time equivalent (FTE) persons engaged from the ALFF and the SFS sides (1.1 FTE per 10.000 ha). The SFS provided contract-based forestry services for preparation and monitoring of the concession contracts, in addition to its (gratis) PFS. In 2010, corresponding number of employees within the mentioned quota has been transferred from the SFS to the ALFF, to ensure a better monitoring of concessions.

Table 4. Indicators of forest and forestry financing in Slovenia after 1993

Indicator	Period			Basic sources
	1995-1997	2002-2004	2009-2011	
Amount of budget used for co-financing of forestry measures annually (€/ ha of total forest area)	3,68	3,09	7,23	MAFF Reports
Amount of total budget used for forestry annually (€/ ha of total forest area)	15,78	17,64	26,15	
Income from state forest concession fees annually (€/m^3)	1,77	3,87	7,75	ALFF Reports
Relative income from forest concession fees (% of wood value at road side)	4,28	9,96	19,09	

Table 5. Current and possible future development of the state forest concession economics (under similar organisation models)

Item	Current		Future	Basic sources
	2010	2012		
	Euro per cubic meter net			
Costs of forest utilisation	26,6	27,3	27,3	ALFF reports
Costs of forest investments	6,7	5,4	5,3	ALFF reports, SFS RFMPs
Costs of PFS / state budget	7,7	6,0	4,9	SFS Reports
Costs of concession management service	1,0	1,1	0,9	ALFF reports
Price of wood at road side	40,7	46,2	49,3	ALFF reports, SFS RFMPs
Gross income (from concession fees)	7,4	13,5	16,7	Our background calculations
Net income (of the state agency)	6,4	12,4	15,8	
Economic result of the state forest sector	**-1,4**	**+6.4**	**+10,9**	

Notes:

1) Future calculation is based on a model with State agency and concessions (SA-CH).

2) Costs and prices are net and VAT excluded per cubic meter. For current situation, the costs and prices are the ones, recognised by concession contracts. Future costs and prices are based on the SFS calculations for the needs of RFMPS 2011 - 2020 [22].

3) Forest investments include biological (silviculture, forest protection, etc.) and technical (construction and maintenance of infrastructure) investments.

4) Gross income = income from concessions.

5) Net income = gross income minus state forest management costs (except for the PFS).

6) Economic result = Net income minus expenditures for the PFS.

Although the system has been slowly improving since its establishment in 1996, the concession management in Slovenia, presented and discussed in detail already a year ago (Ferlin and Golob, 2012), could still not be assessed as sufficiently strong and efficient in financial terms for state as the forest owner. Because of that the ALFF's mission could still not be assessed as successful until now. One of the main problems in this case in fact is that responsibilities for administration and forest service activities have been legally separated among two independent state institutions. The first one - the ALFF - had the full responsibility over concessions but not enough of its own operational forestry staff, while the second one - the SFS - had no specific responsibility over concessions but appropriate coverage with operational forestry staff. As keeping together the PFS within the SFS was in national forestry interest, the ALFF remains with very limited number of its own forestry staff (until 2010). However, such a shared responsibility situation corresponded very well to concession holders that were stronger in negotiations on annual concession planes and fees with a weaker ALFF. As a consequence, there was (until 2012) no political will to change such an organisational set-up, e.g. to join both services in one state institution, in order to put

the concession management and supervision in one efficient "hand". The second problem was on the specific forest concession legislation that allowed too much flexibility in negotiations on concession fees, particularly regarding the costs of forest operations and prices of wood, that furthermore were not based on real market. A real market in state forests actually did not exist because of such a system of concession. A part of the mentioned problem - particularly on methodology for calculation of concession fees - has been improved in 2010 when an important adaptation of the forest concession decree [13] was endorsed by the Government.

3.1.7 State forest sector economics and public financing of the forestry system

The income from concession fees (Table 4) - also as a key performance indicator of the ALFF - that indeed has slowly increased between the observed periods (e.g. from 4 to 19% of wood production value at forest road side), remains still quite much below the real market level. The economic result (Table 5) of the entire state forest sub-sector, taking into account the total value of produced wood assortments (at the road side), the costs of forest utilisation and of forest (biological and technical) investments, as well as the costs of the SFS/PFS (with its general and specific services) and the ALFF (with its concession management service), was still a bit negative in 2010 (minus 1.4 € per cubic meter). However, calculation for 2012 shows that the economic result became already clearly positive (6.4 € per cubic meter) as a consequence of increased concession fees. In the near future, it is to expect that the economic result will further significantly improve without negative consequences for the forests, in order to be comparable with the ones from similar European state forests (enterprises).

Forest and forestry financing from state budget (Table 4) had also an increased trend from the first to the last observed period (from 15.6 to 26.2 €/ha annually). After the Slovenia accession to EU (in 2004) this increase was a consequence of additional EU funding. However, a major part of the budget has always been used for financing the PFS activities (72% recently) and only a minor one for co-financing of private forest(ry) measures. The latter have always lack the support of budget funding. In spite of a doubled increase in the level of PFS's financing - mainly because of generally increasing living standards - it could be concluded that the budget was never sufficient for full functioning of the PFS, particularly not in the last analysed period, when the available funds for its material and investment expenditures felled bellow sustainable level, and further functioning of the SFS/PFS became almost impossible. In addition, the total amount of budget funds on forest sector has as well decreased after 2011, as a consequence of overall state budget deficit in Slovenia. Thus, the reform of the SFS/PFS became really a necessity.

3.2 Proposed first step on forest legislation changes

Current forest sector reform was at first oriented to urgent changes of the 1993 Forest law. The proposal of the Ministry of Agriculture and Environment (MAE) by the end of 2012 [12] brought particularly the changes related to forestry technical and administrative procedures. Within these proposal, possibility was given to part-wise deliberation of obligatory marking of individual trees for felling (e.g. in low quality stands) and general rationalisation of the administrative procedures (e.g. issuing of permissions for forest holdings instead for individual parcels, and for several years instead of one year only). Also a differentiation of forestry administrative procedures on the ones required by the PFS and the ones requested by the forest owner has been proposed. Related to this, a small co-financing of the marking of trees for felling, requested by the forest owner, was initiated, based on fixed rates per administrative decision within certain felling amount classes (from 5 to 50 €). An approximation of the administrative procedures to requirements of the new EU Timber

Regulation (EUTR 995/2010) [25] has also been proposed. In this regard it has been introduced an additional PFS obligation to issue a proof on the wood origin for each wood transport from forest in the form of accompanying transport document. Also corresponding supervision on the implementation of this regulation and penalties have been introduced.

The proposals for part-wise deliberation of obligatory forestry-technical procedures and rationalisation and differentiation of the administrative procedures could be assessed as very appropriate and needed. However, proposal for introduction of the forest owners' financial contribution seems not to be corresponding as it is very small to assure any sustainable policy effects and it is a burden particularly for small forest owners. If a reasonable and sustainable co-financing of the PFS is to be introduced, which is certainly very much needed, it would be better to use a modified "taxation" approach from the past (before 1990), by which the private forest owners had to pay certain percentage of value of felled wood to a joint forest Fund account. Currently this could be e.g. 10% of stumpage value of trees marked for felling (about 2 €/m^3 on average), which would - under supposition that 85% of allowable cut is utilised in forests – amount to about the half of current PFS expenditures (Ferlin, 2013), and would be paid to the state budget. It would be ideal if a similar budget Fund would be possibly established now for the purpose of money allocation. However, based on integral state budget principles, such a separate budget Fund is unreal.

The proposed approximation with the EUTR related to issuing of additional transport document, as proof of origin, seems to be not necessary as the mentioned mechanism is - apart from already existing administrative permission for certain felling volumes - not required by the EUTR. It only would present an administrative burden. For efficient monitoring and recording of timber felling and prevention of illegal felling, regular controls of felling sites by the PFS and issuing of appurtenant legality approval to forest owner or user would be much more efficient and needed. Such procedure could be followed also by bar-coding of timber assortments. As the forest law proposal has not been yet considered in the Parliament, it is still hope that it will not be relevant any more as regarding EUTR implementation, whereas it actuality remains relevant considering supervision and penalties.

3.3 Proposed forestry (re)organisational models

3.3.1 Development process

The reform in its second step anticipated particularly changes in the forestry organisational model with additional mechanisms for its functioning and financial support. Three general organisational models have been proposed by the WG for that purpose [12]. Based on the report, only very general descriptions of the models have been prepared and are available. No experts were engaged and no special analyses on feasibility and consequences of these models have been made within the WG. It is hope that this would not be the case also in the near future, under the new MAE leadership. As well the second academic-level consultation [26] related to forestry reform had not brought much additional clarifications in this respect.

3.3.2 Key elements of the models

The first proposed model is ***State agency*** model. It implies integration of the current SFS, the Forest section of the ALFF and possibly also the Nature Protection Service (NPS) into a joint agency, that would be in charge on: (i) the management of state forests, (ii) providing PFS for all forests, (iii) providing nature protection service and (iv) granting concessions for utilization of state forests, or (v) contracting the state forest operations. The agency could be either integrated within the MAE, as a kind of forest administration or directorate, or it would

function as relatively independent institution, similarly as the current SFS or the ALFF. In the first option, all financial flows would be channelled through state budget, whereas in the second one the income from state forest management would as currently remain under the responsibility of the agency. Thus, the incomes could as well be used, for example to cover the needed funds for PFS expenditures instead of reallocating them into the state budget. This way, the second option compared to the first one offers assurance to a good financial sustainability for forest and forestry services.

The second proposed model is ***Public enterprise***[4] model. It implies integration of the current SFS and the Forest section of the ALFF into a new, joint organisation, to be established by Forest law. The enterprise should be in charge of: (i) the management of state forests, (ii) PFS provision for all forests, and (iii) contracting and/or performing the state forest operations. It would perform commercial forest management services also for private forests/owners. As the public enterprise venture form legally does not exist anymore in Slovenia, objectives of the model could only be realised indirectly, through the agency model.

The third proposed model is mixed ***State agency and company*** model, where the agency is similar to the first model, whereas the company would be newly established by the Forest law, based on the company law principles. The company would be 100% in state ownership or even a joint stock company with majority of the state capital. The first option was preferred by the former Government. The company would be in charge of: (i) management of state forests only and would (ii) contract and/or perform the state forest operations. It could perform forest operations and commercial forest management services also for private forests/owners. The agency would perform the PFS, paid by the budget, also for state forests. The profit orientation of the company would be beyond the public interest. Thus, the model does not offer good financial sustainability for the forest.

3.3.3 Feasibility of the models

The economic feasibility analysis (Table 6) of the proposed models/options show that the most convenient in terms of anticipated net income from the state forests, as well as the economic result of the state forest sector, (if realised up to the anticipated level), would be the State agency with concessions (SA-CH) sub-model. It needs also the lowest number of professional state forestry employees, i.e. the same to the current number of the PFS and the ALFF employees related to the state forests. From the aspect of state budget restrictions, such a solution would certainly be preferred. For the sub-model also a prior policy preferences have been set by the 2012 Forest and wood chain action plan in Slovenia.

[4]The Public enterprises law (1988) does not exist anymore in Slovenia. Other legislation took over its objectives, i.e. the Law on public management services (1993), the Law on management companies (2006), the Law on public and private partnership (2006) and the Law on transparency of financial relations and separated evidencing of various activities (2007). However, none of these laws correspond entirely to the objectives and mission of the public forestry enterprise. Corresponding provisions in the Forest law are needed for this.

Table 6. Key feasibility indicators of proposed forestry (re)organisational models for state forests

Elements	Organisation models/sub-models			
	Agency		Agency and company	
	SA-CH	SA-CT	SA-SC-CT	SA-SPC
Number of professional employees related to state forests per 10.000 ha	8,2	13,4	13,4	20,3
Number of professional employees related to state forests per 10.000 m^3 felling	1,6	2,7	2,7	4,1
Gross income from the state forests (€/m^3 net)	16,7	20,1	20,1	16,7
Net income from the state forests for the state as owner (€/m^3 net)	15,8	15,6	14,7	11,3
Economic result of the state forest sector (€/m^3 net)	10,9	10,6	9,7	6,3

Notes:

1) *Number of employees per models, which are greater than the one in the basic SA-CH sub-model (identical to current situation), has been calculated based on Slovenian technical norms.*
2) *Gross income = income from wood selling (value of wood).*
3) *Net income = gross income minus state forest management costs (except for the PFS).*
4) *Economic result of the sector = Net income minus expenditures for the PFS.*

Based on current situation and problems with concessions, less risky to create optimum forest incomes for the state as forest owner, with only few economic performance (Table 6) would be the State agency with contractor's (SA-CT) sub-model. The option would certainly be preferred by the SFS which is fully capable for it. However, the model would require an even higher number (63%) of professional state forest employees in state forests than the SA-CH sub-model. Considering the current state budget restrictions, this seems almost unrealisable, as it would (directly or indirectly) increase the number of country's public officials. However, if the agency would be declared by Forest law as a public enterprise, retaining its own financial sources from the state forests, this problem might be easier to overcome.

Finally, the most convenient considering the functional transparency would be the State agency and company sub-model with 100% of state capital - in case of contracting the forest operations (SA-SC-CT). Establishing the capacities to perform the own operations within that sub-model seems to be not realistic, as high state investments would be necessary. The State agency and state - private company (SA-SPC) sub-model seems also not to be realistic, particularly because such a share-holding in principle could not be declared as a company in public interest. From the expected state forest net incomes and the sub-sector economic result (Table 6), the SA-SC-CT sub-model is assessed as more successful that the SA-SPC. The SA-SPC sub-model with its own capacities for performing forest operations, which indeed could be assured by the private shareholders, would however need a higher number (52%) of forestry employees in state forests than SA-SC-CT or SA-CT sub-model, or even 2.5 times higher than the SA-CH sub-model. Establishing of this human and technical capacity,

although based on anticipated company revenues from state forests, seems to be almost an impossible mission.

Having in mind all the above aspects, the most realistic solution in the current economic and general state budget restrictions could be the State agency with concessions (SA-CH) sub-model, if the concession management system is improved and particularly, if the agency would be legally declared[5] as a public enterprise. At the time of finalising this article, preferences of the new Government regarding selection of a particular (re)organisational model have been not known yet.

4. Conclusions

After 20 years of functioning of the current forestry system in Slovenia, finally the time has come for its serious institutional/organisational reform. In order to evaluate the forest and forestry developments and functioning of the current system in the last 20 years, using the national targets and the comparable European situations and trends (in State of Europe's Forest 2011 [8] and State of the Worlds' Forests 2011 [9]), the following could be concluded:

1. A strongly positive development in the forest resources and the forest carbon stocks after 1990, higher than before, is evident. The forest areas, growing stock, increment and carbon stock have reached the level which ranks Slovenia among the top (two to three) European countries. This is however not only the consequence of the current forestry system, but also the long-lasting sustainable and close-to-nature forest management practices with a relatively small intensity of felling.
2. Favourable conditions for conservation of forest habitats and species have been created, in close correlation with the above mentioned biodiversity-sensitive forest management practices in the past and in particular currently. Based on the key biodiversity indicators, used in the analysis, the Slovenian forests could be ranked amongst the richest in biodiversity and the most preserved and managed forests in Europe.
3. Openness of the Slovenian forests by forest and public roads was already well assured before 1990, making Slovenia in this respect clearly above the European average. Although additional roads would still be needed, particularly in the private forests, there has been no further increase of them in the last 20 years,
4. Share of private forests in Slovenia has increased due to denationalisation. Average forest holding has increased too, but it is still much too small for any efficient forest management. In addition, the forest owners are mainly not yet grouped to perform a joint forest management. These indicators rank the Slovenian forests among the ones with the largest share of private forests and the most unfavourable structure of holdings in Europe.
5. Positive trends were present also in forest management, particularly in the realised felling, and to a certain extent in the intensity of silvicultural (in the first part of the analysed time frame) and technical investments in forests, after a significant depression in early 1990's. The felling has increased also in NATURA 2000 forest areas. Thus, the conservation regime had - due to very good close-to-nature forest management practices - no declining effects on forest utilisation level. This is certainly one of the unique examples in Europe.

[5]Such a possibility exists in the 2007 Law on transparency of financial relations and separated evidencing of various activities. However, that law does not include forestry and a special provision for that is needed in the Forest law.

6. However, absolute level and intensity of felling (with respect to increment) in forests, although increasing over the analysed period, were much too low. Similarly could be stated for forest silvicultural and partly technical investments, if compared to the period before 1990. Main reason for the low management intensity lies in the predominant small-scale private forest property structure, low interest of the forest owners, but also traditionally low felling intensities. Also the current EU subsidies, mainly used for forest technical and technological investments (e.g. skidding ways and forest utilisation equipment), have not contributed much to better trends. According to these indicators, Slovenia is ranked much below the European average. This fact has already been taken into account in the RFMPs 2011 - 2020 with significantly increased allowable cut, and in the 2012 Forest and wood chain action plan, but further remains the main problem of private forest underutilisation.
7. In the realised felling/removals, there was a constantly favourable share of logs and significant increase in the share of fuelwood (in the last period). The export of roundwood experienced also a very strong increase during the last period, mainly because of non-competitiveness and/or even collapsing of that wood industry. This situation called for urgent measures, already included into 2012 Forest and wood chain action plan. However, implementation of this action plan has not started yet and is expected to be questionable also in the future because of non-cooperativeness of stakeholders along the wood chain(s).
8. It could be stated that the mission of the PFS was fulfilled quite successfully, as shown by the indicators of forest development, conservation, and management. The PFS's mission to people, particularly to private forest owners - through provision of its forestry extension services - was also very successful. Based on these, the SFS, as a relatively young institution, can walk well along with the traditional forestry services from the other European countries. Apart from the above strengths there were, however, also some weaknesses in the PFS functioning. The major ones were related to its nonsufficient catalyst role in the private forest management and questionable rationality and efficiency in implementation of its forestry administrative procedures. These problems are actually usual for forestry administrations or services that are lacking the entrepreneurial spirit. The weaknesses could be major challenges for improvement of the PFS functioning, or even changing such a SFS/PFS status in the future.
9. The concession management system in Slovenia could still not be considered as strong and efficient enough for the state as forest owner. Namely, the income from concession fees which indeed was slowly increasing during the observed periods and particularly in the last years, is still considerably below the real market level. The economic result of the entire state forest sub-sector, taking into account also state budget expenditures, was also still somewhat negative in 2010. However, in 2012 the result became already significantly positive, as consequence of increased concession fees. In the near future, the economic result would hopefully get similar to the comparable cases of rationally and efficiently organised European state forest agencies or enterprises.
10. Extent of forest and forestry financing from state budget had also increased its trend during the analysed period. Based on the average extent (per hectare) Slovenia could be highly ranked among the European countries. However, a major part of the budget has always been used to finance the PFS activities and only a minor one for co-financing of private forest(ry) measures. In the last years, the available funds for the PFS expenditures decreased very much under the sustainable level, because of the overall state budget

restrictions. In addition, also the total amount of the forestry sector budget has decreased after 2011. Thus, the reform of the SFS/PFS became really necessary.

In terms of evaluation of the current proposals for forest legislation reform and (re)organisational models, taking into account the national and the European experiences, the following could be stated:

11. The proposals for part-wise deliberation of obligatory forestry technical procedures, rationalisation, and differentiation of the administrative procedures could be assessed as very much appropriate and needed. In terms of that, the Slovenian forestry belongs, apart from the West Balkan ones, to the most regulated European forest sectors. The proposal for introduction of a small forest owner's financial compensation for provision of the PFS could not be considered as appropriate because it is too small to assure any sustainable forest policy effects, and it is a burden particularly to small forest owners. The proposed approximation with the EUTR, related to issuing of additional transport document as proof of origin, (apart from already existing administrative permission), is also not necessary and would be only an administrative burden.
12. The three proposed (re)organisational models contain only a very general, non-sufficient and sometimes not mutually harmonised description of their components and mechanisms. Feasibility of those models has not been yet analysed by the WG, nor the experts. Based on that, it could be concluded that the models have not yet been seriously considered. Thus, the pertaining article tried to fulfil this gap in a voluntary way.
13. In terms of state forest economics, human capacities and state budget financing, it could be concluded that the most realistic - in the current general economic and state budget restriction circumstances - would be the State agency and concession's (SA-CH) sub-model, if the weaknesses of the current concession system would be improved and, if the agency is declared by Forest law as a public enterprise. With such a model, Slovenian forestry would remain a unique organisational example in Europe, followed by a similar later established one in Montenegro (Ferlin and Golob, 2012).

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Basic information in forest planning – challenges posed by informational legislation in Finland

Huttenen Kimmo*

Abstract

In Finland forested areas are planned in different contexts. Planning can aim for example at nature conservation or reconciliation of different land use objectives. Forest management planning is a mechanism that is used to guide forest owners to achieve their goals related to forests. Forest planning is voluntary for land owners. Forest plans are nowadays done by private organizations, but the plans are based mostly on information that is collected from forests by a public authority (Forest Center). Information that is collected from forests is considered as personal data, so Personal Data Act (523/1999) is applied when the information at issue is processed. Processing information includes for example collection, recording, use, disclosure and manipulation of personal data, as well as other measures directed at that data. Informational legislation thus determines what kind of information it is possible to record to the data file. If our goal is to achieve sustainable forest management (SFM), the information that describes forests should be comprehensive. However, Forest Center is not obligated to collect certain type of information from forests. This is obviously a regulatory gap, if we look at it from the perspective of SFM. This has led to a situation where the majority of collected information relates to wood production. It seems that informational legislation restricts Forest Center's possibilities to promote SFM. Because of one-sided information, forest planning will presumably be biased towards wood production at the expense of other forest values. As a whole, general principles of informational legislation poorly suit into the context of forest information.

1. Introduction

A land of green gold. That's how Finland has often been described when one has wanted to emphasize the significance of forests for the country. Green gold refers to extensive forest resources that the nation has to support its comprehensive welfare. Finland is also said to stand on her wooden legs.[1] These expressions relate strongly to wood production that in history has had a significant role in Finnish economy. Economical sustainability has been the leading theme in forest management. However, at present the goal in forest policy is to promote ecological and social sustainability as well as economical sustainability.

Sustainable Forest Management as a paradigm has evolved during the last 20–25 years into the discussion about Finnish forest use. During 1990's most of the laws relevant to SFM were revised. Also forest certification was introduced. Forest management guides were updated to better take into account different perspectives of forest use. General aim in the forest policy nowadays is to "promote economically, ecologically and socially sustainable management and utilization of forests in order that the forests produce a good output in a sustainable way while their biological diversity is being maintained" (Forest Law, 1093/1996, 1 §). Traditionally the

* University of Eastern Finland, Law School, Joensuu

[1] See Sihvo 2004, p. 35–36.

focus has been in promotion of economical sustainability but recently also other perspectives have gained more weight. At this moment, many forest-related laws are under revision. Still, there are challenges in the way towards true SFM, where all perspectives of forest use can be taken into account in decision-making.

In Finland, the Forest Centre has a central role in putting SFM in action. Forest Center is an organization that belongs to an indirect public administration and its task is *inter alia* to promote SFM. One mechanism in achieving SFM is collecting information from private forests. Collected information is used as basic information for example in law enforcement and forest planning. However, processing of this forest-related information is closely related to informational legislation because collected information is defined as personal data.

In this text, the information collecting process and issues closely related to it are analyzed from the point of view of informational regulation. Analysis is not meant as comprehensive, but as descriptive analysis of possible problems and challenges that the informational dimension might cause. This text is partly an insight to problems that are related to the collision of two different branches of law. Different kind of legal principles and regulatory contexts set certain challenges also for fulfillment of SFM.

2. Forest planning context

In Finland Forest Center collects information from private forests. Previously information was collected from forests as fieldwork. As it was very cost-demanding, Forest Center started to use remote sensing in data acquisition. This has made it possible to reduce costs substantially. The information is stored into the forest data system and information that concerns private individuals constitute a person register. Forest Center is registrar of this person register.

Forest management planning is voluntary for land owners. In the case that a forest plan is done, it must fulfill the criteria described in Forest Act (1093/1996). Forest plans are nowadays done by private organizations, but the plans are based mostly on information that is collected from forests by Forest Center. This information is used as basic information in forest management planning. The official goal in forest management planning is that forest owners are aware of the different features of their forests when they make forest-related decisions.[2] Forest management planning is done by private organizations on commercial basis. Forest Center gives the information for planning organizations by request and for certain amount of payment. Planning organizations then refine the information into forest plans for forest owners.

3. Information of forests as personal data

Information that is collected from forests and that can be connected to a private individual was defined as personal data in pursuance of drafting law that concerns forest data system (Act on Forest Data System of Forest Center, 419/2011). The law came into effect in 2012 and it supplements Personal Data Act (523/1999) that sets general rules for processing personal data.

The definition of personal data is very wide. According to the Personal Data Act, the personal data refers to “any information on a private individual and any information on his/her personal characteristics or personal circumstances, where these are identifiable as concerning him/her or the members of his/her family or household”. Processing of personal data is

[2] Maa- ja metsätalousministeriö 2008, p. 5.

defined in Personal Data Act as well and it means for example the collection, recording, organizing, use, transfer, disclosure, storage, manipulation and combination of personal data, as well as other measures that are directed at personal data. Informational legislation thus determines what kind of information it is possible to record to the forest data system.

Application of the informational legislation means that informational regulations and principles are applied in an unfamiliar context. For example regulations that concern processing of personal data aim at privacy protection of individuals.[3] That is why it is essential to ask about the need for privacy protection in this specific context. The need for protection is understandable when we are talking about stock volumes that can imply something about person's financial situation. But what is the case when we talk about information that describes biological diversity, for example?

4. What information? A lot of information, or a bit of information?

What information is – or, according to law, *should be* – collected then? This is not comprehensively regulated. It is only said, what kind of information *can be collected* from forests and that the information has to be updated with regularity. It is stated that for example information that describes vegetation types, soil, stock volumes, biological diversity, location, area, and restrictions in forest use can be stored into the forest information system. However, there is no such provision that obligates Forest Center to collect certain type of information.

The main principle in informational legislation is that only *necessary* information can be collected.[4] This means that collecting information should be justified by the purpose of forest data system, where the information is to be recorded. If we look this demand from the point of view of environmental legislation, it seems quite strange. In environmental legislation the situation is quite the opposite. Principal rule in this context is that one should have as comprehensive information of the environment as possible. Also the official goal in forest management planning implies that forest owners should base their decisions to decent information.

Earlier when the information from forests was collected as fieldwork, it was possible to notice different kind of forest values, such as threatened species, valuable habitats, living environments of game, scenic values, etc. At present the information collected is quite one-sided, focusing mostly on stock volumes. This is because through remote sensing it is not possible to notice natural values reliably.

Information that is recorded to the forest data system has to be *accurate*. However, when applied to the context of biodiversity, this demand seems problematic. How do we define accurate information in the case of threatened species? Is this information still accurate after one year, or couple of years? The accuracy of information in forest data system can be seen as a slight problem. The information from forests is gained through laser scanning, which means that biologically valuable objects cannot be observed efficiently.[5] As a consequence the information concerning biodiversity in the forest data system is based on the inventories done as fieldwork long time ago. This information cannot be updated via laser scanning. The

[3] See Personal Data Act, 1 §: "The objectives of this Act are to implement, in the processing of personal data, the protection of private life and the other basic rights which safeguard the right to privacy, as well as to

promote the development of and compliance with good processing practice."

[4] See eg. Saarenpää 1995, s. 592.

[5] HE 261/2010 vp, p. 31.

conclusion is that the forest information system consists partly of outdated and inaccurate information.

5. Forest management planning – challenges

The information content in forest data system is biased towards wood production. When the forest management plans for forest owners are done based on this information, it is presumable that also the forest plans will concentrate on wood production at the expense of other values in the forests. This might not be the aim of forest owner because a big part of Finnish forest owners are interested also in other values in their forests.[6] Definitely this is not in accordance with the official objective in forest management planning. The aim in forest management planning should be to guide forest owners to achieve their goals related to their forests.

Of course it is possible for a forest owner to demand differently oriented forest plans but this costs extra money for them. With extra payment forest planning organizations will collect different kind of information from forests, and forest owners will have for example biodiversity-oriented forest management plans. However, it is presumable that a big part of forest owners don't want to pay extra for this.

6. Concluding remarks

It seems that informational legislation restricts Forest Center's possibilities to promote SFM. Informational legislation suggests that information content of forest data system should be minimized, and the same is for information processing. These demands seem unfamiliar from the environmental regulation point of view.

Forest Center is not obligated to collect certain type of information from forests. It has been cost-effective to start using laser scanning in forest inventories, with which it is not possible to observe nature values appropriately. Biased information in forest data system is to lead towards biased forest management planning at the expense of other forest values.

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[6]According to Hänninen et al. (2011) 54 % of Finnish forest owners can be regarded as recreational users or multi objective forest owners.

Changes in regulatory enactments on forest and nature protection sector and Nature protection measures taken by JSC "Latvian State Forests"

Valdis Kalns*

1. Introduction

The study object of the paper is the changes in regulatory enactments on forest and nature protection sector made in 2012 and 2013 in the Republic of Latvia. Within 20 years since the restoration of independence in 1991, Latvian forestry has consolidated its position in Latvian economy as one of the main industries, being dominant in terms of exports along with transit industry. In turn, the regulatory base has gone through three stages of development. The first one since 1991 when the institute of private property was restored and market economy principles were introduced, as well the regulatory framework of the forest sector was reinstated. The second stage since 1998 when after approval of the Forest Policy, Latvian Forestry was structured in accordance with the principle of separation between public and private sphere. As a result, JSC "Latvian State Forests" (hereafter – LVM) was established in 1999, which manages the state-owned forest lands. The third phase runs from the 2011until now, when the Forest Law was substantially amended, as well as regulations were newly developed and approved in relation to tree felling, regeneration and nature protection in forest management. Currently, active work is still underway on regulations for forest management plans.

The second study object of the paper is the nature protection measures taken by LVM. The LVM not only consolidates the changes in regulatory enactments, but also undertakes an additional responsibility for the protection of nature through a series of projects which will be presented in this paper. They include: forest crop distribution in accordance with management purposes; wood grouse population monitoring and protection project; eco forests project; marshes or protected forests biotopes project.

The paper has used the materials of amendments to regulatory enactments made and initiated within the last 2 years as well as LVM nature protection projects guidelines and their implementation practices.

It should also be noted that the content of the first part of the paper relates also to other forest owners –local governments, legal and natural persons.

2. Latvian forest sector

Various basic data are presented to give a picture of Latvian forest sector.

Latvia has an area of 64.6 thousand km², of which 50% or 32.3 thousand km² are covered by forests (3.23 million ha). Common stock reaches from 572 million m³ according to data of the State Forest Service Forest Register to 679 million m³ according to data of forest statistical inventory data collected by the Latvian State Forest Research Institute "Silava". Latvia has 1.6 ha of forest per capita, which places the country fourth in the EU. Fourhundred thousand ha or 13% of the forests are strictly protected areas with absolute or partial forest management restrictions. Total protected areas, including protection zones of rivers, of the Baltic Sea and

* JSC "Latvian State Forests"

limited economic activity areas, are 714.0 thousand ha or 21% of the forests. LVM manages 1.59 million hectares of forest, or 47% of Latvian forest area.

The table below illustrates the distribution of restriction by forest owners. This review does not take into account the swamps and glades.

Restriction	**Private forests**		**State forests**		**Local governments' forests**	
	ha	%	ha	%	ha	%
FORESTRY ACTIVITIES forbidden	6,366.75	0.4	86,879.74	5.8	1,658.8	3.2
THINNING forbidden	9,177.47	0.6	58,323.71	3.9	767.49	1.5
FINAL FELLING forbidden	9,184.84	0.6	30,167.89	2	1,748.52	3.3
CLEAR FELLING forbidden	87,209.9	6	92,568.67	6.2	14,251.7	27.1
Apart from economic activity RESTRICTIONS	1,348,625	92.3	1,228,847	82.1	34,213.85	65
Total area	1,460,564	100	1,496,787	100	52,640.36	100

According to data at http://mezi.lv/wp-content/uploads/2013/03/EN_LV_2012-1.pdf, the forest industry turnover in 2012 was 1.7 billion lats or 2.42 billion Euros, which makes 6.1% of gross domestic product. Forest sector export value reaches 1.2 billion lats or 1.7 billion Euros, which is 19% of total country's export value. Forest industry is the only sector of national economy with a positive import/export balance. Forest industry employs about 45,000 people or 3.6% of working age population. Indirectly, jobs are provided for another nearly 40 thousand employees in related industries.

In 2011 the felled timber volume was 12.7 million m³ of wood, of which 6.7 (53% of total volume of felled timber) million m³ were harvested in the state forests, and 6 (47% of total volume of felled timber) million m³ were harvested in forests of private forest owners, local governments and other forest owners. In comparison with the 2010, the total volume of timber felled in 2011has decreased by 0.25 million m³ where the volume of timber harvested in other forests has grown by 0.65 million m³ of wood, while in the state forests the harvested timber volume has dropped by 0.9 million m³.

3. Changes in regulatory enactments governing forest and nature protection sector

At the end of 2011, after more than 4 years of discussions and coordination of opinions and interests in ad hoc working groups, amendments to the Forest Law were adopted. Although they were mainly focused at the reduction of administrative burden, still the environmental protection requirements were tightened in a number of issues. The Forest Law will not be herein analyzed separately but together with regulations of the Cabinet of Ministers.

3.1 Tree felling

In order to motivate the forest owners to choose the selection felling and not the clear felling, easier requirements apply to the preparation of areas and performance of selective logging.

Tree felling regulations establish that up to 0.2 hectare clearances may be made in the selective felling in order to more simply create differently aged stands. If basal area of forest stand is not reduced below the critical value, the selective felling area needs not to be marked in nature and does not require the preparation of the felling area sketch drawing.

According to the Forest Law, a new type of tree felling is introduced: landscape felling. Landscape felling is carried out in order to ensure the visibility and availability of landscape elements: to expose and maintain the forest landscape values, the objects of nature and cultural history; to create valuable landscape views; to thin the under wood and re-growth in order to obtain forest transparency, to create forest edges and mosaic landscapes. Landscape felling is allowed if it is provided for in the nature protection plan of specially protected natural territories, in the forest management plan, or in the thematic planning of local government, which specifies the use of landscape valuable areas.

Landscape felling for exposure of natural and cultural historical sites and buildings is carried out at forest places frequently visited by people or planned for such visits where a view should be exposed at especially valuable sites of nature (for example, distinctive trees, terrain hills or descents, lakes, rivers, boulders) and cultural history (for example, traces of sometime war trenches) in the forest. Those trees and shrubs should be preserved, of which crown size does not interfere with the visibility and accessibility of landscape elements. If basal area of forest stands in landscape felling is not reduced below the minimum value or if landscape felling area does not exceed one hectare and basal area of forest stands is not reduced below the critical value, the landscape felling may be carried out at discretion of the forest owner.

Environmental protection requirements for tree felling were substantially amended. Norms relating to tree felling were removed from the environmental regulations in forest management to the tree felling regulations. Requirements were elaborated in relation to the protection of ecological trees and dry trees. As the ecological trees, first of all trees able to grow of the previous generation should be preserved, but if no such, then those trees able to grow should be preserved of which diameter is greater than the average diameter of dominant tree species over the forest compartment.

Also trees should be conserved at which an anthill is formed, as well as the undergrowth around the springs and groundwater discharges. If the above-mentioned conservable trees are the first storeytrees able to grow, they shall be included in the number of ecological trees.

Tree felling regulations provide that partial undergrowth shall be preserved in the ravines at discretion of the forest owner. In ravines (at least 15 meters deep and 10 meters wide bed created by water erosion and having slope at least 30 degrees) and at forest edges(transition zone from forest to agricultural land, body of water, swamp, glade or flooded plains (which are larger than two hectares) with a width of not less than one half of average height of the first storey trees), the partial undergrowth should be preserved in such volume that does not interfere with the forest regeneration, observance of occupational health and safety requirements as well as arrangement of tourist sites and recreation places. Previously protection of undergrowth at forest edges only relates to thinning.

The timber is delivered in a manner to prevent damage of spring meadows, anthill colonies, geomorphologic formations, dry fallen trees thicker than 50 centimeters, and trees conservable under these regulations. If a trailing road cannot be established without crossing a dry fallen tree, it should be carefully removed.

New prohibitions of clear felling are established in relation to forest stands where the dominant tree species are oak, linden, maple, or hamwood, elm or hornbeam.

Enhancing role of nature protection is also manifested in until now tacit rule: objects of forest infrastructure –motor road, natural carriageway, ditch or ride, as well as electronic communications network overhead lines, underground electronic communications network lines and cable canalization, electric network overhead lines with nominal voltage up to 20 kV, electric network cable lines, heat networks, water supply and sewerage systems and gas pipelines - cannot be considered as a separating element for location of clear felling areas within the same unit of land.

Although the Forest Law does not provide for strengthening of nature protection regulation, but the tree felling rules establish it in a number of significant areas.

3.2 Nature protection in forest management

The Forest Law included an explanation on biologically important elements of forest structure: forest components that are important for the protection, spread or ecological functions of biotopes and species. Since one of the most important general requirements for nature protection in forest management is the protection of biodiversity, the regulation states that the following biologically valuable forest structure elements should be protected in forest management: forest stands on lake and swamp islands, forest clusters, forest stands in floodplains of streams and water bodies, in geomorphologic formations, anthill colonies, forest springs and groundwater discharges, undergrowth in small hollows, forest edges and biologically valuable forest stands. Nature protection regulations include the identification criteria and management provisions for these biologically important forest structure elements. Procedure for registration of biologically valuable forest structure elements in the State forest register is specified in regulations of the Forest Inventory and the State Forest Register information circulation in the form of a special note. It will have a positive impact on biodiversity, because it implies that for purposes of biodiversity preservation in forests in addition to special areas of protection, micro-reserves and protection zones, particularly the important forest structure elements shall be assignable and conservable, of which allocation procedure shall be determined by the Cabinet of Ministers; the Forest law as well provides for the delegation to the Cabinet of Ministers the issue of regulations on nature protection in forest management.

Regulations on nature protection in forest management govern the forest management sector that is not associated with tree felling.

The regulations provide that, in order to preserve the geological and geomorphologic formations, thereupon and within 10 meters wide zone from the top edge of ravines, sinkholes, earth creeps and subsurface rock exposures it is forbidden to move by mechanical vehicles as well as move and damage the big boulders. Within protection zones around swamps it is prohibited to establish new drainage ditches, where it is not necessary for management of swamps or other land use (outside the forest) territories. When preparing the soil for forest regeneration and removing the forest materials, it shall be taken into account the peculiar properties of topography and soil of the territory in order not to cause soil erosion.

The period of birds protection is extended: in all forests the tending is forbidden of up to 10-year-old pine and deciduous trees and up to 20-year-old spruce, except young stands where average height of coniferous trees does not exceed 0.7 meters but of deciduous trees - one meter. If previously this period was from 15 April to 30 June, now it already starts from 01 of April.

From 01 April to 30 June, the tree felling, soil preparation and regeneration with motorized equipment is not carried out in forest stands on lake islands, swamp islands, in forest groves (forest area less than a hectare and located at least 500 meters from other forest area exceeding a hectare), in flood of plains streams and water bodies –in the valley part which is periodically flooded and which has flood plain-typical vegetation, in biologically valuable forest stands and within protection zones around swamps.

3.3 Micro reserves

Regulations on the procedure for establishment and management of microreserves, their protection as well identification of microreserves and buffer zones are elaborated, and conditions and criteria are implemented in order to facilitate and speed up the creation of microreserves for efficient promotion of nature protection requirements in certain places. The regulation clearly identifies territories where and in which cases the microreserves shall be established and when they shall not be established. The regulation in detail specifies measures for protection and management of microreserves as well as the procedure for detailing or cancellation of microreserve territories.

Regulation on microreserves identifies buffer zones where in certain restrictions on economic activity are imposed in order to reduce the impact of economic activity upon microreserves of particularly protected bird species. Till late 2012 the buffer zone establishment principles were set out in the Regulation on nature protection requirements in forest management.

Regulation on microreserves changes the amount of area wherein the microreserves may be established. So far, area of microreserve for protection of specially protected species of animals, plants, fungi, lichens, algae (except birds, fish and other species dwelling in water courses and water bodies) and biotopes could not exceed 20 ha. Previous practice has shown that 20 ha area is insufficient and often necessary protection area or existing habitat of a biotope or species is more than 20 ha. It is mentioned that continuous area for grass, swamp or freshwater biotopes may reach 100 ha and more. If maximum area of microreserve territory is 20ha, it would be unreasonably, for example, to establish a microreserve on one bank of a lake and leave the opposite banks without any protection. Accordingly, in order not to create more neighboring microreserves, the regulation provides that the areas of microreserves for protection of specially protected species of animals, plants, fungi, lichens, algae (except for birds, fish and other species living in water courses and water bodies) and biotopes shall be determined within 0.1 and 30 hectares in accordance with areas of habitats of these species and biotopes.

Sea eagle microreserve area has increased from 5-60 ha to 50-200 ha. Minimum microreserve area for wood grouse mating site (permanent forest area determined by natural conditions where bird species gather during the breeding period) has increased from 30 to 60 hectares. Microreserves are as well established for goshawks that previously had no the protected bird status.

A buffer zone may be specified for a microreserve that was established for certain specially protected bird species. Buffer zone of respective area shall be specified for microreserves of the following species:

- up to 500 hectares area(including the microreserve territory) around the wood grouse mating site center. The mating site center is determined by an expert in protection of respective species and is precisely indicated in the form of application for microreserve;

- up to 300 hectares area(including the microreserve territory) for nests of medium eagle, sea eagle, golden eagle;
- up to 100 hectares area(including the microreserve territory) for nests of black stork, osprey, eagle owl, peregrine falcon, lesser eagle, black kite, red kite, goshawk (new species on the list), short-toed eagle, common roller and stock dove.

It is significantly more than up to now. Till late 2012 along with the establishment of microreserves, the buffer zones around them (areas where restrictions on economic activity are imposed in order to reduce the impact of intensive economic activity upon microreserves of specially protected bird species) were established for the following bird species:

- up to 500 miters around the microreserve of wood grouse, medium eagle, sea eagle and golden eagle, but not more than 300 hectares area including the microreserve territory;
- up to 300 miters around the microreserve of osprey, but not more than 30 hectares area including the microreserve territory;
- up to 250 meters around the microreserve of eagle owl and peregrine falcon, but not more than 50 hectares area including the microreserve territory;
- up to 250 meters around the microreserve of black stork, lesser eagle, black kite, red kite and short-toed eagle, but not more than 40 hectares area including the microreserve territory;
- up to 250 meters around the microreserve of merganser, common roller and stock dove, but not more than15 hectares area including the microreserve territory.

Protection of microreserves for specially protected bird species are established if wood grouse mating conditions or nesting conditions meeting the requirements of respective species exists around a nest at least once inhabited within the last five years or around a wood grouse mating site (permanent forest area determined by natural conditions where bird species gather during the breeding period). So the new regulation provides that the right to establish a microreserve will exist another five years after the last time the nest was populated. In microreserves established for protection of specially protected bird species nesting in the forest, apart from existing prohibitions the following activities are forbidden:

- forestry activity, except biotechnical measures used in forestry for management of microreserves, as well as fire extinguishing and fire safety measures;
- construction of ditches and roads;
- reconstruction of ditches and roads if written permission is not received from the Nature Protection Agency, which shall be issued basing on expert's opinion;
- regular roads maintenance within the period 01 February to 31 July;

Supplemented with prohibition to carry out:

- feeding of game animals within the period 01 March to 30 June in microreserves established for protection of nesting sites of wood grouse, black stork, sea eagle, osprey and golden eagle;
- arrangement and use of hunting towers and hunting within the period 01 February to 31 July in microreserves established for protection of nesting sites of black stork, sea eagle, osprey, lesser eagle and golden eagle;

- other activities recognized by the expert as adverse and indicated in his opinion;
- measures for promotion of natural regeneration and tending of young stands within the period 01 February to 31 July, except cases when the expert has recognized such activities as allowable.

In buffer zones around the wood grouse microreserves in addition to existing prohibitions it is forbidden:

- to carry out construction and reconstruction of ditches;
- to carry out forestry activity within the period 01 March to 31 July, except extinguishing of fires and regeneration, which only shall be performed with the use of manual work;
- to carry out clear felling in pine stands, which exceeds 1 ha; these are supplemented with prohibitions as:
- to plant or sow spruce during the regeneration;
- when carrying out the selective tree felling in final felling, to reduce thickness of forest stand in the first storey below 0.4, not counting dry standing trees.

In microreserve buffer zone all types of felling are prohibited as well as timber delivery and mechanized soil preparation within the following periods:

- around microreserves of black stork, black kite, red kite, osprey, short-toed eagle, medium eagle, lesser eagle, peregrine falcon, eagle owl, goshawk, common roller and stock dove - within the period 01 March to 31 July;
- around microreserves of sea eagle and golden eagle – within the period 01 February to 30 October (previously 30 June for soil preparation and 31 August for tree felling and delivery).

Paragraph on criteria for establishing microreserves was excluded from the regulation on microreserves. Till the end of 2012 microreserves for protection of specially protected animals, plants or habitats of fungi species, persons or specially protected biotopes may be established in accordance with one of the following criteria:

- no more than ten habitats of respective species persons or specially protected biotopes are found within the country territory;
- ten to fifty habitats of respective species persons or specially protected biotopes are found within the country territory, or their number is rapidly reducing, which can cause the disappearance of such species or biotope.

Since at present such criteria does no longer exist, then it should be considered that the nature protection requirements are reinforced.

3.4 Parks and forest parks

Article 3 of the Forest Law provides that parks are not considered as forests and that the procedure for establishment of a park and basic principles of its management shall be specified by the Cabinet of Ministers, but local government shall issue binding regulations on management and protection of a specific park. Park is a natural object of public or historical and cultural value importance, which contains a variety of the nature elements, buildings and minor architectural forms and a specially established infrastructure. A park shall be

established on woodland in accordance with the territory development planning documents under specific layout or designing order to provide natural objects appropriate for public recreation and entertainment. A park needs regular care and restoration in order to maintain its functions and quality.

Taking into consideration the social importance of forests in inhabited areas, especially in and around towns, in accordance with proposal of the Latvian Association of Local Governments, the Forest Law provides for territories of special social importance–forest parks, which would not be subject to the general forest management provisions. A forest park is a forest territory of public or historical and cultural importance, which has improvements and is used for public recreation. Clear felling is prohibited in forest parks. Forest parks are established in order to provide conditions appropriate for public recreation, sport and entertainment in forest, and are managed to the extent necessary to maintain the forest ecosystem and not degrade the territory's aesthetic, landscaping, cultural and historical value.

In order to more efficiently implement the forest social function specified in the Forest Policy, the Forest Law is supplemented with a new chapter "IX[1]. Parks and Forest Parks". Parks and forest parks shall be established at the local government according to agreement with the landowner, with issue of binding regulations on establishment of a specific park or forest park, its management and protection. The binding regulations shall be coordinated by the local government with the landowner if the forest park is established outside the local government's land, and with the Nature Protection Agency if the park or forest park is established within the special area of protection. The landowner is entitled to compensation for the restrictions of forestry activities within the forest park.

3.5 Forest Inventory and Forest Monitoring

The Forest Law provides that the forest inventory shall be carried out by persons certified in the accredited compliance assessment institution whose professional activity is insured in relation to civil responsibility. Thus, forest inventory performers not only are experts in the natural sciences, but are insured in relation to civil responsibility.

State-level information on Latvian forest resources since 2004 is obtained from the Latvian State Forestry Research Institute "Silava" on the basis of sample plots uniformly located throughout the territory of Latvia, by performance of the forest statistical inventory. In 2008 the first 5-year cycle of forest statistical inventory was completed with acquisition of scientifically substantiated, accurate and far from subjective interests information on the Latvian forest resources. Forest statistical inventory data is used for the needs of official statistics of forest resources (since 2006), for preparation of resource availability forecasts, for development of models of sustainable, economically reasonable use and prediction and for other state-level analyses of forest resources. Arrangement of network of statistical inventory sample plots included the establishment of a stable platform for acquisition of state-level information on forest resources, where new information units can be added with minimal expenses. Latvian State Forestry Research Institute "Silava" has already started work on integration of forest monitoring stations (for assessment of forest and environment interaction) into network of statistical inventory sample plots. Only in 2011 the Forest Law established that the Latvian State Forestry Research Institute "Silava" carried out the national forest monitoring throughout the country territory.

Carrying out the forest resources monitoring, information is acquired on:

- changes in fret area, structure and development of forest wood resources, damages to forest stands, dead wood and accumulated chronological information on development course of forest stands;
- impact of first and second level air pollution in order to assess the forest health condition and its changes, and to find out the influence of air pollution and other environmental factors upon forest ecosystems;
- forest pests and diseases, in order to scientifically acquire operative information on the spread of most hazardous forest pests and diseases.

As evident, information on nature values is not collected within the framework of forest monitoring (not counting the dead wood inventory).

3.6 Forest Management Plan

Starting from 2015, the state forest management will be carried out in accordance with the forest management plan. Forest management plan shall be developed by the forest manager and approved by respective institution or by the manager's Board, providing the most uniform and sustainable use of timber resources, creating a favorable environment for economic development, preserving the ecological value of forests and meeting the social needs of society. The state forest management plan shall provide for the scope of forestry works and their location in the territory, following the principles of sustainable forest management and ensuring public interests. Currently the Cabinet of Ministers regulation is worked out on the forest management plan content, validity period, development and approval procedure. Hot discussions are expected since non-governmental nature protection organizations by means of the Forest management plan regulation wish to regulate the issue of felling areas location or density.

3.7 Regeneration

To reduce the adverse impact of pollution on aquatic ecosystems and to restrict economic activity in flooded territories, as well as to preserve the specially protected biotopes and specially protected species, the Regeneration Regulation includes the additional provisions that determine territories wherein the cultivated forest stands are not recorded as the plantation forests (only total 9,000 ha or 0.3% in the country).

Supplemented (underlined) with areas where the plantation forests are not registered:

- within protective zone of seashore dunes of the Baltic Sea and the Riga Sea Gulf;
- within protective zone of water streams and water bodies, but not wider than 25 meters along the water stream and water body bank if proportion of planted or sown spruce exceeds 90% of total number of cultivated trees;
- in floodplains of water streams and water bodies;
- in microreserves and territories that are registered as specially protected biotopes and habitats of specially protected species in state register maintained by the Nature Protection Agency in accordance with procedure established by regulatory enactments;
- in specially protected natural territories, except the neutral zone.

If the plantation forest is cultivated by the spruce sowing or planting and its continuous area within one unit of land is 20 hectares or more, and its territory has no woodland inclusions, shrubs or places left for natural regeneration in the amount of at least five per cent of the forest area, then the spruce proportion shall not exceed 95 percent of total number of afforested trees.

In general, the forest owner is currently enjoying a greater access to choose the optimal forest growing model for a given forest stand. Consequently, the forest owner has substantially wider opportunities to grow highly productive, biologically sustainable forest.

3.8 Deforestation

The Forest Law substitutes the term "forest land transformation" for the term "deforestation", bringing the terminology into coordination with term "deforestation" used in international documents in relation to conversion of forest into another form and with the decision 16/CMP.1 of the parties to the Kyoto Protocol to the United Nations Organization Framework Convention on Climate Change. The law does not extend or narrow the scope of activities for implementation the deforestation is allowable.

The Forest Law includes conceptually modified conditions in relation to compensation for damages, stating that the person is obliged to compensate the State for expenses associated with the elimination of adverse consequences caused by the deforestation activities while the revenues are provided to be utilized for financing of the forestry support programme. Thus, a feedback is established between deforestation and creation of new forest resources in order to facilitate the increase in carbon dioxide sink, adaptation to climate change and protection of biodiversity. Compensation provisions shall not apply to construction of forest infrastructure objects and restoration of specially protected biotopes.

4 Nature protection measures implemented by LVM

LVM in their activities not only comply with requirements of regulatory enactments, but also meets requirements of FSC and PEFC certification system. LVM has developed and approved their in house requirements in order the employees would more easily get oriented in requirements of extensive regulatory enactments and certification standards.

These are:

- Nature protection requirements in forest operations;
- Requirements for reduction of environmental pollution;
- Instructions on tree damage prevention;
- Instructions on soil and water protection in forest operations.

In accordance with its mission, LVM fulfills a function of decent, diligent, prudent and careful master of Latvian state forests. One of LVM activity principles is to develop the sustainable green thinking and action. Strategy of LVM sets out the following strategic environmental objectives:

1. To preserve natural diversity;
2. To shape society's environment-friendly attitude towards forest;
3. To reduce environmental impact of economic activity;
4. To increase contribution of LVM managed forests into global climate change mitigation.

But the biggest contribution worth of being mentioned particularly is a number of LVM in house nature protection projects implemented at their own initiative on the basis of above-mentioned mission, vision, basic operation principles and strategic objectives of the enterprise.

4.1 Forest biotopes protected in EU and Latvia

This project originally identified the potential areas of protected biotope "Boggy Forests", developed the "instruments" for field identification and quality assessment of protected biotopes, as well as started the field identification of all EU-protected biotopes. This project developed the simplified definition of EU specially protected biotopes and prepared the easy perceivable identification methodology. Also proposals were developed for perfection of nature protection regulatory enactments in the field of specially protected biotopes. The project's target audience includes LVM staff, responsible nature protection specialist's of the Ministry of Environment and other environmental experts.

Area occupied by boggy forests 9080* was theoretically calculated as 22,500 ha or 0.3% of the country's territory *(EU protected biotopes in Latvia. Identification Manual, Riga, 2010).* In Natura 2000 territories, 5,893 ha of biotope 9080* are marked, i.e. 26% of the biotope's theoretical area in Latvia (information of the Ministry of Environmental Protection and Regional Development, 2010). According to conclusions of the EC, in Latvia the area of biotope 9080* in Natura 2000 territories should be doubled, i.e. up to at least 11,800 ha. LVM which manages 50% of all Latvian forests should undertake responsibility for the protection of the top quality part of this biotope on area of at least 6,000 to 7,000 ha.

As a result of LVM Project, the approximate area of potential biotope was determined (23.9 ths ha) and the economic activity prohibition was established until field testing for areas located outside the nature protection territories. Schedule for the identification and quality assessment of ES importance protected biotopes was developed, which has three steps:

1. Identification of biologically valuable forest stands (questionnaire), which is carried out by LVM specialists - operational planners and environmental planners;
2. Identification of EU-protected biotope type (identifier), which is carried out by LVM specialists - operational planners and environmental planners;
3. Verification of obtained data, quality assessment of EU-protected biotopes, which is carried out by the environmental experts - both from LVM and invited experts.

Consequently, the project, which was originally launched for identification of Boggy Forests 9080*, has grown into a project which identifies the potential protected biotopes. In order to understand the scope of accomplished work, items of the questionnaire are shown below:

- Forest stand is formed by trees of different age classes;
- Dominant stand is formed by more than 2 species of trees;
- Underwood contains more than three species of shrubs;
- Forest stand includes exposures or small glades;
- Dead standing trees are found with diameter exceeding 30 cm (in swampy forests also dead standing trees of lesser diameter should be marked);
- Fallen deadwood over 30 cm is found; dumped stumps (in swampy forests also

fallen deadwood of lesser diameter should be marked);

- There are trees with hollows or trees pecked by woodpeckers (both standing and dead);
- At least 3 trees with wood fungi / polypores are found per ha;
- Moss on trees grows at height more than 2m from the base;
- Temporary or permanent overflowing areas are met;
- Tussock formations around tree base or tussock microrelief in swampy forests;
- Sphagnum moss cover more than 50%;
- There are trees with burning scars;
- Resinous trees are present;
- There are biologically old trees of large dimension (wide crown, dead branches, rough bark);
- There are biologically old small dimension trees in wet forests;
- There are springs, underwater discharges, brooks, plots bordering a small river;
- There are trees with large (D> 50 cm) nests;
- There are anthills, animal nests, caves, "baths", mating sites in the forest;
- There are large boulders (at least 50 cm above the soil) or groups of significantly smaller boulders;
- Bordered by other high-value biotopes.

In addition, a booklet was developed and released within this Project: "How to identify a biologically valuable forest?"

4.2 Determination of high biologic value forests (Ecoforests)

Ecoforests network has been established within the framework of this project. Prior to commencement of the project it was found that the highest diversity of natural values in the country was met in forest territory managed by LVM. Existing nature protection system only provides a partial protection and reproduction of natural values. In addition, a big part of natural values is located outside the specially protected natural territories and other protected areas. The State has so far provided the development of nature protection plans for 38% of specially protected natural territories while for 17% of specially protected natural territories the Cabinet of Ministers has approved individual regulations of protection and use. There exists a known problem with incomplete protection of EU specially protected forest biotopes beyond the borders of the specially protected natural territories. There is no monitoring of natural values, evaluation effectiveness of protection and management measures.

Ecoforests are established in forest territories where the natural and recreational values in their concentration areas are met:

– regionally and nationally important biodiversity (specially protected natural territories);

- rare and protected species and their habitats (microreserves);
- protected forest biotopes (natural forest biotopes, potential EU protected forest biotopes);
- other natural values (forest stands with ecologically important structural elements, biologically old forest stands);
- woodlands that are important for provision of basic environmental functions (in coast dune protection zone of the Baltic Sea and the Gulf of Riga, in river and lake protection zones and in swamp protection zones;
- woodlands that are important to the local community (provision of recreation and environment cognition).

According to strategic objectives of LVM, Ecoforests are established in forest territories important for the environment and public recreation, implementing management that differs from usual practice. For each individual Ecoforest, its establishment objective and main values are defined, the protection and management plan is prepared, as well as the management efficiency monitoring of implementation for evaluation of progress in achievement of the Ecoforest objectives.

Five-year Ecoforests management plan is prepared, describing the identified natural and recreational values, putting forward the territory's protection and management objectives, indicating the desirable, permitted and prohibited activities that set these objectives.

Key steps in establishment and management of Ecoforests:

1. Identification of natural values
2. Identification of natural values concentration territories
3. Selection of potential Ecoforest territories
4. Establishment of Ecoforest networks
5. Development of management plan
6. Implementation of management plan
7. Monitoring of Ecoforests

Basic forest management principles in Ecoforests:

- Ensure that the proportion of stands older than 70 years would be no less than 30%;
- Not carry out forestry activities within the period 01 April to 30 June;
- If necessary, implement biotechnical measures in locations of specially protected biotopes and/or habitats of specially protected species, in accordance with expert's recommendations;
- Total area of final felling, including selection felling, shall be planned not more than 5% of total forest stands area;
- Clear felling shall not be planned more than 2 ha;
- Felling area shall be planned so that the distance between the cutovers would not be less than 100 m;

- If the area of clear felling is planned more than 0.5 ha, the felling shall only be planned upon presence of neighboring:
    - broadleaf forest stand older than 10 years,
    - coniferous forest stand older than 20 years.

All above-mentioned regulations have been more protective than the tree felling requirements established in the Republic of Latvia.

The established network of Ecoforests in state forests occupies 262,284 ha (15.7% of the woodlands area). Network of Ecoforests is formed by so far already identified protected area while the rest part consists of commercial forest territories voluntarily selected by LVM where high concentration of natural values is found. In simple words, Ecoforest is such territory which is surrounded by concentrations of biotopes and habitats of protected species and where a regular forest is between and around valuable stands in Ecoforest, but where the management operations are carried out at lower intensity and in accordance with additional environment protection conditions.

4.3 Distribution of forest stands by management objectives

Within the framework of the project "Selection of fellable stands from forest stands data", important deliverables were created for provision of the nature protection and recreation functions, which were introduced into the economic activity planning process:

- Guidelines for forest stands management in accordance with the management objectives;
- Classifier "Distribution of forest stands in dependence on management objectives".

According to LVM forest management strategy, the management of forest stands should ensure a balance between the needs of nature protection, society and timber production. In order to support the planning of wood production, regeneration and forest tending, protection of biological diversity, as well as of other activities, already during the tactical planning the main compartment (forest stand) management objective is set for each forest compartment (forest stand), except forest infrastructure objects:

- Nature protection:
    1. Protection of biodiversity by non-interference or carrying out the biotechnical measures (objective code *1* in compartment data*).* It includes not only the state-specified specially protected natural territories, microreserves, where economic activity is prohibited, etc., but also old forest stands identified by LVM but unchecked, the potential natural forest biotope, etc.;
    2. Biodiversity protection with minor wood production (objective code *2* in compartment data). This includes not only the state-specified specially protected natural territories, microreserves, where clear felling is prohibited, etc., but also, for example, like all stands of oak, linden, elm, maple, etc,;
- Production of wood (and other products):
    3. Wood production with additional conditions for environment protection and recreation (objective code *3* in compartment data). This includes not only the state-specified buffer zones, protection zones, etc., but also Ecoforests of LVM where restrictions are

established on clear felling area, secondary stands in concentration sites of forest biotopes, etc,;

4. Wood production (objective code *4* in compartment data).

Forest stands with unclear management objective for interim period are assigned the objective code *5*.

Guidelines for forest stands management in accordance with the management objective include the following General management recommendations:

- When planning the forest management activities, including the establishment and location of felling areas, logging, regeneration, tending of young stands, maintenance of living conditions of biotopes and species, such planning types and methods should be chosen by which the management objective set for the compartment (forest stand) could be achieved;
- Basing on data obtained in field survey of the compartment (forest stand) of nature, the management objective may be altered, however, ensuring the balance, set in the forest management plan, between nature protection and wood production in a certain territory: LVM as a whole, region, Ecoforest, recreation forest or other territory.

Guidelines for the forest management in accordance with the management objective provide the following conditions:

Objective 1 - the protection of biodiversity, without interfering or carrying out the biotechnical measures without production of realizable wood, the activities are planned by environmental planning specialist. If, carrying out the biotechnical measures, wood realization is possible, the operational planner shall prepare the biotope thinning area. Selection of fellable trees and conservable elements of natural forest structure shall be determined with observance of recommendations of the environmental planning specialist/environmental expert, in each particular case advice including them into the *Logging instructions.*

Objective 2 - the protection of biodiversity with inessential wood production, using such felling types and methods which provide the species and/or biotope with favorable conditions, and which are in accordance with requirements of LR regulatory enactments in relation to tree felling in protected natural territories. The following types of felling are possible:

- commercial thinning,
- selective felling,
- selective felling of damaged trees and clear felling of damaged trees.

The operational planner shall consult with the environmental planning specialist/environmental expert (except for river protection zones) in case the selective and damaged trees felling areas are established sample. Selection of fellable trees and conservable elements of natural forest structure shall be determined with observance of recommendations of the environmental planning specialist/environmental expert, in each particular case advice including them into the *Logging instructions.*

Objective 3 - wood production with additional conditions for environment protection and recreation: such felling types and methods shall be chosen that the forest stand, in addition to the objective of wood production, would also achieve the environmental and/or recreational objectives. The felling should improve or at least maintain the recreational, including the landscaping and/or ecological, value of the site. In order to achieve the above:

- In final felling, the preference shall be given to selection felling (according to the tree species and forest type) or to clear felling of reduced in size as well as to irregular forms of felling.
- In commercial thinning, deciduous trees should be conserved, especially broad-leaved, admixture. Where possible, openings should be arranged in order to stimulate the formation of undergrowth.

Taking into consideration the basic principles of forest landscape visual planning, the elements of natural forest structures (ecological trees, etc.) should be preserved in increased volume, possibly in groups.

Besides, the management regulations should be taken into account, which relate to different territories: Ecoforests, recreation forests, wood grouse mating sites.

Objective 4 - production of wood: observance of general guidelines contained in regulatory enactments of the Republic of Latvia.

Distribution of forest stands in accordance with their management objections is an excellent assistant in planning of economic activity in order to ensure the nature protection and its monitoring.

Along with distribution of forest stands in accordance with their management objections, there exists also distribution into zones. The nature protection zone includes 20% of total area of all lands of LVM (325 thousand ha), i.e. 15% of LVM total forest area in possession of LSF (210 ths ha). In these territories, forests that are older than 70 years cover 145 ths ha, or 70% of forests in the nature protection zone.

Recreation territories of LVM occupy 74 ths ha, or 4.5% of total land area; forest in these territories covers 67 ths ha, or 4.8% of total forest area of LVM. Local public opinion in each of recreation territories is found out about the importance of a particular territory, and on its basis the decision on management is taken.

In turn, the rest territories are included in the forestry zone. Their area is 1.2 mln ha or 75% of the total land area, where the growing of high-quality wood is planned on 1.13 mln ha area or 81% of total forest area.

To reduce the impact of forestry operations upon territories important for protection of natural diversity, general conditions of management are established for the nature protection zone:

- final felling shall not be planned while only selection felling shall be planned in particular areas,
- construction of new forest roads and extraction of subsoil resources shall not be planned.

To reduce the impact of forestry operations upon recreation territories, their management is carried out in accordance with the individual management plan which provides the maintenance or improvement of recreational and landscaping values. Until development of the management plan, general management principles are established at forest stand recreation objects:

- clear felling shall not be carried out,
- planning of tree felling and other forestry activities shall take into account the principles of forest landscape visual planning, for example, configuration of felling

area is planned as asymmetric, irregular, in territories with distinctive relief – repeating the shape of terrain;

- land lease shall be only planned for those activities that do not degrade the recreational and landscaping value of the territory.

Felling in forest tracts is planned in a manner such that the proportion of old stands (over 70 years) in coniferous forest tracts would be continuously 30% and more of the total forest stands area while in deciduous forest tracts - 20% and more of the total forest area.

Final felling areas are not planned within forest stands that are recognized as the natural forest biotopes according to the results of natural forest biotopes inventory performed by LVM, as well as in biologically old forest stands where the dominant stand has reached the age of 161 for pine, spruce - 151, birch - 121, aspen – 101 (if proportion of spruce in aspen stand is less than 30%), black alder - 91, if proportion of spruce is less than 30%, ash-tree 91, white alder - 61, as well as in all stands of oaks, elm, linden and maple.

4.4 Wood grouse protection

In 2011 LVM launched an important nature values protection project "Establishment of wood grouse protection and habitat management system" that in 2012 entered its active phase: field inventory was started of the big bird mating sites. The project aims to develop a system how to manage the wood grouse mating sites and adjacent territories, as far as possible taking into account just the needs of birds.

The project aims to:

- Assessment of current situation with wood grouse protection;
- Learning and evaluation of Latvian and foreign experience;
- Development and implementation of wood grouse population monitoring systems;
- Development of wood grouse habitat quality condition assessment system;
- Development of wood grouse habitat protection and management system;
- Study of best practice in wood grouse hunting and assessment of possibilities to implement it;
- Identification of research studies necessary for protection of wood grouse populations and improvement of their habitats quality;
- Development and implementation of public information (information exchange) system.

Accomplished in 2012:

- Inventory of wood grouse mating sites territory;
- Accounting of mating wood grouse;
- Quality assessment of wood grouse habitats and development of their management plans.

As a result, LVM has at its disposal:

- Up-to-date information on spatial layout and area of mating sites;

- Data on the number of wood grouse cocks at mating sites;
- Up-to-date information on spread of wood grouse in the country.

313 wood grouse mating sites were found, with 806 cocks. Area of mating sites is 6,000 ha while 70,000 ha area is marked as the mating territory. However, the State has only specified the microreserve territory on the area of 22,000 ha within the state forests, of which 87% are inhabited. Thus, 13% of the formal wood grouse mating area are uninhabited.

Since LVM is currently managing more than 90% of wood grouse inhabited forest territories in Latvia, the enterprise has undertaken to pay special attention to the protection of wood grouse, managing the wood grouse habitats and improving their quality according to ecological requirements of the species.

Guidelines on protection of wood grouse and preservation of their habitats were developed basing scientific studies in Latvia and abroad as well as on LSF experience gained in the implementation of development projects for wood grouse protection. The obtained information on wood grouse habitats and mating sites is stored in LSF database and it is taken into account when planning the forestry activity.

Guidelines on protection of wood grouse and management of their habitats are focused at protection of living space necessary for wood grouse and forest structural elements meeting the needs of wood grouse, as well as at restrictions of economic activity with observance of spatial layout of wood grouse mating sites.

According to LVM guidelines on protection of wood grouse and management of their habitats, the mating site is identified by carrying out the accounting of mating wood grouse cocks:

- wood grouse cocks observation sites locations are marked on the map;
- spatial layout of mating site is obtained making a 200 m radius circle of around each of mating wood grouse cocks observations in GIS environment;
- the circles are integrated into a single reservation to obtain the geometrical centre
- (centroid) of mating site;

Mating territory is defined as a circle of a 1,000 m radius around geometric centre of the mating site.

If as a result of annual elaboration of wood grouse mating layout the mating territory overlaps with the previously planned and prepared felling area, of which area within the mating territory exceeds maximum area specified in the guidelines, then re-planning and development of felling area in the mating territory shall be carried out in accordance with special management requirements while management of forest stands in the mating territory is provided in accordance with opinion of expert in bird protection.

Forestry works in the mating territory shall be carried out in the following sequence:

1. Forest management shall be planned so that at least 60% of pine stands would be older than 60 years (regulatory enactments do not provide so).
2. Locating and establishing the felling areas within the mating territory outside the mating site and the microreserve:
    a. final felling shall not be planned less than 100 m from the cutover or from forest stand of which height is less than 6 m (young stand) if total area of the planned

felling area and above-mentioned cutover or young stand exceeds 2 ha (regulatory enactments do not provide so);

b. clear felling in pine stands shall not be planned more than 1 ha (regulatory enactments provide so), in other forest stands - more than 2 ha (regulatory enactments do not provide so). Final felling in selective way shall not be planned more than 4 ha (regulatory enactments do not provide so);

c. upon final felling in selective way in pine stands, 10-15 un branched growing spruces shall be left 2-3 spruce groups (on 0.08 to 0.1 ha area) per ha, of which height is greater than 6 m (regulatory enactments do not provide so);

d. commercial thinning (regulatory enactments do not provide so):

I. in pine stands the basal area shall be reduced down to the minimum basal area value specified by the Cabinet of Ministers, leaving trees with thicker branches,

II. in pine stand forest, bilberry pine forest, wet bilberry pine forest, heather and mint peat land, heather and mint on dried mineral soil, 5-10 unbranched separately growing trees shall be left per ha and 3-4 spruce groups per ha (5-10 trees per group), while ensuring the territory's transparency at 1m height and 30-70 m distance;

e. in the last phase of young stands tending the number of trees left in pine shall be reduced down to the minimum number of trees specified by the Cabinet of Ministers (regulatory enactments do not provide so);

3. Reconstruction and renovation of amelioration system, road construction and reconstruction within the mating territory outside the buffer zone of microreserve shall be carried out in accordance with environmental impact assessment prepared by environmental expert (regulatory enactments do not provide so).

4. In case when the management action is planned in a compartment where other specially protected species or specially protected biotopes are found, such management action shall be coordinated with environmental expert in respective field of species and biotopes (regulatory enactments do not provide so).

5. In case when the planned management action is in contrast with protection requirements of other specially protected species or specially protected biotope, the management action shall only be undertaken if the wood grouse protection compared to protection of other specially protected species or biotopes is considered as priority and the management action is important for protection of wood grouse habitat (regulatory enactments do not provide so).

In addition to requirements of regulatory enactments, more seasonal and daily restrictions are also established:

1. Management of grouse habitats in mating site and in microreserve is not carried out within the period 01 March to 31August (one month longer than provided by regulatory enactments).

2. In the mating territory outside the buffer zone and the microreserve within the period 01 March to 31 July such economic activity shall not be carried out which may adversely

affect the successful nesting of wood grouse, incl. logging, felling residue chipping, tending of young stands and preparation of soil, road construction and reconstruction, management of amelioration systems (except removal of beaver dams).

3. Transportation of timber freights by the enterprise road through the mating site, microreserve and its buffer zone, as well as the removal of timber from yards in the mating territory within the period 01 March to 31 May shall only be carried out during daylight hours 10:00 to 16:00.

The enterprise has established requirements towards management of mating site and microreserve:

1. Forest management in the mating site and in the microreserve shall be planned so that at least 50% of the territory would meet ecologic requirements in relation to wood grouse, i.e.:
    a. density of young and middle-aged forest stands does not exceed 0.7;
    b. visibility at 1 m height: 30-70 m distance;
    c. non uniform tree storey, clearings up to 0.2 ha;
    d. necessary structural elements of tree stands (wood grouse “strutting trees" – medium eight and age pine trees with thick and long lower branches, easy to be flown up from all sides);
    e. fallen and dead wood with a diameter greater than 25 cm - at least 20 pcs/ha;
    f. spruce regrowth (10-15 trees/ha) and forest stands spruce of first or second storey (7-9 trees/ha) or 2 spruce groups (on 0.08 to 0.1 ha area) per hectare;
    g. dominant ground vegetation is blackberry, blueberry, cotton-grass.
2. Management of wood grouse habitat in accordance with requirements of the species shall be carried out as indicated in opinion of environmental expert in the field of bird protection.
3. When taking care of wood grouse habitats, the felled wood and felling waste shall be removed or burnt, but if it is not possible, shall be pruned, chopped into 1-2 m long cuttings and left scattered or spread over hauling roads.
4. Management of wood grouse habitat shall be carried out gradually (in 2-3 treatments), equalizing the maintenance volume between the treatments and observing at least a two-year interval between the treatments.
5. Thinning of amelioration ditch overgrowth is carried out simultaneously with of adjacent habitats.

The main objective of all above-mentioned projects is that prior to commencement of logging operations each forest stand is carefully evaluated, keeping in mind the protection of nature structure, choice of ecological trees and the amount of left fallen deadwood. The amount of damage caused to the soil under impact of logging is also significantly reduced.

Printed publications can also be considered as nature-friendly projects:

- Recommendations how to reduce the impact of heavy forest machinery on forest soil;
- Nature protection requirements;

– How to recognize a biologically valuable forest.

Smaller-scale projects were implemented in the identification of populations of lesser spotted eagle *(Aquila pomarina),* golden eagle *(Aquila chrysaetos),* white-tailed sea eagle *(Haliaeetusalbicilla)* osprey *(Pandionhaliaetus).*

5 Conclusions

LVM in their management of national forests, observes a large variety of nature protection requirements. As evidenced by the first block of this paper dedicated to changes made in regulatory enactments in the field of nature protection, in forest management even more attention should be paid to nature protection. Increasing growth takes place not only in the area of protected territories or restricted economic activity zones, but also in the amount of conservable natural values in forest stands where no restrictions of economic activity are established. Thus, the integrity nature protection and forestry is consolidated. In addition to increasing nature protection requirements, LVM for purposes of biodiversity protection not only carefully manages the protected natural territories and microreserves but also identifies new habitats of species and biotopes protected in Latvia and EU. LVM in good faith fulfills also requirements of FSC and PEFC certification standards, which is evidenced by double certification of all areas.

As evidenced by the second block of the present paper about projects implemented by LVM, the company in its activities complies with much stricter nature protection requirements than those generally binding established in the country.

On the background of other European countries, Latvia distinguishes in comparatively tough nature protection requirements specified in regulatory enactments, which in many countries are left for voluntary commitment of forest owners. One of the most outstanding examples is the statutory requirement demanding to leave 5 trees per hectare in final felling. Since 2000, more than two million cubic meters of wood were left in the form of ecological trees on felling areas. In monetary expression, contribution of forest owners into preservation of natural values measures over 70 million Euros. And this is just one of the nature protection requirements in the forest.

Generally in Latvia, different types of economic activity restrictions apply to 13% of forests, of which most part is state-owned. 674 specially protected natural territories established for protection of natural values, including four natural reserves, four national parks, nine protected landscape areas, one biosphere reserve, 42 nature parks, 259 nature reserves and 355 natural monuments, which are separate, stand-alone natural formations, such as protected trees, dendrological plantations, alleys or geological and geomorphologic formations. Some of these territories are included in Natura 2000 – unified network of European importance protected territories.

Although the Forest Law did not provide for increased regulation of nature protection, it is still strengthened in Regulations on tree felling, Regulations on nature protection in forest management and Regulations on microreserves.

Project that was initially launched for identification of Boggy Forests 9080* has then grown into a project where potential protected biotopes were identified.

Network of Ecoforests is formed by so far already identified protected area while the rest part consists of commercial forest territories voluntarily selected by LVM where high

concentration of natural values is found. In total, Ecoforests network includes a bit above 15% of all state forests area.

Functional zoning of LVM territory is developed for each management unit – forestry – for five-year period, as an annex to the forest management tactical plan. It reflects the spatial layout of territories most important for achievement of ecologic, economic and social objectives. Splitting into functional zones is specified for all land categories (not only forests). Zoning is actualized yearly, along with the forest management plan.

Distribution of forest stands in accordance with their management objections is an excellent assistant in planning of economic activity in order to ensure the nature protection and its monitoring.

The main result of all above-mentioned projects is that prior to commencement of logging operations each forest stand is carefully evaluated, keeping in mind the protection of nature structure, choice of ecological trees and the amount of left fallen deadwood.

Institutional and Procedural Framework of Non-Wood Forest Product Processing and Placement in Serbia

Ljiljana Keča[*], *Milica Marčeta*[**]

Abstract

With increase of their commercial use, the role of institutions that regulate purchasing and processing has been stronger. Institutions in Serbia are active in terms of granting permits as well as determining quotas and contingents of wild flora that can be collected every year. Specificity of NWFPs is that they are subject of regulations of numerous areas such as forestry, environment protection, etc. With widely increasing demand for organic products, the pressure on natural resources NWFPs is increased as well. In light of this, the need to introduce legislation in this field was notable. Through this paper we show the functioning of the NWFPs sector considering legal aspects, including the rights and responsibilities of all stakeholders involved in the activity of NWFPs. The NWFPs over the time have had different significance and names, thus the Serbian laws related to NWFPs have gone through changes and amendments. The purpose of this paper is to analyze legal framework as well as institutions, procedures, and necessary documentation related to the purchase, processing and selling of NWFPs in Serbia. The aim of this paper is a parallel presentation of institutional and legal framework in Serbia in the field of NWFPs. For this purpose were carried out analysis of laws and role of competent institutions. On the other side, are presented the legal obligations of entrepreneurs who are engaged in the purchase of NWFPs. In this way, through the review of laws, institutions, administrative procedures and actors related to them, it is presented the whole legislation on the NWFPs in Serbia. The well-organized institutional framework and legal mechanisms are imperative to integrate economic goals with those on NWFPs sustainable management.

Keywords: Non-wood forest products, institutions, laws, Serbia, entrepreneurs

1. Background

A large number of NWFPs can be considered as an alternative to agricultural products that can be produced on a large scale without the use of chemicals. As a result of changes in consumer preferences there is an increasing demand for uncultivated food products (that has the same trend with the demand for organic food) and alternative medicines for which forests are a potentially important source (Collier, 2004). With this change in consumer preferences, demand for NWFPs has increased. This fact imposes the need for this group of products to be placed under a control regime, both in terms of gathering them in nature, and their commercial use.

"Non-wood forest products" is often interpreted as a negative term. It includes, literally, all products other than timber that come from forests (Rajesh, 2006). In this paper, under „non-wood forest products"is included: medicinal and aromatic plants, herbs, reeds, honey, mushrooms and other forest products.

[*] Faculty of Forestry, University of Belgrade. e-mail: ljiljana.keca@sfb.bg.ac.rs

[**] Faculty of Forestry, University of Belgrade. e-mail: milicamarceta@ymail.com

In Serbia, there are strictly defined species of wild flora, fauna and fungi which are collected from the wild places under some level of control. The control encompasses several courses of action: protective measures, the conditions for collection; restriction and prohibition of collection; use and trade; monitoring the status of these species in the habitat; analysis of requirements of license on the use of protected species for commercial purposes, and a record of all important information related to the allowed use of protected species. A large number of scientists pointed out that many factors influence the NWFPs (Salafsky R.P., 1993, Neumann N., 2000, Ruíz Pérez M., 2004, Belcher B., 2005), but the primary one are the environmental conditions. It is for this reason that there is a need to take measures to maintain ecological balance, through the enactment and enforcement of the law governing the use of forest resources.

Considering the importance of the introduction and implementation of regulations in the field of collecting and commercial exploitation of NWFPs, the purpose of this paper is to analyze legal framework as well as institutions, procedures, and necessary documentation related to purchase, processing, and selling of NWFPs in Serbia. The aim of this paper is presentation of institutional and legal framework in Serbia in the field of NWFPs.

Sustainable forestry consists of conservation, sustainable forest management and sustainable utilization of forest resources (Lintu, 1995/a). In accordance with this principle it is unavoidable to consider the issues on collection and use of NWFPs. In Serbia, these issues are treated through four most 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.

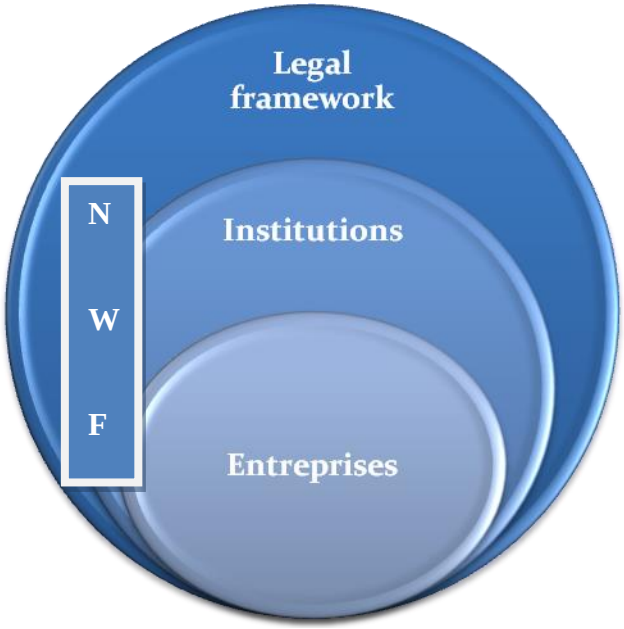
2. Material and Methods

The aim of this paper is to show how is fulfilled the goal of Serbian NWFPs sector based on law statement, institutional responsibilities, and obligations of entrepreneurs in the field of collecting and processing of NWFPs. In order to improve the convergence of the legal framework in which companies and institutions operate, these laws are presented, drawn from the context of complex legal entity, primarily Forest Law and the Law on the Protection of Nature. The general methods were based on application of analysis, synthesis, induction, deduction and comparison. The technique applied in the study is the interview, based on three companies located in Belgrade which were surveyed. We have analyzed the documents needed for inception and have obtained the necessary permits for the collections in nature and placement of final NWFPs. Main advantages of interviews are imminent connection with the case studies, systematic, cost-effectiveness and accuracy (Mihajlović, 2004, Miljević, 2007). The general advantage of the interview is that the interviewer can change the formulation of the question if the respondent does not understand the question (Havelka et al., 1998). Enterprises that were subject of survey are leaders in the field of purchasing, processing and marketing of NWFPs in Serbia. The survey was conducted in 2012.

3. Results

The research results will be presented in three sections, one on the broad base legislation frameworks related to institutional competence for administrative and procedural obligations of companies in an existing legislative milieu (Figure 1).

Figure 1. Levels of regulation on NWFPs entrepreneurship base



Business of enterprises in NWFPs sector and obligations arising from it are under the jurisdiction of the competent institutions that enforce regulations in accordance with the legal principles related to questions about the collection and sale of NWFPs (Figure 1).

3.1 The legislative framework

During the last period in Serbia were adopted several laws related to forestry, where part of them briefly mentioned NWFPs.

NWFPs were mentioned in the Forest Law of 1974 for the first time. In this law, such products were declared as "secondary products". After that, NWFPs were mentioned in the General Forest Law of 1989, where it was pointed out that they have an important role in forestry. However, in 1991 it was mentioned that NWFPs can be collected only with the written consent of the user (owner) of forests.

NWFPs are, basically, subject to regulations of different areas. Thus, in the framework of the National Strategy for Sustainable Development in 2008, NWFPs have been characterized as an element of multifunctional forestry. Use of NWFPs for commercial purposes is regulated by the Law on Nature Protection of 2009. Thus, processing, trade, import, export, transit, plantation, and cultivation of protected wildlife and their parts can be done only with the permission from the Ministry of Environment, Mining and Spatial Planning. In 2009, the Law on Environmental Protection has limited the number of licenses issued by the relevant ministry on collection and distribution of certain species of wild plants and animals. Import and export of endangered and protected species can be carried out provided that there is no ban on trade and export volume will not jeopardize the survival of the species, and will be done on the basis of a license issued by the Ministry of Environment, Mining and Spatial Planning. Forestry Law superficially touches NWFPs where they are called "other forest products." This law defines the forest management plan, under which the project use "non-timber forest products". This plan covers a period of five years and includes the location, total reserves, the type, amount, time, use and product value. In the law there is a requirement that NWFPs can be used only with permission of state forest users and private forest owners, and only in accordance with the project.

The Act on control of use and trade of wild flora and fauna (2010) shows the list of NWFPs that can be collected and limitations for each type of products, collection methods and conditions for gathering permit.

3.2 Institutional Framework

Determination of annual quotas for collection in the nature of wild flora, fauna and fungi, is within the jurisdiction of the Institute for Nature Protection and a working group consisting of the Ministry of Environment, Mining and Spatial Planning; Ministry of Agriculture; Forestry and Water Management and the Institute of Lowland forest in Novi Sad. Estimates are based on the previous year collected amounts, and the production needs of entrepreneurs. The system of "quotas" was introduced in the middle nineties and is still in use. Every year, the Ministry of Environment, Mining and Spatial Planning has opened a competition "RS Official Gazette" on the issuance of permits for the collection of protected species of wild flora, fauna and fungi. In the open competition announced by the Ministry is stated: "Participation in this competition is open to legal entities and entrepreneurs who are engaged in activities in the commercial collection of wild flora, fauna and fungi, provided that they have not been sanctioned for an economic offense, or an offense prescribed by the Law on Environmental Protection ("Official Gazette of RS", No.135/04, 36/09), the Law on Environmental Protection ("Official Gazette of RS", No. 36/09, 88/10 and 91/10), and this regulation".

Based on findings, the Serbian Institute for Nature Conservation presented an opinion as quotas can be collected, and then distributes the approved amount, as required by the entrepreneur. Approval of the allocation of quotas, in accordance with the requirements of entrepreneurs, is done by the Serbian Institute for Nature Conservation. Entrepreneurs are informed on the fees to be paid for the allowed amount to be collected. Once purchased by entrepreneurs, the Ministry of Environment, Mining and Spatial Planning issues a permit for collecting and marketing of commercial amount of flora, fauna and fungi.

3.3 Procedural framework and documentation used in collection and placement of NWFPs

The basic requirement to be met by enterprises engaged in purchasing, processing and sale of NWFPs is to be registered with the Business Registers Agency. During the regular annual competition a report is prepared on collection of NWFPs. Ministry of Environment, Mining and Spatial Planning, in synchronization with other relevant institutions defines the amount of NWFPs that can be collected in a given year. Entrepreneurs engaged in the collection of wild berries, herbs and mushrooms after obtaining the permission from the Ministry of Environment, Mining and Spatial Planning are required to provide training courses to pickers and collectors of NWFPs.

The applicants are obliged to submit to the Ministry of Environment, Mining and Spatial Planning and the Serbian Institute for Nature Conservation reports on the quantities and locations of collections, of wild pants and animal species placed on the market. This report should be submitted till 31 January of the current year reflecting the amount of the previous year.

Between collectors and buyers there are the purchase stations. Redemption sheet (invoice) collector has to deliver at the redemption station, and comprise also their purchase contract.

The purchase of raw materials collected by individuals (who performed based on the approved quota), is based on an invoice where is reflected the name of goods, quantity, quality, and price per unit. At the collection points it is delivered by the customers along with

the purchasing of raw leaf that represents the purchase contract signed by the buyer and the seller.

Organic production requires possession of certain licenses for production, but also for the collection of NWFPs. Those NWFPs that will be used for the purpose of organic production are collected in a specific area, and JP "Srbijašume" issues a certificate for the collection area 3 that was not treated with pesticides.

The documentation to be used for further processing of the raw materials delivered is followed by the work orders for production (issued by the head of production), the daily production based on daily records on what is produced (run by the shift leader), product list which is a calculation of raw materials and intermediate goods, quantity, and date, signed by the technologist and head of production.

To import NWFPs, it is required the permission of the Department of Environment, Mining and Spatial Planning. For the export of raw materials and finished products entrepreneurs (or a legal person) must have certificates of quality and safety.

The documents that accompany the goods are: commercial invoice signed by the manufacturer and the customer that represents the sales list, the specification of the goods stating the quantity of the product, the method of packaging. Further documentation is a certificate of origin, weight list of products, packing list and delivery. In addition to contracts and commercial documents must be present a transport document or waybill, that accompanies the goods to the buyer, documents, certificates of insurance products and insurance policies for international transport and customs' documents related to the Single Administrative Document.

4. Discussion

Although there are various definitions, what is unique is the fact that the NWFPs should be subject to an agreed and appropriate legislation, which would enable the sustainable management of these resources. For successful commercialization of NWFPs it is necessary to understand the potential use of various products, as well as limitations in the use of these products in practice (Lamien, 1995).

An important feature for the collection of NWFPs is a large annual variation in their yield. Therefore, it is necessary to determine the amount that can be collected each year. This is in accordance with the nature of the production and the principle of sustainable management of natural resources. Starting from the collected quantities of certain species of wild flora and fauna (which are controlled collection) reveals a large difference by age. This is certainly due to the presence of certain species in nature (their gender in a given year) or the assessment of the types, and permits issued for small or large amount, in relation to any of the previous years (Keča et al. 2011). Despite their traditional use for human consumption, NWFPs as a derivative of nature, is not treated by the law. One of the major determinants for their trade is their presence in nature and continuous availability as a raw material for the industry (Lintu, 1995/b). In this regard, there is an increase of their commercial use, due to legal restrictions have been posed that explicitly refer to this group of products.

Today the use is only one part of the management activity, subordinated to the fundamental principle for sustainable and multifunctional management of forestry for satisfying the needs of forest products of present and future generations (Stoyanova, 2011). This points the need for well-organized planning approach to the use of both wood and non-wood forest resources. NWFPs for the first time were mentioned as "secondary products" in the Forest Act of 1974,

after which the regulations referred to as the subject and the General Law of Forestry in 1989, and after that, in the Law of 1991. These laws are burdened entities engaged in collecting in nature, and their processing and marketing. Most are related to the individual collectors, but also small and medium enterprises registered as NWFPs processors. Certain state institutions, in accordance with their competence, are directly involved in the implementation of legislative and administrative procedures to those engaged with the commercialization of NWFPs. On the other hand, the collectors (individuals and companies) and processing companies (legal entities) are subject to different types of obligations towards the authorities. Thus, it is necessary to provide adequate documentation in the establishment of the company, getting the license for collection and then for processing NWFPs.

Although during the last decade in the region a number of forestry related modern laws and regulations, (where some articles regulate NWFPs) have been adopted, it is important to emphasize that these products have issues with laws of other areas, particularly the laws on nature and environmental protection (Nedeljković et al., 2010). This law specifies the types that can be collected and put into service. But also regulates the import and export of endangered species that can be permitted by the Ministry of Environment, Mining and Spatial Planning. This Law also referred to certain restrictions on the techniques that can be applied to collect plants and fungi. In addition, the collection and distribution of NWFPs are largely regulated by the Law on Control of the use and trade of wild flora and fauna, which defines wild plants (mostly NWFPs), that may be collected. The Forestry Law briefly stated 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 utilization project. The Law on Environmental Protection serves to determine the type that can be collected and conditions for the distribution of wild plants. Problems that are imposed when interpreting statutory provisions relating to the insufficient accuracy of the term "for own needs" and the dilemmas of whether certain species, such as mushrooms and medicinal herbs can be freely collected (Law on Forestry).

NWFPs collection from nature is allowed with the possession of a license for the collection of protected species and the allowed amounts, within the prescribed period, the collection of the specified type, using means that do not threaten to damage plants (Keča et al., 2012).

In a broader context, present situation in the field of NWFPs utilization in Serbian forestry named as «parallel forest products», could be characterized mainly as declarative one when speaking about multifunctional attitude toward forests (Stamatović, 2006).

Determining the quotas, that can be harvested in a given year, an entrepreneur who is approved for collection of NWFPs is obligated to pay quotas of protected species of wild flora, fauna and fungi in the amount of 10% of the established price, to the Ministry of Environment, Mining and Spatial Planning of the Ministry of Agriculture, Forestry and Water Management, 15 days following the request (Keča et al., 2012).

Payment is a precondition for the issuance of permits for collecting and marketing commercial quota of wild flora, fauna and fungi. In this way, it creates a certain level of financial support for investments in the sector of NWFPs. The documentation necessary for entrepreneurs is the permit issued by the Ministry of Environment and Physical Planning for collection and marketing of NWFPs, while the commercial documentation for NWFPs does not differ from that of other products.

Compared to wood, the use of NWFPs is possible without major damage to the forest, having less impact on environment and not damaging biodiversity conservation (Ros-Tonen M.,

2003). Therefore, proper harvesting of NWFPs does not create a negative impact on the environment and does not disturb the ecological balance.

5. Conclusion

The general conclusion is that NWFPs are not sufficiently represented in the statutory provision though they are subject to regulation and several laws related to forestry. NWFPs have started to take place in the legal framework only after wood and wood products. Initially there were restrictions (bans on collecting, type, time, etc.) and, later, the corresponding solutions are governed by other aspects of their production (buying, conditions of use, etc.).

The Law of Forests is noticed that only superficially concerns on the issue related to the collection and distribution of NWFPs. This Law includes 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. They are mentioned like "other forest products".

In contrast, the Law on Control of the use and trade of wild flora and fauna, and the Law on the Protection of Nature in its provisions define types that can be collected and put into circulation, collection methods (without damaging the plants and habitats) obtaining permits, and issues related to import and export of NWFPs. The main shortcoming of all mentioned laws is that there is no clear definition that determines what NWFPs includes.

Various institutions that compose the institutional framework of the NWFPs sector are: Ministry of Environment, Mining and Spatial Planning, Ministry of Agriculture, Forestry and Water Management and the Institute of Lowland Forestry in Novi Sad.

Documentation used as permission from the company to collect and to trade and documentation during sales is identical for all surveyed enterprises.

Starting from the fact that the NWFPs have a significant potential for commercial use in Serbia, it is essential to have a planned approach on their use, as well as revision and modernization of existing laws.

It is recommended that the NWFPs sub-sector represents the common interests and connections of interest groups in order to influence the process of further developing relevant policies for NWFPs sector.

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The role of forest policy on designing national forest program in Kosovo

Qazim Kukalaj

Abstract

Policy planning strives to render forestry policies more rational, more oriented to a long term perspective and better coordinated. The new trend on forest policy consists on ensuring policies through policy networks instead of hierarchical governance by the state. The idea of pursuing long-term orientation of policy decisions through scientific forecast has been replaced by adaptive and iterative learning process. Forest policy is what governments within their jurisdiction choose to do or not as regarding forests. Forests are often the subject of government actions because they provide a mix of public goods (for example ecosystem services) and private goods such as non forest products and recreational activities (aromatic and medical herbs, mushrooms, hiking, mountain tourism, skiing etc.) Almost all forest policy is based on a combination of approaches or "policy levers" that governments use to affect human behavior. These include (1) defining property rights and responsibilities, (2) regulating usage, users and professions associated to forest with civil or criminal sanctions, (3) requiring submission of management information, (4) taxing or subsidizing products and services, (5) providing technical information, research and education, and (6) creating markets for public goods and common pool resources. The study, object of this paper serves to analyze and review the existing forestry administrative and management legal framework, land tenure, incentives' policies, organizational and management structure, financial incentives, participatory mechanism, conflicts and overlapping of responsibilities between Central and Local Government institutions . It should be emphasized that Kosovo has not yet adopted the National Forest Programme (NFP), that can be seen as an original assembly of policy tools that may generate new synergies and policy innovations geared to the attainment of long – term sustainable forest management.

Keywords: Forest policy, National Forest Programme (NFP), sustainable forest management, climate change, participation

1. Introduction

Historically, management of forests and forest resources in Kosovo was subject to development of political and social systems. Wars, conflicts, and political, economic and social crisis have caused damages in forests and forestry resources, resulting into degradation of large forest areas and other natural resources. Huge demands for timber after the First and Second World War as well as after the Recent War with Serbia; the need for firewood and other family needs, have resulted into continuous negative trends in regard to forest quantity and quality. Unfortunately, even after 1999 until today, the damage of forests continues, mainly through illegal logging, forest diseases and pests, damages on forest land, damage of flora and fauna, including rare and endangered species.

Lack of sufficient number and competent staff (lack of knowledge and skills) is an additional factor that has plagued the sector to present days. Economic, social and environmental relevance was never understood sufficiently by the governments and society in general. Since 2000 until today, forestry sector is supported by foreign donors, starting with in kind investments (emergency phase), human capacity building, establishment of management and

organization structures, drafting of legal and strategic framework followed by support in forest management planning and harmonization of managing concepts with the ***Acquis Communautaire***. This support will certainly result into the improvement of managing practices set up by the managing authority – Kosovo Forest Agency (KFA) as a management body and Department of Forestry (DoF) as a regulatory body, promulgation of the Forestry Law No.2003/3 and numerous administrative instructions.

In addition, Forest Management Board is established, as well as some Associations of Private Forest Owners and several management (ten-year) plans are drafted.

2. Forestry resources in Kosovo

During 2003-2004, an inventory of Kosovo's forests was completed. As a result of this process general data can be summarized as follows:

Overall forest areas and forestry land is calculated to be around 464,800 hectares or 42.69% of the total territory of Kosovo, or about 0.27 hectares per capita. This average is below the average in Europe, where there is 1.26 ha per capita.

- Area of public (state) forests is calculated to be 278,880 ha, or 60% and
- Private forests 185, 920 ha, or 40%. The calculated area of 464,800 ha, is about 8% bigger compared to records of the period before the last War being at e level of 428,000 ha. This is understandable considering that some remote rural areas that used to be meadows and pastures (intensively used by livestock)are left untreated. Migration of population from these areas and abandoning of pastures and meadows has caused changes in them transforming from agricultural land into forests, through natural regeneration (seeds coming from nearby areas sprouting into tress);
- Forest structure is dominated by deciduous forests with about 90%, mainly dominated by Beech and Oak Forests. Conifer forests cover about 7% of the total area and are mainly dominated by tree species such as Fir, Norway spruce, pine species, while about 3% include all other types of deciduous and conifer forests;
- Total volume of forests is calculated to be 33.5 million m^3, from which a volume of 25.9 million m^3, includes trees with breast high diameters(BHD), larger than 7 cm. Total volume of private forests is about 19.5 million m^3, from which a volume of 14.5 millionm^3 includes trees thicker than 7 cm in diameters.
- Annual growth of forests according to Forest inventory is 1.3 million m^3/year.
- Annual growth of forests in terms of thickness and height, growth of volume per hectare and total growth are of special importance in applying forest management methods, annual planning on forest use and meeting the needs of population, without violating the principle of consistency (sustainable forest management).
- Area of bare forests is between 20,000 – 30,000 ha. Some of these areas are located in good land (fertile lend) while some are in non-fertile land.
- Taking evidence of areas according to the quality and type of land is necessary as it enables realistic planning of forestation and proper selection of seedlings for forestation and reforestation. It must be noted that such activity is necessary to be included within forest inventory that is on-going and most likely will be finalized this year.

- Presence of illegal logging is spread in about 40% of public forests and 29% of private forests.

By all standards, data on quantity of illegal logging are very high. The situation with conifer forests regarding illegal logging and damages is even worse, due to higher market value per m^3 of the product.

In the following diagrams is presented an overview on the structure of natural resources, forest ownership, and types of forests according to their origin.

Diagram 1. Land structure in Kosovo

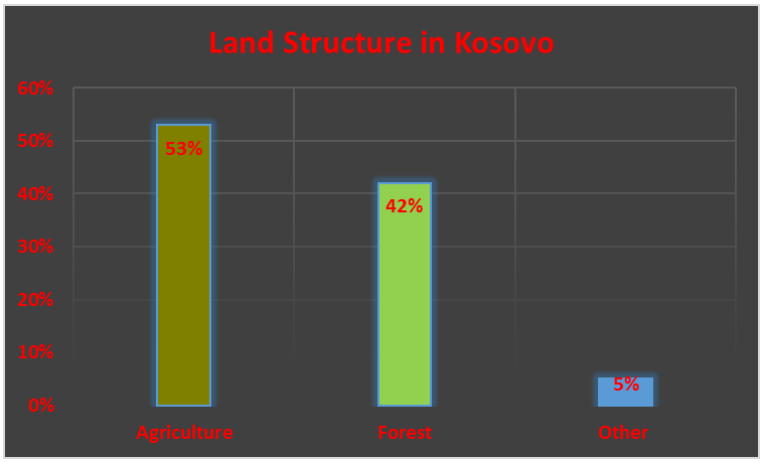
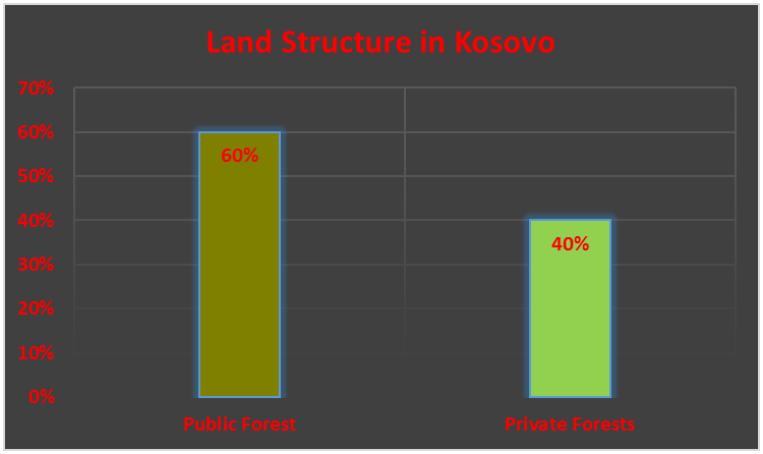


Diagram 2. Structure of forest ownership



2.1 Forest age

The age of the forest is very important in determining the management treatment and silviculture measures which should be undertaken. The table below shows that areas of young forests, age of 0-40 years, participates with 51.06% of the total area covered by forests.

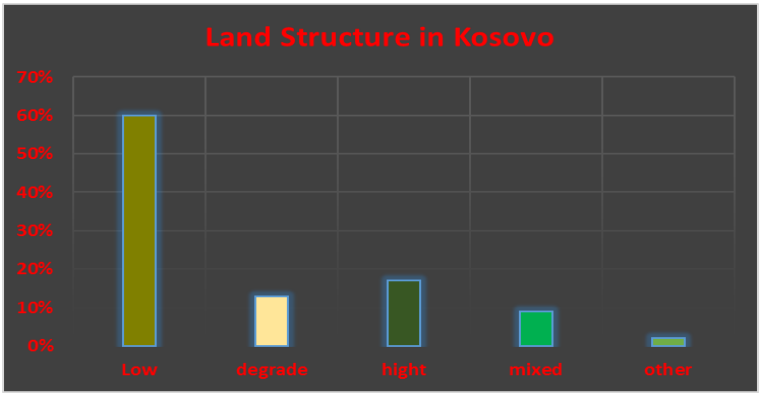
Forest area of 125,800 ha, age of 0-20 years presents good source of wood biomass production, and good opportunity for forest stand structure improvement with the application of silviculture measures (cleaning and pre-commercial thinning).

The following table presents data of Kosovo forest age.

Table 1. Forest area by age and tree species structure (ha)[1].

Age class	Without trees	Coniferous	Broadleaved	Mixed	Unknown
0-20	3,800	1,000	121,000		
20-40		4,200	104,800	400	
40-60		5,200	66,600	1,400	
60-80		4,200	36,800	800	
80-100		2,000	11,800	200	
100-120		1,000	5,400		
120-140		1,200	4,200		
140-160					
160-180			200		
180-200			200		
No data	4,200	200	2,400		77,400
Total	8,000	19,000	353,400	2,800	77,400

Diagram 3. Forest structure according to origin



2.2 Forest areas according to Kosovo municipalities

Forest areas under municipal territories, comprising their natural ownership, variances, analysis, and comparisons between them, are presented in the Table 1 below. Municipal areas, with the most large forest areas despite ownership (public or private) are: 28,357 ha, or 6.30% Pristina; 27,508 ha, or 11.6%Leposavic;26,753 ha, or 5.94% Gjakova; 25,708 ha, or 5.77% Podujeve; 25,708 ha, or 5.71%Peje;19,023 ha, or 4.22%Decani, and Obiliqi with 1,153 ha, or 0, 26%, according to the test LSDp0.05. As it is shown the differences are significant**.**

Table 2. Forest areas, forest property per municipalities and their comparison (KSA)[2]

[1]Source: Kosovo Forest Inventory, 2002/2003

	Municipalities	Public	%	Private	%	Total	%
1	Deçan	14291^{AB}	5.67	4732^{B}	2.38	19023^{ABCD}	4.22
2	Dragash	4815^{AB}	1.91	1523^{B}	0.77	6338^{ABCD}	1.41
3	Ferizaj	8734^{AB}	3.47	4137^{B}	2.08	12871^{ABCD}	2.86
4	FusheKosove	1059^{B}	0.42	331^{B}	0.17	1390^{CD}	0.31
5	Gjakove	16442^{A}	6.53	10311^{AB}	5.20	26753^{A}	5.94
6	Gjilan	10851^{AB}	4.31	13384^{AB}	6.74	24235 ^{ABCD}	5.38
7	Drenas	3255^{AB}	1.29	7219^{AB}	3.64	10474^{ABCD}	2.33
8	Istog	14323^{AB}	5.69	6371^{AB}	3.21	20694^{ABCD}	4.60
9	Kamenice	8708^{AB}	3.46	11686^{AB}	5.89	20394^{ABCD}	4.53
10	Kaçanik	12219^{AB}	4.85	5150^{B}	2.60	17369^{ABCD}	3.86
11	Kline	6536^{AB}	2.59	5032^{B}	2.54	11568^{ABCD}	2.57
12	Leposaviq	17258 ^{A}	6.85	10250^{AB}	5.17	27508^{A}	6.11
13	Lipjan	8727^{AB}	3.46	4227^{B}	2.13	12954^{ABCD}	2.88
14	Malisheve	6554^{AB}	2.60	7286^{AB}	3.67	13840^{ABCD}	3.07
15	Mitrovice	9637^{AB}	3.83	10687^{AB}	5.39	20324 ^{ABCD}	4.51
16	Novobrde	1262^{B}	0.50	1517^{B}	0.76	2779^{BCD}	0.62
17	Obiliq	754^{B}	0.30	399^{B}	0.20	1153^{D}	0.26
18	Peje	16934^{A}	6.72	8774^{AB}	4.42	25708^{AB}	5.71
19	Podujeve	13535^{AB}	5.37	12431^{AB}	6.26	25966^{AB}	5.77
20	Prishtine	9462^{AB}	3.76	18895^{A}	9.52	28357^{A}	6.30
21	Prizren	17400^{A}	6.91	7465^{AB}	3.76	24865^{ABC}	5.52
22	Rahovec	4373^{AB}	1.74	3228^{B}	1.63	7601^{ABCD}	1.69
23	Shtime	2925^{AB}	1.16	3451^{B}	1.74	6376^{ABCD}	1.42
24	Shtrpce	8731^{AB}	3.47	1600^{B}	0.81	10331^{ABCD}	2.29
25	Skenderaj	3407^{AB}	1.35	11819^{AB}	5.96	15226^{ABCD}	3.38
26	Suhareke	8059^{AB}	3.20	7011^{AB}	3.53	15070^{ABCD}	3.35
27	Viti	8055^{AB}	3.20	1881^{B}	0.95	9936^{ABCD}	2.21
28	Vushtrri	4464^{AB}	1.77	5966^{AB}	3.01	10430^{ABCD}	2.32
29	ZubinPotok	9104^{AB}	3.61	11669 ^{AB}	5.88	20773^{ABCD}	4.61
	Total:	**251.874**	55.93	**198.432**	44.06	**450.306**	**100.00**

Significance P<0.05Different letters, significant average values.

3. Forestry policies and forestry development strategies

Every country needs to have its forestry policy in order to be able to use forests for human benefit. The first step in drafting forestry policies is identification of opportunities and formulation of proposals as a sustainable process, defined to maintain the balance between forestry resources as potential supplier on one hand, and meeting different needs of society as a consumer on the other. There is a close coordination between forestry policy and policies of other relevant sectors, which affect or are being affected by forestry, such as: Agriculture Policies, Environment, Rural Development, Industry, Tourism and Employment.

4. Activities undertaken by responsible institutions

Political priorities of Kosovo's Economic Development are defined in the Government Programme 2011-2014, adopted in April 2011. In this context the first pillar of this

[2]Source: Kosovo Statistikal Agency

programme - "Sustainable Economic Development and Growth" is related to overall objectives of forest management, which consists of increasing the contribution of forestry sector in the national economy and increasing of social and environmental role of forests. Comprising 42% of Kosovo's total territory, influencing into the climatic and geologic conditions, forests provide opportunities to participate into national GDP in the future at a level of 4%-8%[3]compared to their current participation of 2.5%-3.5%.

Strategic development documents number 1-4, have partially addressed development of Forestry sector, which easily implies from their title; while the main focus is on setting long-term development trends of Agricultural and Rural Development sector. Meanwhile efforts are made to harmonize these sectors with EU sectors and *Acquis Communautaire.* Long-term trends and goals for development of forestry and game management are presented in more details in the strategies listed under 5 and 6.

The document on Forestry Policies and Development Strategies in the Republic of Kosovo 2010-2020, has analyzed the role of the Government of Kosovo in sector development with special emphasis on the importance of understanding the economic, social, and environmental role of the sector; continue analysis on development and strengthening of institutional and regulatory framework, development of forest modern management, consolidation of forestry land, management of protected zones, cooperation with line ministries and cross-sectorial cooperation on other issues. By analyzing the Strategy and Policy Paper, 2010-2020 we can conclude that the document is more a comprehensive document that prescribes the existing management and institutional structure including opportunities and challenges faced, with some suggestions the development of this sector. Sector situation is described generally without offering any clear picture and long –term development strategy of the sector.

Among others, the document does not provide a clear description on the following issues: Land tenure(de-nationalization, restitution, privatizations, concessions etc.) of forest property, type of the management treatment of different forest categories based on their economic, social, environmental, recreative role; impact on water quality; wood market development protection; development of the financial schemes for private forest owners (grants, subsidies, payment of environmental services (PES); wood biomass utilization; development of political cultural mechanisms; development of participatory mechanisms etc.

5. Land Tenure

Presented data indicate that the number of private forest owners in Kosovo is very big reaching about 120,000 forest owners with very small forest areas of 1.5-2.0 hectares per household divided into several sub parcels. The average forest area per inhabitant is about 0.30 ha. Management of the private forest has not been sufficiently treated for decades, until recently, even though the percentage of private forests is about 40 % of the total forest area in Kosovo. Forest parcels are very fragmented which prevents occurrence of efficient and economic use of modern technologies and practices, silviculture treatment and other logging operations. Last years several initiatives have been initiated to organize private forest owners into associations, although these are initial efforts that have not yet any role and influence in decision making regarding preparation of the forest legal basis, forest management policies, development strategies, and forestry programs in a participatory way.

[3]**Source***: Policy and Strategy Paper on Forestry Sector Developmen, page 9, Pristina 2010 – 202.*

Private forest properties have existed in Kosovo throughout the history including the period of the Ottoman Empire. Major changes on the size of forest private property and ownership have happened after the First and Second World War, including confiscation of private property pursuant to political, social, and other developments. The so called "Agrarian Reform" implemented by the former Yugoslav system during the 1946-1950, has had the greatest impact on the private property changes.

Even after the recent war (year 2000) until nowadays due to political reasons (an undefined status of Kosovo) and other causes, in Kosovo there are no legal basis to start with the denationalization and restitution process as private property restitution to owners who possess legal ownership documents. Lack of denationalization has caused property disputes that hinder proper forest management and its control. On the other side, publicly owned forests by the Kosovo Forest Law are defined as a national resource owned by the State, while public forests are still registered at the cadastral records under the name of the former Socially Owned Enterprises (SOEs) as a forest authority. Still there is no vision or strategy on a targeted percentage for forest privatization in relation to the percentage of public forests.

5.1 Applied Forest management methods

Data analysis show a significant need for a number of intervention areas which are considered to have great impact on forest management improvement including the application of proper professional methods on the forest stand treatment. The identification of these intervention areas is a result of and reports gathered from the responsible institutions related to the following issues:

5.1.1 Forest logging

Forest logging in Kosovo faces numerous problems, such as lack of forest management plans; lack of revenue collection from selling logging products; logging permits in some cases are based on informal criteria; wood market is not fully transparent and it does not promote an efficient market for sound business; non-use of forest residues, especially where illegal logging takes place. As mentioned above, as well it is the lack of well equipped and modern technologies for forest logging companies, lack of trained and skilful workers, chain saw operators, technicians, and other staff. As well it is a lack of clear methodology of standing tree value calculation, lack of records on forest annual volume harvesting, especially by wood assortment and tree species. Harvesting licenses issued to forest operation companies are very short term (annual licenses). Wood use is in very low level that means the remaining wood material as wood residues is approximately around 40% of the total wood volume.

5.1.2 Forest silviculture

Kosovo is covered mainly with young forests that grow from the stumps meaning coppice forests. There is no strategy and clear set up treatment methods as per forest category (high quality coppice forest, low quality and degraded coppice forest). As well there is a lack of definition for the management strategy on treating high broadleaves and coniferous forests (selective cutting, seeding cuttings, Femelschlag harvesting method, etc. so to define the method of treatment per forest type and forest quality at a Country level. There is no strategy to meet the objective of improving forest capacities aiming to increase forest increment and forest yield (m^3/ha.). During these years there has been some afforestation and reforestation, mainly with the Black pine (***PinusNigra sp.***) seedlings and small amount of Norway spruce (***PiceaAbies sp***.) and Silver Fir (***Abies Alba sp.***) . Afforestation of bare lands and reforestation of degraded forests is done without preliminary analysis of seedlings, soil

analysis, climate conditions, analysis of edaphic factors and biotic factors. Also is the a lack of economical, social, and environmental analysis on the use of future trees that will grow from planted seedlings.

6. Forestry legislation

The Ministry of Agriculture, Forestry and Rural Development (MAFRD), Forestry Department (FD) and Kosovo Forestry Agency (KFA), in cooperation and coordination with local and international consultants, have drafted the Law on Kosovo Forests 2003/3 and completed the Law amendments. It is worth mentioning that the Law was the first to be passed by Kosovo Assembly submitted by the MAFRD. This year, the above-mentioned institutions, in cooperation with international organizations that support forestry sector in Kosovo, have drafted the new Law on Kosovo Forests, for approval. Also, institutions in charge of forest and management of forest land, game, and hunting have drafted and approved so far 38 administrative instructions, three of which have been revoked.

The Law on Kosovo Forests no. 2003/3, amongst others has regulated administration and management of forests and forestry land as well as management of private forests and forests in National Parks. The Law regulates issues such as: forest use rights, renting of forest land, forest ownership right, organization and structures of management and administration of forests and forestry land, preparation of management plans and annual plans, use of timber and non timber products, fire prevention, protection from diseases and pests functioning of institutions for forest protection (Inspection and Forest Guards), and it also defines the fines in case of violations and illegal management of forests and forestry land. It is worth mentioning the requirement of the law to manage forests in compliance with statement on principles for global consensus on management, conservation and sustainable development of all forests as in the Annex III of the Report of United Nations Conference on Environment and Development (Rio De Janeiro, 3-14 June, 1992), by respecting the following principles:

- Preventive principle,
- Conservation of biological diversity;
- Principle of human equality, and
- Sustainable ecological development

7. Financial incentives

Current potential contribution of the forest sector to Kosovo's GDP is between 2% and 3% and with adequate future investment this could be 3-4% of GDP. Forest sector suffers from serious shortages in funding and lack of subsidy programm. Donor aid was generous to the forestry sector after the war of 1999, providing support mainly on capacity building and forest management plans.

Forestry is still considered as e wood production activity, mostly as a main source of heating and other family needs. Environmental role of the forest is undermined as it is a source with no market value. Government has to provide financial incentives (subsidies) on forest conservation issues, so forest owners can not lose interest in forest management. Also an application of subsidies and grants can go in support to improvement of the young forest stand through application of the pre-commercial thinning and other forest silviculture measures. PES schemes and carbon credits still remain an abstract concept for Kosovo responsible institutions.

8. Political culture

Direction of the political culture shifts only very slowly. Changing the culture of treating forests as important multifunctional resources and their management in Kosovo requires a long period as in most countries in transition. In Kosovo introduction of private ownership and market forces have not taken place, still continues the dominant role of the experts in policy making. Policy tends to be made on a rationalist –deductive basis, with an important factor being the expertise of civil servants. Usually un-competent public officers and experts with no experience play a leading role in preparation of the national policies. The state of Kosovo as well as other former republics of Yugoslavia have more easily adapt to modern management in accordance with the market economy, since the treatment of socially-owned forest in the past was the system closer to a free market economy, compared with United Eastern Bloc, where everything was controlled by the State. However, a country should gain an enhanced role of other actors in policy formulation such as business, NGO's and local community groups, contributing with their participation.

9. Institutions

Responsible institutions of forest, forest land and wildlife management and control of the private forest management including provision of technical assistance to the private forest owners are presented in three levels in the case of Kosovo. The main governmental body in charge of forest management is:

Kosovo Forest Agency (KFA) - Is an executing agency, responsible for the management of public forest, control of private forest management and control and inspection of the forest and forest land management.

KFA Coordinating Directorates - Are located in six regional centres: Prishtine, Mitrovica, Peje, Prizren, Ferizaj and Gjilan, responsible for provision of the technical expertise annual harvesting planning, tree marking in public and private forests, logging permits and controlling of the logging process implementation including the forest fire prevention.

Directorates responsible for Municipal Forests– Responsible local government bodies on developing tendering procedures, provision of harvesting permits, and protection of forest mainly by illegal logging.

Department of Forestry (DoF) - Is the Government institution responsible for the forest policy development, drafting of the forestry strategies, programmes and legal acts, including provision of training and extension services to the forest operators and private forest owners.

From the brief description, shortly presented above it is obvious that in the case of Kosovo, responsibilities linked with the forest and forest land management are grouped into three levels. These unclear and overlapping mandates between different bodies cause bureaucratic procedures. Likewise, the role of KFA as an executive institution on one side is related to forest management role and on the other side to controlling and inspection, that is in contrary to modern practices and creates the conflict of interest, consequently not guaranteeing an objective control of forest and forest land management.

10. Participatory mechanism

Access and participation in the formulation of policies, strategies, laws, programs, and decision making that affect the interests of many institutions and communities, not only in forestry but also in other areas, is in the initial stages. Mainly exist two models of participation: participation as a means; and participation as an end (Shannon 2003). When

participation is used as a means, decision making authority continues to reside with experts and civil servants, who set the questions that the participatory process should address. The main advantage of participation according to this model is that it can improve the quality and nature of the information that is considered by policy makers.

However the second model- participation as a goal – rejects elites and technocratic decision making.

In the case of Kosovo, participation of interested actor's is mainly formal, and in majority of cases the decisions are made by members of commissions established by the ministries, respectively institutions that formulate legal documents, development strategies, programs, etc. Preparation, discussion and approval of the mentioned acts, is not free from subjectivism (adoption of certain types of documents, personal interests), especially legal acts, through which are arranged organizational and management structures of the sector. Legal acts, development strategies and policies, as well, in many cases go through adjustments reflecting interests of various political groups especially during the phase of discussions and approval. In the forestry sector despite critical influences, it is present the lack of competent and professional staff. Lack of knowledgeable and experienced staff has resulted in non addressing the major issues at decision making governmental bodies, lack of understanding on the importance of economic, social and environmental importance of forests and forest resources as well as lack of benefits for interested parties. As a result of this situation, in Kosovo, the produced documents does not reflect the interest of parties involved and are difficult to be implemented. The approach needs to be changed through involvement of representatives from community and civil society in order to have an efficient implementation of legal acts and forest policies.

11. Conclusions

One of the most important parameters for the future sustainable forest management is the respecting of the multifunctional role of forestry sector. Briefly elaborated data through this study shows that Kosovo possesses rich forest resources, including rare species of flora and fauna as well as attractive natural landscapes, that may contribute to Country's economy and improvement of population's life standard, especially in remote rural areas. Lack of clear forest policies and National Forest program (NFP),creates an situation where there is no clear vision and strategy for the development of the forestry sector. Analysis made for Kosovo forestry sector, synthesized from the data collected, consulted with modern practices of treating this sector, consulted literature and other facts, show that the sector suffers from a dimensional and classical approach of all decision making actors.

Without going into details the main issues that would be defined by Forest policy can be summarized:

1. Treatment of land ownership by establishing effective and implementable legal basis;
2. Establishing modern legal basis in accordance to European directives, international conventions and approximation with EU *Acquis communitaire;*
3. Establishment of the financial tools and opportunities to start up the application of financial schemes in the Forestry sector for private forest owners, such as: subsidies, grants, loans etc.;
4. The development of political culture and participatory approach in all phases of the preparation of regulatory documents, policies, strategies, programs etc.;

5. Definition of clear mandates and responsibilities between institutions regarding forest, forest land, wildlife, and other natural resources management;
6. Harmonization and adoption of the Conventions, programms and other regional and international documents related to nature and biodiversity conservation, with the needs of population respecting also Kosovo's specific characteristics.

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Forestry again to be supported under EU pre-accession assistance

Marius Lazdinis*

1. Introduction

Agriculture is key to the economies of the Western Balkans, with a large part of the workforce still employed in the sector and the share in the GDP still being very high, if compared to the other developed economies. Despite a huge potential which the agriculture has due to the favourable climatic conditions, it is characterised by some deeply-rooted structural problems, such as low efficiency and low consideration of environmental aspects (Lampietti et al. 2009). This results in predominance of subsistence farming in most of the region. The statistics and comparative analyses show that the average farm size is several times lower than in the EU, labour productivity and yields are very low, number of agri-food establishments approved for exports into the EU is very small.

Addressing these structural issues in agriculture, while in parallel seeking a balanced territorial development, requires long-term thinking and investment. Therefore, in the context of the EU membership perspective, considering the specific needs of the region, pre-accession assistance is channelled with an intention to contribute to security and safety of food supply as well as competitive, sustainable and efficient agriculture. The part of assistance destined to the agricultural sector seeks to foster maintenance of diversified and viable farming systems in vibrant rural areas of the countries. All of the above is carried out in parallel with interventions aiming at strengthening the ability of the agricultural sector to fulfil the obligations stemming from EU membership.

With forests being an integral part of the rural landscape and forestry – inseparable part of the rural economy, a decision was also made during the 2014-2020 period of pre-accession assistance for agriculture and rural development to also include support for afforestation and forest management activities.

2. Instrument for Pre-accession Assistance

Support to the countries striving of becoming EU member states is provided under the Instrument for Pre-accession Assistance (IPA) (IPA 2006, 2007). During the current period (2007-2013), eight countries were benefitting: Albania, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia, Kosovo[1], Montenegro, Serbia and Turkey. The total portfolio made available to these countries over a period of seven years is more than 10 billion Euro. The instrument will be extended to continue providing support during the financial framework 2014-2020 to the remaining countries. Croatia, having become an EU member state on 1 July 2013, will no longer be benefiting under pre-accession assistance.

Support in the agri-food sector is implemented mainly through country-wide rural development programmes, containing a menu of nine measures. To be eligible to draft and implement these programmes, the countries must have a Candidate Country status and demonstrate an ability to ensure sound financial management of EU funds. So far, rural

* Unit G.4 Pre-accession Assistance to Agriculture and Rural Development. DG Agriculture and Rural Development European Commission, Brussels

[1] This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.

development programmes are being implemented in three countries: Croatia, the Former Yugoslav Republic of Macedonia, and Turkey. The total funds made available to these countries through rural development programmes are over 1 billion Euro. As of 1 January 2014, as part of a changing policy framework for the new financial period only the latter precondition will apply, meaning that all countries, subject to having appropriate capacities, will be able to implement rural development programmes.

During the new financial framework, the policy context for agriculture and rural development assistance is not anticipated to change significantly. Attempts will be made to streamline the implementation framework; the meniu of measures has been expanded by including two additional measures – on advisory services and forestry. The total amount of funds under IPA should remain similar to that in the previous period – at around 11 billion Euro. A similar amount should also be allocated to rural development programmes, of course, depending on the needs and capacities of each individual country.

3. "Forestry measure" under IPA 2014-2020

During the period 2000-2006, Special Accession Programme for Agriculture and Rural Development (SAPARD) (Sapard 1999) assisted the 11 candidate countries[2] in their efforts to implement EU law in agriculture and helped solving specific problems of rural areas. In accordance with the defined priorities, the assistance was implemented through rural development programmes containing a menu of 15 measures. It was a first Community instrument that specifically supported investments in agriculture and rural development through rural development programming and introduced a system of decentralized management. One of these was "forestry" measure.

Under IPA 2007-2013, an attempt to simplify was made and decision was taken to stick only to the "core" agriculture and rural development activities – leaving out forestry from the menu of nine available measures. However, the dialogue with the countries and increased awareness of the situations in rural livelihoods and landscapes in the Western Balkans has shown that forests and forestry play a significant role in rural economies and quality of life. Therefore, it was decided that a "forestry measure" should be re-introduced into the rural development programmes for the period 2014-2020. An outline of this measure which should serve countries as a guidance document in preparing their rural development programmes, is provided in Annex I.

The overall objective of this measure is restoring, preserving and enhancing ecosystems dependent on agriculture and forestry, whilst addressing the challenge of climate change. This measure seeks to contribute to extension and improvement of forest resources, restoration of forests damaged by fire, and forest-fire prevention. In addition, it provides a possibility of enhancing the balance of production of commodities (food, feed, fuel, fibre, etc.) with non-commodity outputs, such as environmental protection and cultural and landscape amenities.

More specifically, afforestation would allow increasing forest cover, or expanding area of other wooded land, whether on agricultural or other land in order to provide environmental services or serve protective functions, which may cover prevention against water or wind erosion (protective forest belt systems), avalanches, landslides, desertification and drought, protection of water resources and water catchment areas including river basins, prevention of floods, enhancing biodiversity and helping adaptation to climate change challenges, including

[2] Czech Republic, Estonia, Hungary, Latvia, Lithuania, Slovakia, Slovenia, Poland, Bulgaria, Romania and Croatia.

creation of green corridors which could help species to migrate, and contribute to climate change mitigation through carbon-dioxide sequestration.

Certain activities under this measure could aim at improving the resilience and environmental value of forest ecosystems, including climate change adaptation and mitigation, and providing ecosystem services and enhancing the public amenity value of forest and wooded land.

Some activities could also focus on establishing land-use systems and practices where woody perennials are deliberately integrated with crops and/or animals on the same land management unit; whereby, the trees may be single or in groups inside the same parcel or in the limits between the parcels. The main specific objective of these activities would be to contribute to enhancing the balance of production of commodities (food, feed, fuel, fibre, etc.) with non-commodity outputs, such as environmental protection and cultural and landscape amenities while using the multifunctional land-use approach. In parallel, these activities would also be contributing to biomass production, water quality by increasing infiltration and slowing down the leaching of nitrates, controlling erosion, mitigating events related to climate change and preventing from fire damages, sequestering carbon, having positive effects on biodiversity and improving soil quality.

Some actions would aim at restoring (clearing and replanting) forests damaged by fire and contributing to prevention of fires in forest ecosystems.

This measure could be made open to both private and public land holders, and their associations. For afforestation and agroforestry, the land for which support is sought could be owned by the State on condition that the manager is a private body or municipality; in such case, only the costs of establishment would be covered by support.

Overall, under this measure public expenditure could be up to 100%, with EU contribution making up 85% of public expenditure. The maintenance costs would have to be calculated based on the methodology proposed in the programme. Payments per hectare afforested or agroforestry systems established are also to be determined in the programmes.

4. Conclusions

Forests are an integral part of rural landscapes; forestry is an integral part of rural economies. Thus, it would be very difficult to envisage a territorially balanced rural development which would not include assistance to management of forest ecosystems. Moreover, for the inhabitants of rural mountainous areas of the Western Balkans, which dominate the region, forests have always served as a shelter, source of food, construction material, and income. Besides, forests are an important part of the cultural heritage and provide amenity values keeping up the well-being of rural populations.

Therefore, despite of forest management being directly part of the common EU law, reintroduction of forestry in the menu of rural development measures meant to assist the Western Balkan countries in their pre-accession preparations is not an exceptional move, but rather a logical step. Each of the countries in drawing up their rural development programmes now has an opportunity also to address the weaknesses related to management of forest resources. Of course, with many other structural problems remaining in agriculture and rural areas, priorities will have to be set in each of the programmes. Not all measures will be taken up for immediate implementation starting in 2014. It will depend on the responsible authorities and the stakeholders concerned whether forestry measure will be covered in individual programmes, and if so, at which stage during the period of seven years.

The measure itself is designed in a way which offers countries the possibility to tailor its application to the local needs and priorities. The scope is very broad, both in terms of coverage of forest management activities and type of potential beneficiaries. In further developing the measure for individual the programmes, the authorities and stakeholders will have to make sure that the right balance is struck and that the parts of the sector most in need are appropriately addressed. Moreover, it must not be forgotten that whatever is to be done in forestry, will have to be placed in the broader scope of IPA and be complementary to the general objectives of rural development programmes. And last, but not least, those adapting the measure to the local contexts will have to bear in mind that its administrative implementation will be complex. Therefore, the future authors of the programmes must be prudent in ensuring transparency and simplicity - yet, combined with the soundness of financial management – of requirements and procedures.

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Annex I. Measure fiche.

ESTABLISHMENT AND PROTECTION OF FORESTS

Draft measure fiche for IPA rural development programmes 2013-2020

1. Legal basis: to be determined.

2. Rationale

Forestry is an integral part of rural development and support for sustainable and climate friendly land use should encompass forest area development and sustainable management of forests. Forest play a key role in moving towards a low carbon economy, maintaining biodiversity, sequestering carbon, offering ecosystem services, facilitating recreation as well as providing jobs and income possibilities in rural areas. Investments in the development of forests area and in forest protection contribute to the growth potential of rural areas, to the protection of ecosystems and enhance the potential for production of renewable raw material for the green economy. Moreover, many farmers are also forest owners, especially of smaller forest units, therefore combining the agricultural activity with forestry activities as additional source of income. The ultimate aim of this measure is to increase forest quality and cover, whilst better adapting to the climate change related challenges, at the same time providing assistance to prevention and restoration of forests against fires and helping countries to eventually integrate to the EU forest fire prevention system[1].

Activities under this measure should take into account provisions of the national forest strategies, through improved competitiveness of the forest sector, the sustainable management of natural resources and a balanced territorial development of rural areas. Each country may select the most appropriate actions to be financed, while providing appropriate justification. However, the single measure also allows beneficiaries to implement integrated projects with increased added value.

Additional specific rationale should be added by the beneficiary country in relation to the needs of the sectors / areas selected.

3. General objectives

The overall objective of this measure is restoring, preserving and enhancing ecosystems dependent on agriculture and forestry, whilst addressing the challenge of climate change. This measure seeks to contribute to extension and improvement of forest resources, restoration of forests damaged by fire, and forest-fire prevention. In addition, it provides a possibility of enhancing the balance of production of commodities (food, feed, fuel, fibre, etc.) with non-commodity outputs, such as environmental protection and cultural and landscape amenities.

3.1 Specific objectives

Specific objectives are further detailed, depending on the type of activities to be supported.

Afforestation would allow increasing forest cover, or expanding area of other wooded land, whether on agricultural or other land in order to provide environmental services or serve protective functions, which may cover prevention against water or wind erosion (protective forest belt systems), avalanches, landslides, desertification and drought, protection of water

[1] http://forest.jrc.ec.europa.eu/effis/

resources and water catchment areas including river basins, prevention of floods, enhancing biodiversity and helping adaptation to climate change challenges, including creation of green corridors which could help species to migrate, and contribute to climate change mitigation through carbon-dioxide sequestration.

Certain activities under this measure could aim at improving the resilience and environmental value of forest ecosystems, including climate change adaptation and mitigation, and providing ecosystem services and enhancing the public amenity value of forest and wooded land.

Some activities could focus on establishing land-use systems and practices where woody perennials are deliberately integrated with crops and/or animals on the same land management unit; whereby, the trees may be single or in groups inside the same parcel or in the limits between the parcels. The main specific objective of these activities would be to contribute to enhancing the balance of production of commodities (food, feed, fuel, fibre, etc.) with non-commodity outputs, such as environmental protection and cultural and landscape amenities while using the multifunctional land-use approach. In parallel, these activities would also be contributing to biomass production, water quality by increasing infiltration and slowing down the leaching of nitrates, controlling erosion, mitigating events related to climate change and preventing from fire damages, sequestering carbon, having positive effects on biodiversity and improving soil quality.

Some actions would aim at restoring (clearing and replanting) forests damaged by fire and contributing to prevention of fires in forest ecosystems.

4. Linkage to other IPARD measures in the programme and national measures

Forest fire prevention activities, concerning maintenance of firebreaks, cleared and felled areas, as well as establishment of agro-forestry systems could also be connected to the agri-environment measures. Prevention activities in some forests, such as thinning and pruning and removal of dry biomass in high forest fire risk zone areas with decreasing the fire risk at the same time may also contribute to renewable energy production, as well as activities improving resilience and environmental value of forests and afforestation. Some activities under this measure may also be linked to those financed in order to develop rural infrastructure.

5. Final beneficiaries

Private and public land holders and their associations may be final beneficiaries under this measure. For afforestation and agroforestry, the land for which support is sought can be owned by the State on condition that the manager is a private body or municipality; in such case, only the costs of establishment are covered by support.

6. Common eligibility criteria

The supported projects must be in compliance with the National Forest Programmes/ Strategies or equivalent instruments and, if applicable, with the national afforestation programme or guidance document, climate change adaptation or mitigation plan, biodiversity or equivalent strategy.

A common definition for 'forest' has been adopted in the EU Rural Development Regulation, and should be detailed in the Rural Development Programme by the beneficiary country. The definition details a "forest", as follows: *'forest' means an area of land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or*

trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use. A beneficiary country may choose to apply another forest definition based on existing national legislation or inventory system. The beneficiary country shall provide the definition in the rural development programme.

In case forestry operations take place also in "other wooded areas", a definition to such areas should be also included in the Rural Development Programme accordingly. It is recommended to use the same definition for 'other wooded' areas, as defined in the EU implementing regulation of the Rural Development for the period 2007-2013: *'Wooded areas' means land not classified as 'forest', spanning more than 0,5 hectare, with trees higher than 5 metres and a canopy cover of 5-10 percent, or trees able to reach those thresholds in situ, or with a combined cover of shrubs, bushes and trees above 10 percent. The term does not include land that is predominantly under agricultural or urban use.*

7. Specific eligibility criteria

Afforestation, agroforestry, restoration of forest after fire

- The short rotation coppice (SRC) and Christmas trees are excluded from assistance.
- Both agricultural and non-agricultural land shall be eligible.
- In the case of afforestation of State owned land, only the costs of establishment are covered by the support.
- Tree planting should be adapted to local conditions, compatible with the environment and enhance biodiversity. The selection of species, varieties, ecotypes and provenances, and of trees shall take account of the need for resilience to climate change and to natural disasters, as well as the pedological and hydrologic conditions of the area concerned. Eligibility of perennial woody species is to be defined by the beneficiary country in the programme based on soil, climate and environmental conditions. Same species could fall under different categories (SRC, fast growing species, forest) depending on the "rotation-harvesting" period.
- No new forests can be established in protected natural areas except for when the increase of forest cover is among the desired interventions.
- The beneficiary shall be obliged to obtain an afforestation permit issued to its name and approved by the forestry authority (the approving resolution of the afforestation plan). The permit shall be based on afforestation plan, to be made in accordance with the Country's forestry legislation by, e.g., professional forester, considering the site conditions and ecological features. The relevant authorities (authority of nature protection, defence, water protection) take part in the approval procedure.
- Support is possible if additional planting is necessary in the case of self-seeded/spontaneous afforested areas (e.g., on abandoned farmland where the woody vegetation started to appear); in this case, the establishment costs only for the area under additional plantation are eligible. Concerning maintenance costs (including, e.g. enclosures, etc.) - the entire "afforested" area (both of natural and artificial origin) can be covered (as the entire area should be treated by early and late cleaning according to the needs of the type of the young forest stand).
- The support will not exclude the use of wood or non-wood materials or of other forest goods and services for economic reasons (such as inoculation of truffles, sustainable

harvesting, thinning with the materials being sold for energy during the maintenance period, etc.) as long as this use does not harm the environmental or protective functions.

- In areas where planting of trees is made difficult by severe pedo-climatic conditions (scarce availability of water, poor soils etc.) support may be provided for planting perennial other woody species, such as shrubs or bushes, suitable to the local conditions.
- For afforestation, for practical reasons, making the delimitation easier short rotation coppice (SRC) should mean that the harvesting cycles are not more than 7 years. Fast growing species for short-term cultivation should mean that the harvesting cycles are between 8 and 15 years and for these plantations only the establishment costs can be supported.
- The recommended ratio of woodland/trees and agricultural land in place is to be defined by the beneficiary country taking account of local pedo-climatic conditions, forestry species (applicable tree and shrubs) and the need to ensure the agricultural use of the land.
- As a recommendation, more than one forest tree species, particularly of multipurpose trees (both fruit and timber) should be planted in the same agroforestry system, thus contributing to wider biodiversity.

Prevention and restoration of damage to forests from forest fires

- Costs for establishment of protective infrastructure should be covered.
- No support shall be granted for agriculture-related activities in areas covered by agri-environment commitments.
- For holdings above a certain size to be determined in the programme, support shall be conditional on the submission of relevant information from a forest management plan or equivalent instrument in line with sustainable forest management as defined by the Ministerial Conference on the Protection of Forests in Europe of 1993 (hereinafter "sustainable forest management").
- Preventive actions against fire should take place in areas classified by the beneficiary country as medium or high fire risk. All preventive actions should be part of forest protection plan.
- The necessary preventive actions have to be targeted according to the objectives of a public programme (national forest programme/strategy, forest protection programme, climate change adaptation strategy, watershed management programme, desertification strategy, etc.).
- In order to restore the damage, a formal recognition by public authorities acknowledging officially an occurrence of natural disaster is necessary. In order to support the restoration activities a minimum of 20 % of relevant forest potential should be recognised as destroyed. The beneficiary country/region should detail in the Rural Development Programme the method of calculation of such damage.
- The beneficiary countries have to ensure that the forest fire and pest and diseases prevention and restoring measures considered above are consistent with the respective national forest protection plans.

- As regards the creation of forest firebreaks, cleared areas, eligible costs may comprise, beyond the cost of establishment, subsequent maintenance costs on the area concerned. However, this support shall not be granted for agriculture-related activities in areas covered by agri-environmental commitments.
- Movable material should not be covered. Only material related to prevention of occurrence of damage should be covered under this measure.
- Other kinds of structural fire prevention investments, such as fire protection belts, are possible and can be considered as eligible.

Improving the resilience and environmental value of forest ecosystems

- This support should not lead to any significant increase in the value or profitability of the forestry holding. However, the support may not exclude the provision of economic benefits in the long-run.
- Investments shall be based on forest management plans or equivalent instrument above a certain size set by the Member State and the should be in line with the relevant and appropriate level plans and strategies, such as biodiversity strategy, climate change adaptation plan/strategy, soil protection plans, watershed/water quality management/protection plans, public health related plans or programmes (concerning public amenity – recreation aspects), landscape management plans (concerning complex, district level plans and programmes in which ecosystem services provided by forests need to be supported by appropriate type and level of investments in forest areas).
- Standard cost could be applied for those appropriate cases when the relevant verifiability and controllability rules are fulfilled, for example, in case of thinning and pruning.

8. Eligible expenditure

Afforestation

Establishment costs may include:

- Cost of plantation and propagation material.
- Plantation and other necessary costs directly linked to plantation, such as preparation of afforestation plan, soil examination, soil preparation and protection.
- Other related operations, such as storing and treatments of seedlings with necessary prevention and protection materials (for example, inoculation with mycelium or nitrogen collecting bacteria, carried out either individually or by fencing the afforested area).
- Necessary treatment connected to the establishment and planting; including watering and cutting.
- Replanting in case of biotic or abiotic damage causing a large scale failure (during the first year of afforestation). In order to replant, a formal recognition by public authorities acknowledging officially an occurrence of a calamity is necessary.

Replanting should be adapted to real needs and justified in the contract. The beneficiary should require an official authorisation before replanting.

Annual premium per hectare may cover:

- Maintenance costs. The period is up to ten years.
- Early and late cleanings.
- Necessary actions in order to ensure that planted trees survive in terms of quantity and quality. These actions are normally composed of weeding, early and late cleaning and may include early thinning (release cutting), depending on tree species and the type of forest.
- Prevention actions against game, browsing animals, pests and diseases in order to ensure long-term results and to avoid unnecessary failure.

Agroforestry

Establishment costs may include:

- Costs of the plantation material and plantation, including storing and treatments of seedlings with necessary prevention and protection materials. Applicable shrub and tree species should be listed in the Rural Development Programme.
- Any other costs directly linked to the creation of agroforestry system (e.g. preparation of the establishment plan, soil examination, soil preparation and protection, etc.).
- Silvopastoral (grazing) system watering and protective facilities (e.g. on site sheds) are eligible.
- Necessary treatment connected to the establishment, including watering and cutting.
- Replanting in case of biotic or abiotic calamity causing a large scale failure during the first year of establishment. However, a formal recognition by public authorities acknowledging officially an occurrence of a calamity is necessary.
- The plantation of forest tree species may be accompanied by plantation of other tree species, such as ancient fruit trees.

Maintenance costs may include:

- Maintenance of the agroforestry system for a maximum period of five years through annual premium per hectare afforested.
- Various forms of support adjusted to the types of agroforestry systems: e.g. area based support for established tree strips or belts, weeding, pruning, and thinning or payments using other appropriate unitary costs.
- Protective actions and investments (such as fences or individual protection tubes, establishment or maintenance of watering places for animals, etc.)

Prevention of damage to forests from forest fires

General establishment costs:

- Protective infrastructures, such as forest paths, tracks, water supply points, excluding landing facilities for commercial activities.
- Firebreaks cleared and felled areas; e.g. gully erosion and avalanche control.
- Local/small scale prevention activities, including grazing animals.

Specific fire prevention costs:

- Operations to maintain protective infrastructure, such as forest paths, tracks, water supply points, firebreaks, cleared and felled areas.
- Preventive forestry practices, such as repetitive vegetation control, cleaning, thinning and diversification of vegetation structure (e.g. diversifying and creating vertical and horizontal discontinuities of the cover).
- Use of grazing livestock: the use of grazing livestock may decrease the risk of fire in such forest areas where vegetation forms a serious risk to fire but can be easily avoided by eliminating this vegetation by placing livestock in that particular forest area[2]. The additional costs incurred in transferring animals to the area with fire risk shall be compensated[3]. The forest area concerned should be classified as medium to high risk forest fire risk according to the forest protection plan.

Restoration of forests damaged by forest fires

- Costs for restoring forest potential damages by fires or other natural disasters, including pests, diseases as well as catastrophic events and climate change related events.
- The cost of restoration may include (as a non-exclusive list): clearing and re-planting of damaged forests, replanting damaged vegetation with high environmental interests (habitat restoration), restoring damaged investments, protective facilities, engineered works, installations, paths and fire observation points.

Improving the resilience and environmental value of forest ecosystems

Eligible costs may include:

- The costs of forest propagation material (seeds, seedlings) used for structural changes, planting, under-planting, forest edge etc., and the related plant prevention, including storage, transport and labor costs. The replanting work up to five years can also be eligible in order to avoid the loss of initial investments.

[2] In some occasions, grazing livestock is the only option due to the fact that some fire risk areas are not always easily accessible to machinery.

[3] The purchase of animals or other costs shall not be covered. The payment should be calculated on the real additional costs incurred in **transporting/moving** grazing animals to the forest area and costs related to **keeping** those animals in that area **before/during the season of fire risk**.

- The costs of materials and/or services, labor used for the above mentioned investments for improving the environmental or public amenity value of forests.
- Thinning and pruning may be eligible if the main purpose of the investment is to improve the ecological value of forests, such as improving the species composition for environmental interests. This can also be applied to recreational interests.
- Regeneration of forests (restocking with the similar one) is not eligible as such. However, if the purpose is to change the structure of the forests primarily for ecological or climate change related interest it can be supported.
- The general maintenance or running costs are not supported through this measure.

9. Selection criteria

- Priority should be given to afforestation that is done for protective purposes, such as soil and water protection, etc.
- In afforestation, priority should be given to the private land owners. Only in cases when there is limited interest by private land owners in this activity, support should be provided to the managers of State land.
- Afforestation application could receive higher rank if the area and planned species are in line with the national or regional afforestation plan or other equivalent document (landscape management plan, watershed management plan, climate adaptation strategy, biodiversity strategy, etc.).
- In case of support to improve the resilience and environmental value of forest ecosystems, it is recommended that the eligible project is in compliance with the relevant forest protection plan as regards the prevention of forest fires and other natural and biotic hazards and relevant appropriate level strategies, programmes and plans. A special attention is to be paid to the selection of afforested areas and species.
- In agroforestry, it is recommended to promote multifunctional systems with higher public benefit, such as erosion/desertification control, animal welfare and biosafety actions (separation of grazing lands by forest belts), or supporting pollinators.

10. Aid intensity and EU contribution rate

- Public expenditure up to 100%;
- EU contribution 85% of public expenditure;
- Maintenance costs to be calculated based on the methodology proposed in the programme;
- Payments per hectare afforested or agroforestry systems established to be determined in the programmes.

11. Indicative budget

Template to be provided by the EC.

12. Indicators and targets to be put in the programme

- Afforested land (ha);
- Area of agro-forestry systems established (ha);
- Area of forests having benefited from support to improve the resilience and environmental value of forest ecosystems (ha).

13. Administrative procedure

Applicant for afforestation should prepare an afforestation plan. Controls should include cross-checks with the databases for the identification of the parcels.

Beneficiary countries shall ensure that calculations for aid granted on the basis of standard costs or additional costs are adequate and accurate and established in advance on the basis of a fair, equitable and verifiable calculation. To this end, a body that is functionally independent from the authorities responsible for programme implementation and possesses the appropriate expertise shall perform the calculations or provide a certificate confirming the adequacy and accuracy of the calculations. That certificate shall be included in the rural development programme.

Beneficiary countries shall ensure that all the rural development measures they intend to implement are verifiable and controllable.

Reduction or repayment of the support

- It shall be regarded as an unauthorized use of the support, and forest plot eligibility will be stopped if:
  - afforestation fails due to the mistake of the beneficiary;
  - the beneficiary uses the support for a purpose other than the approved;
  - after the completion, the beneficiary changes the original purpose of the support;
  - regarding the given forest, the beneficiary makes a modification which is not planned in the forest plan, without notifying the forestry authority or the modification differs from the one presented to the forestry authority; in spite of a warning by the authority;
  - if the beneficiary uses the area of the afforestation or part of it without a permission for another purpose in the support period.
- In case of failure to comply with the conditions of the maintenance support, the maintenance support for the given forest plot may not be paid.
- If the species mix will not be planted according to the plan, the forest plot eligibility for support will be stopped and the maintenance support claimed until that point will have to be repaid with interest.
- If the support conditions are not met in any period of the support duration due to the gross negligence or intentional conducts of the beneficiary, the beneficiary:
  - Shall be obliged to repay the support he/she has already claimed based on this regulation under the rules applicable to the unauthorized use of the support, and
  - May not receive support for an additional period.

Calculation of expenses

Calculation of expenses should be provided in the programme.

The calculation of costs should be based on a nationwide data collection conducted by the territorial bodies of the national or regional forestry authority by questioning several beneficiary groups and by stand types and natural endowments, considering regional and ecological differences. The average costs must be calculated in the course of data processing. On the basis of the result of the data collection, and its own research, the calculation of the costs could be established by an independent body, e.g. a forest research institute or university. The afforestation or reforestation costs include the material costs of the afforestation, the actual costs of planting and all directly related costs (e.g. soil preparation and plant protection).

By using the methodology described above, the nation- or region-wide values of spending relating to the first instalment and maintenance of the target stocks could be established.

The next step could be the determination of intensity of the contribution. Pursuant to the forestry strategic trends based on the domestic forestry potential and preferring the long-term forest use, for the purpose of creating a proper target stock structure, the target stocks could be classified into priority categories and with different intensity of contribution. For example, afforestation with preferred tree species with higher ecological values could receive higher intensity (e.g., 100% for diverse oak and beech forest and lower intensity for other species which have shorter life cycles, such as poplars or pines).

Further differentiation of the contributions could result from the fact that there is a difference between the areas with slopes below, e.g., 10^{o} and over 10^{o} in the case of areas to be afforested (this value could be established according to the regional situation). Data collected by the national forest administration or research bodies may show that the costs are higher as an average in the areas with slopes over ten degrees, because the use of machinery is limited on the higher slopes.

In the case of investment into water access points and other infrastructural elements (tracks, paths), the invoices serve as the basis of the costs. In the case of related maintenance works, e.g. maintenance of fire break zones, the method of calculation could be the same as for afforestation maintenance. The type of costs should be adapted to the nature of the work, e.g. expressed in area or other appropriate unitary costs which ensure the verifiability.

Information sources used for calculations should also be provided as part of the calculation. In case of expert' estimations, the values could be accepted only after verifying by responsible office for agriculture and forestry.

14. Geographic scope of the measure

The geographical scope for afforestation may be limited through the use of the national afforestation programme or guidance document, as part of the National Forest Programmes. These national afforestation programmes or guidance documents should identify in which parts of the country establishment of new forests would serve as a priority.

The geographical scope of forest fire prevention and restoration activities will be limited to the areas classified as medium or high fire risk.

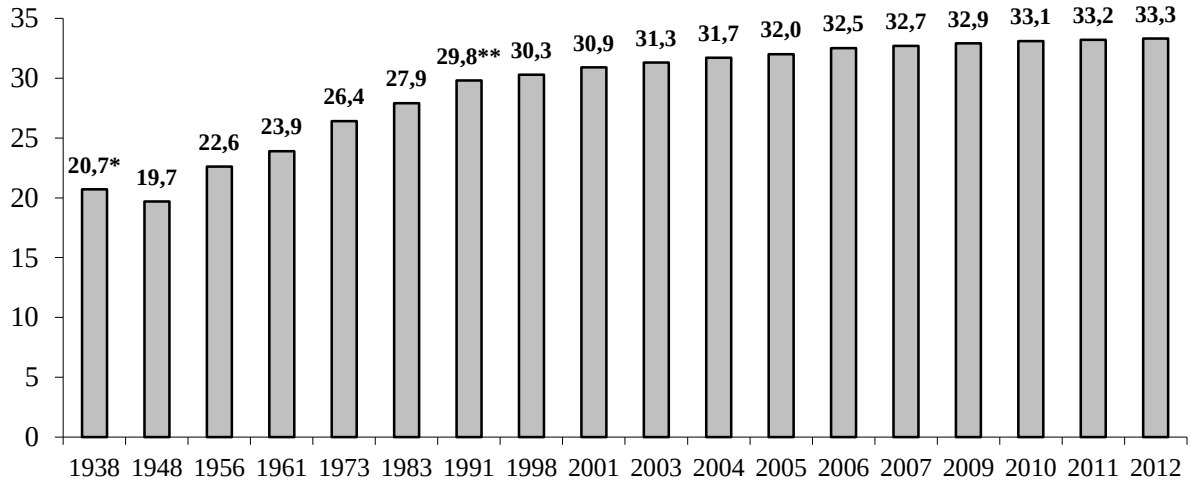
National forest programme in sustainable forest management: Lithuanian case

Diana Mizaraitė, Stasys Mizaras

1. Lithuanian Forestry Sector

Forests, covering about 33.3% of Lithuania's territory, are an important element of the country's landscape, economy and culture. Since the 1st January 2003, the forest land area has increased by 128,000 ha corresponding to 2.0% of the total forest cover (Fig. 1.). The average forest area per capita is 0.68 ha.

Figure 1. Forest coverage in Lithuania, 1938-2012.



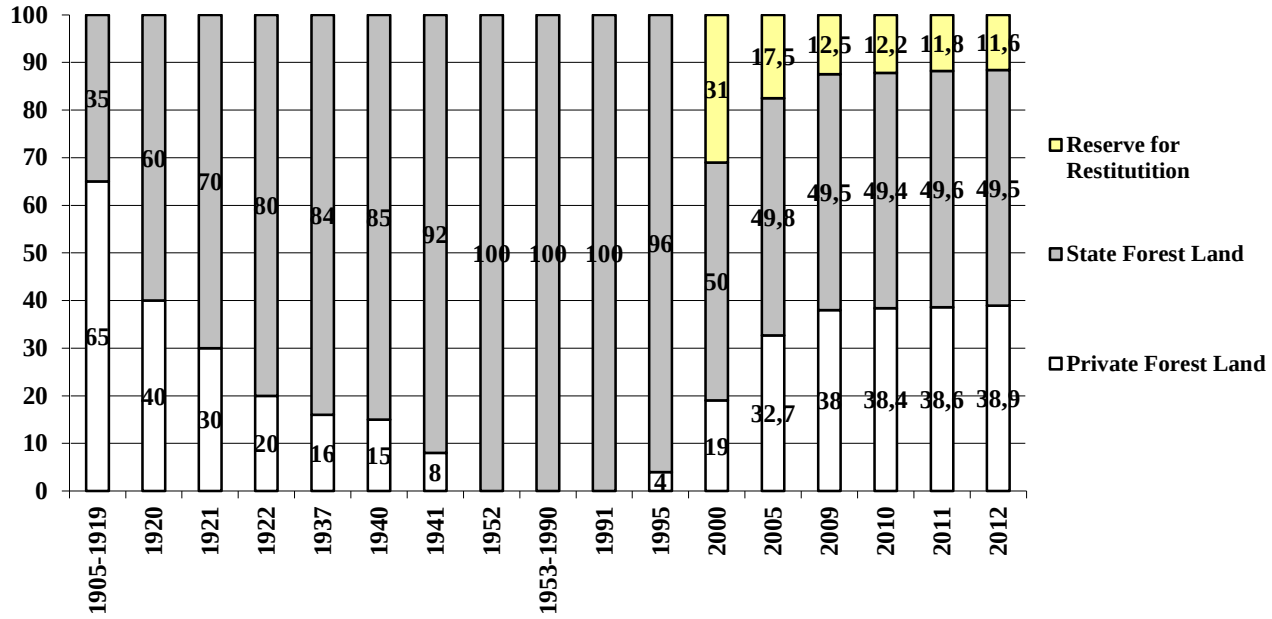
** Expert estimation, including Vilnius region forests*
*** Global Forest Resources Assessment (FRA 2005)*
Source: The chronicle of Lithuanian forests XX century, State Forest Service.

In the beginning of 2012, the distribution of forests by functional groups was as follows: Group I (strict nature reserves): 26,300 ha (1.2%); group II (ecosystem protection and recreational): 266,800 ha (12.3%); group III (protective): 331,200 ha (15.2%); and group IV (exploitable): 1,548,600 ha (71.3%). The national network of protected areas covers 15.6% of the total Lithuanian territory. A total growing stock volume amounts 501.3 million m^3. The average growing stock volume in all forests since 2003 increased from 11 m^3/ha up to 240 m^3/ha. About 7 mill. m^3 are felled each year.

2. Forest ownership in Lithuania

In Lithuania the private forest ownership dominated till Land Reform, which has been implemented in 1920. Private forest owners owned about 65% of total forest area. Six hundred two thousand hectares of private forests have been transferred to the state forests during 1919-1937. Since 1938 private forests constituted only 173 thousand hectares (about 16% of total forest land area). In 1940 private forests have been nationalized by Soviet Governance. Since 1950 the private forest ownership has been avoided in Lithuania (Fig. 2).

Figure 2. Forest land ownership in Lithuania for period 1905-2012.



Source: Lithuanian Statistical Yearbook of Forestry, 2000, 2005, 2009, 2010, 2011, 2012.

After the restoration of independence forest property rights have been restored. The structure of forest ownership has changed due to an ongoing Land Reform process. Around the half (49.5%) of all forest land in Lithuania is State Importance. The state forests are managed by 42 state forest enterprises and 1 national park, under subordination of the Ministry of Environment. The total area of state forests is 1,076,500 ha (01-01-2012). State Forest Enterprises are divided into 354 forest districts, which average size is 3000 ha (Lithuanian Statistical Yearbook of Forestry, 2012). Today the private forest sector constitutes 248.0 thousand private forest owners and 844.5 thousand hectares of private forests (01-01-2012). This is 38.9% of total forest area. The average size of private forest estate is 3.3 ha (01-01-2012). According to the sociological survey of private forests owners results of the year 2004 show that about 55% of private forest owners live in rural areas. The majority (over 82%) of private forest owners reside in the county where their forests holdings are located. At a level of 30.7% forest owners are more than 70 years old (Mizaraite, D. and Mizaras, S., 2005). In Lithauania it is observed the process of private forest owner's transformation. The survey results obtained in the year 2013 showed that forest owners older than 65 years constituted only 7.2 percent (UAB "Eurosprendimai", 2013). Due to a lack of formal education, in many cases small land owners are not really interested in the development of sustainable forest management and high quality forests.

3. Forests restitution process

With the restoration of independence, on 11th of March 1990, a process of drastic political, social and economic transformation began, which has profoundly affected the forestry sector. All forest land was first transferred to a country-wide network of 43 state forest enterprises under the Ministry of Forestry. A restitution model with the compensation elements was selected. Two acts constitute the legal basis for land restitution and privatization: the Law on Land Reform, adopted on 25 July 1991, and the Law on the Procedure and Conditions of the Restoration of Ownership Rights to the Existing Real Property, adopted on 18 July 1991. In

1991, the policy has restrict the size of private forest estates to a maximum of 10 ha per individual owner. Private forest property was to be granted only in production forest areas, meaning that all protected forest areas would have remained under state management. This solution would have left, overall, about 95% of forests in Lithuania under the management of the State Forest Administration. Within one year period the maximum size of forest estate per individual owner was raised from a maximum of 10 to a maximum of 25 ha. In the southeast of the country, there were, however, no limits provided as to size of individual private forest estate. The government is considering the possibility of raising the private forest estate size to a maximum of 50 ha per individual. Confusion in the restitution process is created by changing maximum size limits of individual private forest estates and through regulations enabling individuals, entitled to receive agricultural land through the restitution process, to claim forest land instead. Furthermore, individuals, with the right to claim forest land, are able to choose monetary compensation instead. Since the 1st May 2005, companies are allowed to bay and own forest land. The restitution process is not yet completed in Lithuania. The major problems on forest restitution process are:

- a slow-proceeding Land reform that has not been completed yet;
- the complex bureaucratic procedures for the restitution of the forest land;
- the restriction for forest area restitution - first till 10 hectares, then till 25 hectares, and then till 150 hectares;
- forest holdings were not restituted in strict forest protected areas and other national significance forest areas.

In 1995 foresters professionals had a possibility to buy up to 5 hectares of forest land. For forest land purchase vouchers were used. Totally privatized forest land areas were about 8 thousand ha.

4. Legal acts for insuring sustainable forest management and process of National Forest Programme

Until the restoration of independence in Lithuania (former Lithuania SSR) forest policy has been shaped according to the Soviet Union's forest law. All forests were state property or managed by the kolkhozes. Forestry was managed according to a centralized plan, which has been approved by the state institutions. The determination of timber prices has been centralized.

In 1994 the Independent Republic of Lithuania has adopted the Forest Law which defined the basic forest policy statements. The Forest Law was issued on 22 November 1994. It was updated in 1996 and 1999. In 2001 the new Forest law was approved by the Parliament (Seimas). In new Forest Law basic principles of sustainable forest management and biodiversity conservation were introduced in a broader sense. The Forest Law establishes rights and duties of all forest managers, owners and users in the Republic of Lithuania to: utilize, reproduce, grow and protect forests, strike a balance between the interests of forest owners and society, establish the main principles of forest management. After the Lithuania accession to EU, the Lithuanian forest policy is influenced by the EU directives, particularly by issues of protected areas.

The initiation of NFP-process can be traced to the 1990's in Lithuania. Concept of NFP is used as an instrument for forestry sector planning and objectives implementation. Strategic forest sector planning is a continuous process of decision making with a medium to long-term

focus. Recently the goals of sustainable forest management are incorporated into NFP concept and NFP's very often are defined as a mean of sustainable forest management.

Formal initiation of the first NFP was launched by the Ministry of Forestry (today functions of the Ministry of Forestry is delegated to the Ministry of Environment). The first draft project of the NFP document "Lithuanian Forestry and Wood Processing Industry Development Programme" has been prepared in 1992. This document and its Action Plan were approved by the Government of the Republic of Lithuania in 1994. NFP document consisted of two parts: forestry; and the wood industry. The main chapters on forestry are: forest and forest resources; forecast of forest resources utilization; forest policy; forest ownership and privatization; forest management and control; reforestation; forest sanitary protection and fire prevention; timber production (logging); and the education of forestry specialists and forest workers. The main chapters of wood industry are: production of wood products; timber consumption; domestic and foreign trade of timber; roundwood; wood products; firewood standards and measurement rules; and research.

In 1996 the Forestry and Wood Forest Industry Development Programme was revised and expanded with the addition of new chapters on the protection of forest biodiversity, research and scientific surveys. The action plan for 1996-2003 was also revised and expanded (Mizaras, S., Mizaraite, D., 2004).

NFP policy process till 2002 was characterized by:

- affords to create the national legal bases for sustainable forest management. In 1994 Forest Law was adopted, which defined the basic forest policy statements. In new Forest Law basic principles of sustainable forest management and biodiversity conservation were introduced in a broader sense. The new Law of Protected Areas has been amended by the Parliament on the 4th of December 2001;
- insufficient representation of private forest sector;
- weak inter-sectoral coordination and communication;
- limited participation of interest groups and stakeholders.

The Lithuanian Forest Policy and its Implementation Strategy was approved in 2002. This document covered the forest policy formulation principles, guidelines of the forest policy, SWOT analysis and the vision of the forest sector, the mission of the state and strategic forest development objectives. Several important strategic forest development objectives could be mentioned, for instance: involvement of the society in the decision-making process of the major forest issues, rational, sustainable and continuous use of the forest resources and increase of the forest productivity, ensuring the stability of forest ecosystems, preservation of the biodiversity and improvement of forest healthiness, meeting the general forest-related society needs, increase of forest coverage and etc. (Lithuanian Forestry and its Implementation Strategy, 2003). Also the Action Plan has been designed for the implementation of the strategic forest development objectives, which include definite actions and means for the development of separate strategic objectives setting up the period for the implementation of these means and defining responsible institutions. Several important measures and means related to social and cultural aspects of forests, which have been designed in the Action Plan mentioned: the organization and analyses of public surveys on forest issues, organization of discussions on forest issues with private forest owners, forest specialists and the public, organization of the working groups of forest specialists, representatives of all interested parties and stakeholders to deal with the most important

problems in forest sector, organization and implementation of unified forest information system, setting up the priorities of forest research activities, etc. The new Action Plan was approved in 2007. New forestry policy strategic document "The National Forestry development programme 2012-2020" was approved by the Government of the Republic of Lithuania on 23rd of May, 2012. The document covered forest sector development objectives, tasks, valuation criteria and their importance, and programme implementation procedure. The new Action Plan for this programme implementation should be prepared during the year 2013.

5. Forest Management Certification Scheme as an instrument for ensuring sustainable forest management in Lithuania

The forest certification is one of the instruments for ensuring sustainable forest management. The certification of state forests was completed in 2012. State-owned forest enterprises of Biržai and Panevėžys were the first two to be granted FSC (Forest Stewardship Council) certificates in 2001. Directorate General of State Forests had taken over the organization and coordination of state forest certification since 2002, implementing forest policy and organizing state forest management and use of forest resources. Presently all 42 forest enterprises possess international FSC forest management certificates. Annual auditing of forest certification is carried out every year. Certificates are renewed every 5 years. Main changes in forest management which appeared as an outcome of forest certification are:

- strict requirements on forest worker's job security;
- higher qualification of contracted staff on subjects related to ecology and technical field;
- gathering information about valuable ecological factors and evaluation of it before forest felling;
- gathering and accumulation of information about rare animal and plant species, forest ecosystems;
- leaving and protecting of inanimate wood in forest stalls;
- selecting and preserving biological variety of trees;
- decreasing the usage of chemical substances in forests;
- segregation and preservation of 5 per cent of forest areas without any management;
- publicizing the planned and presently executed forest management;
- segregation of peculiar value forests.

Today the forest management in private forests is not certified. The PEFC scheme for private forests certification is adapted in Lithuania; however the financial support for certification process is needed.

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Participatory mapping and registration of communal forests and pastures to IPRO

Isuf Omuri*

1. Context

This document sets out the approach and strategy of the Strengthening Sustainable Communal Forestry II project towards securing property rights through local user agreements. Through this project, SNV-CNVP has initiated the forestry and pastures property mapping process through participatory mapping. The objective of participatory mapping is to enable communities to carry out the transcription of their forest land into maps. During this process, they together determine their forest land use, goals and strategies of management through a participatory process. Involving local community with their experience improves the accuracy and precision of obtained data. Participatory mapping has further contributed to:

- Identife forest and pastures areas traditionally used by users
- Provide common sense for collective action in communal forest;
- Improve communal forest management, land-use and planning through awareness of forest users on their forestland rights;
- Broaden participation of local people in decision making and capacity development on forestland demarcation.
- Support forest land dispute or conflict resolution.

Issuing contracts between LGUs and traditional users was a challenge because it is the first time that communal forests registered at Immovable Property Registration Office (IPRO) are given in use to farmers based on a contract accompanied by a set of legal and technical documents. All the documents are prepared in consultation with relevant stakeholders.

CNVP/SNV has initiated the forestry and pastures property registration to IPRO in some pilot communes. The objective was to create examples and to enable registration of communal forests and pastures to IPRO. During this process, all responsible stakeholders are involved. The decision of government to transfer ownership of forest and pastures into communes dates since 2008, but the process has not started till lately, when considering the transfer as a crucial action for decentralization, CNVP-SNV has put it under their objectives. This has further contributed to:

- Defining clear roles and responsibilities of main stakeholders
- Clarification of all legal aspects for registration of these assets;
- Putting together and starting collaboration between LGUs and IPRO;
- Setting up models to be followed.
- Increasing awareness of non-pilot communes to be involved in this process.
- Sharing of this experience in other regions.

* CNVP Albania

There have been some sporadic cases of small areas registration , however the registration of a whole area (that has been transferred) has not succeed due to many reasons. First of all the process is responsibility of LGUs, but they were not aware about it. Moreover, lack of commune staff expertise, is a gap considered by them as difficult to be overtaken.

Thus, SNV-SNVP as a unique experience so far, needs to be shared and draw lessons upon.

2. Approach

A special methodology is prepared and applied. The process is done through participation of the community and as such the following actions have been taken:

- Participation of community in the whole process of participatory mapping
- Involvement of women as owners/users and neighbours as well.
- Increasing capacities of community to collaborate together for their own interest.
- Demarcation of forest users parcels.
- Creating digital maps of village boundaries and forest users' parcels.
- Field forms created for each forest user to record information for each parcel
- Set up of a database jointly with forest users to store gathered information
- Using up to date technology in participatory mapping (GPS software and GIS)
- Preparation of a set of documents needed for contracts between LGU and traditional users
- Signing of the contracts.

Gender equity is respected during the entire process. Field formats of boundary demarcation are accompanied with co-user format signed by commission and stamped by village head of elderly commission.. This is done per each plot identified in the field. Till now two contracts are signed with women as users.

Forest maps produced till now are based on Albanian topographic maps and all of them are printed in a scale of 1:25.000. These maps contain irregularities and as such they cannot be accepted by IPRO.

Main problems solved by the project consisted:

a) Forest maps are designed taking in consideration that parcel of forest is base of forest division. As border line in this case are used streams and configuration of terrain. This is not accepted by IPRO because they work with maps on a scale of 1:2500 and streams, roads, irrigation channels etc., have to be separated as other properties, and are not reflected in forest maps.

b) Forest and pasture maps overlap with agriculture land

c) Forest maps are not prepared based on orthophotos that is in contradict with CDM #332, date 12.03.2008

d) Based on IPRO regulation number 184, date 08.04.1999, amended by regulation 7, date 07.01.2000, it is obligatory to prepare new maps according to IPRO standards.

e) Village is known by IPRO as cadastre unit. However, village boundaries do not

match in forest maps, IPRO maps and reality in the site.

The fulfilled requests of IPRO were:

- Decision of Councils of Ministers for transferring of forests and pastures to LGUs
- Maps prepared as for the standards of IPRO
- Documents accompanying the application

3. Partners

The Main and direct partners were:

- Community of target villages.
- Communes with their staff.
- FPUAs
- Village commissions
- Regional federation
- DFS through its extension service staff
- IPRO
- Head of villages' elderly commissions.

4. Results

- The registration process to IPRO is completed and contracts signed in target villages.
- Field formats filled per each user and plot
- A data base is set up
- Digital polygons and maps are produced
- Set of documents for signing contracts are prepared. This set contains: Declaration of the user, user request, contract between commune and traditional user, map of plots given in use, field format for border demarcation in the field, co-user format, orhtophoto of the area with polygon of plot reflected in it, polygon of plot, sub parcel description
- Commune Council has authorized the Mayor to sign the contract with traditional users based on documents. Documents prepared as per standards are signed by commune Mayor.
- The registration process to IPRO is completed for areas transferred in ownership to pilot communes.
- New experience was gained and its sharing has started
- Accurate forest maps produced. All irregularities corrected as per standards of IPRO.
- LGUs got accurate documents not just for forests and pastures but even for other properties linked with natural resources.

- Digital maps are produced and it is possible to link data base with these maps
- LGUs that registered these areas have the right for further transactions like contracting for business, giving in use to traditional users, etc.

5. Lessons learned

- It is important to set out clear rules for all stakeholders involved in the process;
- Border demarcation using GPS device needs knowledge and skills on mapping. Polygons taken have to be exported in orthophotes, because farmers can see their territory and transparency is needed in every step of this process. Sometimes new technology can confuse people, thus using visual tool is appreciated.
- Preparation of documents for contract signing needs some expertise on mapping software, and farmers need support. Kukes federation has capacities to offer this service.
- Sub parcel description of forest management plan needs to be updated especially for forest area parts to be given in use.
- Strategy of forest management has to be discussed with farmers taking in consideration their needs and capacities of the forest/pasture area they traditionally used. Illustrative charts or any other simple and understandable tool is required.
- Signing of the contract between commune and user gives farmers more power on sustainable management of their forests/pastures.

For registration of forest and pasture areas to IPRO the following steps have to be followed:

a) Gathering of existing maps
b) Assessing material collected and scanning of maps
c) Digitalization of existing maps
d) Joining of these maps and putting them on orthophoto
e) Preparation of new map
f) Process of topology
g) Preparation of maps for printing
h) Printing of maps and book of parcels and delivering them to IPRO

When all these steps succeed, LGU applies for registration to IPRO. In this stage the needed documents are:

- Official paper of LGU for application to IPRO
- If the documents are not sent by Mayor an authorization for commune staff issued by the Mayor is needed
- Printed maps and book of parcels
- All the materials in electronic version maps in Autocad or GIS
- CDM for areas to be registered accompanied with forest maps as the attachment of this decision

- Expertise on mapping software is needed (like GIS, AutoCad, etc.). Also close collaboration with IPRO is very important.

6. Sustainability

- Getting ownership rights is key on further development in these poor rural areas. Some farmers in other villages of target communes are interested on this process.
- Issuing contracts gives users access to apply for grants or loans because they have legal documents. This has an influence on improving their forest land, meeting their needs and improving livelihood in these poor areas. Moreover, in some areas farmers can profit from subsidy scheme of Agriculture Ministry for cultivation of nut trees.
- Decentralization is in the policy of government. LGUs should take care of their forest areas. Giving them in use to traditional users minimizes the cases of forest fire and reduces the risk of erosion. Proper management of forests generates more income for farmers and the whole community.
- Getting ownership rights is key for further development in these poor rural areas. LGUs can prepare and address projects for their development and can find support for their implementation.
- Decentralization is in the policy of government. LGUs have to take care for their forest and pasture areas and they have the right to collect fees and tariffs for the property they received.
- From this property LGUs can create re-investment fund that contributes to sustainable management of these natural resources.

Law for forests (2011) and sustainable development of forest sector in Bulgaria

Nickola Stoyanov*, Maria Stoyanova*

1. Introduction

Bulgaria's forest land occupy 4,148,114 ha and covers 37,4% of the total territory of the country, where forested area is 3,774,778 hectares or 91 %, and the uncovered area is 373, 336 ha (2011). They are an important national resource with economic benefits for the country and people, biodiversity conservation and the environment. Bulgaria's forests maintain the quantity and quality of 85% of the water flow of the country, or around 3,6 billion m^3 of clear drinking water. State of the Bulgarian forests directly affects climate and water resources of the neighbouring Balkan countries and determines the quality of life of seven million Bulgarians and over fifteen million people in the Balkans.

Bulgarian forests have great conservation value due to their biodiversity, topography and distribution. They contain more than 80 % of the protected plant species in the country, over 60% of endangered animals, eight of the twelve landscape complexes defined by the National Strategy for the Conservation of Biodiversity. They provide removal of greenhouse gases between 10,7% and 18,9% of total greenhouse gas emissions in the country. No less important are their economic, environmental and social functions for the sustainable development of the country.

The Forest Law after the beginning of transition from centrally planning to market economy in Bulgaria was adopted in 1997. During its implementation (1997-2011) the Law on Forests was changed 33 times.

A National Forest Policy and Strategy "Sustainable forest development in Bulgaria 2003-2013" was adopted in 2003. It was improved and changed in 2005 (National Forest Policy and Strategy 2006 – 2015).

In 2006 it was elaborated and accepted the Strategic Plan for the Development of the Forest Sector 2007-2011.

The audit report notes that the completion of documents for forestry is a good example of a set of documents, establishing a framework for sustainable development, but during the implementation the economic conditions have changed essentially, consequently it is a need to change forest legislation.

2. Short characteristic of forests in Bulgaria

The main indicators that characterize Bulgarian forests are showed in the table 1.

* University of forestry, Sofia

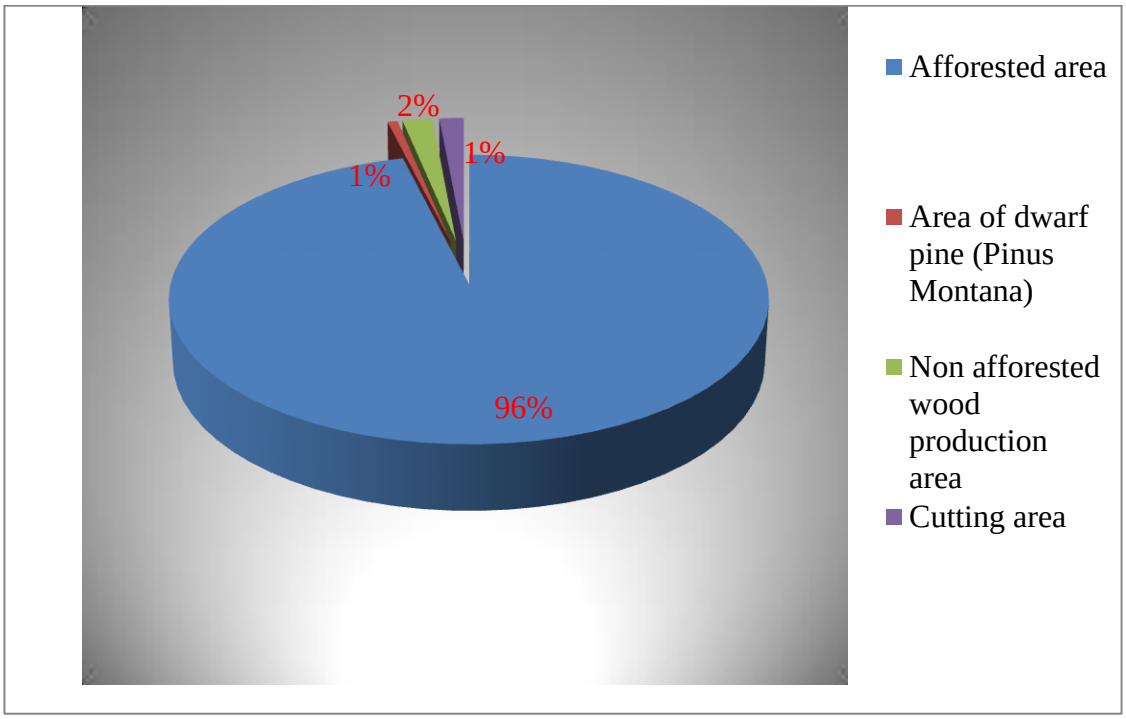
** Forest research institute - BAS, Sofia

Table 1. Indicators that characterized forests in Bulgaria in the period 2000 -2010

Indexes	**2000**	**2005**	**2010**
1. Total forest area, ha	3 914 355	4 076 464	4138147
Increase in %	100	104,1	105,7
2. Afforested area, ha	3 375 117	3 651 243	3737542
Increase in %	100	108,2	110,7
3. Percent of forests with special purposes	34,2	31,9	38,3
4. Distribution of forest area, according to The type of ownership:			
-State	3324130	3 131 825	3066771
-Municipality	234773	464 929	503694
-Private natural persons	290008	393680	421885
-Private juridical persons	3547	9508	29945
-Religious communities	21027	22666	23243
-Forests on agricultural territories	1935	53 856	92609
5. Total growing wood stock, 1,000 m^3	526 063	590 781	644 840
6. Mean wood stock per ha, m^3	156	162	172
7. Mean annual increment, 1,000 m^3	11 101	14 120	14 400
8. Mean increment per ha, m^3	3,3	3,9	3,9
9.Average tree age, years	44	51	53
10. Percent of coniferous	33	29,5	30,5
11. Mean stand density	0,73	0,72	0,73
12. Wood available for harvest according FMP, 1,000 m^3	5416	5 298	4 892
13. Total felling, 1,000 m^3	3739	4165	4333
14. % FMP planned harvest utilized	69,2	85	89
15. % of harvested wood according to the current increment	33,7	29,5	30,1
16. % of growing stock harvested	0,71	0,70	0,67
17. Felling per ha of forested area, m^3	1,12	1,14	1,16

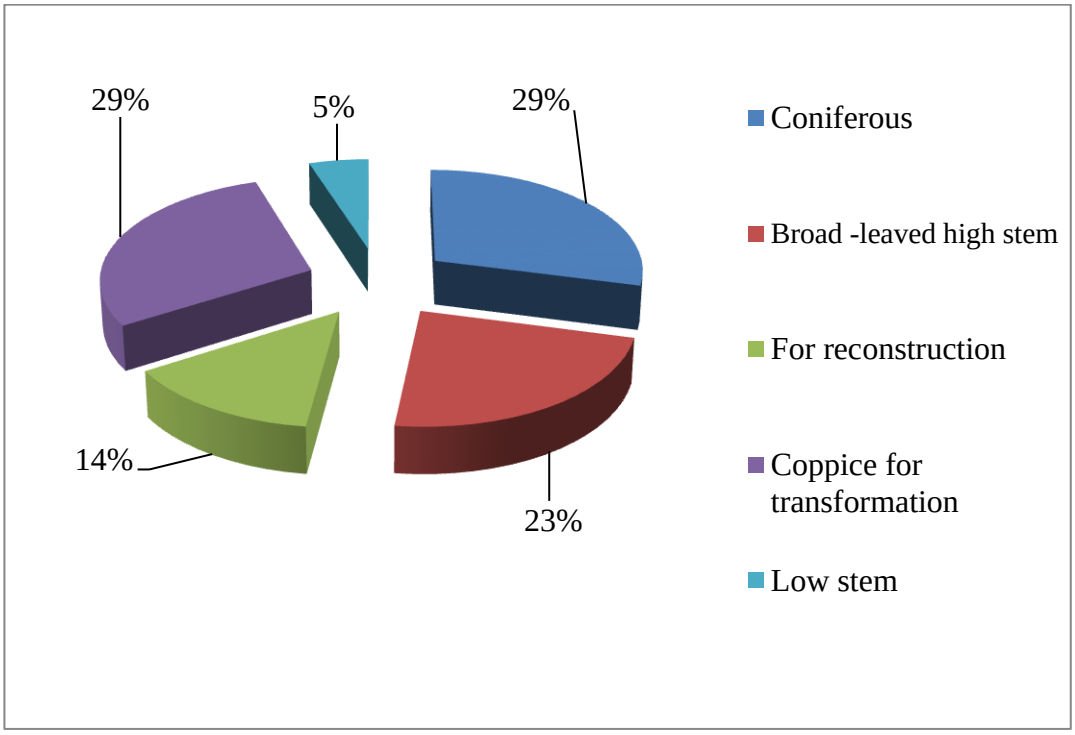
Data from the table showed that in the period 2000 – 2010 all forest indicators had an increase trend. Only 4 % of forest areas are non-productive (fig.1).

Figure 1. Distribution of forest area in ha



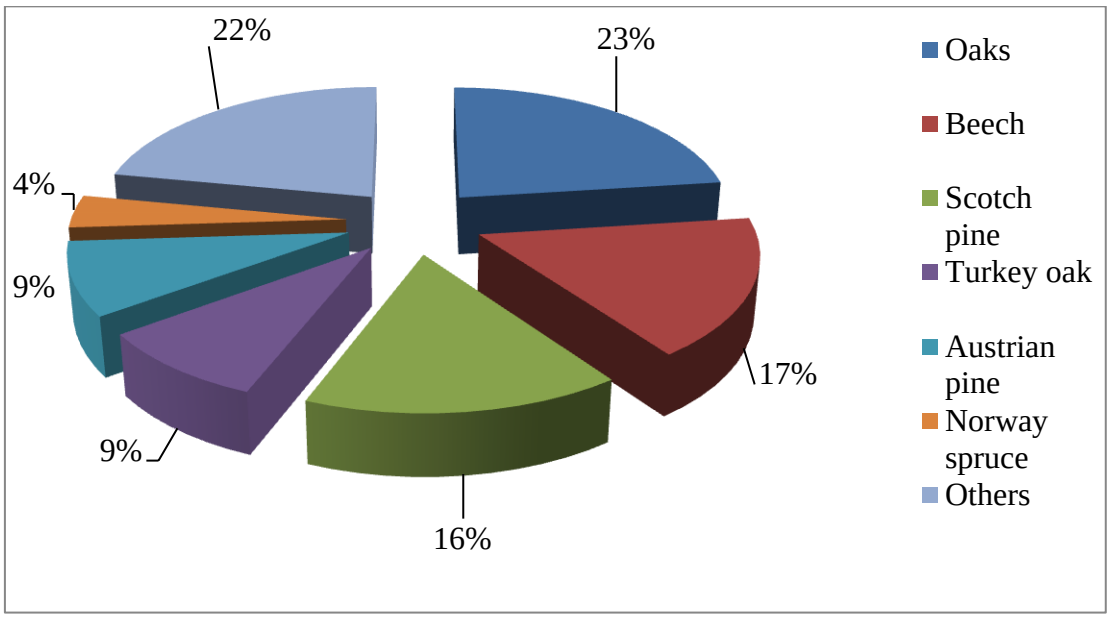
Coniferous, Coppice for transformation and Broad leaved high stem type of forests occupy 81% of all forests in Bulgaria (fig.2) and are a good base for developing productive and sustainable forestry.

Figure 2. Distribution of main forest types in Bulgaria



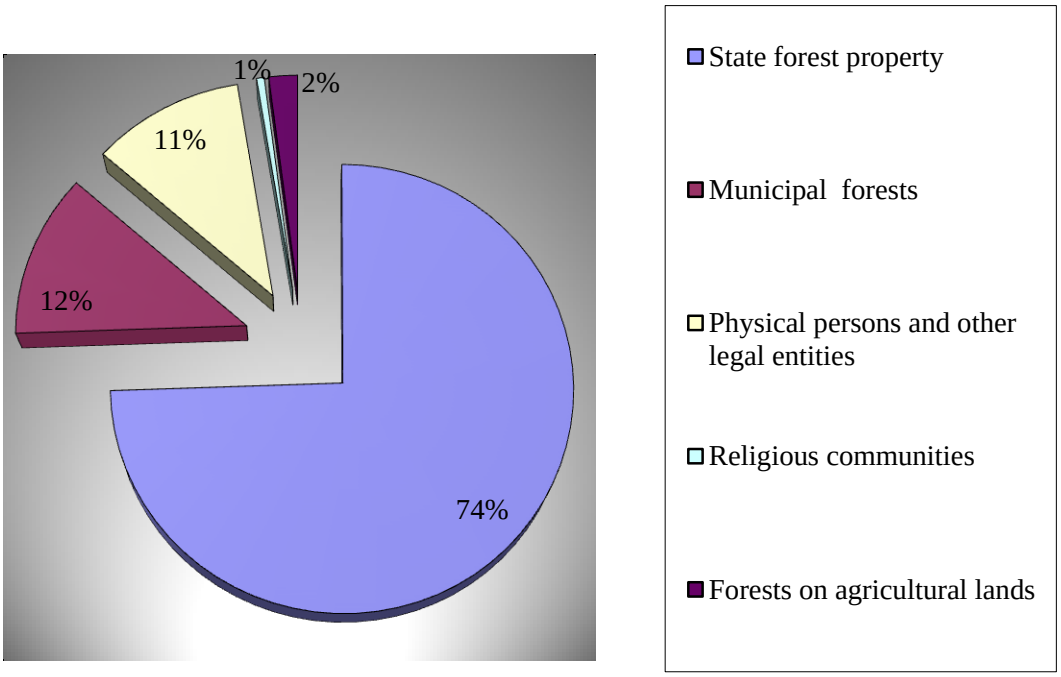
The main tree species in Bulgarian forests are Oaks, Beech, Scotch pine, Turkey Oak etc. (fig. 3).

Figure 3. Distribution of main forest tree species



Distribution of forest lands according to the ownership is showed on fig. 4.

Figure 4. Distribution of forest lands according to ownership



The data for distribution of forest lands according to ownership indicate that state property predominate (74%) and municipal and private forests are approximately equal (12 and 11%).

3. Why was decided to elaborate A new Forest Law?

Based on the analyzes carried out in recent years, the results and recommendations of a number of studies and projects, it was recommended to solve two main goals in the forest sector:

- Sustainable and competitive development of forest sector in accordance with principles for multifunctional management of forests.
- Improvement of protection and helping adaptation of Bulgarian forests towards climate changes.

To achieve these goals it was decided to develop complete legislative package for optimizing organization structure for management of state forests by dividing public and control functions from economic and business functions.

4. Short characteristics of new moments of the law for forests (2011)

In 2011, it was adopted the new Forest Law. This law regulates the social relations associated with the protection, management and use of forest areas in the Republic of Bulgaria in order to ensure a multifunctional and sustainable management of forest ecosystems. Objectives of the law are updated and consistent with the criteria for sustainable forest management and include:

- Protection and enhancement of forest area;
- Maintenance and improvement of the forests;
- Ensure and maintain the ecosystem , social and economic functions of forest areas;
- Ensure and increase the production of timber and forest products through environmentally friendly management of forest areas;
- Maintenance of biological and landscape diversity and improve the populations of species of wild fauna and flora and mycota ;
- Provide opportunities for recreation of the population and improve the conditions for recreation;
- Striking a balance between the interests of society and the owners of woodlands;
- Supporting and encouraging landowners in forest areas;
- Implementation of international and European commitments to conservation of forest habitats.

The Law for Forests (2011) is characterizing by introducing new categories and new regulations.

The forests in Bulgaria were divided into three new categories:

- Protective forests;
- Special forests;
- Business forests.

Protective are forest areas for the protection of soil, water, urban areas , buildings and objects of infrastructure, treeline , shelterbelts and forests created according to technical projects for erosion control .

Special forests are :

- Forest areas within the boundaries of protected areas based on Law for Protected Territories and Protected Areas designated under the Biological Diversity Act , as well as those on which under other laws are defined and introduced special status and modes;
- Forest areas for seed plantations and gardens, forest nurseries, experienced and geographical cultures of forest tree and shrub species, arboretums, research and training and experimental forests, nests, up to 200 m around the tourist lodges and sites of religious significance, as well as intensive bases for management of the game;
- Forest areas with recreational importance, for maintaining the landscape and of high conservation value.

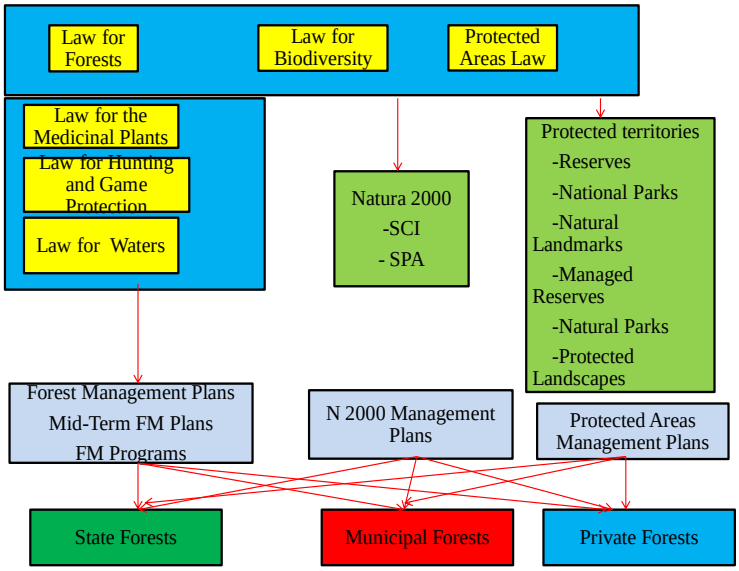
Business forests are forest areas that are not included in the above mentioned categories and whose management is focused on the sustainable production of timber and non-timber forest products and services.

Forest inventory and forest management planning was improved – it will be introduced the national forest inventory and new principles of planning. There are defined levels of planning and it was defined who and how will be developed the National strategy for forests, strategic plan, regional and local plans, and forest programs (fig. 5).

A special section is devoted to the Forest certification – there were defined the basic requirement for carrying out certification.

There were improved rules to change the purpose of forest territories use.

Figure 5. National legislation and the related forest planning



In the Forest Law are given detailed rules for the management of forest areas – how to carry out management, afforestation, protection from erosion, felling etc.

In another section were developed rules for use of timber and non-wood forest products.

There are established rules for the management of forest areas owned by the municipalities, private companies and individuals.

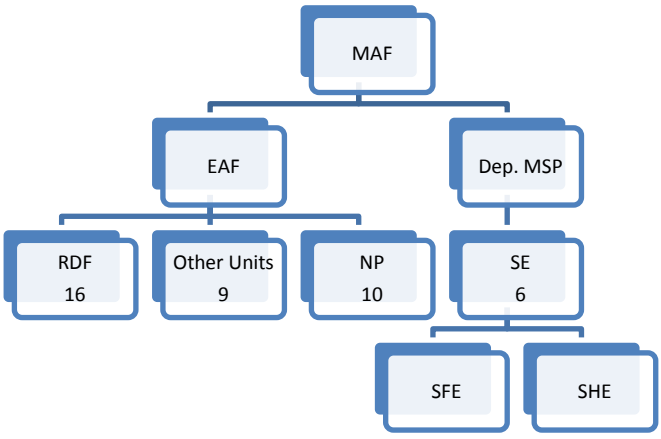
The control will be performed by EFA and RFD and will cover all types of property, controlling the way of planning and implementing of forest operations (planting, harvesting etc.).

Operative institutional frame in the forest sector is based on the new Forest Law that has not an analogy in over 130 years forest history of Bulgaria. As the main owner of forest territories in Bulgaria – the state (71 %, without national parks) has apparently created two functional branches with common principal –Ministry of Agriculture and Foods, respectively with splitting of control and administrative functions from business functions, connected with direct management of forest territories. Implementing the control and administrative functions is committed to the EFA, financed by state budget, and the business functions in the forests state property – to the state forest enterprises, financed by incomes from business activity. In addition to this, it is regulated equity of all type of property on the forest territories and it is given relevant rights and obligations to the non-state owners of forests.

The main goal of this institutional frame is the financial and management independence of both functional branches to reach better results – from one point at the protection of forests, and from another - to reach better financing results, which would lead to the fulfilment of projected activities in the forests and in general to the reinvestments in the forest sector.

As a result of last structure reform in the state forest sector related to EFA is separated state forest administration with control and public functions with their structures – regional forest directorates (RFD) and specialized territorial sections (STS), and in relation to state forest enterprises (SFE) – business units, which implement the functions on management of state forest territories. In this way EFA and their structures don't participate directly or indirectly in the management of state forest enterprises, thus functions, they implement on all owners of forest territories, are mainly control (fig. 6 and 7).

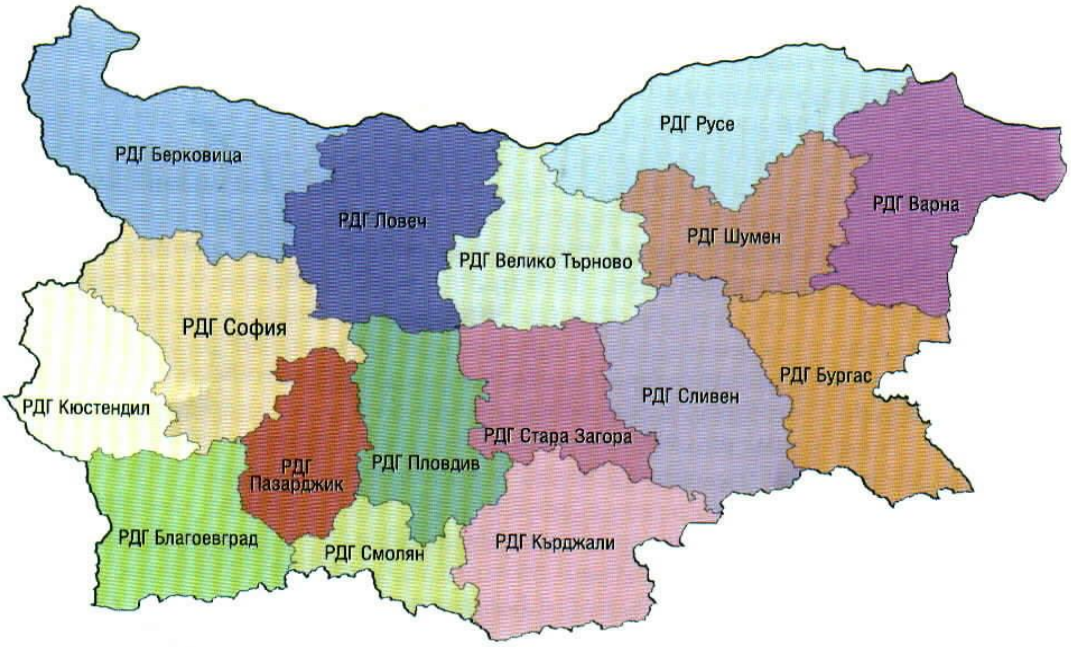
Figure 6. Organization of management of forests in Bulgaria



MAF – Ministry of Agriculture and Food; EAF – Executive Agency of Forests; RDF – Regional Directorate of Forests; NP – Natural Parks; Dep. MSP – Department of Management of State Property; SE – State Enterprises; SFE - State Forestry Enterprise; SHE – State Hunting Enterprise

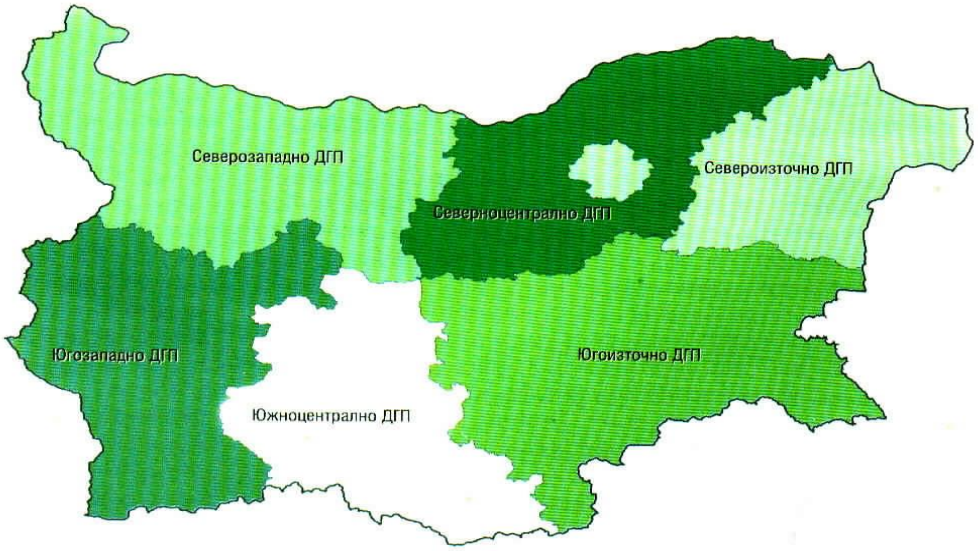
Now EFA is organized on two levels – central management, 16 RFD and relevant STS, including directorates of natural parks.

Figure 7. Territorial distribution of Regional Forests Directorates in Bulgaria



Forest territories – state property are managed by six forest enterprises in the structure of which as territorial units are included 164 State Forest Enterprises and State Hunting Enterprises. In their activity they are helped by department "Management of state property" and section "State Forest Enterprises" at the MAF (fig. 6 and 8).

Figure 8. Territorial distribution of State Enterprises in forestry of Bulgaria



For the first time in Forest Law (2011) were defined ecosystem services as public benefits from woodlands:

- protection against soil erosion by avalanches and floods;
- securing the quality and quantity of water;
- maintenance of biological diversity;
- shielding, sound absorption and dirt, keeping the microclimate;

The new Forest Act (2011) made it possible to solve several emerging problems in the past years, namely:

- split control of business functions into the forest;
- introduction of equality of the different types of property;
- an independent state oversight bodies;

5. Forest Law and sustainable development of forests

According to the requirements of Forest Law the process of elaborating a new National Forest Strategy started and will be finished in the next several Months.

The elaborating of new Strategic plan for the development of the Forestry Sector (till 2020) will start after acceptation of NFS.

For sustainable development of forestry will help the following rules of the Forestry Law (2011):

- introduction of the three-tier system of planning in the forestry sector - short-term (operational), regional and strategic planning;
- defining principles of management ownership of forest areas into municipalities, individuals and legal entities.
- separation of the state forest administration and control functions and other state forest enterprises engaged in economic activities in the forests.

Since the introduction and implementation of the Forest Law it is expected to achieve the following objectives:

- Ensure sustainable development of the forestry sector by achieving an optimal balance between environmental functions and their ability to provide long-term tangible benefits and services;
- Strengthening the role of forests in providing economic growth of the country and even (balanced) regional socio-economic development;
- Increasing the contribution of the forest sector in the green economy.

6. Conclusions

Bulgaria has a modern Forest Law, designated in the country, as well as long traditions in organized Forest management for more than 100 years.

The enforcement of the Forest Law and its provisions is controlled by the authorities and Executive Forestry Agency under the Ministry of Agriculture and Food. The Forestry agency has well established and organized structure within the whole country divided to Regional

Forest Directorates at the administrative District level and local State Forestry Enterprises at Municipality level.

In the Forest Law (2011) the control and business functions in forest management are separated. EFA has the responsibility of carrying out their oversight functions in the implementation of regulations in the forest areas. Management of state-owned forest areas is carried by six state enterprises and their territorial units – SFE and SHE. According to the requirements of Forest Law at the State Enterprises were created two funds: "Investment " and " Reserve" in order to ensure financial stability and opportunities for investments on activities assigned by the FA, including design and construction of roads in forest areas - state property.

Based on Forest Law, there were established three levels of forest planning - national, regional and local, which are duly reflected in the National Strategy on Forest Development and Strategic Plan for the development of the forestry sector, regional development plans for woodlands, and forestry plans and programs.

All forest areas in the country were inventoried. All SFE and SHE have existing FMP. On provisional data from EFA for about 90% of forest areas - municipal property has made FMP. About 30 - 40% of forest areas - owned by private individuals and legal entities, and religious organizations have prepared FMP or forestry programs.

Important issues, affecting the forest planning process are: non-compliant with the Forest Law (2011) Regulation of the structure of forests and forest lands and hunting areas in the Republic of Bulgaria (2004); underdeveloped Forestry Information System, the lack of forest cadastre and national inventory of forest ecosystems, insufficient integration of preservation activities for biodiversity in forest planning and forest management, including lack of inventory of forest biodiversity and mapping of wood as an important component of forest ecosystems. Development and adoption of Ordinance inventory of woodlands and forest planning will provide a real opportunity to start the preparation of regional plans for development of forest areas and to introduce methods that take into account the biological and landscape diversity in forests.

It is developed and under implementation the national, integrated, accessible and comparable with European standards a unified geographic information system on forestry. In this context and in accordance with the changes in the forest legal framework is important to improve the quality of forestry statistics, including updating the reporting forms for woodlands.

Continued dialogue on possible changes of Swedish forest legislation

*Leif Strömquist**

1. Introduction

This paper tries to summarize what has happened in the development of forest legislation and forest policy in Sweden since the IUFRO symposium in Minsk in September 2012. It is important to stress that the ongoing discussions, which started already in 2011, have not yet been finalized or resulted into any concrete changes of the legislation or the forest policy. Reasons for this are that in a democratic country like Sweden, with a long tradition of stakeholder-involving processes and a habit to strive for consensus in decision-making situations, such developments always are time-consuming.

The discussions during the last eight months have, however, been both well-structured in two different dialogue processes and accompanied by numerous articles and statements in media by individuals, enterprises, organizations and stakeholder representatives. All activities in this period have been extremely interesting to follow. Unfortunately, the schedule of the processes does not consider the interval of these IUFRO symposia. I will therefore have to repeat the background for the present activities and briefly depict what officially has been presented from the agreements so far achieved. Finally, I will as observing forest consultant take the risk to assume the next steps of the development for the coming months and year.

2. Background

- Since 1994 Sweden has a Forest Act (developed in 1992 - 1993) in which wood production and nature conservation/biodiversity are given the same priority.
- However and nevertheless, over the past 15 – 20 years, nature conservation has been given much more priority, which made it impossible to bring questions on forest production into the centre of attention.
- Presently we enjoy a tail wind for the forest industry in Sweden. This fact does not exclude that serious discussions appear, e.g. in media, about the forest policy and what forest owners are allowed to do.
- Profitable forest management has a long tradition.
- The forest ownership distribution is characterized by a large number of well-organized family forest owners (ca.50 %) with relatively large areas of forests (average 50 ha) meaning that many individuals are depending or are calculating with additional incomes from their forests. Of course, such dependence facilitates the understanding of forestry requirements.
- Another factor of crucial importance is that aside of the 15 % state-owned forests (the joint-stock company Sveaskog AB) in Sweden 25 % are owned by large forest industry companies.
- The forest pre-conditions have resulted into a forest management with general nature consideration over the entire forested area.

* Forest Consulting Aktiebolag, Sweden

- In addition come the forest areas with particular high conservation values (e.g. the woodland key habitats),
- A strong focus on sustainable forestry. An increased biodiversity in the forests is a matter of course.
- Economic wealth in Sweden is closely connected to the successful management and utilization of the forests, although the gaining influence of nature conservation groups has had a strong effect on the forest industry.

3. Dialogue processes

3.1 Drafting Working Committee for the environmental objectives (Miljömålsberedningen)

Since some years Sweden has one overall goal on environmental policy, which defines the direction of changes in society that needs to occur within one generation if the country´s environmental quality objectives are to be achieved. This generational goal is intended to guide environmental action at every level in society. Since 2010 a number of important points have been added to it. Sixteen environmental quality objectives describe the state of the Swedish environment which environmental action is to result in. These objectives are to be met within one generation, i.e. by 2020 (2050 in case of the climate objective). The Swedish Parliament has adopted a number of additional and revised interim targets. One of the sixteen environmental objectives is *Sustainable Forests*. The idea of the environmental quality objectives is that they should be followed on a regular basis with reports to the Government and in-depth evaluation once in every parliamentary term. The Swedish Environmental Protection Agency (EPA) has a coordination function of all agencies.

The government has established a "Drafting working committee for the environmental objectives (Miljömålsberedningen)" which consists of members of the Parliament assisted by experts appointed by the Government for respective objective. In one report from the Drafting Working Committee it was proposed to further investigate four issues. One of them was *how to develop the environmental considerations in forestry*. Three detailed questions were added:

- How to develop the statutory environmental consideration?
- Is there a need for change of present guidance of the forestry in order to better achieve the environmental objectives?
- Is the present Forest Act hampering other forms of forestry than generation through clear-felling?

The expert group has been provided expert knowledge by civil servants from the Government. The latter have not committed themselves to any proposal of the appointed experts.

The expert group has presented a report, covering also the detailed issues above, on environmental consideration in forestry mid of December 2012. It is expected that the Drafting Working Committee beginning of the summer will present a report concerning the environmental objective "Sustainable forests" – a quite important forest policy event.

The experts suggest among other things that the Government asks the State Forest Agency (SFA) and the EPA to propose measures for increasing the knowledge about the forest owners´ voluntary set-aside areas for nature conservation. Discussions on the amount of

protected forests on bases of voluntary set-aside areas are seldom acknowledged compared to those protected areas having legal protection.

Sweden is rich in lakes and rivers, many of which run through forest areas. As mentioned last year, the EU directive 2000/60/EG and its implementation into Swedish forest management poses a particular challenge for the forestry and wood industry and has a great influence on the management of almost all forests. This fact is considered in several proposals from the expert group e.g. on more specified legislation for forest operations along lakes and water streams. A reference is also given to the forest sector's recently decided environmental policy on ground damages in order to reduce the emergency of such damages caused by harvest operations. Nevertheless, these issues seem still to be important for the general public full acceptance of forest operations.

It is further proposed that the Government shall commission the SFA to develop its guidance to forestry in order to create forestry richer in variations – thus, not only clear felling. Another proposal suggests improving the forest planning and the data gathering with the objective to develop a more landscape adapted forestry. Concerning the forest sector objectives the Government is supposed to commission SFA to develop new objectives including a program for measures in order to achieve the objectives. The Government might further consider the sector objectives to constitute a so-called national forest program.

The report has been discussed in media and some forestry representatives, in particular from the associations for family forest owners, express the concern that the so-called "Swedish model" for forest ownership with *great independence and simultaneous responsibility* will be affected by the consequence that forest owners will lose their motivation for good forest management.

WWF Sweden, as one leading environmental NGO focused on forestry issues, has expressed the view that the Drafting Working Committee needs to observe that several proposals in the report are result of compromises. Therefore, an analysis of the consistency with the environmental quality objectives but also of the international commitments is needed.

3.2 Dialogue on environmental consideration (SFA driven process)

Simultaneously with the above-mentioned dialogue within the Drafting Working Committee the Swedish Forest Agency (SFA) has had forest stakeholders invited for dialogues on "Environmental consideration". Due to discovered discrepancies particularly in the interpretation of § 30 of the Forest Act, Consideration to the Interests of Nature and Culture Conservation, the responsible Ministry of Rural Affairs has assigned SFA to initiate an increased dialogue about nature consideration, to increase the supervision according to § 30 of the Forest Act and to consolidate the quality of the follow-up of nature conservation.

The objective for this dialogue is increased consensus on the forest sector responsibility and its content, develop new methods to describe common vision for good environmental consideration, identify well acknowledged regulatory requirements and develop follow-up systems as basis for continued development and learning process.

The project work has been carried on in seven groups with participants from forestry, conservancy and agencies. Unfortunately, some environmental NGOs have decided not to participate in the dialogue or parts of the dialogue partly due to the heavy and time-consuming workload.

As a result of work, four reports have been sent out for comments during spring. Replies will have to be delivered to SFA end of May. The delivered reports are:

- A report on the sector responsibility with proposal on important future measures directed to the forest sector and SFA.
- Common vision for good environmental consideration for demanding biotopes, lakes and water streams, cultural environments, outdoor life and recreation.
- Revised regulation and general advice to § 30 of the Forest Act especially comprising species protection and prioritizing of consideration.
- Specification of a common basis for follow-up of environmental consideration.

It is at present too premature to judge to which extent the given proposals finally will come into force, in particular because of the limited presence of E-NGO representatives in the working groups. Thus, even stricter measures might be proposed. However, it is obvious that several changes are necessary to introduce and that the "statutory bar" will be raised.

In the Government bill "A forest policy in pace with time (2007/08:108)" it was stated that the entire forest sector has the responsibility for the environment and that the measures needed to preserve the nature and cultural conservation values are a mutual responsibility for authorities and forestry. The considerations of nature and culture conservation should be subject for improvement. The title of the bill indicated that the Government confirmed the forest policy. Thus, no major changes of the forest policy were five years ago regarded necessary. The new situation is a sign for stronger impact on forest management from the general public, media and environmental organizations, but also a result of difficulties to clearly define, express and measure the requirements on environmental consideration and biodiversity.

4. Concluding remarks

At the Swedish forest industry annual week in the mid of April, the Minister for Rural Affairs (responsible for forestry) stressed the importance of rights of ownership of land and forest, which can be interpreted that the Government is not in favor of drastic limitations of the present forest management practice based on the statutory documents. The forest sector has a strong and important position in Sweden's economy, but the current expressions for increasing environmental consideration will have to be considered to some extent. The coming months will show the extent of them.

At present the SFA is overloaded with tasks assigned by the Ministry of Rural Affairs, a fact which might soon hamper the solutions. One more assignment was revealed by the minister at the recent forest week. SFA shall analyze the possibilities for and benefits of the development of a National Forest Program. In addition are the activities of proposed measures in the dialogue processes, which will have to be further implemented and accomplished by SFA.

Another new task recently assigned by the Ministry to SFA is together with the Forest Faculty at the University for Agriculture Sciences (SLU) to develop so-called adaptive forest management. The objective is to increase the forest production and improve the environment through development of sustainable forest management methods and at the same time cover the gap between research and practice. One of the ideas is to open up for exemptions from present legislation and test new methods. Examples could be harvest of stumps and final felling without clear felling.

It is further obvious that the Government is presently considering moving hunting and game issues from EPA to SFA. SFA is also the responsible agency for the on-going development of the "core project" of the Ministry of Rural Affairs the "Forest Kingdom (Skogsriket)" – with values for the world. It contains four limbs – sustainable management, experiences and recreation, value added production and innovation and Sweden in the world.

The overall key question is how the *independence with simultaneous responsibility* will be changed for the forest owners, but according to my judgment there will be changes needed following proposals from the dialogue processes. Probably additional education activities will be offered to the already well-educated forest owners so as to better consider environmental and biodiversity issues and particularly forest operations close to lakes and water streams and ditches.

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Property rights and public access to the forests

Rastislav Šulek*

Abstract

This paper deals with the definition of legal and economic concept of property rights in the case of forest resources and, moreover, it analyses the public access to forests using an example on access and exclusion rights in the Slovak Republic. The introductory part of the paper describes general terms of property rights followed by the analysis of three legal property rights and five economic property rights. Several categories of rights' holders with reference to forest resources are described. The second part of this paper deals with the detailed description of public access to forests in case of the Slovak Republic based on the analysis of actual legal provisions of the forest law. In conclusion, the basic principles of handling the property rights are mentioned.

Key words: forest ownership, property rights, public access

1. Introduction

Property rights are defined by characteristics that deliver certain powers to the owner of the right. In economics, property rights are theoretical constructs to determin how a resource is used and owned. Thus, property rights can be viewed as an attribute of an economic good. From the theoretical point of view, property rights can be characterised as a system including the rights themselves and the formal and informal institutions that create them.

The basic constitutional legal provisions shall state that everyone shall have the right to own property. Property rights of all owners shall be uniformly construed and equally protected by law. Expropriation or enforced restrictions of property rights may be imposed only to the necessary extent and in public interest, based on the law and in return for adequate compensation. It means that all kinds of ownership are equal by law and thus all forest owners have equal rights and duties.

The creation of well-defined property rights is of a particular importance in the case of forestry because of two specific reasons:

a. Owning a forest is actually saying very little, thus defining forest ownership requires information about the specific content of rights and duties in relation to the resource.

b. Usually, the classification of ownership mixes ownership form and categories of holders.

This paper deals with the definition of legal and economic concept of property rights in the case of forest resources and, moreover, it analyses the public access to forests using an example of access and exclusion rights in Slovakia.

* Department of Forest Economics and Management Faculty of Forestry, Technical University in Zvolen

2. Concept of legal and economic property rights

According to the legal theory and practice that has predominated throughout the twentieth century, property rights are relations between people respecting things. Thus, it is necessary to define these property relations between owners and non-owners, and among claimants to disputed title. On the other hand, when talking about property rights, the economists describe this phenomenon as follows: „a property right for me means some protection against other people's choosing against my will one of the uses of resources, said to be 'mine" (COLE, GROSSMAN 2002).

Table 1: Legal and economic concept of property rights

Concepts	Characteristics
concept of legal definition of property rights	✓ formal definition – who is entitled to do something ✓ it answers the question who owns the main resource ✓ it creates ownership structure
concept of economic definition of property rights	✓ set of economic and social relations defining the position of each individual with the respect to the utilization of the resource ✓ it answers the question who is in reality using resources

Taking into account the concept of legal definition of property rights, the subject of property rights includes three different rights:

a. *ius utendi et fruendi* – the right to use the resource and its benefits (to reap fruits or profits), without destroying its substance,

b. *ius disponendi* – the right to dispose the resource (to sell it, to lease it, to give it, etc.),

c. *ius possidendi* – the right to hold (to possess) the resource,

Moreover, there is also the right to intervene against anybody who is not obeying one's property rights.

On contrary, considering the concept of economic definition of property rights, the substance of property rights includes five different rights (SCHLAGER, OSTROM, 1992):

a. access right – right to enter a defined area and enjoy non-subtractive benefits of the resource,

b. withdrawal right – right to obtain the resource itself or product of the resource,

c. management right – right to regulate the resource use patterns and transform it,

d. exclusion right – right to determine who will have access and withdrawal rights and how those rights may be transferred,

e. alienation right – right to sell or lease management and exclusion rights.

SCHLAGER, OSTROM (1992) consider that it is common in forestry to assign only operational-level property rights (access and withdrawal rights), while the collective-choice level property rights (management, exclusion and alienation rights) are limited.

As already mentioned, the concept of legal definition of property rights creates ownership structure itself. In the case of forest resources, in order to avoid confusion about terms *private* and *public* between the structure of ownership and the type of the holder, the several categories of holders of rights shall be distinguished:

a. state forests,
b. communal forests,
c. common forests and
d. private forests.

State forests are forests under public form of ownership and they are hold directly by the State or by other public bodies on behalf of the State.

Communal forests are forests hold by territorial communes and its bodies of self-administration while it does not matter if they are in public or private ownership. Even if communal ownership is similar to municipal or public ownership, it is not part of state or private property.

Common forests are collective forests hold undivided by a community. Common forest ownership is a form of private ownership with long and interesting historical evolution – one of the very specific features is that the transferring of the ownership is usually restricted within the community.

Private forests are forests hold by individuals, business legal entities and by other private (or non-governmental) entities such as schools, churches, different associations, etc. This category requires sometimes the distinction between industrial and "non –industrial" private forests, when wood processing industries have significant share of national forests in their own property.

3. Public access to forests

The freedom to roam, or everyman's right, is the general public's right to access certain public or privately owned land for recreation. The right is sometimes called the right of public access to the wilderness or the right to roam. Public access to forests and woodlands is seen as being important aspects of sustainable forestry due to increasing demands from people to take part in the recreational activities and a developing recognition of the wide ranging benefits they can provide to society.

Considering public access to forests, it is necessary to distinguish between access right and exclusion right. Access right is the basic right that normally every owner has as to enter his property – the question is whether the legislation prevents owners to have this right under particular conditions.

On the other hand, the right of the general public to access any forest (public or private) falls under exclusion rights. The main purpose here shall be to assess what kind of exclusion rights do owners have and how shall this be implemented in practice. Also, here it is assessed the right to exclude non-owners from picking up non-wood forest products for self-consumption, as well as questions regarding public access in forests itself.

Analysing the access rights in the case of Slovakia, it is necessary to question whether there are any particular restrictions for owners to enter their property. In general, there are no such restrictions except of two examples:

- restrictions imposed by the Nature and Landscape Protection Act, according to which forest owners are forbidden to conduct certain activities in strictly protected areas (e.g. building forest roads, using insecticides, using clear cuts, etc.),
- restrictions imposed by the Forest Act, according to which particular restrictions in the case of special management regime may be set by the state administration.

Considering the exclusion rights in the case of Slovakia, it is necessary to ask what legal provisions (legal exclusion) can be used to exclude non-owners from the use of forest goods and assets. In general, forest owners are not allowed to exclude non-owners from the access to forests - there is a free access to forests for all regardless of ownership. The only exemptions are fenced areas in military forests. Thus, everyone is allowed to enter forest land, however, when entering the forest, everyone is obliged to protect and not to disturb the forest ecosystem as well as to respect the rights of forest owners and/or forest users and to follow instructions of forest managers, forest guards and state forest administration bodies.

State forest administration bodies may restrict public access to forests, however only in legitimate special cases and for specific inevitable period of time. They can act either ex officio or based on the request of the owner, user or forest manager. The reasons for such restriction are either protection of the rights and interests of the forest owner, user or forest manager, or protection of the forests and public interest (e.g. danger of forest fires). The state administration bodies have to publish the order restricting or forbidding the right of access.

In Slovakia, forest owners have no instruments to restrict the public access to forests by themselves (especially fencing is strictly prohibited). It is necessary to note that the valid Forest Act only grants free access to forests, i.e. forest owners are allowed to exclude non-owners from picking up forest products and brushwood.

Nowadays, legal provisions on free access of general public to the forest land shall not be missing in appropriate forest laws – the only question is whether it shall be explicitly granted to state (or public) forests only, or to forests of all ownership categories.

4. Conclusion

Recently, the issue of forest property rights has been one of the key problems of forestry policy and legislation as well as forestry practice. The importance of this issue is furthermore stressed by the fact that the demand of the society in the case of public-beneficial forest functions has significantly increased and public interests of the society and private interests of forest owners have had to be well-balanced.

The following three basic principles shall be generously considered when analysing the legal and economic concept of property rights in case of forest resources:

- property rights of all forest owners shall be equally protected,
- all forest owners shall be dealt with in a fair way, and
- all possible requirements of interest groups including general public shall be taken into account and the participative management of forest resources shall be stressed.

The Slovak Republic has a long tradition in forest management and forests play an important role in the Slovak society. Nowadays, the *ratio legis* of the Slovakian Forest Act includes also ideas about harmonization of interests of the society and forest owners. Thus, principles of public use of forests including right to public access to forests and activities prohibited in forests creates a significant portion of the actual Slovakian forestry legislation.

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Economic and Legal Issues Related to the Monetary Valuation of Hunting in Ukraine

A.S. Torosov*, Ye.S. Zuyev*

Abstract

Consideration has been given to methodological approaches to making the economic appraisal of hunting, in view of the status of the existing regulatory and legal framework and economics of game management. A cost-based concept of appraisal has been suggested in identifying possible amount to be charged for using forests' benefits for the needs of game management.

Keywords: forest, hunting; monetary valuation; regulatory and legal framework; economics

The hunting sector of Ukraine performs functions of game management over an area of 47.7 million ha which is distributed among about 900 legal entities(State-owned enterprises, public hunting organizations and private businesses). Among major users of hunting grounds are the Ukrainian Hunting and Fishing Society (35 million ha or 73.9%); the Military Hunting and Fishing Society (5.1 million ha or 10.8%); hunting farms and forest enterprises under the State Agency for Forest Resources of Ukraine (860 thousand ha or 1.8%). More than 5 thousand people, among them about 4 thousand salaried game-keepers and game managers, are employed in the hunting sector of Ukraine. On the average, one game-keeper serves 11.6 thousand ha of hunting grounds. In Ukraine, have been registered over 520 thousand hunters, where about 300 thousands of them being involved in seasonal hunting.

The potentialities of hunting grounds of Ukraine are used very inefficiently. Most users are of the opinion that their game management is unprofitable for them. The average payback of game management remains to be at the level of 50%. The economic model of game management in Ukraine remains unchanged since the times of the USSR. This model is out of keeping with the contemporary market relations and does not function as far as a comprehensive and effective system of game management is concerned. One of the main reasons of this certain situation lies in the failure to meet requirements of the applicable legislation in relation to the paid use of hunting grounds. The charge for using hunting grounds is fixed by the Government but, for the time being, the Government has decided to postpone the application of this charge. For this reason the substantiation to the monetary valuation of hunting is currently important and holds a scientific and applied meaning.

Transformations of economic relations in the hunting sector are first of all associated with the process of improving and updating the existing legal regulatory framework in the field of game management in Ukraine. Recently, there has been adopted a number of legislative enactments and other documents to improve procedures and regulations in the hunting sector. Among them are the Law of Ukraine Wildlife, the Law of Ukraine Game Management and Hunting, the Law of Ukraine Natural-Reserved Fund. The Law on Game Management and Hunting is the basis to establish competitive relations among different organizational structures and forms of economic activity. For example, Clause 22 of this Law limits the area of hunting grounds per user to 35 % of the total area of all hunting grounds in a region. To

* Ukrainian Research Institute of Forestry and Forest Melioration

** Ukrainian Research Institute of Forestry and Forest Melioration

have a proper function of this Law, it is necessary to develop and enforce numerous subordinate acts that regulate hunting and economic issues in using hunting grounds and wild game resources.

Complicated economic interrelations between the hunting sector and related sectors of environmental management, along with the specificity of game management, call for a special approach to identifying the monetary valuation of hunting. The forest is a biogeocoenosis and at same time an object of environmental management, with its value being characterized by the entire sum of benefits gained by the society in the process of comprehensively using forest-related resources. Wild animals are an indispensable component of forest associations that are in very complicated relations with vegetative life and among themselves. On one hand, game animals and birds perform a great deal of useful functions, contributing to the biologic productivity of forests and to the total output of forest production per unit area; and on the other hand, game animals and birds can be harmful to forests, being sometimes even detrimental. For this reason, hunting as a kind of economic activity has a double-nature to a certain extent. Hunting is compatible with deriving an economically significant amount of produce, in particular when the density of hoofed wild animals increases. At the same time, an increase is observed in costs associated with game management. These costs consist of the following: direct damage to planted forests; preventive measures against damage; reafforestation; forest protection; indemnification of damage to farm crop caused by hoofed wild animals. This generates a need for giving due consideration not only to the social significance of game management but also to its economic meaning as it is associated with heavy expenses and big losses. It does not always happen that all the incomes from game management covers even direct costs. So, silvicultural, ecological and social aspects of game management as one of the forms of recreation and economic activity often enter into a conflict with one another. Thus, an economic appraisal of hunting is to be of integrated nature. With that, as independent appraisal objects, there may be some components of forest and its functions and properties, on one hand, and performance results of individual economic entities, on the other hand.

Among all the aspects of economic appraisal of hunting, the most complicated ones are associated with choosing an object, criteria and performance measures. Most studies on issues of economic appraisal of Ukraine's natural resources and in particular of hunting only emphasize the task of separately estimating the objects of wildlife and lots of forest resources used as hunting grounds. However, analysis of the contemporary legislative and regulatory framework in the field of forest-related hunting attests the need to specify a list of appraisal objects. For example, Clause 75 of the Forest Code of Ukraine specifies the relation of forests to the needs of game management, first of all, through the use of forests' benefits. According to the Forest Code of Ukraine, forests' benefits make part of forest resources (Clause 6), with the use thereof being exercised as part of special use (Clause67). Thus, according to the applicable legislation, the very "use of forests' benefits for the needs of game management" is the basis for the economic appraisal of hunting as a specific form of nature management.

The basic problem of economic appraisal of hunting in selecting methodological approaches is the necessity of singling out appraisal objects, in particular benefits of forests and efficiency of game management. There exist many techniques of economic appraisal of hunting which can be adapted to the system of economic relations in a specific country or group of countries with an identical level of socio-economic development. Not being the least of all, the application of the legal regulatory framework reflects and motivates the development of economic relations in the field of hunting. The variety of different techniques can be reduced into two groups based on the following grounds:

- the acquisition of economic effect from game management on the rental principle;
- the cost-based concept.

Both methodological approaches are not contradictory to each other and should be considered in accordance to an economic system adopted in a country and to its legislative framework. In countries with developed market economy, the application of techniques based on the rental principle looks quite natural and well-balanced. In Ukraine, game management is subsidized and mainly loss making. At the same time, for hunting appraisal techniques on the rental principle, it is necessary, when calculating, to take into account the balance of income and expenditures in the hands of users of hunting grounds. Specifically, the revenues comprise the following:

- charge for shooting certain species of game (sale of licenses and hunting certificates);
- revenues from selling natural hunting products;
- revenues from selling fresh-caught game animals;
- revenues from entrance taxes, membership fees and other inputs from members of hunting societies;
- charge for leasing special buildings (hunting seats, shelters, etc.), hounds, motor transport, services to hunters, etc.;
- money equivalent to the usefulness of certain species of wild animals and birds in agriculture and forestry;
- money equivalent to the assessment to the health-giving, cultural (spiritual), sporting and recreational significance of game management;
- income from the proper activity of hunting farms;
- special funds (revenues from hunter's trophies, fines, condemned materials, etc.);
- subsidies, sponsor’s support, etc.

Expenditures associated with the operation and maintenance of hunting grounds are related to the following costing items:

- organization of game management (regularization of hunting grounds and the periodic inventory thereof);
- biotechnical measures;
- administrative costs (charges for keeping management, gamekeepers and other categories of workers);
- special shooting (entrapment) of wild animals; processing, keeping and selling hunting products;
- resettlement and acclimatization of valuable wild game species, semi-natural keeping of wild game, stock breeding, etc.;
- prevention of damage to wild game (shooting predators, ownerless dogs, etc.);
- prevention of damage caused by wild animals (protection to planted trees and crops), enclosing of plots, acquiring and using of deterrents, etc.);
- charge for using natural resources;

- cynological expenditures (breeding, keeping and training of hounds);
- major construction work and maintenance ((hunting seats, shelters, shooting areas, etc.);
- acquiring of equipment, hunting gear, bullets, fixtures, etc.;
- scientific efforts;
- transportation expenses;
- costs associated with proper activity and other expenditures;
- compensation for losses to agriculture and forestry caused by wild animals.

The following could be added to the category of expenditures:

- an equivalent exchange of products and respective financial resources between sectors of economy so as to avoid the disparity of prices;
- a reliable and complete bank of biological data and especially of financial and economic data.

Thus, the contemporary conditions under which the hunting sector of Ukraine is developing makes it impossible to apply rental-based techniques to the monetary valuation of hunting.

Such conditions are in compliance with a cost-based method of the economic appraisal of hunting that lies in establishing a possible amount to be charged for using specific objects of wildlife when they are extracted from their life environment. In this connection it is necessary to apply such indicators of economic appraisal that would even be the outcome of economic activity carried out by users of hunting grounds. With that, an indicator of monetary valuation has to be widespread, transparent and consistent, taking account of generic and qualitative features of wild game. At present, the above economic and legal criteria are met by the worth of a license that is issued to hunt game animals in hunting grounds of Ukraine, with this worth being approved at the level of respective authorities of public administration. In performing the monetary valuation of forests' benefits for needs of game management it is also necessary to take into account the following:

- the total area of hunting grounds (land plots and water lots that contain game animals and can be used for purposes of game management);
- the category of value of hunting grounds (the quality class);
- the area of hunting grounds suitable for living basic wild game species;
- the optimal density of basic wild game species in accordance to the average quality class;
- the allowable rate of extraction of basic wild game species with taking account of their optimal density in a hunting farm.

These indicators can be drawn from the "The game management plan" that is at the disposal of users of hunting grounds.

The monetary valuation of forests' benefits for the needs of game management is determined based on the following formula:

$$V = \frac{R}{S}$$

where: V is the monetary valuation of forests' benefits to meet the needs of game management over a respective period (in UAH/ha);
R is revenues from acquiring game animals on hunting grounds (in UAH);
S is the total area of hunting grounds (in ha).

The revenues from acquiring game animals on hunting grounds are determined with the following formula:

$$R = \sum_{i=1}^{n} N_i \times K_i \times SM_i \times P_i$$

where: Ni is the optimal density of the i th species of basic wild game species (animals per thousand ha);
Ki is the allowable rate of extraction of the i th species of basic wild game species (in %);
SMi is the area of hunting grounds suitable for living basic wild game of the i th species (in thousand ha);
Pi is the worth of a license or a hunting certificate for acquiring game animals of the i th species (in UAH);
n is the number of species of animals.

The monetary valuation of forests' benefits for the needs of game management for a unit of hunting grounds (in UAH/ha) over the whole period of using hunting grounds (Z) is determined with the following formula:

$$Z = \frac{V}{E_n}$$

where: En is the capitalization ratio of the average annual economic effect that is equal to $\frac{1}{n}$, where n is the period of use of hunting grounds (as per the applicable legislation, it is no less than 15 years).

In performing the monetary valuation of forests' benefits for the needs of game management, especially over the whole period of using hunting grounds, it is necessary to take account of changes in performance standards of game management.

At present, one of the basic tasks of the monetary valuation of hunting lies in identifying some guide marks (at least, a minimal price) when calculating the charge for the use of hunting grounds. The further development of economic relations in the field of game management suggests the determination of this charge on a competitive basis where the monetary valuation must manifest itself as a minimum auction price for the use of hunting grounds. A bidder who has suggested the highest price for the right to use the hunting grounds is recognized as being the winner of the auction. In the long term, using the auction principle in determining the price is the most important component of effective management over the sustainable development of game management as this principle makes it possible to identify the maximum effect that can be gained under given market conditions through the use of all available wild game resources.

5. Conclusion

In the current context, the cost-based technique is the most suitable for performing the economic appraisal of hunting in Ukraine. In addition, an important point here is the availability and consistency of indicators for calculations. The impact of a cost-based indicator upon ultimate results is of a systematic character because the worth of a license for the acquisition of wild animals is identical across the country and equally reflects on the absolute magnitude of monetary valuation. The basic function of a cost-based indicator lies in representing the resource potential of hunting grounds in monetary form. The suggested cost-based method of economic appraisal makes it possible to establish a possible amount to be charged for using specific objects of wildlife which are from their life environment.

Czech Forests Problems in the Light of Forestry Policy

Karel Vancura*

Abstract

The Czech Government approved principles of state silvicultural policy on 21st November 2012. These new principles i. a. suppose to keep a share of forests for spontaneous development, e.g. in national parks, as well as an escalation of these forests share in proprietorship of the state. A part of foresters do not support this intention as they see it as next restraint of their management and possibilities of economic results maintenance. This paper does not offer detailed list of the state objectives in forestry, but its intention is to point out some long term persisting problems in forestry, which are connected with current policy and also some practical views of foresters related to this new governmental policy. After experience in filling of the National Forest Programme, foresters do not believe that the new policy principles would bring something useful and some of them are rightfully afraid that new policy is here only therefore to exist - as far as there won't be a will to its observance, nothing will be changed as regarding the forestry situation.

1. Introduction

According to the Department of Agriculture information an interdepartmental reminding proceedings currently (January 2013) takes place on the document on state forestry policy Principals that should replace the original one of 1994. New document must go through the governmental approval and subsequently, in the event its certification, it should be initiated a matter-of-fact scheme preparatory process of the new forest act.

The paper presented is based on responses on short questionnaire that was offered by professional journal "Lesnicka prace" (Forestry Labour) to several branch representatives concerning this principal forestry document. Representatives of following institutions were part of the survey: - the Czech Parliament, - forestry and wood processing faculties, - department of forest ecology of the Research Institute of Ornamental Gardening, - PEFC CZ, - FSC CZ, - Forest Nurseries Association, - Czech Association of Municipal and Private Forest Owners, - Association of Entrepreneurs in Forestry, - lawers. Questions addressed were as in the following:

- *How do you see the proposal on the state forestry policy new principle?*

- *Do you consider that a new forest act is needed? If it were the case, would conditions for care of forest estates be rather liberated, or stricter?*

- *Should the forest act differentiate rights and duties of state and private forest proprietors?*

- *What parts of contemporary forest act do you consider unsatisfactory and what changes would be proposed for the new draft law.*

* Czech Forestry Association Central Bohemian Branch

2. Short tour to the beginning of ninetieth

The fundamental changes that have been started in November 1989 , step-by-step impacted the whole life in the country including forestry. State utilization of forests ended with the restitution of approximately 50 % of total forest area to about 150,000 former owners. The transformation process was initiated, which divided the state forests into two parts: administrative part (Forests of the Czech Republic, State Enterprise) and work supplying entities (so called "forestry joint venture companies") as private organizations. Also other forestry organizations were created and tradesmen, individually or in groups, sometimes family based ones, offering their services in forestry, were registered. These facts lead to updating of the state forest policy concept that was based on the Principles of the State Forest Economic Management negotiated by the government on August 25, 1993. After discussions on November 1993, February and March 1994, the government has approved the document „Principles of the State Forest Policy" on May 11, 1994. This material contains some historical data and also gives evidence on the way of thinking and priorities of that time. As in many other changes including legislative and particular laws, there were many hastiness and mistakes probably done also in the case of forestry where some controversial opinions were adopted under pressures and not every time were found conciliatory solutions.

The Basic Principles of 1994 contains:

1. Analysis of the Forest Management and Forest Condition in the Czech Republic;
2. Restitution and Privatization Process;
3. The Situation in the State Administration of Forest Management;
4. Application of the Public Interest in Forests;
5. Fundamental Principles (Strategic, Long-term (10-50 years), Short-term (5) Targets;
6. Principles of State Forest Policy
   - Resolution of the Government,
   - General Starting Points,
   - Long-term Principles of Forest Management,
   - Short-term Instruments,
   - Competence of the State Forest Administration on Forest Management,
   - Public Interest in Forests,
   - Instruments to Provide the Public Interest,
   - Privatization of the State Forests.

3. General views on current principles 2012

As far as it is known this governmental document, as other similarly important ones, is under an interdepartmental discussion, and should be submitted for a broad discussion at expert level, that has not happen so far. The fact that during its preparation the material was not offered for discussion to forestry institutions represents its main gap. This fact as well implies lack of political willingness to discuss on basic principles and accept expert opinion of forestry institutions during preparation of such consequential material, that unfortunately does not happen for the first time.

One of the main points and the first aim of state forest policy is defined as follows: „*To support preservation of forest stand share left to spontaneous development and improvement of these stands in proprietorship of the state.*" It seems that the first point of state forest policy would not be restriction of forest management, particularly when there are not fixed principles of these stands left for spontaneous development financing. There are not known effects on the surrounding areas (we have bad experience from the National Park Sumava), and there do not exist programmes in support to local staff adaptation, who as a consequence of this approach will lose their jobs.

Designed wording of the governmental material state in evidence that authors are not very good professionals. They bare some inaccuracies there that would call out dragged and unsolvable contentions even causes in the future. It concerns particularly parties representing environmental and economical conception. Breaking up rights and duties by the proprietorship type should be considered as unconstitutional and merging unevenness proprietorship in face of law, which is inadmissible from the standpoint of legislation.

It is possible to agree with the formulation of long-term aims, however some suggested measures go often against the mentioned aims (e.g. maintenance of forest and forest soil does definitely fall short by leaving forest parts to spontaneous development – see the National Park Sumava). Major share of public professional foresters is needed to prepare the state forest policy fundamentals.

If the Czech forest owners should be more competitive with the forest owners and timber processors, then the forest law updating would have got, because our forest law is probably, if not doubtless, the strictest in Europe. On the other side, having in mind the level of top managers in our forestry policy, one would be rather afraid from such law updating.

Further imperfection of hereof material can be considered omitting of principal forestry importance for rural inhabitants employment. Possibility for employment of local workers are offered only by private or municipal forest owners, while in state forests exists a system, which according to law on public order's sets all works only to capital strong firms, as a rule without any relations on local locations and employment rate. If among the principal aims is stated „improvement of forest and forestry importance for the development of rural regions", it is necessary to solve this problem.

Some provisions of Forest Act would be amended. Ministry of Agriculture submitted proposal for constant updates already since 1999, however they have always run against different notions of interested parties – above all state administration, environment bodies and forest owners as well as professional foresters. Following is a concrete quote from survey answers: It should be good if the new forest law differs from contemporary proposal of state forestry policy, bringing the management conditions closer to the EU countries. However, the amendment of Act on Game Management and Hunting would be more important for forestry as such. Concerning the second part of principles, indeed it would be necessary to liberate restrictive conditions for forest estates care.

Representatives of private forest owners consider the point on rights and duties differentiation according to proprietorship type quite irrelevant. This point is self-evident for them, as among others, it was already accepted by government in terms of National Forest Programme II and it is also clearly declared in principles of state forestry policy proposal.

There is not mentioned anywhere the need of total direct back payments introduction to forest owners for administration and affording of services to the public under the case of good forest

care and tending (see Key Action 1 of National Forest Programme, which probably is not at all considered).

If it is understandable that for public interests satisfaction in forests is at disposal above all for state and municipal forests, then on the other side it should be good to stress that those useful functions and services are offered also to private forests as they are open to free access. As the public interest satisfaction is desirable also in these stands, it is necessary, that respective forest owners get adequate compensation from the state. Requirements of the public usually exceed the natural efforts of forest owners and managers in forest tending.

As far as state forestry policy principles refer on the National Forestry Programme II, then it would be mentioned that filling of public interest will be supported e.g. through compensation of total back payments on forest area, which fulfils requested non-productive functions for general public. They are just, and only, "Principles of state forestry policy", where such forms of supports and subsidies, derive from these principles that will go beyond objectives of the laws.

Some people think that new law preparation is needed, but the new Forest Act definitely wouldn't make the already strictest forest law in Europe even stricter. But forest law must be one. Problems of state forests perhaps will solve by other law – on administration of state forest estate. Above all standard requirements are possible to apply in the formulation of the managerial contract with director general of Forests of the Czech Republic S.E. or Military Forests and Farms S.E., as a sufficient tool.

Some of respondents think that is time to change the law and prepare a contemporary forest law . However, at the same time, it definitely does not mean that the current one represents a bad legislative standard, as some critics try to present it currently. It is necessary to inscribe sufficient attention to possible preparation of the new law. The law should be relatively brief, comprehensible and conditions for care of forest stands should not be somehow expressively more rigorous. However, in all cases the law would support activities of forests owners and/or users for the sake of forest, when they decide that economic benefit from their forest is not their first priority. In the forest act would be useful to adjust only some parts of it, e.g. tree species composition of forest stands (to require minimal share of ameliorative and reinforcing species at the time of plantation establishment, utilization of preparatory and pioneer tree species), forest management planning (alternative methods for structurally differnt forests) – however, all the items must be carefully discussed.

The definition of sustainable management has gone through certain changes that starts with the definition agreed at the conference on forest protection in Helsinki (MCPFE 1993). Instead of ecological functions explicitly it was defined only the protective function. It is indeed evident, that ecological or environmental forests function is much more important , and the concept of ecological function is evidently wider and beyond just only the concept of the protective function. It should be as well important to mention soil's protective or hydrologic functions, etc. There should be logically some level of difference between state and private ownership, e.g. in offering of services for public interest, but on the other side it would not lead on expressive decrease of competitiveness of state forests. Any time it is important how the public interest will be declared and what impact it will have on economic aspects of management.

Briefness and intelligibility of the new state forestry principles is partly at the expense to have a detailed definition. Also a clear standpoint to forests in proprietorship of the state is missing.

There should be a thoughtful base and proper reasons to decide whether the current share of state forests will remain the same or, decrease.

The fulfilment of sometimes-antagonistic aims will be very difficult and complicated at the same time. Especially aims reconciliation of forestry competitiveness increasing and forests importance for the development of the rural areas and such targets as is biodiversity, ecological stability, and leaving of forests for spontaneous development. Problems connected with this item are described in the National Forestry Programme documents. There is a need to utilise work of all NFP expert groups and coordinative counsel of the National Forestry Programme in preparing new forest act if its preparation become true.

New forest law would get past in the case of turning points adopting. Some reasons would represent very retime conditions for the estates care. Conditions for estates would have been rather disengage. Disengagement could be seen as a major freedom given to forest owners to manage differently from management models by course of law. On the contrary, the disengagement wouldn't take traditional directives of binding volume felled height determination, liabilities of tending felling, duty of afforestation etc. Thereon it is connected together with the state forest administration system. Adequate disengagement of conditions is presumption for introduction of efficient state administration without duplicity - preferably under the responsibility of one ministry.

There should exist equality of proprietorship, conditions wouldn't be differentiated, also state and communal forests have to have the same management conditions in comparison with other proprietors. Public interest can be enforced by state in its forests from the position of owner with the sense of spent expenses, hereto doesn’t need any legislative recipe.

Instead of breaking up of duties according to ownership is probably more suitable to enforce public interests through economic tools, it means at first to define public interest brightly and expenses expended for its filling to cover from the public budget.

For many responding persons the forest law is too strict and detailed. Also there are relatively large amount of further regulations in connection with forest law. A simplification may be contribution for simpler, but more efficient verification of forest act observance.

If the restitution process related to the church ownership will be finished finally, we shall work in standard environment of different forms of property possessions (without presumption of other big changes). This standard environment should represent the key to differentiate state requirements on forest functions fulfilment. Positive motivational tools, long-term enlightenment is better than restrictive tools, which should be used in the last resort.

It is not possible to suppose that loosing of some lawful parameters will lead to the sack of forests. Excesses, that are known, concern smaller private estates and in light of the state forests condition have no influence.

There is no doubt of an economic importance of forests in proprietorship of the state, nevertheless state forests would be the main bearer public interest over non-productive forest functions. Also the state yourself would finally clear up, how these functions will be embodied. And last but not least, the state institutions wouldn't have sit in courts, who have to pay to whom and what has pay – thereby the state unfortunately evidences, that it isn't capable effectively fulfil service for the public, which create it for its own sake.

There is a proposal that forest law should above all leave the age model like only possible way of forest condition reading as well as management models and should make possible the

choice to forest owners between the age classes forest and non-compartment cutting management associated with spatial and age differentiated stands. Therewith they are indeed linked changes in connected regulations (forest management planning, forests valuation, damages etc.). It is a lot of work, but it is a standard in forestry-developed Europe. And in addition, today here we've many estates or forest districts, where the reconstruction of originally coniferous monocultures are performed within last 20 years and managements in them has already non-compartment cutting character. Managers of these objects dash on problem of forest management plans (according to age classes models) inapplicableness today and there are created parallel unofficial inventories, that have help to achieve merchantable timber increment optimisation and staggering of trees in diameter classes. Managers then their cuttings match and embody in face of an official allowable cut.

Also the extension of afforestation time is recommendable and changing of this term, which is bound entirely on the artificial renewal. As far as somebody use the natural regeneration, so two years mayn't be sufficient, the same is valid for five years time limit for plantation/culture establishment.

Working with ameliorative and reinforcing tree species should continue. If the public money was invested (subsidies for their planting), it is not possible to leave the inspection in culture establishment point.

Professional foresters are surprised by material prepared, because according their view, contemporary proposal of state forestry policy principles surprisingly formulate state forestry policy unequally, as if it had been only environmental policy and no policy dealing with economic branch of the department. The nature is important but (also according the Act on the Environment No. 17/1992 Coll.) not only nature as such, also the man is a part of the environment. But already the material preamble does not take in mind needs of human beings - like components environment - and it should be mentioned at the first place. New point should be included in the draft: „*Forestry policy watches sustainable forest maintenance for the future, particularly for needs of local inhabitants*" according to their meaning.

The formulation, which considers being „inevitable" to articulate rights and duties according to the type of proprietorship, is very unfortunate. A precedent in forest laws of developed forestry countries in dividing of rights and duties of forest proprietors does not exist at the same time. Forest Act is only one and state ownership is possible affect by many manners (in our country through the founder role of the Ministry of Agriculture).

Also the fact that as a priority is considered „maintenance of the share of forests left to spontaneous development" is quite strange.

As well as another item: „*to maintain fair balance between interests of forest owners and public interests*". The most of the forest owners do not feel that contemporary conception of valid Forest Act is fair in face of them. Here would be formulation „*to introduce balances*".

Thus the general starting points are in direct contrariety to further featured and altogether well formalized long-term aims state forestry policy.

There isn't mentioned nowhere the need of total direct back payments introduction to forest owners for administration and affording of services to the public under the case of good forest care and tending (see Key Action 1 of National Forest Programme, which probably wasn't take in mind at all here).

On the other hand there is written that satisfaction of public interests in the forests is above all a matter of state and municipal forests. It should be good to stress out that those useful

functions and services offer also private forests because they are open to free access. And as the public interest satisfaction is desirable also in these stands, so it is necessary, that respective forest owners get adequate compensation from the state. Requirements of the public usually exceed the natural effort of forest owners and managers in forest tending.

As far as is in state forestry policy principles reference on the National Forestry Programme II, then it would be mentioned that filling of public interest will be supported e.g. through compensation of total back payments on forest area, which fulfils requested non-productive functions for general public. They are just, and only, "Principles of state forestry policy", where such forms of supports and subsidies, because from this principles which will go out future objective laws.

Basic mission of state forestry policy principles is an appointment of the long term valid directions on forest estates disposing on the country territory and set down exact fundamentals of forest management free from short-term and frequently near-sighted measures. Some proposed measures to long-term aims achievement seems to be considerably debatable, however in general conception, in an effort to approach standard European forest policy, they are acceptable like routing for national forestry programme as well as consecutive ones.

Content of the chap „Maintenance and improvement of forest and forestry for the rural areas development" is written somewhat specifically, because nor one of its mentioned points dies not fulfil desirable way to development the country, how is in chapter title stated (e.g. improvement of the country life competitive advantage, improvement of employment rate and usage of local qualified people, underlining of the landscape design and aesthetic forest function importance etc.).

If the management in state forest stands should be considered as „exemplary management" thus the conditions would have been more strict (standard) for them, namely in the context of following long-term time horizons, in which forestry works.

In current Forest Act No. 289/1995 Coll. seems to be unsatisfactory following present wording of §2 a) where's state:

„For the purposes of this Act the following terms shall have the following meaning: forests shall mean forest stands with its environment and land designated for the fulfilment of forest functions". It is a cyclic non-logic. When I don't know, what is that „forest", also I don't know the, what are forest stands and forest functions.

Missing are also:

- Clear introductory formulation, that forest is thought as a part of national wealth and like irreplaceable component of the environment fulfils ecological, economic and social functions like equivalent and concurrently linked pillars, on which the forestry as such states.
- Law determination unambiguous sense of state forest ownership with emphasis on priority performance of important and unambiguously defined public interest (in democratic society with market system economy), inclusive covering of fundamental forest research.
- Law determination, which kind of ownership will offer forest services according to public funds needs and which kind of proprietorship will offer these services pursuant to voluntary decision of proprietor (with respective back payments).

- Provision about fundamental prerequisite cultivation of forest-tree species planting material intended for forestation and forest regeneration in hereto designated arrangements – tree nurseries - and also the provision explaining what is the tree nursery and what fundamental characteristics it must have in the event that is found on the land designated for the fulfilment of forest functions as well as the provision defining forest nursery practices like specific part of forestry.

Consequently the provision on genetic sources, gene bases and protection of endangered tree species could be included. Also steps for preservation and corresponding improvement of our forest stands biodiversity should be mentioned.

Some people from private business did find nothing new and in principle anything incentive in suggested text. Positively can be seen an endeavour to improve the position forest owner, which is mentioned several times, as well as an emphasis on forestry competitiveness increasing and improvement of its meaning for the development of rural areas. A hope of private persons is that this policy proposal means real changes in the state approach because of the Ministry of Agriculture and Forests of the Czech Republic S. E. (LCR) behave as the aim of the state in late years is to liquidate the private enterprising in the sector. Gradual destruction of forestry at the same time falls on small traders and staff.

But Ministry of Agriculture in fact hasn't, except of its role as a founder, any tool how to manage the LCR at present. And if, e.g. the incorporation of wood-processing industry to the responsibility of the Ministry of Agriculture should have sense, the ministry have to change its present position, then start with really interest about issues in the sector, to communicate with interest associations, concerning LCR and really provide the founder function.

If there exists a will to have a new forest law, firstly ought to be evident, why the present law is unsatisfactory. Principals mention it somehow misty. The new forest law might represent an occasion to conceptual changes of the access to forest management but it presumes real conception existence. Nobody should succumb the illusion, that new forest act will solve problems of forestry sector.

Mostly entrepreneurs and people connected with them would like to annul the prohibition of hire and subletting state forest listed in current § 5 of the Forest Act.

Suggested state forestry policy principals do not reflect long-term trends of administration and management of forests in sufficient extent. Except of forest owners it concerns also forest managers, entrepreneurs in forestry inclusive linked wood-processing branch. There should be new point, which supports growing stocks in the forests like renewable raw material for its next exploitation.

Further there is a need to complete:

- to support education and research in the forestry and wood-processing industry area,
- to improve quality of timber stocks in stands,
- to support admissible usage of introduced but domesticated timber tree species in forest stands (larch, Douglas fir, grand fir, Norway spruce etc.) at maintenance of all forest functions.

As regards of “green tasks” - reliable cost analyses and effects of suggested ecological measures is missing in all cases.

Submitted material should fulfil government keynote address, that it will promote efficient and at the same time conservative forest administration manners. The suggestions prepared should lean on principal of equal access to proprietorship, policy of economic contests equal occasions and non-bureaucratic forest administration, and balanced forest functions.

New material is quite different from the original programmatic declaration. Frequently it straight disclaims it and if the reader reaches the point, which describe steps necessary to realisation of long-term state forestry policy aims, so he/her is probably alarmed, because again everything has solve only new enactment – forest law. Material supposed that four certainly right purposes (long-term objectives) would be saturated by means of legislative changes. But we can be quite sure that e.g. improvement of forest and forestry importance for rural areas development new forest law definitely does not ensure.

Views of some forest lawyers say that new forest law isn't need. Indeed, some provisions, which are not well defined according the evidence given by practice or are not functional, can be adjusted by amendment of act. Current forest law probably represents possible summit of measure regulation conditions related the care of forest estates and the methods towards the liberal access are recommendable. Measurement of regulation is always necessary to judge with reference to possibilities and effectiveness of administration enforcement. Nothing won't help as much as well formalised provisions of enactment, as far as there will not be created environment for achievement and enforcement of the law. Regarding the forest estates character and the public concern on forests however it isn't real to leave regulation conditions in quite liberal form.

Different access to state and private forest proprietor's rights and duties are not suitable. Task of the law isn't to modify management regime in dependencies on proprietor subject, but institute principles valid for all owners. Unevenness in rights and duties of particular proprietors goes against laws warranted by institutional order of the country. Such differentiation of rights and duties is very irresponsible and dangerous because it implies an uneven access of subjects from the law point of view.

A question of forest manager institute is interesting (current Art. 37). It is wonder, that in contemporary forest law are not unambiguously modified provision about rights and duties of this forest manager till now especially in connection on financial performance and interrogation responsibility for these services from the side of state. Also the question of their eligibility inclusive qualifying examinations for the achievement of those activities licence conferment. This should be solved by the help of vocational autonomous chamber working on the same principles like other public vocational corporations (legal, medical etc.).

Preparation of the new forest law is not considered inevitable. If some changes come thus conditions for care of forest estates would have had rather liberated due to the fact that there, where forest law represents a set really recognized in practice, and no only in theoretic level existing rules, fits direct proportion among the range of limitation and spending height of funds on public administration enforcement, i.e. it is reality that wherewith more regulation exists, thereby public service is more expensive. It is acceptable that the forest in proprietorship of the state and public corporations generally should be an instrument for public interest satisfaction in notably higher measure, till the forest of private proprietors.

Most of the respondents feel that any provision of current forest law, can be regarded as quite prejudicial to forest needs and thus worthy for instantaneous changes. One but very important exception represents contra productive double lined state forest administration, when by the side of common state forest administration according to Forest Act under responsibility of the

Ministry of Agriculture there has been so called CIZP (Czech Inspection of Environment) under the Ministry of Environment, whereas real CIZP activity overlaying big part of common state forest administration jurisdiction. In the long term is unsatisfactory the provision regulating forest proprietor responsibility for claims having origin in special character of forest and provision on proprietors rights related to protective and special purpose forests. However it frequently is neither the consequence of forest law text like rather the courts practice.

Also generally high regulation measure is unsatisfactory, which results in troubles in cases, when forest owner intend to manage his/her forest differently from models certificated by forest law. Possible change would lay down rules that responsibility for protection from damage having origin in special forest character has exclusively proprietor and that proprietary of protective and special purpose forest shall have the right to stopgaps cost increase and also the right of detriment, which originate them in consequence of proprietary law limitation.

On the other hand people representing more green part of professional society argue that forest law updating is needed. These people preferring close to nature forest management were pleased by proclamation about the supports of this management way, improvement of species, spatial and age differentiation of forest stands. But if these proclamations should become true, then there is a need of change of the whole law construction, which deals directly the forest management. The same concerns proclamation on with forest soil protection and its productive potential as well as improvement of forests biodiversity. If it should state reality, it is not possible to advocate new coniferous monocultures planting, because their destructive influence on soil environment and biodiversity was already many times scientifically documented in that manner.

The declaration on search of state minimum needed role in forestry management and endeavour on mutual cohesion of forest law and law on nature protection is important, even though the support of leaving of forests to spontaneous development is somehow considered as problematic due to bad experiences from the last decades with bark beetle outbreaks.

Preparation of new forest law is considered as needed. As contemporary forest law belongs to better prepared and stable legal rules in the period after so called “velvet revolution”, gradual change of forestry political (MCPFE sessions), property (fulfilment restitution) and environmental (global climatic change) conditions requires new legal standard.

In principles is lacking a clear definition of public interest and endeavour on decreasing of forest proprietors legislative limitation. Positively are considered approximation to natural generic forests composition, support of leave trees and conforming of game stock to state forest ecosystem condition. The new forest law and following ordinances would offer space and tools for thrifty management manners.

Though it concerns the law on hunting among duties of state forests managers must also belong effective regulation of ungulate game numbers as it represents the meaningful restrictive factor not only of close to nature forest management. Contemporary forest law is modified to spruce and pine clear felling management of age classes. Biologists asking to make and put on the same level a method for forest management planning of coppice-with-standards and copiously structured stands, which are not based on the normal forest theory.

4. Recommendations

- It should be good to remove already existing unevenness among proprietors in binding provisions of forest management plans,
- To ensure major freedom of owners in using ameliorative and reinforcing tree species
- To have a longer time for afforestation with the view to utilise major natural regeneration,
- To discuss facilitation of state forest lease, under the accurately set terms, because in the event of removed forest parts it can be the most rational way of administration.
- Enlargement of tax-exemption from real estates on all forest categories, because all of them more or less offer non-productive functions to the public.
- Common forests usage should be more worked out and the entrance to the forest stands should be treated because ecological requirements (e.g. leaving trees on survival), which escalate possibilities jeopardy of forests users. They would enter into a forest at their own risk and especially with above mentioned point it is necessary to set free forest owner from accidental affect of the health or estates sequent upon free access to the forest.
- From current § 35 should be let out the text that „Performing of amelioration and torrent control is forest owner duty" because it mostly concerns measurements in the public interest.
- Clearly and understandably define the public interest in forests in the law and also manners, how the state will ensure this public interest (see original philosophy of the state forestry policy from of March 23, 1994). At the same time it should be mentioned that public interest would be supported also by total back payments compensations on forest area, which fulfils this function.

5. In closing

As a long-term employee of Forestry Research Institute and former EB IUFRO member I am particularly displeased by missing part dealing with fundamental forest research and education.

The text of the state forestry policy shows in the chapter III – "Long-term objectives of the state forestry policy" together five important issues:

1. To ensure maintenance of forests and forest soil for future generations;
2. To improve competitiveness of forestry;
3. To improve biodiversity in forest ecosystems, their entirety and ecological stability;
4. To strengthen the importance of forest and forestry for economic development of rural areas;
5. To strengthen the importance of education, research and innovation in forestry.

But the following chapter IV – "Measurements to the long-term targets achievement" has only four parts A, B, C, D … It seems that again nobody takes care on such matters as forestry research and education.

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Some general views on prepared law on National Park (Sumava) Bohemian Forests

Karel Vancura*

Abstract

Presented paper briefly describes the history of National Park Sumava (here-in-after NPS) and the ”bark beetle story”, which unfortunately became famous and a political issue that was used to improve visibility of some individuals, both politicians and scientists. Several lines are devoted to the basic part of the new law proposed, which omits the absolutely conclusive reality represented by principle deflection of the Ministry of Environment from the NP original target given in governmental statutory rules 163/1991. It started in 1999 and was completed in 2003 crossing from ecosystem and environment protection to the protection of natural processes. Some enthusiastic “nature protectors”, known in media as environmentalist, called the bark beetle (*Ips typographus*) as “forest doctor” and “architect of forest ecosystems” that cannot evoke heavy disturbances. But later so called naturalists pointed out that this was a mistake made by environmentalists, meanwhile their target from the beginning was the biggest disturbance of cultural spruce stands at the earliest convenience and on the largest area (!). Some considerations are given to the law and recommendations provided that should be considered in this legal prescription of NP in light of current knowledge on environmental and silvicultural philosophy. Ministry of Environment announced that: “*The act proposal on NP had been prepared as balanced compromise covering all needs of the park and sustaining development of the region. The Ministry carefully settles all passed comments*” (January 2013). Ministry of Environment presented a new version of the law proposal on April 24, 2013 – just in the time when this paper was nearly brought to an end.

1. The history of nature and landscape protection in the Czech Republic

The basis of legal nature protection have been established since medieval times when protection existed predominantly for aesthetic, historical, and cultural purposes, but there were also made the first scientific attempts to justify the protection of landscape and its appearance. The first legal acts were mostly concerned with property, which included natural resources and game animals. The aim was to legally protect landowner’s property and mostly it took the form of an order to protect forests as well as forest game and fishes hunted by the owners. These first legal norms came into effect between the 12th and 14th centuries.

The proposal of Emperor Charles IV’s Maiestas Carolina also included elements of nature protection. This proposal contained a detailed system of feudal forest administration and has set out strict punishments for breaking the codes, but was never implemented due to the noble’s opposition.

Count George Augustin Langueval – Buqouy on his Nove Hrady estate established the first protected area on the current Czech Republic territory – the Sofia primeval forest on 28th August 1838. Prince Jan Schwarzenberg established the Boubin forest reserve in 1858, that was considered as a National Nature Reserve up to date, due to the strict control of bark beetles in the time of calamity outbreak. Foresters cut nearly two thirds of protected territory

* Czech Forestry Association Central Bohemian Branch

and thanks to them we, after 150 years, can be proud for so called Boubin primeval forest today.

Laws on nature protection in the modern terms date from the early 20th century, with the independence of the Czechoslovak Republic in 1918. Thirty State Protected Areas were declared in 1933 and 142 Nature Reserves had been established in 1938. The Krkonose (Giant) Mts. National Park was declared in 1963 as the first one within the Czech Republic territory.

However, in the early 1970s it became clear that nature protection according to the principles of existing law (protecting only selected territories) was quite inadequate. This conservational approach to nature protection, which has been followed since the 19th century was unable to prevent widespread degradation of the nature and landscape.

The 1992 act complemented the existing "conservational" approach to protecting preserved nature, but also promoted an active approach by the state as well as private citizens (often landowners) and NGOs in nature protection. A whole range of other laws that are closely related to nature protection have also been implemented in the Czech Republic.

There are about 20 important acts related to environment and as the most important can be mentioned the following ones:

The Act on the Environment No. 17/1992 Coll. (as results of amendments) – defines the basic terms such as environment, protection, pollution and damaging of the environment, ecological stability, etc. The law also sets out certain principles and methods of protection such as limits on pollution, preventative measures, introduces duties to prevent pollution at source, to minimise the harmful consequences, etc. The act has mostly declaratory character and can only be used in practice together with other more specific laws. This law include also human beings as a component of the environment and is superior to the Act 114/1992 Coll.

Decree No. 395/1992 Coll., has issued implementing regulations to the Czech National Council's Act No. 114/1992 Coll. on Nature and Landscape Protection. This law is based on the principles of prevention, precautionary measures, sustainable usage of natural resources, integrated protection, etc.

Act on Forests and Amendments to some Acts No. 289/1995 Coll. (The Forest Act), are results of amendments. The purpose of this act is to determine conditions for the preservation, tending and regeneration of forests as natural riches, forming an irreplaceable part of the environment, to enable the fulfilment of all their functions and to support sustainable forestry. The act categorises forests as protection forest, which are forests at exceptionally unfavourable sites. Special purpose forests, that are forests in national parks, national nature reserves, and in zones of hygienic protection of water resources, can also be applied for forests to which a general interest in the improvement and protection of the environment or any other valid interest in the fulfilment of non-wood-producing functions of the forest is superior to the wood-producing functions; and the third category are production forests. Protection of forests is within the competence of the Ministry of Agriculture (the Forests of the Czech Republic S. E. was established to administer the state forest property) while forests in national parks and national nature reserves case are under the responsibility of the Ministry of Environment.

Act on Water and Amendments to Some Acts No. 254/2001 Coll. (The Water Act), – on protection of water aim at regulating human activities, which could lead to worsening of the water quality, endanger its occurrence or disturb ecosystems which are bound to water and

this concerns both surface and groundwater. Water protection is primarily under the competence of the Ministry of Agriculture in cooperation with the Ministry of the Environment. The state set up "water authorities" to take care of water in the catchments where they operate. Care for small water flows is also the responsibility of various other bodies.

2. Short view to the NPS history

This part should be brief, as another participant of symposium will inform on this matter in his presentation, nevertheless I would like to mention some points connected with the NPS cause as in the following:

1963 – Sumava Protected Landscape Area was established;

1968 – discussions on joint forests protection between Bavarian and Czech foresters;

1990 – Sumava Mts. was included among the UNESCO Biosphere Reserves and previous ideas (proposed already around 1930 by Prof. J. Komarek) about the national park creation (in fact tabu during the communist time) was finally on the table; new Ministry of Environment initiated negotiation on which different people were invited except of those from forestry resort. An area of 180,000 ha was proposed originally, then people at regional level proposed a size of about 13,000 ha similarly to Bavarian Forest NP – while the decided area of the park, currently is 68,000 ha.

1991 – NPS officially founded on May 10, 1991 by Governmental Decision No. 163/1991 Coll. (unfortunately in the time of bark beetle outbreak), but this huge institution came into existence step by step. Nevertheless, the first clash about the bark beetle started immediately. Some protectionists then, regardless of reality circumstances, knowledge about nature and responsibility in wide context, promote leaving of the territory fully to natural processes. Decision of NPS leadership, as response on enthusiasm for nature protection dictatorship, was made to leave 4,000 m^3 of infested trees at Modrava low more without treatment. Forest stands dried on 800 ha in one moment paid this decision.

1992 – state administration and state forests estates are transferred to NPS office and foresters that could not accept this new thinking on forest handling had to leave their positions.

1993 – disagreements between ministries of agriculture and environment, later the change of the 1st "green" park director by forester working in the Forest Management Institute before; the beetle was considered as a jeopardy to forest ecosystems again and more intensive strategy of its control was applied. New director formed the administration and started an active and purposeful protection against the spruce bark beetle. Almost at the same time started an intensive media campaign against „the national park liquidation" in ecological TV serial „Don´t drop it!" Produced sketches were always at diametrical variance with the discussion course. Those were purposeful des-informative actions. Mostly dry stands and clear-felled areas on the Czech side were shown in TV in between 1994 till 1996 and green stands on the Bavarian Forest side. The author picked out this greenery in places where beetle did not complete its work. Our public was mistaken by the black and white information, no word was said about complexity of the problem and its course.

1995 – the Ist zone had proclaimed on 13 % of the NPS territory, the IInd zone covered 83 %, and the IIIrd zone was on 4 %.

1996 – state administration has been given back to district offices and in Ist zone areas the bark beetle destroyed about 2,000 ha of forests.

1998 – the change on environmental minister position, the exception from the law made possible to control beetle actively. Salvage cuttings of infested trees decreased up to 2002 when it was in reasonable level. The collaboration between local communities and NPS administration had been opened in the effort to prepare the law but its proposal was called back and nothing happened in the next ten years.

2002 – further change on the environmental minister position brought also changes in the policy and one of the beetles' protectors became the NPS director. Six regional workplaces were created instead of the existing 12 forestry administrations and many foresters had dismissed. IUCN mission visited NPS and the park was declared as the IInd category park on the basis of its recommendation. The respective document was not accepted in discussions of ministry, NPS and local municipalities neither to 2005, nevertheless the Ministry of Environment proclaimed it as accepted including the target to have 50 % of the NPS territory in non-intervention regime. Forest and biological scientists concurred with increasing of this zone to 30 % but successively in 10, 30 to 50 years. The proposal was not agreed but the green dream about 30 % of brown Sumava was not forgotten.

2004 – There was created an initiative drawing attention to the risks from too fast broadening of non-intervention zones. The NPS vice-director prepared a proposal of new zonation but it was rejected and the vice-director lost his position (2006).

2005 – Seminar on the NPS was held in the Senate house and senators visited national park.

2007 – Kyrill (Jan. 18 to 19), wind calamity of the century but with the bark beetle continuation it reached the intensity, which deserves the title "of the millennium". Together 3,595,000 m^3 of windbreak timber was processed in the Sumava Mts. region only in the first year - the most of it 744,440 m^3 in NPS forests. About 200,000 m^3 were left without treatment against bark beetles in Ist and IInd zones officially but only in one regional workplace it was at least 300,000 m^3 according the Czech Inspection of Environment (CIZP) investigation.

2008 – Wind throws were infested again in springtime one year after the two bark beetles generations of 2007… then Emma (March 1) and seven windbreak plots were left without processing. NPS administration started to speak about "new managements" and "Wild Hearth of Europe" in the time when it was quite clear that the slogan "Green Roof of Europe" does not fit to the reality. The aim probably was to clean up forests in which the nature protection wrenched out from the hands of its state administration. Some of those "green people" who obstructed infested trees cutting concede that non-intervention was a mistake in the first moment (i.e. 1992, nevertheless there were again in action in 2012). The "differentiated management" became a tool for secret and hasty increase of non-intervention forest plots in the same time. But in fact the forest on localities in which the man responsible for nature protection didn't fulfil its role – and the Czech Inspection of Environment should provide the fine – were given forth as the "Creation of God". In such a way there was created "Dry Curtain of Sumava". By the way: the inspectors of the CIZP who did not agree with this policy and recommended to apply control actions also in the NPS lost their jobs.

2009 – The bark beetle infested more than 700,000 m^3 of timber in the NPS state forests. It was said that it is only 21 % of dangerous non-intervention areas and that the further 9 % is missing only a little to reach the real wilderness (!) – nobody had spoken about 13 % of NPS territory, which was only legally valid non-intervention area of the I^{st} zones.

"A joint vision Sumava 2020" was prepared after finding that applied line is not acceptable. There was proposed to have 21 % non-intervention area with step by step broadening to 30 % up to 2020. But 30 % was in fact realized already since 2008. The green ideology was on the decline and thus it was necessary to have a political admission that no catastrophe happened after the Kyrill if anybody looks for culprit of the NPS forest devastation (the damage on forests was estimated on 33 bill of CZK - i.e. 1.32 bill EURO). Regional management did not accept this document and it has never been signed. There have been found the second oldest original spruce of NPS. Its age has been estimated to be more than 559 years. It began to grow fifty years before Cristobal Colon discovered America and the bark beetle liquidated it in 2009.

2010 – Forests of the NPS and more than 40 km of died stands along the state borders did not represent an expert theme already for a long time, but 2010 was also the year of parliamentary votes. The Green Party did not succeed nevertheless thousands of trees died every day and bio-scientists, Rainbow Movement, Children of the Earth etc. were silent. Under their political pressure there was felled three or four times more timber than total annual allowable cut. Representatives of "non-fellers", fought for non-intervention, exactly 115 exceptions for interventions in the I^{st} zones, but it was kept quite secretly to the public.

2011 – A green director resigned in November 1, 2011 and he did not feel guilty for the situation ("*the ministry was responsible for everything*")… About 1.895,000 full-grown trees died during his period! The result is that continuous Norway spruce stand older than 300 years is missing in the NPS. The bark beetle infested together 2,045,824 m^3 in the territory of national park - including all owners (municipalities and private persons) - in the period 2007 - 2010. The beetle liquidated a territory only a bit smaller than city of Prachatice cadastre (3,890 ha) in the NPS from 2009 till 2011. It was roughly 1000 to 1200 ha in non-intervention zones every year, 3862 ha in total. Almost all adult spruce stands died in these plots since 2007. Bark beetles, which threatened from Czech stands Austrian side of the joint border, were stopped by the NPS administration. Austrians praise action of the NPS on Smrcina Mts. The bark beetle calamity control on the Czech side saved a lot of money to Austrian forest owners. The Rainbow Movement organized summer blockade of infested trees felling illegally decided the regional court in Pilsen.

2012 – Year 2012 was full of principle news in the NPS. A new definitive director replaced temporary crisis manager and the mission to stop current bark beetles spreading was completed during this year. Thanks to two years of active approach the bark beetles calamity was terminated. The situation is better - the aerial photos evaluation shows that the bark beetle died in about 165 ha in 2012. May 2012: The NPS administration performing well and in accordance with the nature conservation to combat bark beetle calamity, acknowledged authoress of the NATURA 2000 judgement, according to which inactivity would cause irrevocable claims on unique Sumava forest. Bark beetle invaded and killed about 2,500,000 mature and green

spruces since 2007 and more than 1,700 ha of forests were deforested until 2012. The plan of care for the Bohemian Forest Protected Landscape Area (CHKO Sumava) for the period 2012 – 2027 was adopted at the end of 2012, after eighteen years of discussions .

2013 – Foresters denoted trees assaulted by beetles seems that thanks to the efficient control in previous two years, will fell a smaller number of bark beetle wood than in previous years within the NPS forests. It should be up to sevenfold less compared to 2010. Nevertheless gene sources of Sumava mountain spruce are at risk. Original and the most vital and valuable spruces are almost lost. They disappeared i.a. thanks to infested tree felling blockades organized by the Rainbow Movement exponents at the beginning of the beetles' outbreaks in 90ties.

Give us 20 years…

One of the so-called bio-scientists requests was: "*Give us 20 years, the situation will be evaluated then, and the act for national park will be prepared for measurements*". There was no interest to have a law. Twenty years had gone and the result is still chatastrofic.

There were destroyed about 6,443,000 m^3 in the Sumava region and its foothills due to beetle calamity after the Kyrill. The allowable cut in the NPS intervention on forests stands was 2,774,000 m^3 within 20 years, but total felling was higher by 1,186,000 m^3. These stands are logged-over for next 9 years.

The following estimation for years 2012 / 2013 / 2014 shows the dying and felled timber (in thousands of m^3 - that in fact means also number of trees):

- if 30 % wilderness approach continue: 600 / 300 / 100 = Sa 1,000,000
- if /close to nature/ forest management idea starts: 400 / 100 / 30 = Sa 530,000

Two more comments:

1. Sumava Mts. belongs to so-called Protected Areas of Natural Waters Accumulation (CHOPAV), in which the extent of forests can be downsized only about 500 ha comparing with the date of its wstablishment (there was about 30 km^2 along the state borders in 2008).
2. This destruction of hydrological important forests is in fact antropogenous one, as according the Law No. 114/1992 Coll.

Some people have warned against possible action of Austria that could claim damages incurrence bark beetles spreading from the Czech side. National park administration on the contrary stated, that ten-year inquiry has shown rightness of non-interference against bark beetles; the forest helps alone according to some naturalists.

There have been two diverse conceptions - whether trees assaulted by bark beetles will be felled, or will be let to freely dry. Mayors of Sumava municipalities, foresters and hopefully majority of politicians are in support of the first possibility, while Green Party, ecological organizations and national park administration insist on the second one. About 30 mayors handed over a petition to the Parliament, named "Save Sumava". This petition, which appeal for a fight against bark beetles, was signed by 8,800 people initially. Mayors estimated the damage to be about 16 to 30 bill CZK and hand to two action behind claims incurrence engraver beetles on park managers.

Conception of protection and non-intervention in the Šumava National Park was set down by the Act on Nature and Landscape Protection No. 114/92 Coll. and the Decision of Government of the Czech Republic No. 163/1991 Coll. of 20 March 1991. According to § 2 of this regulation, "*the mission of the National Park is to preserve and enhance the natural environment, in particular the protection or restoration of self-control functions of natural systems, strict protection of wild fauna and flora, maintaining the typical appearance of the landscape, fulfilling scientific and educational goals, as well as use of the National Park for tourism and recreation. Economic and other uses of the National Park must be subordinated to the preservation and improvement of natural conditions"*. It is quite sure that the typical appearance has changed as well as natural conditions. Maybe that is not too far from the truth that strengthening Kyrill and Emma effects were stronger because of forests condition, in which forestry management was leaved off.

That was a crazy idea - pretending of absolute nature in the middle of Europe, in the territory changed by human activities through many centuries. In the territory, that has primary importance like future reservoir of fresh water, where the preservation of forest and fen bogs has nobody's irretrievability protective function in face of floods for below laying inhabited areas. It was impossible to give reasons for this risk and irresponsibility. It was done in the social environment of so-called „communist capitalism", where central motto is „break off what you can". The beginning of the whole story in 90s was probably only a game played with stupid fundamentalism of lay nature protectors. Who knows for whose sake this play was (and probably still is) played? There are interests of newly created (mostly logging) companies, maybe developers, also state forests on the beginning of the story and people are tired with the whole situation, thinking that the legal state doesn't exist sometimes.

3. Act on National Park Sumava

Proposals of the NPS law were prepared already several times but never were accepted. The new minister's position is reported on April 21, 2011 as a compromise among the proposal submitted by the management of the National Park and further opponent opinions that are being presented in relation to bark beetles combating. The further procedure adopted will be more effective in the fight against bark beetles, while being much more respectful of the Park's non-intervention zones. Very valuable conclusions were also drawn from an investigation into the scope of felling in the non-intervention zone of the NPS, which had taken place under the former "green" director. Jan. 12, 2012 - Discussions on the new Act on NP Sumava are ending and the draft law is heading for the legislative process announced by the Ministry of Environment. The area of the first zone of the NPS together with the area of zone IIa would then reach 35 %, which is historically the largest area of a first zone in the NPS that has ever been agreed on. In practice, 35 % of the park area corresponds to almost 24 thousand hectares. This area is greater than the total area of the neighbouring Bavarian Forest National Park. There should be limited all bark-beetle measures in the first zones to felling trees with a chain saw, removal of branches and removal of bark and all the thus-treated timber will be leaved in the first zones to decay on site. The most common forest-protection methods will be used to eliminate bark beetles in the second zones. Decision was not to use biocide preparations in sites affected by water and for standing live trees (where biocide are used, no aerial spraying shall take place in any case).

4. A view on the NPS law proposal of 2012

This part of paper is based on the statement expressed to the proposal on National Park Sumava/Bohemian Forest (here-in-after NPS) act. The Ministry of Environment proposed

version represents a result of what politicians understand by notions „compromise". This case indeed means quite exceptional situation because one of parties, so called – „shadow counsel" (or *seamy side*) of the NPS – has main basis ideologically backing, then outside of science philosophy existing „idea peel". It is an effort on creation of „wilderness" (without any definition) without any view to anything other than purposes of partial natural historical branches, supporting and following destruction of forest tree storey largely cultural spruce stands in the name of natural processes like absolute truth. This must be enforced possibly in spite of law. These natural processes, that have regular burst in cultural spruce ecosystems under „non-intervention" like large-scale and long-term disturbances of montane forests are not natural phenomena; nor natural elements, nor bark beetle do not behave there in such a way, as they behaved in the time of original *Silva Gabreta* existence. So, e.g. references to the veneration necessity of millennium bindings of spruce and bark beetle represents only devotional exercise by altars of enough long ago nonexistent idols. Bionomic of bark beetles was adapted to forest changes and their „mission" there are now quite other than at that time of original forest ecosystems. As well as everything is passing above the landscape, which is not rich in honey only already long time. It is a cultural and residential landscape, but it seems that regard on it is not worth ideologist's thinking.

5. An explication of the NPS cause substance

It is exceedingly characteristic, how analysis of the cause trend in the law proposal quite after-passing absolutely conclusive reality that the principle deflection of the Ministry of Environment from the NPS targets occurred.

These targets are expressed in fundamental legal rule, in statutory rule No. 163/1991 Coll. Starting from 1999 and *in extenso* since 2003 it has been a shift from protection of ecosystems and environment towards protection of natural processes. Already the first „plans of care" of the NPS were characterized on one side well scriptural plans of hits on the nearest years – especially in transformation of composition and structure of cultural forest ecosystems. On the other side there were only ideological terms of the transition to non-intervention – at that time in near time horizon. Enthusiasts, media supporters on environmental issues, till 2006 have called bark beetles as „forest stands doctor" and „forest ecosystem architect", that can not cause heavy disturbance. Then they themselves considered the issue as an error to environment. Naturalist pointed out, that it was an error of „ecologists", meanwhile they proposed the largest disturbance of cultural spruce at the earliest convenience.

If the „policy" is to keep such fundamental facts and phenomena as a secret from NPS cause, then it is a fatal phenomenon of efforts to deceive the reality. The TV declaration of an external environmentalist invited in Prague by prof. Kindelmann from UK states: :, „bark beetle is engineer forest regeneration". Is it permanently kept ignorance of the bark beetles bionomics or teleological ignorance on the NPS character?

Procedure to wilderness by montane forest destruction is the option provided by „academic community". This term is even use to justify the act proposal – that it allows to those communities to have their thoughts and proposals in decisions about the NPS. Thereby it is meant especially a group of naturalist composed of professors from Faculty of Natureat the South Bohemian University (JcU), who are members of so-called NPS Shadow Council (without responsibility). This status is a strange one as for example a full professor of the same university was cleared of a word at the discussion with students JcU conference to the

NPS cause only because his opinion did not fit with that of the listeners... Isn't that the exclamation mark, which should be thinking over for very seriously by reasonable men?

Also in communications of people, who are behind of rising such symptoms , the scientists looking into this matter are considered as traitors and evildoers. This is not a supposition or fabrication! This is a fact based on mistake of sending e-mail to one JcU councillor, which dealt with process on how to exclude all member's thinking. . Unfortunately, it is used nearly the same terminology, that is described in the book of English historian about „Hitler' scientists" in the time of Nazism in Germany…

This is the current situation on the issue, where 9 years have already passed on the standpoint of preservative conservation on protection of natural processes.. There is a possibility that consequences are reflected in the landscape of NPS, where there were fabrications of betrayal and wrecking activities, that do not ensure the existence of the national park, or its quality.

6. General standpoint to the law on NPS (2012)

The Act proposal can be treated as certain progress, if determination of zone I as introduced is accepted. Lawful delimitation of this zone range call out nearly raging resistance of „idea peelings" advocates, whose endeavour is to achieve in the shortest time as much as the biggest surface of spruce stands destruction.

In spite of the fact that also areas of „the strictest protection" will be affected (e.g. climax mountain spruce stands) through in particular tighten up protection by the Law 167/2008 Coll., which is also covered by proclamation of local Bird area... After eating hereof in particular, from European viewpoint, valuable type of forest ecosystem by bark beetles, there e.g. den trees, of course, will not exist at least a century. Indeed Bird area has protected bird species that need such trees for nesting. According to „idea peels" of excited ornithologists it is said never mind – this bird species fly away in elsewhere nests. This is a document, how to have an ideological look on laws!

The „idea peel" represents fundamental basis also here; an absolute priority is rising of wilderness in the NPS. This law isn't mentioned in survey of laws concerning NPS. According to formulation of South Bohemian University environmentalist the law isn't an argument – when it is not suitable, there's no need to adhere it. By ideologist type it can be the same also with the law on the NPS. Formulation of the law is important to consider it becoming part of the attention of politicians, speaking about a legally functional state.

7. Recommended items to the law proposal on the NPS

As a consequence of the law proposal, in light of view points resulting from knowledge of environmental and silvicultural science are the following issues:

Vast and many year's destructions of spruce trees storey, largely of cultural forest ecosystems of the NPS derogate and destroy whole mountain forest in its natural functions for long period. They are phenomenon of necessity future in stands without intervention, which are unable to ensure self-regulation development. This destruction is indeed on behind of principal and long term changes of environment and biotopes basic characteristics – it concerns changes of balance-sheet (radiation, warm, water), elements and bioclimatic factors, soil processes, etc, not only with local effects on forest plot but also outside the forests and also with possible regional effects up to the park surroundings. The forest can be locally missing in mountain landscape for long time together with its useful environmental impacts,

which conservative nature protection never mind in no way. However, the NPS is not situated in natural uninhabited desolate area.

National Park Bohemian Forest was found in cultural inhabited landscape and has very long border with it and this fact will not be changed for centuries. Natural processes disengaged on the NPS territory can enter also to its surroundings. Disturbances of montane forest of whatever criteria never consider conservative nature protection by no means, if it is behind limits of its world perceiving and that is the reason to dismiss it. . However, it should be one of the pivotal environmental and forestry policy business of the state and surely it should find respective response in the law on the NPS. The proposal of this act does not mention anything about these principal realities at all.

From these undeniable facts of environmental and silvicultural sciences, derives the possibility of environmental and social risks resulting for landscape setting from the existence of IInd category national park (according to IUCN definition). Definition of this NPS category in light of standard scientific knowledge is absolutely mismatched. A reason for this statement is the fact that here exists also risks for human society but conservation nature protection thereby refuses to engage in it. The law would, in the public interest, respond on these risks in some ways e.g. by their estimation (1.6) and inclusion among already introduced risks. It doesn't concern only claims on possessions or their usage, on entrepreneurial activities. It concerns jeopardy and environment damage and claims rising from it outside forests, which could persist for decades. There are there links with the law 282/1991 Coll. and existence and work of the Czech Inspection of Environment (CIZP) with its actions on protection of forest like irreplaceable components of environment. If the forest of national park (NPS) is excluded from this function fulfilment – which is irreplaceable component of environment according to law – it is necessary not to apprehend a reality and confirm it by the law.

There is an inevitable need to mention accentuate, that to limit the component of environment function only on production forests would be legal, worldwide remarkable, giant circle of thinking. There is also a question, who will and how much weigh will have the meaning conservation and that of the cultural landscape environment protection in our inland conditions. It is possible to document a formulation of the environmentalist from South Bohemian University that „*cultural landscape, it is just very thing, what us out of own line at all*" – it does not interested us (!). Have also politicians this type of thinking? These possible and consequential environmental and social points of view and risks including surroundings of national park of NPS are not treated in the law proposal at all.

Risks are described only in the form of legal character data in the law proposal; on the other side even the gender issue of equality of men and women is mentioned. A warning on risks due to unblocked natural processes is quite missing. There is no treatise of them possibly concerning Act on Environment 17/1992 Coll., which respects also human beings environment. Natural processes unblocked on the NPS territory are impossible to restrict in after effects to the surface of the NPS. Is it possible that such risks could be kept as a secret in the case of founding law of national park created in the middle of cultural inhabited landscape?

Several items, validated by concrete knowledge and experiences, could be mentioned as possible example of risks. Example No. 1: breaks, windfalls and brushwood in forest torrent streams. They are no doubt some of wilderness sign. However, if once it happens a critical rainfall and such encumbrance possibly only from brushwood puts in motion, will it be restrained on edge of the national park? Similarly making wet of other plots after forest dieback can, from the hydrological point of view, according to position and surface of

territory expressive affect runoff process as well as water quality. Local “natural processes” (started in fact by man) can exclude the forest biotope renewal in the long term - according to experiences from the nun-moth (*Lymantria monacha*) and pollution calamites. This and much other incidences of “non-intervention” can turn up during many years and it will be necessary to solve possibly more consequential matters, than inconsonance among letters and spirit of various laws – it is necessary to enrich legal standpoints by views resulting from possible changes of the environment.

That is why the treatise of these risks and solving of possible aftermath in the landscape scale appertains to lawful consent with large area experimental plot of natural sciences in mountain forests. Changes of landscape forest cloak have also other meaning there than nature protection. This standpoint is not missing by promulgation of the national park laid quality in a given territory, so that is why it requires a treatment in its founder law.

Next serious reason to consider is time limits included in the law proposal - years for transferring of forests into a the non-intervention system. There is repeated again the conception since the NPS creation – displaying of pressure on the shortest continuation of possible human measures regardless of concrete conditions of forest ecosystems self-regulation. There is a need to remind and ask much accentuated, who and on what basis warrants time of many year's time limits mentioned in the law proposal. Is it really political necessity to let operate „idea peel" somewhere at solving so serious problems on such a long period?

It is inevitable to set conditions of transition to non-intervention approach through achievement of scientifically based auto regulation ability of future forest ecosystems by the law. It has to be done by standard scientific knowledge – no fixed order data for distant future.

8. Conclusion unscientifically sad

Above mentioned lines are based on conclusions of researcher who worked within similar problems more than two decades – once experimentally in scientific projects in various parts of our country (from lowlands to mountain regions), who studied not only forest environment, but also relations of forests and landscape, forests and landscape environment. Everything is in connection with Euro-Atlantic civilisation development and needs related to forestry, as well as in contact with European forestry and with his reactions thereon.

Some naturalists in pointing harmony with enthusiasts and with specialist on classical propaganda and legal twist have reach a noted successes in public influencing the post-modern society trends.

Our foresters are not able to see basic matters of their sector, as they have different opinions and probably in principle are not too much interested in their future. They are probably too much dependent on institutions and new self-made-men (or so called godfathers) and in principle powerless also due to poverty. We, foresters, were not able to provide in forestry billions to ensure public concern on forests and environment, on „well being" or even lives of population, as it is proved by naturalists showing poor Mother Nature interests. These are analyses of open financial evidence dealing with usage of social overhead capital of the country (populism: then pen-case of tax-payer). Have foresters any person that would take care in a programmed way on anything appropriate, while on the other side teams are working, using public funds, and trying to give proofs that forestry is an anachronism? In such situation it is not easy to see foresters like partner of naturalist and environmentalists.

There is a lack of persons that would be able to and willing to share ways of solving this situation.

We've engaged leadership positions in our sector by men to whom the forestry is quite distant and the pursy economism is peculiar to them. The IUFRO European representatives identified this allurement already years ago... Our foresters, men mostly fully dependent, as if they were able only to be systematically silent, take instructions from above obediently and losing even in the case when their future is in stake. The expressions in some matters are similar to those ones, which were quite accustomed in the previous regime – somebody is afraid of institution position, inability to reach grants or other financial support or even of job losing in the case of own and unconfirmed opinion to official one. So called "wooden book" representing the official approach of state forests to the economic cutting of timber (the government take notice of this matter…) is representing another sad example ("*I do not agree but I am an employee of state forests*…"). This position I also heard personally from the NPS employee in stands destroyed by beetle in 2009 – ("…*we are not allowed to speak our minds*").

Colleague in key positions shared an information from Slovakia that forestry, if continues this way for a long time, can disappear like economic sector at all in this country, in spite of the fact that state forest representatives (with university forestry education) and forestry institutions representatives conduct in discussion on forestry crisis concretely and clearly.

Well, foresters are living in general situation according to the point of views of some of us – if only we would be wrong! Maybe some apology for this pessimism should be appropriate, but new modern approaches on appearances of totality and mores are sometimes too much for one's nerves.

9. Contemporary development of the NPS cause (2013)

The Czech Government accepted a law proposal about NPS in the time when this paper is bringing to an end and the proposal will be sent to the Parliament on May. Primarily, it should be good to join the ministerial NPS law proposal with the second one prepared by the Pilsner Region representatives and that vote about this law will also be thereof, whether common sense or environmentalist fundamentalism win.

The Ministry of Environment proposal allows, among others, to fight against bark beetles in parts of park with the strictest protection (I^{st} zones) in serious situations. Current minister of environment thinks that ministerial proposal is a good one. The law was not prepared in a „laboratory legislative environment", but was a result of working with scientists, environmentalist, and mayors of respective municipalities. It should bring steadiness, which was missing in Bohemian Forest for a long time. Current NPS director says that the positive signal is above all the fact, that the result is a compromise agreed by broad-spectrum of specialists with various view points. .

There are again a lot of exceptions to it – e.g. Ecologists from the Rainbow Movement declared that ministry does not react on their reminders to prepared proposal. They supposed that the law is opening the national park door to fellers and developers at the expense of nature protection and tourists. It will make possible new developer projects and building in the national park heart (this last item should be really a dangerous point – "*developers are creating landscape*"…and people are afraid of the corruption in this connection).

Minister indeed means that there was taken sufficient consideration on environmentalist thoughts. If the ministry accept only the opinion of Sumava municipalities, the I^{st} zones of protected territory would comprise only 16 % of the park territory. But the final draft proposal

takes into account that to the first zone will have 26,5% of park(22.08% non-intervention zone + 4.46% temporary intervention zones) and a further 8.49% will be in zone IIa, to be prepared for transfer to the first zone. The area of the park first zone together with the area of zone IIa would then reach 35 %, which is historically the largest area of a first zone in the NPS that has ever been agreed on.

Minister also decided, contrary to the proposal of the working group, to prohibit felling in the first zones with predominant peat bogs and ordered that these zones be included in a non-intervention regime.

During this year's Czech Forestry Society plenary, the deputy minister of environment said (citation: „*we did only one mistake during the NPS establishment and it was that nobody didn't explain to local inhabitants that in following period Sumava forests will look abominable*" (end of quotation). National Park Krivoklatsko is being established quite silently at present. Did anybody explain to citizens that Krivoklat forests stands will „look abominable" using the non-intervention approach?

In closing, I would like to say a word to all those people who contributed to the current status of Sumava forests: The spontaneous processes are not the main purpose of the national park. The purpose is lowering of timber cutting and minimising of interventions into forest stands as just by this approach the spontaneous processes are introduced.

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New Forest Policy in the Czech Republic

Jaromir Vasicek*, Karel Vancura*

Abstract

The government in its programme declaration committed itself to promote efficient, but at the same time conservative ways of forest management; work out new principals of state forest policy that will be based on equal approach to proprietorship, the policy of equal opportunities of economic competition and rational, and non-bureaucratic state forest administration; will look after the balance of productive and non-productive forest functions, considering the conservation and preservation of biological diversity as an inevitable condition for human life quality; and will support first-rate nature and landscape care in accordance with economic, environmental and social interests in the territory. These programme pillars fully support the principles presented. Long-term objectives of the state forest policy that were formulated by the current government are:

- To ensure the preservation of forest and forestland for future generations.
- To increase competitiveness of forestry.
- To improve biodiversity in forest ecosystems, their ecological integrity and stability.
- To strength the importance of forests and forestry for rural development.

This paper describes the development of forest policy after 1989; it comments on government's uces to achieve the laid out objectives, and also addresses the problematic steps in the development of forest policy in the Czech Republic.

Keywords: Forestry policy, nature protection, national forest program

1. Principles of the Czech forest policy 2012

The Czech Government through Government's Resolution No. 854 of 21th November 2012 has approved new principles of state forest policy on 21st November 2012. These new principles foresee to keep a share of forests for spontaneous development, e.g. national park, and a certain share of these forests in state ownership.

Long-term state objectives in the forestry area are: preservation of forests and forests soil for future generations, improvement of forestry competitive advantage, and also biodiversity and ecological stability of forest ecosystems. State aim to strengthen step by tep the importance of forests and forestry for economic development of rural areas and increae the significance of education, research and innovation in forestry. The document has approximated the long – term concept of the 1994 and ekes out the National Forestry Programme of 2008.

In order to increase competitiveness, the government among others aims to reduce the amount of forest owners' legislative limitations at a customary level with the other countries in the rest of Europe. Foresters in the long-term consider that the Czech forest law is among the strictest low in Europe.

* Forest Management Institute Brandys nad Labem
** Czech Forestry Association, Central Bohemian Branch, Davle

The wood processing industry currently under the Ministry of Industry and Business will move under the responsibility of the Department of Agriculture.

Our forests will approximate more of their natural species and age composition in the future, which means for example the improvement of broadleaved tree species share at the expense of Norway spruce monocultures. Forests should have a fair share of rotten and dead wood, cutting residues and so-called ameliorative and reinforcing tree species. The material counts also on diminishing of big hoofed game stock, which yearly creates forest damages at a level of millions of CZK.

Department of Agriculture proposed unification of the forestry support system and wants to conserve free accessibility into forests. It is also considered the possibility to support the use of wood as renewable and ecologically clean raw material.

In order to realize the government's aims it is noticed the need to make legislative changes based on the government' documents. Such changes are for example adoption of the new forest law, updating law on game management and hunting, or corresponding new law on national parks.

Principles of the state forest policy

Government of the Czech Republic has approved the below mentioned documents related to state forest policy since 1989:

1. Principles of the state forest policy approved by the Czech Government Decree No. 249 of the 11th May 1994.
2. The Department of Agriculture Conception on departmental policy for the period before the Czech Republic accession to EU. The part B dealing with forestry has been adopted by the Government decree No. 49 of the 12th January 2000.
3. National Forestry Programme adopted by Government Decree CR No. 53 of the 13th November 2003.
4. National Forestry Programme for the period by 2013 authorized by the Czech Government Decree No. 1221 of 1st October 2008.

2. Introduction on the new state forest policy

1. Forests and forest soil represent natural wealth of the Czech Republic, sources of timber like renewable raw material, and irreplaceable component of the environment.
2. Forests have an imperative role on protection of soil, water, atmosphere and climate; on the development of rural areas, forestry as such, and provision of landscape and environment for human beings, animals, and plants. That is why forests must be managed and maintained in a way, that enables to fulfill permanently all these protective, economic, and social tasks.

I. General directions

1. The Czech Republic in line with the international laws and EU membership tries to ensure sustainable forest and forest soil management, in a way and range that has influenced in conservation of biodiversity, productive capability, regeneration capacity, vitality, and ability to fill corresponding protective, economic, and social tasks, having no further damage effect in the ecosystem currently and in the future.
2. The Czech Republic tries to preserve the share of forest stands left for spontaneous development, where all vegetative storeys and trees age categories are presented and

part of which are over mature stands, line growth, wetlands, spring areas, peat-bogs, etc., as these forests represent high variety of all live and lifeless nature.

3. There is necessity to articulate discretions and duties of forests owners by type of ownership and forest categories and keep fair balance between forest owners and public interests for balanced implementation of forests tasks mentioned above.

II. Enforcing of public authority

1. Forest state is one form of property to satisfy public interests. As far as public interest satisfaction in the forests of other owners requires divergence from usual management system, such proprietary right limitation must be granted by corresponding compensation at the moment of limitation rise at the latest.
2. Public authority acts on forest proprietors only at that time, as far as the natural effort of these owners for correct care conducting of possession and of its improvement are not able to cope with an impletion of public interests tracked by state forestry policy.
3. Public authority tools in face of forests proprietors must be qualified to fill requisite purpose. If using of more different tools is possible, they must be chosen those that have constituted the smallest and at the same time adequate interference with the forest owners' rights.
4. Rules for public funds exercitation at public interest assuring tracked by state forestry policy determine especially the Forest Act and the Act on Protection of Nature and Landscape. Legal regulations is well grounded to receive or change only in cases, when is it needed for ensuring of public interest and when contribution developed by their adoption or by its change outweigh the contribution resulting from law milieu steadiness.

III. Long-term objectives of state forest policy

1. To ensure preservation of forests and forest soil for the future.
2. To improve competitiveness of forestry.
3. To improve biodiversity in forest ecosystems, their integrity and ecological stability.
4. To strengthen the importance of forests and forestry for the economic development of rural areas.
5. To strengthen the importance of education, research, and innovation in forestry.

IV. Measures to achieve long-term aims

A. Preservation of forests and forest soil for the future

1. To support preservation of forest stands left for spontaneous development and enhancement of the share of these forests in state ownership.
2. To support sustainable forest management, at limitation of state administrative hits on necessarily minimum, at motivational incidence in support of public interests and at improvement of forest owners responsibility for its possession.
3. To unite rules for protection of forest and agricultural soil.
4. To define forest owners' rights and duties according to forest categories and type of ownership to fulfil above all public interests by state owned forests.
5. To strengthen the character of forest management plans as forest owners tools.

6. To determine basic principles of forest management, by minimum age of exploited forest stand, localization, and maximum cutting tract, in order to renew forest and conditions of forest transport therewith, that state forest are administrated and managed in a way, that serves as an example for other forest owners.

Necessary steps:

- adoption of new act on national parks,

- adoption of new Forest Act.

B. Improvement of competitiveness of forestry

1. To reduce quantity of legislative limitation of forests owners on the customary level of European states with analogous composition of timber production.
2. To unify and simplify the enforcement of state administration.
3. To enable forestland sale particularly by forms of consolidation, and to ease their realization in cases, when the consolidation concerns forests state ownership.
4. To enable state owned forests shift transactions to forests in ownership of other persons, above all of those, where the management is limited in the public interest.
5. To strengthen forest owners position related to owners' constructions in the forest or in its proximity (recreational cottages, pipelines, roads, railways, etc.), to ensure that protection of these immovable properties was in principle duty of their owners and forest owners were granted by compensation for forest management limitation sequent upon existence of construction mentioned.

Necessary steps:

- adoption of new Forest Act.

- updating of the law on state land office and on changes of some coherent laws (No. of print issue 691/5).

C. Improvement of forest ecosystems biodiversity, their integrity and ecological stability.

1. To support forest management with a view to conserve and improve biological diversity particularly in such a way, that the forest stand will approximate forests stand natural composition and comprising site natural species.
2. To support leaving of reasonable share of rotten wood, logging residues, and tree passed natural development of fade away, as well as of ameliorative and reinforcing tree species in forest stands.
3. To support close to nature forest management inclusive systems of management that were traditional in the past.
4. To support improvement of species, age and spatial forest structure diversity for ensuring long-term forest stability, inclusive share improvement of broadleaved species in forest stands.
5. To adapt the big game stock to the status of forest ecosystems in struggle to further lowering the game damages in forests.

Necessary steps:

- updating of game management and hunting law,

- adoption of new Forest Act.

D. Maintaining and improvement of forest and forestry importance for the rural areas development

1. To unify the system of subsidies aimed at forestry on the level of the whole country.
2. To preserve free accessibility of forests to everyone at one's own risk, in connection with the right to collect forest fruits for its own, ride on bicycle, sliders, skies, motor and non-motor trolley for disabled persons on forest roads, and marked traces.
3. Any other usage of forest by public is possible only based on forest owner agreement with possibility to limit the agreement on granting of monetary filling.
4. To support using of wood like renewable and ecologically clean raw material.

Necessary steps:

adoption of new Forest Act.

3. National Forest Program

Discussions on design of state forest policy were carried out on two basic levels in recent years. The first one was to create a strategic document on governmental level. The result of this process is described in the first part of this paper. The second level of forestry experts' discussions was focused on concrete and practical problems of forestry.

The Government Resolution No. 1221of the 1stOctober 2008 on the National Forestry Program represented starting materials to negotiations. Expert's polemics lasted about three years, once per month on a neutral territory that of the Forest Management Institute (FMI) Brandýs nad Labem.

Governmental document defined 17 key actions (KA):

KA 1 To enhance the economic viability and competitiveness of sustainable forests management.

KA 2 To promote research and technological development with a view to increase competition forestry sector.

KA 3 To improve the evaluation and marketing of non-timber forest benefits and services.

KA 4 To promote and support the utilization of forest biomass for energy production.

KA 5 To promote cooperation between forest owners.

KA 6 To reduce impacts of expected global climate change and extreme meteorological influences.

KA 7 Preservation and improvement of biodiversity in forests.

KA 8 To develop forests monitoring.

KA 9 Improving the health condition of forests and their protection.

KA 10 To reduce the impact of old and current ecological loads.

KA 11 Achievement a balance between forest and wildlife (particularly high ungulate game).

KA 12 To support the improvement of the forestry workers social situation.

KA 13 To increase the contribution of forests and forestry for rural development.

KA14 To improve weak position of forestry within the framework of the public administration.

KA 15 To improve the public awareness on the real forests condition and forestry needs.

KA 16 To solve institutional relations of the state to forests and forestry.

KA 17 State-owned forests.

Five key actions solved forest economics, six key actions lead to ecological pillar; two key actions addressed the social pillar and four key actions the communication field. Key actions were followed with measurements (25 economic, 52 ecological, 12 social ones and 20 measurements lead to communication area).

The aim of the negotiations was to specify the key actions and measures adopted by the government in the form of concrete recommendations. Particular tools of state forest policy have divided the recommendations that have been provided above all to forestry legislation, financial supports, promotion and consultancy.

The debates were not quite simple because expert's panel originated from all types of interest groups concerning forestry. The discussion group included representatives of non-governmental organizations, ecologists, entrepreneurs in the forestry, wood processing industry, state enterprises, forestry faculties, representatives of state administration and the ministries of agriculture and environment.

On the whole process it can be noticed that the result is represented by a document that was adopted based on consensus "bottom-up" approach, however consultations of experts and political interests did not participate very much into the process. It means that NFP is not a "bureaucratic" text, which often occurs without the knowledge of real life, nor based on the political duty of the competent authority, but it is a document that was discussed very thoroughly and based on all opinions on current practice.

The result represents a final document that contains concrete recommendations for further development of forestry in the Czech Republic. Foresters' hope that these recommendations will be taken into consideration during the applying of the new forest policy eventually at the preparation of new Forest Act.

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Relationship between forestry legislation and legislation on nature protection on the example of the Bohemian Forest (Šumava) National Park

Jaromir Vasicek*, Katerina Ventrubova**, Karel Vancura**

Abstract

Bohemian Forest (Šumava) national park (here-in-after NP) is a large forested territory in the southwest of the Czech Republic, where a special regime for environmental protection with special treatment measures was set down. NP is the biggest of the four Czech Republic national parks (68,064 hectares). Focal point of protection represents unique undisturbed evolving biological ecosystems. Besides of mountain spruce forests and virgin forests the bogs, moors and glacial lakes are the most important. The concept of protection and non-intervention approaches in the NP was fixed by the Act on Nature and Landscape Protection No. 114/92 Coll. and the Government of Czech Republic decision No. 163/1991 Coll. of 20th March 1991. Protective conditions have solved zonation of the NP territory (3 zones – 3 protection decrees). The size and location of the zones is the result of the Ministry of Environment decision. Zonation of the NP territory is considered as a necessary mean for the ecological landscape stability restoration. This paper describes difficult solution to relations between forest and nature protection legislation on the example of the spruce bark beetle (*Ips typhographus*) outbreak, which was assessed from aerial photos.

1. Introduction

The Government of the Czech Republic adopted strategic documents relevant to forestry and environmental protection during the past twenty-two years. These documents, defining medium-term and long-term settings behavior of the society in forestry, nature and landscape protection, are based on the changed political conditions after 1989.

1.1 Forestry policy

The basic mission of forestry policy is to support multiway of caring for forests that provide economic, environmental, social and cultural benefits. Forest management, which must be environmentally friendly, provides renewable raw material, and plays an important role in the economic development, employment and prosperity, especially in rural areas. Forests contributing to a higher quality of life provide a pleasant living environment and opportunities for recreation. They are beneficial to health, while maintaining and improving environmental quality and ecological values. It is important to save the spiritual and cultural heritage of forests for future generations.

1.2 Environmental Policy

The principal purpose of environmental policy is to provide a framework and guidelines for decision-making as well as activities at the international, national, regional and local levels aimed at further improvements of the environmental quality as a whole including its components condition. Environmental policy focuses on enforcement of sustainable development principles, continuou integration of the environmental perspective into sector

* Forest Management Institute Brandys nad Labem
** Czech University of Life Sciences Prague, Faculty of Forestry and Wood Sciences, Czech Republic
*** Czech Forestry Association, Central Bohemian Branch, Davle

policies and increasing of the economic efficiency and social acceptability of environmental protection programs, projects and activities. State environmental policy defines the consensual framework for long-term and medium-term trends of the environmental dimension of sustainable development in the Czech Republic for the priority areas of society Forest management is included among priority areas and the objectives and concrete measures are determined.

The legislation implements application of these strategic documents into real life. Forest Acts covering the forest policy and the Law on Protection of Nature and Landscape is set for environmental policy.

2. Material and method

2.1 Basic information on the NP

Development of Bohemian forests under human influence.

According to archaeological findings, it is not admitted yet, , that Šumava was in some higher degree settled by people during the Paleolithic Age- the Older Stone Age goes back 9 000 years BC. The primary seats of more permanent character are dated from the Bronze Age (3 to 1 thousand BC) in this region.

Forest cover is shrinking due to purposeful forest fires. The utilisation of forests significantly started by the Celtic Boii tribes, who were settled there at the turn of the era. Boii tribe were consecutively pushed back by Germanic Marcomanns who dropped agricultural areas desolating them and leaving them to be overgrown by forest. .

After Markoman's left the area, the forests were developed almost without human influence. Šumava forests began to change its character with the arrival of the Slavs in the 6th century AD, who found their refuge in the middle of impenetrable forests. Cultural landscape increased into the nearby forests. Gradual unorganised and quite inconspicuous form of south-western Bohemia colonization continued till to the end of the 11th century.

The first organized settlement of Šumava occurred at the beginning of the12thcentury during the reign of Ottokar I. Šumava nature, including forests, was developed under the strong influence of human activities since then. Virgin forests started to be transformed into fields and pastures. Czech border land colonization started from the 13thcentury. The agricultural enclaves and settlements, disrupting integrity of original forest complexes and exposing them to windbreaks and windfalls, resulted as a consequence of agrarian colonization.

The industrial colonization began in addition to agricultural one since the 14th century. Developing of gold mining as well as sand for making glass represented the first stage. The influx of new settlers increased the need for further deforestation for the establishment of settlements and ensure the livelihood. The grazing intensity increased as well. Significant development of the glass industry, associated with the new glass works buildings happened in the 16 century. It reached another peak in the second half of the 17th and 18thth century after a temporary decline caused by the Thirty Years' War.

The enormous need of wood for the glass furnaces (fuel, potash, building construction) led to an intense of clear-cut exploitation in the immediate surroundings of glass works areas. Glass works moved for wood deeper into the forests after the exhaustion of nearby wood resources. Dozens of glass furnaces in Šumava led to extensive destruction of the forest. The Theresa Cadastre states that there was about one third of forests affected by forest exploitation around

Prášily in the middle of 18th century. On the other side, grazing of cattle was practiced on the other major forest areas.

The most substantial disturbance of Šumava forests occurred within wood colonization since the 18thcentury. Only the Schwarzenberge state in the Šumava southern part had established about 25 to 30 settlements in the period 1728 to 1792. In parallel, colonization happened also in other Šumava parts. Proportionately with the settlers influx it grew the pressure on forest ecosystems described before - associated with securing of existential needs for an increasing number of settlers. Šumava wood colonization was carried out primarily for commercial purposes.

There was plenty of wood in the Šumava region and its immediate vicinities, thus its price was very low. Commercial forest felling was not too profitable, since transport capabilities into inland were a limiting factor of timber exploitation. Cattle grazing in forest provided better income as compared to timber harvesting. .

The fundamental change took place by the Schwarzenbergs channel construction in 1793. The volume of fuel wood for Vienna ranged from 20 to 36 thousands m^3 annually. The fact, that there have not been timber supplies suitable for harvesting around channel during thirty years, is an evidence about the speed of clear-cutting exploitation. When all profitable forests were harvested around the channel, the channel was lengthened in the period 1821 to 1822. Thus, forests in the Třístoličník Mt. (Dreisesselberg) area, so far substantially untouched by felling, were made accessible.

A commission of Joseph Schwarzenberg to build Vchynicko-Tetovsky channel on the newly obtained property in 1799 was based on the experience with timber floating through channel in the Šumava southern part. The construction was completed in 1801. Only at the Schwarzenberg property there were harvested 4,024,933 m^3 of timber over the next 60 years to 1860. Thus annual logging in long-term average reached 67.1thousands m^3, while annual allowable cut was only 38.4 thousands m^3. The extremity consisted above all in the cuts size and their rate of motion. Usually there were in total 3.5 to 4 ha area of clear-cuts annually.

An intensive cattle grazing was present until 1855. The significant reduction in grazing occurred after 1865, but it was furthermore applied to a lesser extent for the population livelihood. Bavarian cattle were grazing around Modrava still in the first third of the 20thcentury. Besides grazing on harvested areas there was also grass reaped up to 1922. This activity even more destroyed the remains of natural regeneration that survived from the clear-cuttings.

Exploitation of forests in the Šumava Mts. was intensified until the last third of the 19th century. Status and usage of Šumava forest ecosystems were significantly influenced by the war during the period from 1939 to 1945. Exploitive human activity in the Šumava forests decreased after the German inhabitant evacuation and the introduction of border regime that restricted entry to the vast border territories. Dropping out exploitation of human activity was however soon replaced by global environmental problems as air pollution and acid rain in the 20th century.

The deer over population was particularly harmful to forest regeneration besides cattle grazing. In an effort to reduce damage to cattle herds and possible direct endangering of Šumava residents, large predators (wolf, bear, lynx) were hunted. The absence of predators together with hunting interests has led to an enormous increase of the deer population number.

Management of forests in Šumava, for economic production purposes has moved away their current status from the close to nature one. Species, age, and spatial structure of forests of this area have undergone major changes in the past. Forest ecosystems modification degree tessellated varies.

2.2 The present NP

Sumava National Park was declared in 1991. Its area is 69,030 hectares and is the largest national park in the Czech Republic and Central Europe. It lies along the border with Germany and Austria from Železná Ruda till Zvonková at the Lipnodam. The Šumava Protected Landscape Area represents its buffer zone and the park is adjacent to the National Park Bavarian Forest on Bavarian side.

These three areas form a homogeneous, unique natural complex in Europe, declared by UNESCO s as a biosphere reserve in 1990 creating the so called "Green Roof of Europe". The altitude ranges between 600 to1378 m above sea level. The area is rich in precipitation, especially with snow. The highest mountain in the Bavarian Forest and Šumava, the Velký Javor Mt. has its high at 1,456 m above sea level. The average annual temperature varies between 6.5º to 3.5ºC and in July between 12º to15 ºC.

The conception of protection and non-intervention in the Šumava National Park was set down by the Act on Nature and Landscape Protection No.114/92Coll. and the Decision of Government of the Czech Republic No.163/1991Coll. of 20March 1991. According to §2 of this regulation, the mission of the National Park is to preserve and enhance the natural environment, in particular the protection or restoration of self-control functions of natural systems, strict protection of wild fauna and flora, maintaining the typical appearance of the landscape, fulfilling scientific and educational goals, as well as use of the National Park for tourism and recreation. Economic and other uses of the National Park must be subordinated to the preservation and improvement of natural conditions.

NP is divided into three zones of the nature protection:

The first Zone: (strict nature) includes the most valuable territories with the most significant natural values. The human intervention is limited to a minimum here and entry for visitors is allowed only along the marked hiking trails. The first zone boundaries are marked in terrain by red stripes on border trees and the inscriptions 1. NP Zone. This area creates about13 % of the total area of the NP. It is supposed that this zone will be extended up to 26.53 %.

The second Zone: (controlled natural) is an area with significant natural values that was influenced by human activity and management. The economic activity takes place in this zone where the goal is to maintain a natural balance with the widest species variety and a gradual approach of forest ecosystems to natural communities. This zone is used for tourism and recreation, as far as such activities are not in conflict with the mission of the NP. Movement of visitors is not limited, however it is based on principles of nature protection and visitor regulations. The area of this zone covers 82 % of the NP area and it is expected a reduction at the level of 68.35 %.

The third Zone: (marginal) is substantially changed by humans and includes concentrated centers of buildings construction. This zone is intended for permanent housing, services, agriculture, tourism, and recreation adhering to the principles of conservation. Area of this zone is 5 % of the NP area. There is no consideration on future changes in this area.

Composition of forest species

Species, age and spatial structure of forests in this area compared to the original forests have undergone substantial changes. The smallest changes in species composition occurred at the highest altitudes in the 7th (beech-spruce) and 8 th (spruce) forest vegetation degree, at an altitude of 1,100 m above sea level, where the extended acidic beech spruce, acidic spruce, mountain spruce bog, upland spruce, dwarf pine upland forests, etc. Progressively larger changes can be observed compared to expected natural species composition towards the lower altitudes where the forest was more easily accessible. Only "bog" dwarf pine, *Pinus rotundata* (and their hybrids warms) has probably less changed. Predominantly cultural forests are now in the lowest altitudes of considered area, although mostly with the representation of indigenous tree species, both foreign and local provenance.

Coniferous tree species

Tree species	Picea abies	Abies alba	Pinus sylvestris	Other coniferous tree species
Natural composition	51	13	2	1,6
Current composition	84	1	4	2,1

Broadleaves tree species

Tree species	Fagus sylvatica	Acer pseudoplatanus	Other broadleaves tree species
Natural composition	21	2	9,4
Current composition	6	0,2	2,1

A significant depletion of forest ecosystems species diversity occurred mainly due to the previous management. Current forests of the Natural Forest Area Šumava consist from almost 84 % of Norway spruce, although the natural percentage average here was around 50 % . The current percentage of fir is around 1%. Share of European beech is now less than 6 %. Coniferous tree species occupy 91.1 % of the NP total forest area and deciduous broadleaved tree species cover 8.3 %.

Norway spruce had minority representation in more than 40 % of the NP original forests (dominated by beech and silver fir, to a lesser extent participated sycamore, wych elm and also wild cherry and common yew were represented only minimally). The other third of the original forest area was covered by associated tree species accounted for about 40 % (again mainly beech and silver fir and sycamore). Only Norway spruce dominated the highest altitudes of the NP, approximately one quarter of the area, with a minor admixture of the European mountain ash and sycamore maple and fading occurrence of beech and silver fir. Mountain pine (*Pinus rotundata)* occurred at specific peaty series sites and the *Pinus sylvestris* upland ecotype grown on the pine forest sites. Succession plots temporarily occupied particularly birches, pines, aspen and numerous species of willows.

3. Results and Discussion

Analysis of the relationship between forest law and environmental legislation

Forest Act

The purpose of the Forest Act is to establish conditions for forest conservation, its care and regeneration of forests as national wealth, creating an irreplaceable component of the environment, to perform all of its functions and to promote sustainable forest management in it. Forest Act 289/1995 Coll. regulates the care and use of forests in all three pillars - economic, environmental and social ones.

Part of the Forest Act, which concerns the protection of forests, aims to counter their threats by harmful agents, which are pests, unfavorable weather conditions, air pollutants, and physical or chemical factors that cause forest damages. . The existence of the forest is further assured by the application of those parts of the Forest Act, which relate to the protection of forestlands, providing reforestation, using suitable species from the composition view point and preservation of friendly forest environment. The Forest Act builds on the international documents adopted for the protection of European forests and on the legislation of European Union law on these aspects.

Forestry legislation i.e. forest law together with regulations define the so called calamity insect pests that can cause huge damage in cultural forests. Forest law is strict in these cases and gives strong powers to the state administration in dealing with the occurrence of harmful agents.

Application of the Forest Act to address catastrophic occurrence of insect pests is successful, as the large-scale damage by forest insect pests did not occur in forest stands, with the exception of the Sumava National Park, during its efficiency (Jan. 1, 1996).

The Act on Protection of Nature and Landscape

The law with environmental character existed in the Czech Republic before the political changes in 1989, but its application was subordinated to economic interests in most cases. That was demonstrated in a degraded condition of nature and landscape. The Law on Protection of Nature and Landscape, which was passed by Parliament in 1992, responded to the increased public interest in the protection of nature and landscape after 1990.

The Law on Protection of Nature and Landscape has been amended several times, mainly for reasons of the EU nature conservation law transposition into the Czech legal framework. Signatures of international agreements called other amendments e.g. as follows:

- Convention on the Protection of the World Cultural and Natural Heritage
- Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)
- Convention on the Conservation of Migratory Species of Wild Animals (the Bonn Convention)
- Agreement on the Conservation of bats in Europe
- The Convention on Biological Diversity
- The Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention), including the Protocol of Amendment

– Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington Convention)

The Law on Protection of Nature and Landscape creates the pre conditions for the Czech part of the European NATURA 2000 establishment (including the identification, approval and protection of such areas), while it concerns a number of areas for the protection of which the EC law gives priority.

The Act regulates the mechanisms for evaluation of plans and concepts as well as extends the protection of endangered species of animals and plants. It also regulates protective conditions of specially protected animals and plants. The system provides modern special state administration in the nature and landscape protection field.

Law on the Protection of Nature and Landscape establishes a very strong power of environmental protection state authorities. The law is quite extensive, very strict and in its interpretation and administrative practice is considered to be a special one in relation to other laws. This applies particularly to the Forest Act, Water Act, etc.

Practically this means that in areas with increased protection of nature the Law on the Protection of Nature and Landscape has greater legal force to address specific administrative tasks e.g. than the Forest Act. The forest law, which treated bark beetle as a calamity pest and prevents it from spreading by imposing strict measures, was not applied in the NP during the bark beetle outbreak. There it was applied the Law on the Protection of Nature and Landscape, which evaluates the spruce bark beetle as a natural part of forest ecosystem. It can be said that the current state of the NP nature is therefore primarily the result of the Law on the Protection of Nature and Landscape application.

Two levels of disputes

Disputes about the NP takes place at two levels. Generally it can be said that the first level of controversies takes place among the most important players in the field of representative democracy, and second one in terms of the civil society among particular NGOs. While it is clear that both dispute levels penetrate and interact.

Level of representative democracy

The principle of representative democracy is built on three pillars, the judiciary, legislative and executive, where the political direction of the legislative and executive power can usually change after the parliamentary elections in the four-year cycle.

It is necessary to stress that the establishment of NP was realized by an executive act, the Government's Decision No. 163 of 1991. There would be nothing wrong if the basic principles of this regulation were clearly established and also well respected even by subsequent governments. It is logical that the NP should have worked out a long-term strategy for its existence, which should not be changed based on the opinion of the government in power.

The principle of two opinions conflict the care on the NP forest

Discussions on the rules of forest management in the national parks last from its very inception. The main theme of these cases is the existence of spruce bark beetles (Ips typhographus) and the question of whether to leave it to develop without limitation, as a natural part of forest ecosystems, or considered it as a calamity pest, and control and eliminate its incidence and spreading. View on this question is basically divided into two

conflicting experts opinions, which could be together described as passive and active approach to this issue.

The Expert Group, which supports passive approach to care on contemporary natural NP values, enforced its opinion politically. Practically this means that forests injuring by spruce bark beetles is expanding and due to beetles spread currently are destroyed about15,000 hectares of Norway spruce stands

On the other side of the opinion spectrum was a worded serious warning of experts that such an attitude to forests protection against bark beetles will evoke spruce stands destroying. This will have impacts on the landscape, other forests functions, and extinction of valuable genetic potential of spruce and bark beetle calamity expansion into neighbouring owners' forests.

In principle, it is a conflict of two philosophical approaches to nature protection. One group of experts commenting on recent developments and current status as a natural evolution untouched by human hands, and this procedure appreciates and welcomes. Proponents of this approach are derived primarily from the ranks of academics.

The second group demonstrates their practical experience that the transition to natural forest ecosystems would be implemented gradually, without disturbance of this extent while maintaining all the functions of forests, and in a cheaper way. Advocates of this approach originated mainly from professional foresters.

Political issue

As long discussion took place only at the expert's level, politicians were interested in this topic only marginally. The conflict between two philosophies moved to the political level at a time when citizens who live in the Šumava National Park area and their representatives started to have interest in the forests condition there.

If there are parts of citizens in society who have a different view on the current care for forests in the NP and if there are conflicts in the forest management method, the political debate and competition in a representative democracy is the right place for their application.

At this point it became clear that the method of forest management in NP is not possible to change according to the elections results in a cyclic way, usually every four years. The current status of forests in the Šumava National Park is, from this perspective, i.e. the result to the fact that the NP was established by governmental order, therefore only by an executive act , without seeking broad political consensus embodied in the form of legal norm.

The NP is afflicting by frequent changes in the approach on NP forests care since 1991. These frequent changes document political disagreements of the Ministry of Environment executive, responsible for the state of nature in the NP. As an example, nine people have been assigned in the position of the NP director since 1991. Some of them advocated passive approach on forest care and the others in contrary supported an active approach.

It can be said that the executive failed to ensure applying of adopted governmental regulation likewise in the long term in practice. Care of forests in the NP cannot be governed by short-term cyclical boom efforts of one or another political party. Forests grow in other time dimensions than those ones in which a competition of political parties takes place. It is not possible to omit that today's adult trees were planted in the early years of the 20th century, more than 100 years ago. In light of these trees age is worth to remember the transience of regimes, governments, parliamentarians, ministers and politicians, and *vice versa* continuity of work of foresters generations who cared for these trees.

After the executive power failure, which did not manage to monitor and provide one line of care on the NP forests in the long term, the political representation, but also local governments agree that the disputes will have to be solved through the legislature, and therefore it would be advisable to prepare a special law for the Sumava NP.

This law is expected to define clearly the parameters and long-term principles of nature protection, which would be binding, long-termed and which would not allow two kinds of interpretation. The basic principles of such a law are being discussed at present and it appears that it could be adopted by the Parliament.

Civic society level

There are launched out very active environmental NGOs offensive in addressing issues of preference on the natural values in the NP care management. These NGOs promote passive approach, i.e. leaving as much of the NP in hands of the nature without human interference. These organizations had and still have considerable political influence primarily through the "Green Party".

On the other hand, there are established NGOs, which on the contrary supported an active approach to the protection of forests primarily against bark beetles. These NGOs did not have support in the political scene until views of the majority of local population did not incline on this side.

Between these two groups prevailed aggressive and uncompromising struggle, this in the early years of park's establishment, more on a professional level. Discussions moved into a wide media offensive on both sides later. Into disputes was drawn also the international organization IUCN and officials from Brussels. Most of the Czech citizens do not understand to expert disputes and thus they are not able to take their bearings in them.

NGOs, which represents the local population committed themselves in the dispute significantly in recent years. Local people manage forests in the National Park, to obtain livelihood and employment opportunity. An engagement of local residents very significantly influenced the political sphere. The legislative solution was preceded to hereof long-term problem regarding irreconcilability of both sides of the NGOs as well at the civil society level.

Legislative solution

There are prepared even two drafts of special law at present. One is prepared at the Ministry of the Environment, and the second one as the initiative of Pilsner region local representatives. Members of Parliament will have the difficult task dealing with this matter. Their main goal should be to ensure clear parameters for the NP long-term care into the law. An important aspect will be to carefully balance the public interests of stakeholders.

4. Conclusions

The National Park Šumava was established by Decision No. 163 of the Czech Republic Government in 1991. The forest management method in the NP represents an issue, which is discussed since park's establishment.

The main theme of these disputes is the existence of spruce bark beetle (*Ipstyphographus*) and the question whether it could be left to develop without limitation, as a natural part of forest ecosystems, or to consider it a calamity pest and control and eliminate its occurrence and spreading. View on this question is basically divided into two conflicting expert opinions, which could be generally described as passive and active approach to this issue.

Disputes about the NP takes place at two levels. Generally it can be said that the first dispute level takes place among the most important players in the field of representative democracy, and the second in the civil society level among particular NGOs, while it is necessary to state that both dispute levels penetrate and interact.

From the problem analysis is obvious that the executive power of the state failed in long term horizon to ensure applying of adopted governmental regulation likewise in the long-term in practice, because approaches to the method of spruce bark beetles elimination in the forest stands were alternately changed during the NP existence.

After the failure of the executive power, the political representation but also local governments agreed that the disputes will have to be solved through the legislature and therefore it would be appropriate to prepare a special law for the Šumava NP.

This law is expected to define clearly the parameters and long-term principles of nature protection, which would be binding, long-termed and which would not allow two kinds of interpretations. The basic principles of such a law are discussed at present and it appears that it could be adopted by the Parliament.

5. Terminology used

Civic society is an abstract concept including all organizations associating citizens on a voluntary basis. It can be also defined as an organized activity of individuals, not related to the state structures or commercial organizations. This term is used mainly in theoretical works, while the authors of empirical studies often use well-defined concepts of non-governmental non-profit organizations (NGOs) or the third sector, but those cover only a part of the organizations that create civic society.

Representative democracy is a form of government founded on the principle of elected individuals representing the people, in contradistinction to either autocracy or direct democracy. The representatives form an independent ruling body (for an election period) charged with the responsibility of acting in the people's interest, but *not* as their proxy representatives; that is not necessarily always according to their wishes but with enough authority to exercise swift and resolute initiative in the face of changing circumstances. It is often contrasted with direct democracy where representatives are absent or are limited in power as proxy representatives.

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Auditing the environmental performance of NRDP in Albania: Where do we stand and where do we go

***Gazmend Zeneli*[*], *Abdulla Diku*[**], *Edmir Novaku*[***], *Albana Lila*[****], *Blerina Kola*[*****]**

Abstract

Environmental auditing is an important tool for providing an account of post-development environmental impact assessment (EIA) activities. Environmental audit basically, enables to check back and examine how well the environmental instruments have worked and enabled to assess the actual environmental impacts, accuracy of prediction, effectiveness of environmental mitigation measures adopted and functioning of monitoring mechanism. This paper discusses the institutional and legal framework of the Environmental Performance Audit (EPA) in Albania and presents the results of the EPA of Natural Resources Development Project in integrating natural resources and environmental management and mitigation measures into the operation of the project. The work carried out during the project and sub-projects implementation had varying levels of impacts on the surrounding environment, which has been the subject of the audit reported here. The site specific reports indicate that the NRDP process has focussed attention on significant issues and reveal a wide range of good practices and a few problems within Albania, although their coverage cannot be claimed as exhaustive in any way. In a small country it is inevitable that there should be a high degree of central environmental control and management. However, one of the basic tenets of sustainable development is local management and local participation even if within a centrally designed framework. Implicit in this approach is close consultation with local authorities and the general public and the impression is that there is sometimes insufficient consultation with either the local authority or the public. Public participation led to better decisions and involvement of local communities had a positive impact.

1. Background

Environmental safety and health auditing developed in the early 1970s, largely among companies operating in environmentally intensive sectors such as oils and chemicals. Since then environmental auditing has spread rapidly with a corresponding development of the approaches and techniques adopted (Coyle, 2011). The essential purpose of an environmental audit is the systematic scrutiny of environmental performance throughout a company's existing operations. At best, an audit is a comprehensive examination of management systems and facilities; at worst, it is a superficial review (Zutshi and Sohal, 2003). Although there is no universal definition, auditing, as practised by many leading companies, follows the same basic philosophy and approach summarized by the broad definition adopted by the International Chambers of Commerce (ICC, 1989). The ICC defines environmental auditing as: A management tool comprising a systematic, documented periodic and objective evaluation of how well environmental organization, management and equipment are performing, with the aim of helping safeguard the environment by: (i) facilitating management control of environmental practices and (ii) assessing compliance with company

[*] University "Marin Barleti," Tirana – Albania. gzeneli2000@gmail.com
[**] Diava Consulting, Tirana
[***] National Resources Management Project Rruga "Sami Frasheri," Tirana
[****] Raiffeisen Bank, Tirana - Albania
[*****] Universiteti

policies which would include meeting regulatory requirements. The European Commission in its proposed regulation on environmental auditing also adopts the ICC definition of environmental audit (Watson, 2004; Rennings et al, 2006).

Greater awareness and understanding of environmental issues have led the supreme audit institutions (SAI) to recognise the key role of the state in defining appropriate measures for reducing the damaging consequences for the environment; for the efficient and effective solutions of environmental problems. A big step forward on the environmental auditing was the formation of a Working Group on Environmental Auditing (WGEA). WGEA aims to improve the use of audit mandate and audit instruments in the field of environmental protection policies, by both members of the Working Group and non-member Supreme Audit Institutions (INTOSAI webpage, 2013).

The Natural Resources Development Project (NRDP) objective has been to establish or maintain sustainable, community-based natural resource management in upland and mountainous erosion-prone lands. This lead to enhanced productivity and incomes derived from sustainable resource management, reduced soil degradation, improved water management, conservation of biodiversity, and strengthened public sector management of these resources. The project's global environmental objective was to reverse severe degradation of upland and mountainous erosion-prone lands, and sediment runoff to the Adriatic Sea, through rehabilitating and sustainably managing natural resources, including globally significant biodiversity. Project objectives were foreseen to be achieved through implementing two components. The first component was the strengthening the community-based approach to forest and pasture management while the second component piloted integrated management of natural resources in three of Albania's seven watersheds, focusing on five regions located the northern areas of the country.

The work carried out during the project and sub-projects implementation had varying levels of impacts on the surrounding environment – on natural and planted forests, on lands with agricultural, cultural and other socioeconomic and religious values, and to an extent on factors affecting wildlife and wildlife habitats. The objective of the Environmental Performance Audit (EPA) reported here was to review the performance of the NRDP in integrating natural resources and environmental management and mitigation measures into the operation of the project and make practical recommendations for improving and strengthening the Environmental Management Framework (EMF) in moving forwards.

2. Institutional and legal framework

2.1 Institutional Set-up for the Implementation

Most of the Supreme Auditing Institution (SAIs) around the world have recognized the importance of the environmental auditing and have started implementing them as a part of their regular work. The INTOSAI Working Group on Environmental Auditing has developed a strategy for co-operation with the regional organizations of supreme audit institutions. The tasks of the working group are the development of the environmental auditing guidelines, launching initiatives to promote environmental auditing and the assistance in defining environmental auditing methodology (WGEA, 2004, 2007, 2010). In some countries the implementation of the environmental audits is mandatory, namely the national legislation defining the state auditing determines those audits as obligatory. In Albania the implementation of the environmental audits is not mandatory. This environmental audit could help by issuing recommendations and remedial measures, contribute to (WGEA, 2012):

1. the implementation of the adopted international responsibilities and conventions on the environment protection,
2. the defining of the unambiguous and harmonized environmental legislation,
3. the creation of the efficient and effective control mechanisms over the implementation of the national environmental legislation and environmental policy,
4. the implementation of the national environmental programmes and to the allocation of public funds for the redressing the consequences of environmental problems,
5. the efficient and economic use of public funds for the implementation of environmental programmes and for reducing the damaging consequences.

2.2 Legal Requirement in Albania related to Project

The environmental principles in Albania were introduced in the Constitution promulgated in November 1998, recognizing a *"healthy and ecologically suitable environment for the present and future generations"* and *"rational exploitation of forests, waters, pastures based on the principle of sustainable development"*, as well as *"the right of the public to have access to information on the state of the environment"*.

The most important laws relating to environmental assessment are the Environmental Protection Act and the Environmental Impact Assessment Act. It should be noted that under the present law, none any sub-project activities was expected to fall into a category that requires full, or even partial environmental assessment, since by their nature they are relatively small-scale rural interventions that are designed to prevent land degradation. A summary of such applicable rules and regulations is furnished in the table below:

Table 1. Summary of Environmental Legislation Applicable to the Proposed Project

Act	Year	Objective
Environment Protection Act	2011	To protect and improve the overall environment
Environment Impact Assessment Act	2011	To provide environmental clearance to new development activities following environmental impact assessment.
Integrated Waste Management Act	2011	To protect and improve the environment through integrated waste management (prevention, resource efficiency and minimization of negative impact).
Air (Prevention and Control of Pollution) Act (and subsequent amendment)	2002 2010	To provide for the prevention, control and abatement of air pollution.
Protection of Medicinal, Essential Oil and Tanninferous Plants (and subsequent amendments) Act	1993 2009	To protect and improve the status of Medical, Essential Oil Producing and Tanninferous Plants.
Forest and Forestry Service Act	2005	To protect and manage forests.

Act	Year	Objective
Wildlife Protection Act (and subsequent amendments)	1994 2004	To protect wild animals and birds through the creation of National Parks and Sanctuaries.
Water (Prevention and Control of Pollution) Act (and subsequent amendments)	1996 2003	To provide for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water.
Protection of Trans-border Lakes Act	2003	To protect the environment on the trans border lakes area and guarantee proper condition for ecosystem development through sustainable development.
Chemical Substances and Preparations Act	2003	To protect and improve the human health and the environment from the risk of chemical substances through a better administration of those chemicals.
Protected Areas Act	2002	To provide special protection of natural areas with high value of biodiversity through establishment of protected areas.
Pastures and Meadows Act	1995	To protect and improve Pastures and Meadows.

The following paragraphs highlight some salient features of select laws, which had a particularly important bearing on the design and implementation of the proposed project.

2.2.1 Environmental Protection Act

The Environmental Protection Act was initially approved in 1993, and amended twice, in 1998 and then in 2002. The Environment (Protection) Act was introduced as an umbrella legislation that provides a holistic framework for the protection and improvement to the environment. Considering new environmental challenges and following its commitments in completion of the environmental legal framework and approximation with EU directive and in enforcing a legal framework harmonized with the European Union *acquis* in the field of the environment, a new Environmental Protection Act was approved in June 2011. This basic law defines general principles and procedures of environmental management. In terms of responsibilities, the Act and the associated Rules requires environmental clearances to be sought for specific types of projects (addressed under Environmental Impact Assessment Act). The Environmental Protection Act provides for the:

- Rational use of the environment, reduction of discharges into and pollution of the environment, and the prevention of and where necessary rehabilitation and restoration of environmental damage;
- Improvement of environmental conditions related to quality of life and protection of public health;
- Preservation and maintenance of natural resources, both renewable and non-renewable, and rational and efficient management to ensure regeneration;

- Coordination of state activities to meet environmental protection requirements;
- International cooperation in the field of environmental protection;
- Promotion of public participation in environmental protection activities;
- Coordination of the economic and social development of the country with the requirements of environmental protection and sustainable development;
- Establishment and strengthening of the institutional system of environmental protection at the national and local level.

According to this Act, all activities that affect the environment should be subject to an Impact Assessment and licensing system, which are developed in more detail in the Environmental Impact Assessment Act (2011).

2.2.2 Environmental Impact Assessment Act

This provides for the assessment of environmental impacts of future projects or activities, thereby preventing negative impacts on the environment through the participation of public, central and local institutions, civil society, NGOs, etc. The EIA Acts defines the rules, procedures, deadlines, rights and duties on the process of the assessment of the potential direct/indirect impacts of the activity on the environment.

As per section II of EIA Act (No. 10440 dated 7th July 2011), all projects and activities are broadly categorized into two categories as Category A and B. All projects or activities included as Category 'A' in the schedule shall require profound process of impact assessment on environment. All projects or activities included as Category 'B' in the schedule (b) summary process of impact assessment on environment. As the law currently stands, none of the project activities envisaged under the NRDP required a full (i.e. profound) EIA, and the implementation of the EMF designed as part of this report should be sufficient to satisfy the requirements in relation to category (b), should this apply.

Under the 2011 Environment Impact Assessment Act, proposals are considered to be relevant projects (i.e. to require an EIA) if they fall within the categories listed below and the work proposed is likely to have a significant effect on the environment**.**

1. **Initial afforestation:** creating new woods and forests by planting trees (on an area that has not had trees for many years). This category includes using direct seeding or natural regeneration, planting Christmas trees and short rotation coppice;
2. **Deforestation:** removal of woodland to convert the land to another type of land use;
3. **Forest roads:** constructing forestry roads, including those within a forest and those leading to a forest;
4. **Forest quarries:** quarrying to obtain material (rock, sand and gravel) for the formation, alteration or maintenance of forest roads.

As per section VII of EIA Act (2011), the environmental impact of any activity and the environmental audit should be compiled only the certified expert. The Decisions of the Council of Ministers "On Certification of Experts for Compilation of the Impact Assessment Report on Environment and Environmental Auditing", "On Activities with Impact on Environment that must be provided with Environmental Permit", "On Rules and Procedures of Environmental Permit Issuance", etc. complete the legal framework for the regulation of

the processes of environmental impact assessment and the issuing of environmental permits in Albania.

Situations may arise where one of the above forestry projects forms part of a wider development that requires Planning Permission. In these circumstances, any necessary EIA will usually not be dealt with under the EIA Act but under the parallel Environment Protection Act.

2.2.3 Forest and Forestry Service Act

The object of the Forest and Forestry Service Act (No. 9385, dated 4.5.2005) is the establishment of common rules for relationships, duties, rights and responsibilities of state institutions, local government units, nonprofit organizations, and private business owners, for the protection, administration, management and use of the national forests, forest land and their natural and biological resources. The Act also regulates the protection, social and eco-touristic activities that take place in the national forest fund and other forest and non-forest resources, based on the principles of sustainable management, reflected in the strategy and policy development of the forests and pastures sector, as well as the scheme of organization and functioning of the Albanian forestry service administration.

2.2.4 Water and Air (Prevention and Control of Pollution) Acts

Water Act and Air Acts provide for the prevention and control of water and air pollution respectively. These acts empower the government controlled agencies to collect effluent and emission samples, entry to industrial units for inspection, power to prohibit on use of any water bodies for waste disposal and creation of new discharge outlets, provide consent to set up and operate certain facilities likely to create air and water pollution including power to give directions and prosecuting offenders. The Air and Water Act are particularly applicable to all civil works activities.

Albania has signed and ratified a number of international environmental conventions, protocols and agreements. The international agreements are reflected in national legislation through the adoption of laws, for example: the Law on adherence to the Basel Convention, the Law on the Vienna Convention and Montreal Protocol, the Law on the UN Convention to Combat Desertification and the Law on the Aarhus Convention.

Table 2. Major Environmental convention adopted by Albania

No	Convention	Ratification year
1	Convention on environmental impact assessment in the trans-border context (Espoo, Finland)	1991
2	Convention on protection and use of water streams and international lakes (Helsinki 1992)	1994
3	Convention on climate changes (UNFCCC)	1994
4	Convention on biological diversity (Rio de Janeiro 1992)	1996
5	Convention of wetlands of international importance, in particular as habitats of water poultries (The Ramsar Convention)	1996
6	Convention of trans-border impact of industrial accidents	1997

No	Convention	Ratification year
7	Convention on control of trans-border transportation of hazardous waste and their disposal (The Basel Convention)	1997
8	Convention on preservation of wildlife and natural European habitats	1998
9	Convention on fight against desertification in those countries that suffer severely from dryness and desertification	1999
10	Convention on access to information, public participation in environmental decision-making and access to justice in environmental matters (The Aarhus Convention)	2000
11	Convention on protection of marine environment and coastal area of Mediterranean Sea (The Barcelona Convention)	2000
12	Convention on protection of ozone layer	2000
13	Convention of preservation of wild animals' migrant species	2000
14	Kyoto Protocol on UNFCCC	2004

2.2.5 Ramsar Convention on Wetlands of International Importance

The Ramsar Convention is an international treaty for the conservation and sustainable utilization of wetlands i.e. to stem the progressive encroachment on and loss of wetlands now and in the future, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational value. Activities undertaken in the proximity of these wetlands should follow the guidelines of the convention.

2.2.6 Environmental Impact Assessment in the Transboundary Context Acts

This Law aims at the environment and health protection, preventing sensitive negative impacts, which may be caused by projects or activities that are requires to be developed in transboundary neighboring territories. This Law is implemented in the form of projects or activities, as defined in Annex I of the United Nations Convention "On environment impact assessment, in the transboundary context". These projects or activities are required to be implemented in neighboring territories.

2.2.7 Aarhus Convention on Access to Information

The Aarhus Convention establishes a number of rights of the public (individuals and their associations) with regard to the environment. The Parties to the Convention are required to make the necessary provisions so that public authorities (at national, regional or local level) will contribute to these rights to become effective. The Convention provides for:

- the right of everyone to receive environmental information that is held by public authorities ("**access to environmental information**"). This can include information on the state of the environment, but also on policies or measures taken, or on the state of human health and safety where this can be affected by the state of the environment. Applicants are entitled to obtain this information within one month of the request and without having to say why they require it. In addition, public authorities are obliged,

under the Convention, to actively disseminate environmental information in their possession;

- the right to participate in environmental decision-making. Arrangements are to be made by public authorities to enable the public affected and environmental non-governmental organizations to comment on, for example, proposals for projects affecting the environment, or plans and programmers relating to the environment, these comments to be taken into due account in decision-making, and information to be provided on the final decisions and the reasons for it ("**public participation in environmental decision-making**");
- the right to review procedures to challenge public decisions that have been made without respecting the two aforementioned rights or environmental law in general ("**access to justice**").

Albania signed the Aarhus Convention and the country's constitution, as well as a number of laws guaranteeing the right of citizens to access information in general. Several training projects on practical uses of the Convention have been operating, but they are insufficient. Environmental education strategy and programs are being developed and implemented as part of the curriculum under the supervision of the Ministry of Education and Science. Nevertheless, there is limited staff, technical capacity, and promotional materials. Also, there are no links between school and after-school programs on nature conservation. Non-governmental organizations (NGOs) play an important role in this respect, for they developed an environmental education strategy and disseminate published materials. Although the law on Environmental Protection and Environmental Impact Assessment stipulates promoting public participation in decision making, actual participation is very low. Awareness and understanding of environmental problems among decision makers in different sectors, especially at the local level, are very limited.

3. Environmental audit for NRDP

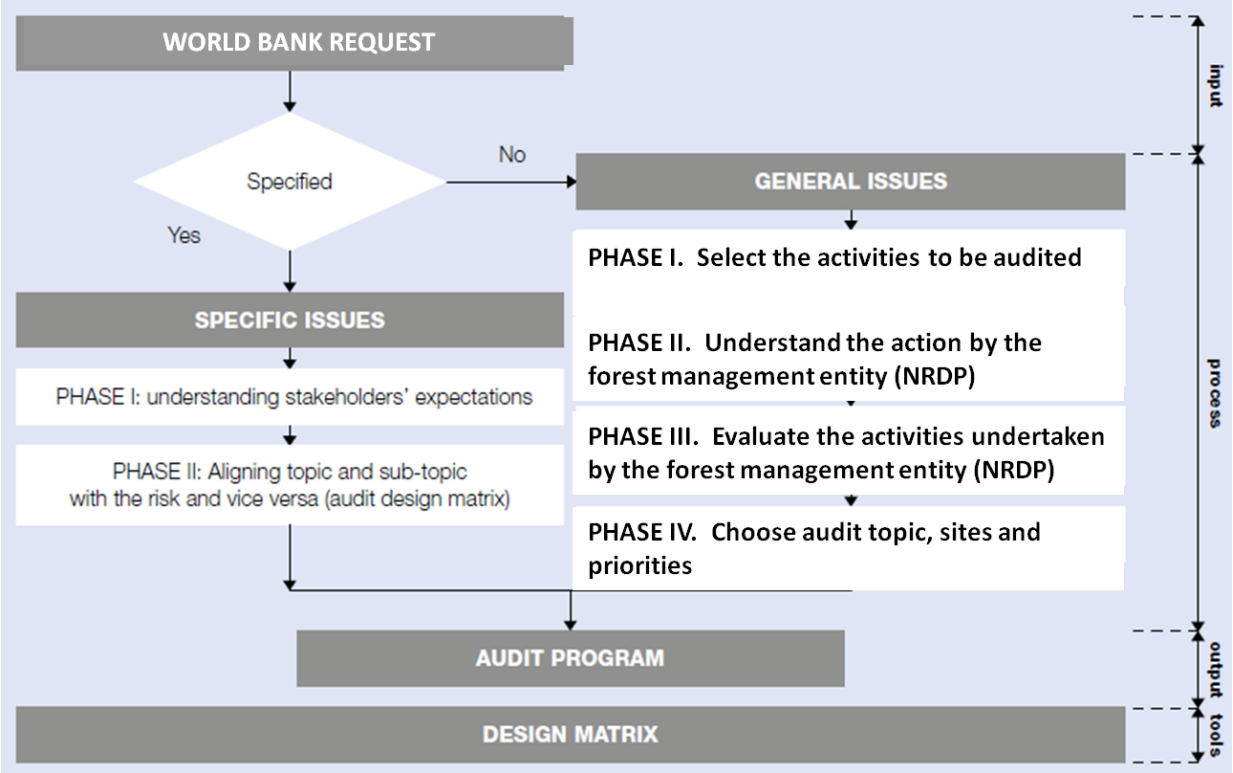
3.1 Audit criteria

The already established methodology by INTOSAI Working Group on Environmental Auditing (WGEA, 2010), has been used. A brief description of the methodology is given below. Unlike common environment-related audits which consider financial and compliance issues as well as performance issues, this audit focused on compliance and performance issues and presents an overview of the environmental impact of the NRDP, concentrating on the evaluation of physical impacts of forestry project, as well as on the evaluation of social impacts. The economic dimension of NRDP impact is only slightly covered. Particular attention was devoted to aspects like the disclosure of forest assets and liabilities, compliance with legislation and conventions (both national and international), and an assessment of measures put in place by the audited entity to promote economic efficiency and effectiveness. Figure 1 shows a flow chart of a performance-based audit approach adopted from WGEA of INTOSAI.

At the first stage, the auditor identified the types of activities carried out in the framework of the NRDP risks pertinent to each activity subject of the audit. In identifying the risks, auditors have taken into consideration the special characteristics of forest in question and the key players involved.

At the second stage, the auditor identified key forest issue of greatest importance for the NDRP. This was done in consultation with the NRDP management unit to ensure both parties agree and clearly understand the main purpose of the audit.

Figure1. Flow chart of performance -based audit approach.



After deciding on the activities to be audited and the action undertaken by the NDRP, the auditor identified the risk or risks with the potential to influence the direction and aims of the audit. The identified risks have the potential to become part of the audit's ultimate findings.

Risk identification enabled the auditor to develop a clearer picture of the audit's direction and possible findings. This helped the auditor to formulate the audit's principal objective. Auditors then examined the ways in which the questions raised can be answered. This was crucial to determining the audit's criteria. The audit criteria used in this audit collated into four groups: (i) Water Quality, River Health; (ii) Soil Protection; (iii) Biodiversity Conservation; and (iv) Landscape and aesthetics.

During the whole auditing process books, scientific journals and periodicals, research papers, and theses related to the subject were reviewed. Important aspects of the auditing process were f*ield visits and surveys.* Field visits have been made to the project area to check on site and record the impacts by taking photographs of plantations, afforestations, silvicultural treatment, check dams and water ponds.

3.2 Identification of non-compliance

The EPA tool is a useful mechanism for assessing the significance of non-compliance and provides additional context to findings. It seeks to assess the significance objectively as a: ***No impact, Negligible, Minor, Moderate, Major or Severe*** actual or potential environmental impact. It should be noted that the tool does not provide an absolute measure of

environmental impact, such as a parts per million sedimentation concentration impact on water quality, for example. The EIA risk rating is based on the following factors: i) Extent of impact or disturbance; (ii) Duration of impact; and (iii) Environmental asset value. In the case of non-compliances, a simplified classification was used, in accordance with the *Audit Process*.

3.3 Rationale for the Selection of Sites

Although the selection of appropriate sites has a significant impact on the successful conduct of environmental audit, no generally accepted model is available for site selection. Use of an appropriate site selection process is even more pertinent when conducting large scale, audits, as the case of NRDP. Site selection has been directed by predetermined objectives. These objectives called for evaluation that combines facts with good judgment. Location objectives were: to provide for the potential of representative samples; to provide coverage of different forest activities carried out (check dams, water troughs and ponds, afforestation, plantation for biomass for carbon sequestration, establishment of fruit trees orchards, etc.); to provide full coverage in terms of geographical position as well as cultural and traditional diversity of forest and pasture use in Albania; minimize the cost of travelling; and to respond to specific auditing needs.

Scoping of the environmental impacts of the proposed project included consultations in individual key information meetings, and focus group discussions with a sample of key informants and government and civil society stakeholders nationally, regionally and in three districts of Albania including upland Albania as well as Microcatchment and Carbon Sequestration implementation. Further detailed research and in-depth consultation with communities, civil society stakeholders, and government at district and national levels (including the MoEFWA) were part of the project.

In total, 56 sites covering a large area distributed throughout the Republic of Albania were selected. Sites that are 1 – 20 ha represent the majority of the total area of afforestation. While site by site analysis of all sites should ideally be undertaken to identify those most suitable for maximizing biodiversity benefits, it is safe to say that it is these larger sites that offer the greatest potential for enhancing biodiversity within the project's parameters. When considering the location of a subproject, the sensitivity of the proposed site in the following table was ratted according to the given criteria. Higher ratings do not necessarily mean that a site is unsuitable. They do indicate a real risk of causing undesirable adverse environmental effects, and that more substantial environmental and/or social planning may be required to adequately avoid, mitigate or manage potential effects. Table 3 shows the means of impact identification and classification used in this auditing project.

3.4 Major findings

The work carried out during the project and subprojects implementation had varying levels of impacts on the surrounding environment – on natural and planted forests, on lands with agricultural, cultural and other socioeconomic and religious values, and to an extent on factors wildlife and wildlife habitats, particularly those located outside the designated protected areas such as National Parks and Sanctuaries. Observations during field visits, desk study and results from the screening exercise identified that potential impacts could range from immediate to long term, could be direct or indirect including induced development, reversible or irreversible, and or cumulative as a result of interaction with other development activities ongoing in the sub-region.

Table 3. Impact identification and classification

Issues	Site Sensitivity			Rating
	Low	**Medium**	**High**	
Natural habitats	No natural habitats present of any kind	No critical natural habitats; other natural habitats occur	Critical natural habitats present	
Water quality and water resource availability and use	Water flows exceed any existing demand; low intensity of water use; potential water use conflicts expected to be low; no potential water quality issues	Medium intensity of water use; multiple water users; water quality issues are important	Intensive water use; multiple water users; potential for conflicts is high; water quality issues are important	
Natural hazards vulnerability, floods, soil stability/ erosion	Flat terrain; no potential stability/erosion problems; no known volcanic/seismic/ flood risks	Medium slopes; some erosion potential; medium risks from volcanic/seismic/ flood/ hurricanes	Mountainous terrain; steep slopes; unstable soils; high erosion potential; volcanic, seismic or flood risks	
Cultural property	No known or suspected cultural heritage sites	Suspected cultural heritage sites; known heritage sites in broader area of influence	Known heritage sites in project area	

Plantation forestry, as practiced in Albania, most often involves the rotation of fast-growing species planted in monocultures. The negative environmental impacts of plantation forestry include vulnerability to disease and pests, nutrient depletion or toxic effects, impacts on crops, etc. However, against these impacts must be weighed the additional supplies of timber and forest products from planted forests, which can help reduce the pressure on natural forests. Choice of species in plantations has been carefully considered. Some species improve soil fertility, but others can have negative effects, for example on food crop productivity when intercropped from shading,. The species commonly used are sweet chestnut (*Castanea sativa* Mill), Aleppo pine (*Pinus halepensis L.*), english walnut (*Juglans regia*. L), and apple tree (*Malus domestica* L.). On five sites minor negative impacts, common for this type of activity are recorded (see the site description and matrices for more information).

Afforestation in the degraded areas: The forests of Albania are continually being degraded by overcutting and overgrazing; the results are inadequate and polluted water supplies, shortages of fuelwood and leaf fodder, and increasing soil erosion. Each year an estimated

that thousands of cubic meters (m^3) of eroded soil is transported downstream by the country's major rivers and their tributaries, causing major damage. One of the major intentions of NRDP was to reduce soil erosion, to increase the productivity of the different land uses within the watersheds and to provide a sustainable flow of resources which would include fuelwood and fodder. The majority of sites, subject to this audit, were planted with black locust (*Robinia pseudoacacia* L.), but aforestation using pine and birch species were applied as well.

Check Dams. A check dam is a permeable barrier placed in the flow path of an ephemeral waterway such as a channel, stream, ditch, or spillway to hinder flow and cause upstream pooling. Small-scale traditional check dams made from natural rock, wood, or scrap concrete have been constructed in several communes (watersheds) during the NRDP implementation. In all audited sites, check dams have been properly implemented, providing additional input to the local aquifer; a 1.5-2 m check dam can recharge an area of approximately 10 hectares. Additionally, as a temporary source of water they are diverted for irrigation as well as reduce erosion and sediment transport in runoff channels. Although the impacts of check dams are largely positive, the moderated flow characteristics will affect downstream water users along the channel. Contingent upon water use, moderated precipitation response may be undesirable or problematic for downstream users. Check dam implementation affects not only hydrologic patterns, but water volume as well. The volume of water that check dams contribute to aquifer recharge is water that would otherwise have continued downstream. This may negatively impact downstream users with a high water-use application.

Silvicultural treatment. Silvicultural treatments are applied to change, accelerate change, or maintain the condition of trees and stands. This involves cleaning, cutting of all the branches in the oak main trunk (pruning), thinning or pre-commercial thinning and clear-cutting. Selection cutting, , increased the diversity and richness of tree and shrub species in the selected sites subject to NPDP in Albania, which is consistent with the intermediate disturbance hypothesis. The thinning of trees lead to an increase in the available nutrients in the forest. If the brash (branches, stems, needles etc) is left on the forest floor, as is common practice in the Albania, this can allow the nutrients contained within to leach back into the soil, and therefore increase the fertility of the stand. Both cleaning and thinning have significant effects on the abundance of large-diameter trees, tree species richness and tree species diversity, with higher values of these biodiversity indicators in the treated stands compared to the unmanaged ones. Pruning significantly favors shrub species richness but not the other biodiversity indicators.

Construction of water points and watering trough. In the framework of the NRDP several watering trough (or artificial watering point) and ponds have been constructed. They were typically intended for livestock on farms or ranches, but may also be used by wild animals, either intentionally or consequentially. Environmental impacts of watering trough and watering ponds are manifolds: firstly the physical, chemical and biological impact of the animal on soil as it moves around and secondly the landscape alteration and disruption. Heavy livestock such as cattle compact soil structure and destroy vegetation on parts around drinking water troughs. Soil particles from these zones will be susceptible to erosion carrying particles, organic matter and phosphorus to surface waters. Anaerobic zones in waterlogged soils will encourage denitrification which implies a loss of nitrogen and pollution of the atmosphere with N_2O if conditions for denitrification are sub-optimal in the compacted zone. The landscape effects of watering trough or ponds can be different. Some ponds created specifically for habitat restoration or others, like water gardens designed for aesthetic ornamentation as landscape or architectural features, have positive effect. In some case, pond construction disrupts the habitats and erupt the scenic view.

Soil Conservation Effects of the NRDP. Herbaceous and woody vegetation are an important factor on protection and conservation of soil cover on slopes. All the activities carried out in the framework of the NRDP, subject of this auditing process, had a considerable impact on the soil. A change in land-use can (as it was the case of planting trees or afforestation of degraded areas) alter the chemical composition of a soil that can, in turn, alter the preservation of any buried archaeological artifact or deposit. The establishment of any tree species will result in an increased quantity of organic matter in the upper soil horizon as a result of litter production. For broadleaf species such as black locust (*Robinia pseudoacacia* L.), this will lead to an increase in carbon and soil moisture within the upper soil horizons. The rate of litter breakdown and incorporation into the soil will be influenced partly by the climate, but also the soil fauna present and the palatability of the litter. Alterations to the soil chemistry below the uppermost horizon will be determined primarily by other factors such as the initial soil chemistry, the site hydrology, associated soil fauna and the geographic location of the site (as this will influence the quality and quantity of the deposition and precipitation), soil temperature and drainage pattern. All of these can influence either the chemical composition of the burial environment or the rates of reaction or change within it.

Landscape, Aesthetics and Climate. Most rural parts of Albania have a characteristic man-made landscape associated with their past management. The establishment of a plantation or afforestation in a historically open landscape such as long-term agriculture may therefore be deemed as compromising the historic character of a landscape. Similarly, the size, shape, location and therefore and therefore visual impact of wood fuel crops can influence a scheme's acceptability. The new forests will add structural diversity to the landscape. Increased connectivity among forest patches and a contribution to the development of an ecological network will also be positive effects. Afforestation will also result in the decrease of landslides and gully formation. Afforestation will have positive micro-climatic effects. Wind speed will decrease as a result of the sites acting as windbreaks. The temperature differential with adjacent lands will be moderated. The project will also result in the sequestration of some greenhouse gases, particularly CO_2. If through alternative forestry income some families can afford to abandon the production of ruminants, this may result in a minor positive greenhouse gas reduction through the decreased release of methane.

Biodiversity. Biodiversity maintenance is a key management objective and a requisite for sustainable forestry. The afforestation of the selected sites resulted in a complex of biodiversity benefits. Vegetative cover will be increased using species that are appropriate for the selected locations in question. Grasses and other types of herbaceous vegetation due to pasture improvement measures will reappear. It also provides a greater structural diversity and an increase in the diversity of habitats available for native fauna. Faunal diversity will also increase correspondingly. The connectivity of habitats will also be improved and this will lead to increased species dispersal, greater ecological functionality of the sites, and in the longer term, stronger regional sustainability of biodiversity. The net biodiversity effects of the project against the baseline will all be positive over the longer term (i.e more than 5 years). Initial preparation of soil for planting had a negative impact on what flora and fauna present on the sites. This impact will be temporary and will be reversed rather quickly as the plantings become established and come to support a greater diversity of flora and fauna. Initial project activities such as soil preparation may have a short term negative effect on soils and wildlife. These impacts will also be temporary. The planting of native species of trees will result in a positive impact as they become established and come to support a greater range of native fauna. The establishment of these "oases" of biodiversity will also provide for increased

connectivity and species dispersal potential in the landscape and will help support ecosystem sustainability.

4. Conclusion

The site specific reports revealed a wide range of good practices and a few problems within Albania, although their coverage cannot be claimed as exhaustive in any way. Overall, the audit identified a high level of compliance across most Compliance Element groups and minimum negative impact for the majority of activities carried out in the framework of NRDP, subject to this auditing process. The Auditor noted a number of individual examples of good practice, including instances of:

- Conservative delineation of forest boundaries for ease of management;
- Reuse of existing landings and road alignments and effective use of natural outslope drainage where possible;
- Check dams construction of natural material, or material taken in the nearby;
- Consideration of physical geology of the stream prior to check dams construction;
- Exclusion from interventions of all residual habitats that have legal protection;
- Maintenance of the connectivity between natural sites within and around the plantation or afforestation;
- Avoidance of areas of the calcareous sediments, which generate soils with high calcium carbonate content that can be detrimental to forest growth;
- Thinning has been concentrated in the smaller diameters.

No non-compliances with severe Environmental Impact risk rating were identified. The major negative impacts of the sub-projects carried out in the framework of NRDP are caused by the water troughs. Constructed of concrete materials they have a short tem negative impact on the soil, and biodiversity and a long term negative effect on landscape. Public participation led to better decisions and involvement of local communities through FPUA-s had a positive impact. The advantages of consultation were that potential disagreements and confrontations have been identified early in the process. Issues raised in a broader context are taken to the meeting of government officials and their significance evaluated together with a discussion of the likely biophysical and socio-economic impacts of the project.

With the exception of the identified non-compliances that are considered to be the result of systemic deficiencies within Albania's forest management systems, the rest are considered to be isolated instances. Based on these audit findings the audited activities are not considered to present an unacceptable risk to life, health and wellbeing of other forms of life, including the protection of ecosystems and biodiversity.

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