



EUROPEAN FOREST INSTITUTE
CENTRAL-EAST AND SOUTH-EAST EUROPEAN
REGIONAL OFFICE - EFICEEC-EFISEE



Forest Land Ownership Change in Serbia

COST Action FP1201 FACESMAP Country Report



COST Action FP1201
Forest Land Ownership Change in Europe:
Significance for Management and Policy
(FACESMAP)

Forest Land Ownership Change in Serbia

COST Action FP1201 FACESMAP Country Report

Authors

Dragan Nonić¹
Nenad Petrović¹
Milan Medarević¹
Predrag Glavonjić¹
Jelena Nedeljković¹
Mirjana Stevanov²
Saša Orlović²
Ljubinko Rakonjac³
Ilija Djordjević³
Zoran Poduška³
Radovan Neveniće³

¹ *University of Belgrade - Faculty of Forestry
Kneza Višeslava 1, 11030 Belgrade
Serbia*

² *Institute of Lowland Forestry and Environment
Antona Čehova 13, 21000 Novi Sad
Serbia*

³ *Institute for Forestry
Kneza Višeslava 3, 11030 Belgrade
Serbia*

The COST Action FP1201 FACESMAP Country Reports are edited by the European Forest Institute Central-East and South-East European Regional Office (EFICEEC-EFISEE) at the University of Natural Resources and Life Sciences, Vienna (BOKU). The Country Reports are not subject to external peer review. The responsibility for the contents of the Country Reports lies solely with the country author teams. Comments and critique by readers are highly appreciated.

The main parts of these Country Reports will be included in the upcoming EFICEEC-EFISEE Research Report "Forest Land Ownership Change in Europe. COST Action FP1201 FACESMAP Country Reports, Joint Volume", published online on the FACESMAP (<http://facesmap.boku.ac.at>) and EFICEEC-EFISEE (www.eficeec.efi.int) websites.

Reference:

Nonić D., Petrović N., Medarević M., Glavonjić, P., Nedeljković J., Stevanov M., Orlović S., Rakonjac Lj., Djordjević I., Poduška Z, Nevenić R. (2015) Forest Land Ownership Change in Serbia. COST Action FP1201 FACESMAP Country Report, European Forest Institute Central-East and South-East European Regional Office, Vienna. 64 pages. [Online publication]

Published by:

European Forest Institute Central-East and South-East European Regional Office
(EFICEEC-EFISEE) c/o
University of Natural Resources and Life Sciences, Vienna (BOKU)
Feistmantelstrasse 4
1180 Vienna
Austria

Tel: + 43-1-47654-4410
e-mail: eficeec@efi.int
Web site: www.eficeec.efi.int

Papers published in this series can be downloaded in PDF-format from:
<http://facesmap.boku.ac.at/library/countryreports>

Cover: F. Aggestam Layout: S. Zivojinovic



COST is supported by the EU Framework Programme Horizon 2020



COST (European Cooperation in Science and Technology) is a pan-European intergovernmental organisation allowing scientists, engineers and scholars to jointly develop their ideas and initiatives across all scientific disciplines. It does so by funding science and technology networks called COST Actions, which give impetus to research, careers and innovation.

Overall, COST Actions help coordinate nationally funded research activities throughout Europe. COST ensures that less research-intensive countries gain better access to European knowledge hubs, which also allows for their integration in the European Research Area.

By promoting trans-disciplinary, original approaches and topics, addressing societal questions, COST enables breakthrough scientific and technological developments leading to new concepts and products. It thereby contributes to strengthening Europe's research and innovation capacities.

COST is implemented through the COST Association, an international not-for-profit association under Belgian law, whose members are the COST Member Countries.

"The views expressed in the report belong solely to the Action and should not in any way be attributed to COST".

Background of the project

Forest ownership is changing across Europe. In some areas a growing number of so-called “new” forest owners hold only small parcels, have no agricultural or forestry knowledge and no capacity or interest to manage their forests, while in others new community and private owners are bringing fresh interest and new objectives to woodland management. This is the outcome of various societal and political developments, including structural changes to agriculture, changes in lifestyles, as well as restitution, privatization and decentralization policies. The interactions between ownership type, actual or appropriate forest management approaches, and policy, are of fundamental importance in understanding and shaping forestry, but represent an often neglected research area.

The European COST Action FP1201 FOREST LAND OWNERSHIP CHANGES IN EUROPE: SIGNIFICANCE FOR MANAGEMENT AND POLICY (FACESMAP) aims to bring together the state-of-knowledge in this field across Europe and can build on expertise from 30 participating countries. Drawing on an evidence review across these countries, the objectives of the Action are as follows:

- (1) To analyse attitudes and constraints of different forest owner types in Europe and the ongoing changes (outputs: literature survey, meta-analyses and maps).
- (2) To explore innovative management approaches for new forest owner types (outputs: case studies, critical assessment).
- (3) To study effective policy instruments with a comparative analysis approach (outputs: literature survey, case studies, policy analyses).
- (4) To draw conclusions and recommendations for forest-related policies, forest management practice, further education and future research.

Part of the work of the COST Action is the collection of data into country reports. These are written following prepared guidelines and to a common structure in order to allow comparisons across the countries. They also stand by themselves, giving a comprehensive account on the state of knowledge on forest ownership changes in each country.

The common work in all countries comprises of a collection of quantitative data as well as qualitative description of relevant issues. The COUNTRY REPORTS of the COST Action serve the following purposes:

- Give an overview of forest ownership structures and respective changes in each country and insight on specific issues in the countries;
- Provide data for some of the central outputs that are planned in the Action, including the literature reviews;
- Provide information for further work in the Action, including sub-groups on specific topics.

A specific focus of the COST Action is on new forest owner types. It is not so much about “new forest owners” in the sense of owners who have only recently acquired their forest, but the interest is rather on new types of ownership – owners with non-traditional goals of ownership and methods of management. For the purpose of the Action, a broad definition of “new forest owner types” was chosen. In a broad understanding of new or non-traditional forest ownership we include several characteristics as possible determinants of new forest owners. The following groups may all be determined to be new forest owners:

- (1) individuals or organizations that previously have not owned forest land,
- (2) traditional forest owner categories who have changed motives, or introduced new goals and/or management practices for their forests,
- (3) transformed public ownership categories (e.g., through privatisation, contracting out forest management, transfer to municipalities, etc.), and
- (4) new legal forms of ownership in the countries (e.g. new common property regimes, community ownership), both for private and state land.

This embraces all relevant phenomena of changing forest ownership, including urban, absentee, and non-traditional or non-farm owners as well as investments of forest funds or ownership by new community initiatives, etc. Although the COST Action wants to grasp all kinds of ownership changes it has to be noted that the special interest lies on non-state forms of ownership.

Contents

Executive Summary	i
1. Introduction	1
1.1. Forests, forest ownership and forest management in Serbia	1
1.2. Overview of the country report	2
2. Methods	4
2.1. General approach.....	4
2.2. Methods used.....	4
3. Review of literature on forest ownership in change	6
3.1. Research framework and research approaches	6
3.1.1. Main themes covered by the studies in the country that are relevant to the Action.....	6
3.1.2. Types of organizations.....	7
3.1.3. Types of funding	7
3.1.4. Theoretical and methodical approaches, and regional scope of the studies	7
3.1.5. Major results and insights	7
3.1.6. Critical assessment, gaps and future research needs.....	11
3.2. New forest ownership types	12
3.3. Forest management approaches	12
3.4. Policy change / policy instruments	12
4. Forest ownership	14
4.1. Forest ownership structure.....	14
4.1.1. National data set.....	14
4.1.2. Critical comparison of national data with the data in FRA reporting	15
4.2. Unclear or disputed forest ownership.....	15
4.3. Legal provisions for buying or inheriting forests	15
4.3.1. Legal restrictions on buying or selling forests	15
4.3.2. Specific inheritance (or marriage) rules applied to forests.....	16
4.4. Changes of the forest ownership structure in the last three decades	16
4.4.1. Changes in the public and private ownership.....	16
4.4.2. Changes in the public ownership categories	16
4.4.3. Changes in the private forest ownership	16
4.4.4. Main trends of forest ownership change.....	17
4.5. Gender issues in relation to forest ownership	18
4.6. Charitable, NGO, or not-for-profit ownership of the forests.....	18
4.7. Common pool resource regimes	20
5. Forest management approaches to new forest owner types	22
5.1. Forest management in Serbia	22
5.1.1. Forest management companies	22
5.1.2. Forest management in protected areas.....	24
5.1.3. Change in the governance of forest management.....	24
5.2. New or innovative forest management approaches relevant to the new forest owner types	26
5.3. Main opportunities for innovative forest management.....	27
5.3.1. Needs of forest managers	27
5.3.2. Main opportunities for innovative forest management	28
5.4. Obstacles to innovative forest management approaches	29

6. Policies influencing ownership development / Policy instruments for new forest owners	31
6.1. Influences of policies on the development of forest ownership	31
6.1.1. Private forest owners and new legislation adoption.....	31
6.1.2. Regulation	31
6.1.3. Afforestation.....	31
6.1.4. Regulation on church property / restitution	32
6.2. Influences of policies on forest management	32
6.2.1. Forest management plans	32
6.2.2. Measures for improved management of private forests	33
6.2.3. Forest Directorate	33
6.2.4. Compensations.....	33
6.3. Policy instruments specifically addressing different ownership categories	34
6.3.1. No specific policy instruments exist	34
6.4. Factors affecting innovation in policies.....	34
6.4.1. Weak political role.....	34
7. Literature.....	36
8. Annexes	40
8.1. Tables with detailed descriptions of 11 most important publications.....	40

Figures

Figure 1: Types and structure of PA managers in Serbia	24
--	----

Tables

Table 1: Forest area by type of ownership in Serbia (2008).....	14
Table 2: Structure of private forests in Serbia	14
Table 3: Structure of private forest property by number of owners.....	14
Table 4: Forest areas by sub-groups in Serbia (2010)	15
Table 5: Forest area by type of ownership in Serbia (1979).....	16
Table 6: Private Forest Owners Associations in Serbia.....	19
Table 7: Share of individual owners in their forest community	21
Table 8: State forest managers in Serbia	23
Table 9: Private forest area under the responsibility of public enterprises	23

Acronyms and abbreviations

CEPF	Confederation of European Forest Owners
COST	European Cooperation in Science and Technology Program
CPR	Common pool resource regimes
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FOA	Forest Owners Association
FOPER	Western Balkan Forest Policy, Economics and Governance Education and Research
FORNET ltd	Private company for consulting and services at nature resource management
FP7	7th Framework Programme for Research and Technological Development
FRA	Global Forest Resources Assessment
NCM	Nature Conservation Movement
NFAP	National Forest Action Program
NFI	National Forest Inventory
NFP	National Forest Programme
NGO	Non-Governmental Organization
NP	National Park
OED	Oxford English Dictionary
PA	Protected area
PE	Public enterprise
PFO	Private forest owner
PFOA	Private forest owners' association
PRIFORT	Research into the Organization of Private Forest Owners in the Western Balkan Region
PROFOR	Program on Forests
RoK-FOR	Project: Regions of Knowledge for Forestry
SFPFOA	Serbian Federation of Private Forest Owners' Associations
SME	Small and Medium Enterprises
SNR	Special Nature Reserve
WWII	Second World War

Executive Summary

The country report gives a comprehensive overview of forest ownership issues in Serbia. According to the aims of the country report, a mix of methods is applied. They include: literature review, secondary data, expert interviews as well as the expert knowledge of the authors.

The review of literature shows that the research conducted in the territory of Serbia was mainly focused on the following topics related to private forest owners: association of private forest owners; characteristics of private forests and private forest owners (social, economic, structural, ownership, etc.); typology of private forest owners; ownership transformation and change; management of private forests; policy instruments and policy issues; restitution process; system of support for the private forest sector in Serbia.

According to the National Forest Inventory, the total forest area in Serbia (excluding Kosovo and Metohija) covers about 29.1% of the territory of the whole country making Serbia an averagely forest-covered country comparing to the European average. The total growing stock of forests amounts to 362,487,000 m³ of wood, and the annual increment of timber is 9,079,000 m³ of wood. Regarding the ownership structure in Serbia, there are two types of ownership: state (53%) and private (47%). After 2006 (i.e. after the adoption of Law on Restitution of property to churches and religious communities), a new sub-category of private forests - church forests – occurs in the private forest ownership category (around 1% of all forests). Private forests can be characterized by big number of forest owners, small to average area of forest property and a lot of small forest parcels.

In the period after WWII, there were great social changes both in the state system and in the system of ownership and in the legal and property structure of forests. At this time, there were predominantly two categories of ownership of forests in Serbia: social and private forests (which changed their name in “forests with the right of ownership”). The ownership category of social forests was introduced after WWII. According to The Law on Agrarian Reform and Colonization (1945), social property included public forests originating from state, communal, private, monastery and church forests, with the area larger than the maximum legal area: i) for monastery and church forests max area was 30 ha; ii) for private individuals max area was 5-10 ha.

In Serbia, there is a forest community, named ‘Beočin Forest community’. The community was founded in 1903 and its functioning relies on joint management of forest land.

The establishment of private forest owners associations (PFOAs) in the territory of Serbia began in 2006. Since then, 22 associations have been established at the local level. Most of PFOAs were established with the support from FAO projects at that time and thanks to government subsidies for the construction of roads in private forests. The basic support included logistic and professional support. From 2010 onwards, some of them have been cancelled due to the changes in The Law on Associations (2009). Thus, there are only three active associations today. These associations have the same organizational structure as the associations that existed in the past, but they are registered in accordance with the new legislation which regulates this area.

There are two main public enterprises (PE) responsible for the management of state forest resources. PE ‘Srbijašume’ is responsible for the management of state forests in the central part of Serbia and PE ‘Vojvodinašume’ in the autonomous province of Vojvodina. Apart from these two enterprises, state forests are also managed by other organisations (five public enterprises responsible for the management of national parks, PE for management of protective forests, Faculty of Forestry and other organisations). Public enterprises have the role of extension service in private forests and these activities are financed by the ministry responsible for forestry. The process of restitution has brought a new model of forest management. After the restitution of church forests, several church or private limited forest companies started with the management and utilization of these forests. According to the Law on Forest private forests are managed either by their owners or this right is conferred to the Association of private forest

owners which then licenses a professional body. Whatever the case, the Law requires forest management plans to be designed and approved by the Ministry.

There are no specific policy instruments directed at new forest owner types. Also, it seems to be common that the political role is neglected not only by private forest owners/associations but also by the whole forest sector in Serbia. The forest authority keeps being silent in advocating forestry interests in the broader policy arena.

1. Introduction

1.1. Forests, forest ownership and forest management in Serbia

According to the National Forest Inventory (NFI), the total forest area in Serbia (excluding Kosovo and Metohija) covers about 29.1% of the territory of the whole country making Serbia an averagely forest-covered country comparing to the European average. The total growing stock of forests amounts to 362,487,000 m³ of wood, and the annual increment of timber is 9,079,000 m³ of wood. Private forests in Serbia today occupy an area of 1,058,400 hectares, which is 47% of all forests in Serbia (Banković et al., 2009). This percentage is expected to increase, once the process of restitution of religious communities and individuals is completed. Forests in Serbia play very important role in national economy, particularly in rural areas where local population is very dependent on wood and non-wood products use.

Current forest ownership structure is deep-rooted in the historical development of the Serbian state. The first reliable statistical data on forestry funds were processed in 1938. They revealed the dominance of different forest ownership categories over the state one. State forests covered about 21% of the total forest area in Serbia in 1938. The present ownership structure is dominated by the state forest ownership (53%) and influenced by nationalization of forest land from former communal, private and church forests. The state of ownership after nationalization can be considered relatively stable with the close relationship between state and private forests. Private forests can be characterized by small forest properties, scarce representation of interest, and relatively low productivity. Due to nationalization, only small private forest lots exist under the strong domination of public service and fully dependent on public administration. New forest regulations create more freedom for small forest owners to decide on their property. Church property restitution in 2006 brought ownership changes and new forest management approaches.

The management of state forests is given to public enterprises and other public institutions, such as state universities or Serbian army. Long-term contracts were made with public enterprises according to the Law on Forests (2010) and law on Public enterprises (2012). Small private forest lots are in hand of individual owners but their management is under the big influence of Public enterprises located on their territory. The management of small forest lots (planning, silvicultural decision etc.) is under the strong influence of the state forest service while freedom is given to owner during implementation phase of management. Church forests make a new private forest owner category and they are considered to be a big private forest owner in Serbia since the end of the Second World War. Forest management in church forests is independent of the public enterprises and their decision making is absolutely free compared to the individual forest owners. Forest companies established by churches employ forest staff that can conduct all phases of forest management independently of the state forest services on their territory.

Serbian government enacted plurality of new policy documents as a consequence of the transition to democracy and market economy or as part of the preparation for the EU accession. A number of adopted documents have had direct or indirect influence on the forest sector. A significant change in the Serbian forest policy has been externally driven by the project named "Forest Sector Development in Serbia" (2005-2008) funded by the Finnish government and implemented by the FAO office in Rome. The Forestry Development Strategy (2006) emerged as one of the outputs. In this document the Government declares that it will further support "the participation of the private sector in forestry development", through more transparent and simpler governance procedures, among others. As an instrument for the implementation of the Strategy, the new Forest Law of the Republic of Serbia was adopted in 2010. The major difference between this Law (2010) and the former Forest Law (1991) is that private and public forests are considered to be equal ownership

categories. Private forests got their recognition as an ownership category, contrary to the past times when they had been mostly neglected.

1.2. Overview of the country report

A country report gives a comprehensive overview of forest ownership issues in Serbia. **The review of literature** shows that the research conducted in the territory of Serbia was mainly focused on the following topics related to private forest owners:

- 1) association of private forest owners;
- 2) characteristics of private forests and private forest owners (social, economic, structural, ownership, etc.);
- 3) typology of private forest owners;
- 4) ownership transformation and change;
- 5) management of private forests;
- 6) policy instruments and policy issues;
- 7) restitution process;
- 8) system of support for the private forest sector in Serbia.

In this research, the main theoretical approaches are: theory of collective action; pluralism; exchange theory; voice, exit and loyalty; theory of critical mass; group theory; system theory; organization in forestry; forest management planning; forest policy, etc.

Regarding the **ownership structure** in Serbia, there are two types of ownership: state (53%) and private (47%). It should be noted that in the statistics related to private forests, the category of monastery and church forests, which have been returned through the process of restitution, has not been distinguished as a separate category and they belong to the category of private forests. There is another unclear situation regarding the ownership of the forests that belong to the legal entities that have arisen with the privatization of former cooperatives, public companies, and factory farms. However, there are no official data about this.

The structure of private forests in Serbia is characterized by a big number of forest owners, small to average area of forest property and a lot of small forest lots. Such forest ownership structure is the biggest obstacle to efficient forest management.

In Serbia, there is one forest community, named "Beočin Forest Community". Forest community performs all activities related to forest management. The establishment of **private forest owners associations** in Serbia started in 2006. Since then, 22 associations have been established at the local level. From 2010 onwards, some of them have been cancelled due to the changes in the Law on Associations and today there are only three active associations.

Forest management approaches in Serbia largely depend on the category of ownership. All state forests are managed according to the country's decision on the establishment of public companies that have rights to use the state forest under the law. The business policy of public enterprises is characterized by large influence of political parties and an excess number of employees that result in poor economic performance of enterprises. Private forests owned by natural persons have a large number of private forest owners. These forests are used mainly to meet the needs of their owners for firewood or not used at all. The process of plan development and tree marking in small-scale forests is the responsibility of public companies while the owners have the freedom to make their own decisions concerning the use of forest properties. After the restitution of church forests in 2006, new management approaches emerged. They were reflected in the emergence of independent forest companies for forest management without the involvement or influence of public enterprises. The business management concept in these new private companies has changed towards making profit for owners in accordance to the Forest Law.

Policy and ownership are related in various ways: policies directly or indirectly influence ownership development or even encourage or create new forms of ownership; on the other hand, the policy instruments that are emerging deal with the ownership changes, including the instruments designed to support new types of owners e.g. through advisory services, cooperative or joint forest management, etc.

The change of the forest policy in Serbia started as an externally driven process. During 2006, The National Forestry Development Strategy of The Republic of

Serbia was created as an outcome of the Forest Development Program funded by the Finnish Government. The new Forest Law of 2010 emerged as a legal support to the Strategy and it defines new directions in the development of the private forest sector with the special focus on providing support to their interest organizations and enhancing the

efficiency of the small-scale forestry management (Petrović, 2012). The process of Church Property Restitution brought new actors into the forest policy arena and generated new management approaches. Forest policy and legislation have not created proper policy instruments to deal with new forest owners.

2. Methods

2.1. General approach

According to the aims of the country report which is to give a comprehensive overview of forest ownership issues in the country, a mix of methods is applied. They include: literature review, secondary data, expert interviews as well as the expert knowledge of the authors.

Data include quantitative data (from official statistics and scientific studies) as well as qualitative data (expert knowledge, expert interviews and results from studies). A literature review explicates the state-of-knowledge in the countries and contributes to a European-scale state-of-art report. Case examples are used for illustration and to gain a better understanding of the mechanisms of change and of the new forest owner types. Detailed analyses of the collected data and case study analyses are done in subsequent work steps in the COST Action.

2.2. Methods used

The main methodological approaches used in previous researches are: case study, survey questionnaires (*door-to-door surveys*), qualitative (*in-depth*) questionnaires, method of content analysis, etc. The review of the used literature is presented in this report.

Previous studies were conducted on the following levels: national (Serbia), regional (Western Balkans) and cross-national (South-eastern Europe, and Central and Eastern Europe).

The prevailing methods applied in all chapters are:

- collection and analysis of secondary data (from scientific and grey literature reviews and official statistical sources) and
- authors' expert knowledge.

The report includes a detailed review of the literature related to the main objectives of the COST action. The first activity was the search for literature (scientific papers, reports, and grey literature) on the topics of the Action. Then, the method of text analysis was applied. Furthermore, a bibliography of relevant and accessible literature was compiled. These activities were conducted in

February 2014.

The study data used to determine forest owner types (Nonić et al., 2013) were collected during 2012-2013, and altogether 248 private forest owners were surveyed.

The questionnaire comprised 40 questions, divided into 3 groups. (Nonić et al., 2013):

- 1) Group 1: 'socio-demographic characteristics of forest owners'
- 2) Group 2: 'aspects of forest management'
- 3) Group 3: 'economic aspects'

The data were processed in SPSS ver. 19 using non-hierarchical and hierarchical cluster analyses. The applied non-hierarchical methods were post stratification, two-step cluster analysis, and k-mean clustering. The hierarchical cluster analysis was selected because it can define homogeneous groups, i.e. the variables based on the selected characteristics (Nonić et al., 2013).

In order to study the changes in the governance of the protected areas in Serbia, the method of trends was used. Methods and techniques of data processing are ways in which data are collected and instruments are used. In order to determine the changes in the governance of PA, the statistical techniques based on the analysis of time series were used. The following basic parameters were used:

- 1) absolute level of occurrence;
- 2) mean absolute level of occurrence;
- 3) average annual exponential growth rate (*I*s).

The method used for the collection of data on PA managers was non-reactive (Neumann, 2006). The group of non-reactive methods also comprises the analysis of secondary data, i.e. analysis of quantitative and/or qualitative data that were not collected by the researcher. In this sense, we analyzed statistical data on PA, relating to area representation (ha) and PA categories, as well as the basic information about the managers.

Forest management approaches and forest policy chapters were written by studying national and international scientific papers, national legislation, and experts' knowledge.

This report contains a comprehensive list of literature related to private forests in Serbia and can be a good basis for further research

into private forest issues and private forest owner objectives in Serbia.

3. Review of literature on forest ownership in change

The COST Action national representatives aimed to review and compile information on changes in forest ownership in their countries based on scientific and grey scientific literature, including reports and articles in national languages, and official statistics, formal guidance or advisory notes from official websites, etc.

The scope of the literature review is as follows:

- Forest ownership change (with a specific focus on new forest ownership types); private forest owners' motives and behaviour; management approaches to new forest owner types; related policies and policy instruments.

The literature review consists of the following three steps: collection of all literature as defined relevant, detailed description of 10 most relevant publications, and a 1-3 page summary according to the structure given in the guidelines. The full list of literature includes grey literature, i.e. literature not easily accessible by regular literature search methods (unpublished study reports, articles in national languages, etc.). These references are listed at the end of the report. The 10 detailed descriptions of publications are found in the Annex. The literature review answers the following questions: Which research frameworks and research approaches are used in the research? What forms of new forest ownership are identified? Which specific forest management approaches exist or are discussed? Which policies possibly influence the ownership changes in the country and which policy instruments answer to the growing share of new forest owner types?

3.1. Research framework and research approaches

3.1.1. Main themes covered by the studies in the country that are relevant to the Action

The research conducted in the territory of Serbia, related to private forests, was mainly focused of the following topics:

- 1) Association of private forest owners: e.g. Ratknić, Ranković and Nonić, 2001; Nonić, 2004; Nonić et al., 2006; Milijić et al., 2007; Nonić and Milijić, 2008; Avdibegović et al., 2010a; Avdibegović et al., 2010c; Glück et al., 2010; Milijić et al., 2010; Petrović and Čabaravdić, 2010; Glück et al., 2011; Mendes et al., 2011; Nonić et al., 2011a; Nonić and Glavonjić, 2012; Petrović, 2012;
- 2) Characteristics of private forests and private forest owners (social, economic, structural, ownership, etc.): e.g. Damnjanović, 1986; Milijić, 2007; Milijić et al., 2007; Avdibegović et al., 2010a; Avdibegović et al., 2010c; Milijić et al., 2010; Petrović and Čabaravdić, 2010; Glück et al., 2011; Petrović, 2012; Jankov, 2013; Nonić et al., 2013; Halder et al. 2014;
- 3) Typology of private forest owners: e.g. Glück et al., 2010; Petrović and Čabaravdić, 2010; Glück et al., 2011; Nonić and Glavonjić, 2012; Nonić et al., 2013;
- 4) Ownership transformation and change: e.g. Nonić, Ranković, 1997; Nonić, 2004; Nonić and Milijić, 2008; Glavonjić et al., 2011; Nonić et al., 2011a; Nonić et al., 2011b; Nikolić et al., 2012;
- 5) Management of private forests: e.g. Petrović, 1985; Milin, 1986; Nikolić, 1986; Vučićević, 1986; Vučićević and Vandić, 1996; Jović, Banković and Medarević, 2000; Ratknić and Toković, 2001; Petrović, 2012;
- 6) Policy instruments and policy issues: e.g. Nonić, 1993; Nonić, 2004; Milijić, Nonić and Grujičić, 2008; Nonić and Herbst, 2008; Nonić et al., 2008; Nonić and Milijić, 2008; Nonić et al., 2009; Nonić et al., 2011a; Nonić et al., 2011b; Avdibegović et al., 2010b; Nonić, Milijić and Radosavljević, 2010; Glavonjić et al., 2011; Bouriaud et al., 2013;
- 7) Restitution process: e.g. Glavonjić et al., 2011; Nonić et al., 2011a; Nonić et al., 2011b;

- 8) System of support for the private forest sector: e.g. Nonić, 2004; Nonić, 2005; Nonić et al., 2007; Nonić and Milijić, 2008; Glück et al., 2011; Mendes et al., 2011.

3.1.2. Types of organizations

The research was conducted at three public forestry institutions - Faculty of Forestry, Forestry Institute in Belgrade and the Institute of Lowland Forestry and Environment in Novi Sad. The Faculty of Forestry conducted two studies in close cooperation with foreign organizations:

- PRIFORT project which was focused on four countries of the Western Balkan region: Bosnia and Herzegovina, Croatia, Macedonia and Serbia. The project was conducted in concurrence with the European Forest Institute and the Finnish FOPER project, and with the Austrian Ministry of Agriculture and Forestry, Environment and Water Management;
- PROFOR project (Private and Community Forestry - Developing Livelihoods on the Basis of Secure Property Rights): CEPF developed assessments of the status of non-state forestry in Macedonia, Albania and Serbia. CEPF worked with the FAO's National Forest Programmes (NFP) staff to conduct workshops at the national level in three countries. The project was financed by the World Bank.

3.1.3. Types of funding

The main types of funding used for conducting the research on private forests in Serbia are:

- 1) National (public) – ministries in charge of forestry;
- 2) Public EU/cross-national Europe – e.g. FAO; World Bank-PROFOR; Austrian Ministry of Agriculture and Forestry, Environment and Water Management; Finnish Ministry for Foreign Affairs, EU – FP7 project RoK-FOR, etc.

3.1.4. Theoretical and methodical approaches, and regional scope of the studies

The main theoretical approaches are related to the following:

- Theory of collective action;
- Pluralism;
- Exchange theory;
- Voice, exit and loyalty;
- Theory of critical mass;
- Group theory;
- System theory
- Organization in forestry;
- Forest management planning;
- Forest policy, etc.

The main methodological approaches included in the previous research are:

- Case studies
- Survey questionnaires (*door-to-door surveys*)
- Qualitative (*in-depth*) questionnaires,
- Method of content analysis, etc.

Regional scopes of the studies are:

- national (Serbia);
- regional (Western Balkans);
- cross-national (South-eastern Europe, and Central and Eastern Europe).

3.1.5. Major results and insights

3.1.5.1. Association of private forest owners

The first association of private forest owners in Serbia was in the form of forest cooperatives. Their establishment started at the beginning of 1930s, with the purpose of joint forest management and protection of forests and pastures (Nonić, 2004; Glück et al., 2011). Two models of forest owners' association currently exist in Serbia (Milijić et al., 2007; Nonić and Milijić, 2008; Glück et al., 2011; Nonić and Glavonjić, 2012):

1. Community forest model, which aims at joint forest management, has its historical roots in the community ownership developed in Austria

(Vorarlberg) during the Austro-Hungarian monarchy, and is based on “ideal parts of forests” for owners who were not farmers;

2. Private forest owners’ associations (PFOAs), which were formed during the period 2006-2009, when the FAO projects resulted in an increased interest of owners for associating. The aim of the associations was to represent their members’ interests, which were mainly economic. PFOAs coordinate joint works such as construction of forest roads, joint marketing activities, training and cooperation with other associations and institutions.

Recent studies of private forest owners’ attitudes toward forest owners’ organizations reveal that a half of owners think that their interests are well-represented. Approximately the same number state there is a lack of private forest owners’ organizations in terms of forest management support and in terms of lobbying and interest representation. However, almost none of them are members of forest owners’ associations, but majority of the interviewed owners are ready to join PFOAs provided that economic benefits are provided. On the other hand, more than a half of owners strongly disagree with the obligatory membership in forest owners’ associations, and only about a quarter are ready to engage themselves in the establishment of a PFOA in the region they live in (Avdibegović et al., 2010a; Glück et al., 2010; Petrović and Čabaravdić, 2010; Glück et al., 2011; Nonić et al., 2011a; Petrović, 2012).

3.1.5.2. Characteristics of private forest owners (social, economic, ownership, etc.)

The structure of private forests in Serbia is characterized by (Milijić et al., 2007; Avdibegović et al., 2010a; Glück et al., 2010; Petrović and Čabaravdić, 2010; Glück et al., 2011; Nonić et al., 2011a; Petrović, 2012; Nonić et al., 2013):

- Large number of forest owners;
- Small average size of forest properties;
- Small parcels – problem of fragmentation.

According to some estimates, there are ‘500 to 800 thousands forest owners’ (Petrović, 2012). The results of the previous research studies show that ‘more than 72% of owners possess properties smaller than 1 ha’, that ‘the average size of a forest holding is 4.03 ha’ and that ‘the average size of a parcel is 0.6 ha’ (Glück et al., 2011). Some other studies show that ‘the average number of parcels is 5, while the average distance between them is around 3.5 km’ (Nonić et al., 2013).

The characteristics of forest owners are (Avdibegović et al., 2010a; Avdibegović et al., 2010c; Petrović and Čabaravdić, 2010; Glück et al., 2011; Nonić et al., 2011a; Petrović, 2012; Jankov, 2013; Halder et al. 2014):

- They are mainly male aged from 40 to 60;
- They are mainly pensioners and farmers;
- Most have high school education (no compulsory education).

Previous studies also show that almost all of the forest owners use the forests for fuel wood for domestic purposes (Petrović and Čabaravdić, 2010; Glück et al., 2011; Petrović, 2012). Less than 10% consider that ‘the returns from timber sale and domestic use are important for the household income. However, for 50% of the respondents the forest as a source of fuel wood for domestic use is very important for the household budget’ (Glück et al., 2011).

3.1.5.3. Typology of private forest owners

According to the attitudes of private forest owners regarding the formation of PFOAs, they belong to one of the following 3 groups (Glück et al., 2010; Petrović and Čabaravdić, 2010; Glück et al., 2011):

- 1) Drivers (31%);
- 2) Facilitators/supporters (35%);
- 3) Free riders (34%).

With regard to property size classes, there are 3 types (Nonić et al., 2013):

- 1) Type of owners with forest property below 4.19 ha (49%);
- 2) Type of owners with forest property of 4.20-8.38 ha (25%);

- 3) Type of owners with forest property more than 8.39 ha (26%).

There are also 3 types of forest owners, identified by the combinations of the following criteria (Nonić et al., 2013):

- Size of forest property;
- Annual cut of fuel-wood;
- Number of parcels;
- Percentage of total annual activities spent in forestry;
- Share of returns from fuel-wood sale in the total annual returns.

According to forest objectives, it is possible to distinguish 3 types of private forest owners (Nonić et al., 2013):

- 1) `Indifferent` (23%);
- 2) `Traditional` (50);
- 3) `Owners with multiple objectives` (27%).

Based on the willingness and ability of owners to participate in the wood market, Nonić and Glavonjić (2012) distinguish 2 types of forest owners:

- 1) Traditional;
- 2) Non-traditional (urban) forest owners.

3.1.5.4. Ownership transformation and change

The development of 'property relations in Serbian forestry and their organization are the result of historic events', because 'the forms of property and their modifications are closely related to the forms and changes of socio-economic relations in Serbia during its formation and development as a state' (Nonić et al., 2011a).

In 1920, the structure of forest ownership was (Nonić et al., 2011a) as follows:

- State 37%;
- Communal and rural 43%;
- Private 19%;
- Church 1%.

In 1926, the structure was (Nonić, 2004; Nonić et al., 2011a):

- State 47.7%;
- Communal 19%;
- Private 33.3%.

The first reliable statistical data on forestry funds were processed in 1938 (Nonić, 2004; Nonić and Milijić, 2008; Nonić et al., 2011a):

- State 21%;
- Monastery and fund forests 2%;
- Community 32%;
- Private 45%.

Great social changes in the state system and the system of ownership as well as in the legal and property structure of forests occurred in the communist period following WWII (Nonić, 2004; Nonić and Milijić, 2008; Nonić et al., 2011a). One of the first steps was 'the establishment of social property, or public forests originating from state-owned, communal, monastery and church forests' (Nonić et al., 2011a).

According to the Forest Inventory of 1979, there were predominantly two categories of forest ownership: public (49.43%) and private (50.57%).

According to the data from The National Forest Inventory, private forests in Serbia today cover an area of 1,058,400 hectares, which is 47% of all forests in Serbia (Banković et al., 2009). This percentage is expected to increase, once the process of restitution of religious communities and individuals is completed (Glavonjić et al., 2011; Nonić et al., 2011a; Nonić et al., 2011b; Petrović, 2012).

3.1.5.5. Management of private forests

In Serbia, there is 'a legal obligation to produce forest management plans for private forests'¹ (Petrović, 2012), but, at the same time, there is 'a general lack of these plans in practice, with a few exceptions' (Petrović, 2012). The conducted research shows that 'the existing content and the procedure of making plans for small private estates are almost identical to those for large state-owned estates' (Petrović, 2012). Bearing that in mind, previous research studies recommend that 'the plans for small forest estates should not have the character of legal

¹ It is obligation of state administration to provide forest management plan at municipality level (article 23 Law on Forest 30/2010). State enterprises are responsible to produce forest management for single owner and this work is financed from state budget (Article 71 Law on Forest 30/2010)

provisions, but rather of recommendations for economically successful management, and they should reflect the needs of private forest owners' (Petrović, 2012).

Forest management in private forests can be characterized by slight change during the last 30 years. Due to nationalization, there are only small private forest lots which are under the strong influence of the public sector on the decision-making concerning the property. Private forest owners are fully-dependent on public administration but since the new Law on Forest was passed in 2010, they have been free to make decisions about their property provided that they form a forest owners association with the total forest size of minimum 100ha. Due to the small average size of forest properties and the costs of this organization, such system does not exist so far. New forest owners, established after The Law on the Restitution of Property to Churches and Religious Communities was passed in 2006, bring several solutions to the organization but same in management. Most of the eparchies² with the forest property above 100 ha organize their independent management based on their own objectives in accordance with the Law on Forests. Such organization is innovative and in comparison to existing public enterprise organization has a notably smaller number of employees and bigger net revenue per production unit (Petrović, 2012).

3.1.5.6. Policy instruments and policy issues:

Policy instruments and policy issues have been mainly analyzed by e.g. Nonić, 1993; Nonić and Ranković, 1997; Milijić, Nonić and Grujičić, 2008; Nonić and Herbst, 2008; Nonić et al., 2008; Nonić and Milijić, 2008; Nonić et al., 2009; Avdibegović et al., 2010a; Avdibegović et al., 2010b; Nonić, Milijić and Radosavljević, 2010; Glavonjić et al., 2011; Glück et al., 2011; Nonić et al., 2011b; Bouriaud et al., 2013.

These publications were focused on:

- property rights (Nonić, 1993; Nonić and Ranković, 1997; Milijić, Nonić and

Grujičić, 2008; Nonić et al., 2011b; Bouriaud et al., 2013);

- role of the private sector in NFP process (Nonić and Milijić, 2008; Nonić, Milijić and Radosavljević, 2010);
- legal and political aspects of the private forestry sector (Nonić and Milijić, 2008; Nonić et al., 2008; Nonić et al., 2009);
- policy options for PFOs (Avdibegović et al., 2010a; Avdibegović et al., 2010b; Glück et al., 2011).

3.1.5.7. Restitution process

In Serbia, there is an ongoing process of restitution, which was started in 2006 (Glavonjić et al., 2011; Nonić et al., 2011b; Nikolić et al., 2012). According to Glavonjić et al. (2011), 'subject to return are the following fixed assets: agricultural land, forests and forest land, construction land, etc. If the property cannot be returned or if it is not in nearly the same form and condition in which it was during the seizure, it is possible to partially restore or monetary compensate for the difference in value'.

During the two-year deadline for filing claims for restitution (1st October 2006 – 30th September 2008), churches and religious communities submitted 3,049 claims for the refund of property to the Directorate for Restitution. Almost the whole area of forests and forest land (99%), which is 33,798 ha in size, is claimed by the Serbian Orthodox Church, while other religious communities claim around 70 ha (Glavonjić et al., 2011; Nonić et al., 2011b). Glavonjić et al. (2011) state that, 'by the end of 2008 with the process of restitution of property to churches and religious communities, a total of about 12,000 ha of forests and forest land had been returned, which is about 0.5% of the total forest area in the Republic of Serbia'. By 2011, 'the process of restitution of property to churches and religious communities in Serbia had returned 23,195 ha of forests and forest land, which accounts for around 69% of the total claims, and 1% of total forest area of Serbia' (Nonić et al., 2011b). The total number of actors who participated in the process of restitution by 2011, and 'to whom forests were returned is 77, located in 14 dioceses of the Serbian Orthodox Church. The claims of churches and religious

² An "eparchy" is a territorial diocese governed by a bishop of one of the Orthodox Churches. It is part of a metropolis, which is further divided into parishes.

communities for the restitution cover 32,498 ha of forests and forest land, which accounts for around 1.3% of the total forest area' (Glavonjic et al., 2011).

When it comes to the management of the returned forest, the situation is quite complex in Serbia. The holders of the returned properties are in some cases monasteries and in some dioceses, depending on the internal decision of the Serbia Orthodox Church. Depending on the right-holder, dioceses or monasteries have established their own service (Šabac diocese), or the forest management is done by private entities engaged in these activities, e.g. Braničevo diocese (Glavonjic et al., 2011; Nonić et al., 2011b). In the situations where forest management is done by an enterprise established in the monastery ("Monastery Forest"), 'the majority of professional staff comes from Public Enterprise `Srbijašume`. Smaller forest complexes (monastery Kaona) are managed by monasteries themselves while forestry experts provide expertise' (Nonić et al., 2011b).

3.1.5.8. System of Support for the Private Forest Sector in Serbia

When it comes to the system of support to the private forest sector in Serbia, previous researches state that reorganization of the private forest sector is one of the major priorities. The aim of this process was to implement the concept of sustainable management of private forests, through participation in the process of private forest sector reorganization and co-operation of all relevant actors (Nonić et al., 2007). Besides, there is a clear 'need to change the existing system of support to the private forest sector', because of its 'inefficiency and due to significant changes both in the public administration, and in the environment' (Nonić, 2005).

Previous researches also show that, 'regarding the transformation of the relations between public forest administration and private forest owners, it is necessary to upgrade these relations in the direction of co-operation and partnership development' (Nonić, 2004). The same researches also propose 'the model of upgrading the relations

between the public forest administration and private forest owners in Serbia through the establishment of advisory system, introduction of forestry extension and advisory service, provision of finances, implementation of support measures and association of private forest owners' (Nonić, 2004).

3.1.6. Critical assessment, gaps and future research needs

The basic principles and concepts of forest policies in Serbia often do not take into account different types of forest owners that exist in the country. Consequently, the same measures apply to all private forest owners. Decision-makers in forestry usually assume there are 'typical' forest owners with an active interest in managing their forest.

However, practices from other countries in transition show that the 'new' forest owners have different values and attitudes to their forests, as compared to 'traditional' forest owners who are mostly farmers. At the same time, these two types have different goals in the management of their forests. A growing number of 'new' forest owners raise issues important for forest policy, for example, how policy instruments can "reach out" to these owners and how extension services can address them.

As a result of the aforementioned changes (e.g. restitution process), there is an increasing number of private forest owners of small-scale forests. They have limited knowledge and little practice in the field of agriculture and forestry. Therefore, they are not interested in managing their forest land. This phenomenon is known as a growing share of 'new' forest owners. In this sense, there is a need for better understanding of how different types of private forest owners make decisions and what factors influence their selection of priorities in managing forests.

Besides, the consultations on forest biomass and sustainable forest management (held in 2010 and 2011) showed that private forest owners are willing to cooperate with administration and science workers in defining common research needs (Stevanov et al. 2013).

Future research needs are related to the following topics:

- Typology of private forest owners;
- Need for selective support measures for different types of private forest owners;
- Causes of inactivity of private forest owners associations;
- Detailed research on ownership changes;
- Possibility for wood-mobilization;
- New and/or innovative forest management approaches, specifically relevant to new ownership types.

3.2. New forest ownership types

Base on the study of Nonić and Glavonjić (2012), two main broad categories of private forest owners can be identified:

- 1) Traditional forest owners;
- 2) Non- traditional forest owners or `urban owners`.

Traditional forest owners (Nonić and Glavonjić, 2012):

- Participate in the wood market;
- Have contact with agriculture and forestry (i.e. these industries are the main source of income for this type of owner);
- Possess adequate knowledge in these areas;
- Can be characterized as the owners who are economically oriented;
- Have the expertise in management of their forest tenure and practical experience in cutting wood.

Non- traditional forest owners or `urban owners` (Nonić and Glavonjić, 2012):

- Have no contact with forestry and agriculture;
- Do not have knowledge in these areas;
- Live away from their forest holdings;
- Inherited the forest or got it in the restitution process;
- Do not participate in the market;
- Are not economically oriented;
- Primary goals might be ecological and protective functions, and recreation.

The reason for the absence of non-traditional forest owners in the market may be the lack of appropriate services that provide necessary information (Nonić and Glavonjić, 2012).

3.3. Forest management approaches

Since the restitution in 2006, church forests can be considered a new ownership type in Serbia (Glavonjić et al., 2011; Nonić et al., 2011b; Nikolić et al., 2012; Petrović, 2012). In silvicultural and technical terms, forest management approaches are the same for this new owner type as they were for the type that existed before the restitution. Private companies that are in charge of forest management in different eparchies are responsible for the development of 10 year forest management plans (Law on Forests, 2010). These companies are also responsible for the implementation of the plans with the pressure to make profit and fulfill of other silvicultural and technical requirements in forest management. The new management approaches in church forests have been adopted either through external concession contracts or by establishing their own management companies within eparchies. In the latter case, a church employs professional forest staff. This approach opens up new business opportunities by using other forest resources such as hunting ground, non-wood forest products, saw mills, biomass production and hydro power plants (Manastirske šume, 2010; Fornet, 2012).

3.4. Policy change / policy instruments

The emergence of `new forest owners` can be explained by the process of restitution of property to the religious communities and individuals (Nonić and Glavonjić, 2012), which started in 2006. It should be stressed that there are neither forest policy instruments nor selective support measures orientated towards certain types of forest owners (e.g. toward the `new owners`). At least, no literature sources on specific policy instruments that are directed at new forest owner types and their effects could be found.

On the other hand, there are policy instruments that foster the establishment of PFOAs. The Law on Forests (2010) predicts the establishment of PFOA, which can be considered as a new organizational form of private forest owners. Forest owners who are members of an association have a priority status when applying for grants from the Budget Fund for Forests.

According to the Forestry Development Strategy (Department for Forests, 2006) one of the measures to achieve the set goals is to encourage the establishment and development of PFOAs in order to strengthen their capacities for implementation of sustainable forest management and the application of scientific and technical knowledge.

4. Forest ownership

The aim of this chapter is to give a detailed overview of forest ownership in the country. The most detailed information on national level is often structured in different ways in different countries. In order to show the most accurate information, it was decided to use national data sets in the country reports. In order to make this information comparable still, the information is also collected in an international format used in Forest Resources Assessment by FAO. The transfer from national data sets to international definitions is, however, not always easy.

This report therefore critically assesses in how far national categories and definitions may be transformed into the international FRA data structure or in how far there are inconsistencies between them.

4.1. Forest ownership structure

4.1.1. National data set

In Serbia there are two types of forest ownership: private and state (Table 1).

Table 1: Forest area by type of ownership in Serbia (2008)

№	Type of ownership	Forest	
		(ha)	(%)
1.	State forests	1,194,000	53.0
2.	Private forests	1,058,400	47.0
Σ	Total forest area	2,252,400	100

Source: Banković et al., 2009

According to The Law on Forests (2010) private forests are forests owned by a physical or a legal person (companies, cooperatives, churches and religious communities, associations of private forest owners). There is no precise data on the participation of individual sub-categories within the category of private forests, because some PFOAs are not active anymore, and the processes of privatization and restitution are still in progress. State forests are forests owned by the State, by administrative units of the public administration, or by institutions or

corporations owned by the public administration (Law on Forests, 2010).

The structure of private forests in Serbia (Table 2) is characterized by big number of forest owners, small to average area of forest property and a lot of small forest parcels (Milijić et al., 2007; Avdibegović et al., 2010a; Glück et al., 2010; Petrović and Čabaravdić, 2010; Glück et al., 2011; Nonić et al., 2011a; Petrović, 2012; Nonić et al., 2013). Such forest ownership structure is the biggest problem for efficient management of the forests.

Table 2: Structure of private forests in Serbia

Area of private forests (ha)	1.058.400
Estimated number of forest owners	900.000
Forest property size per owner (ha)	1,27
Number of forest parcels	3.900.000
Average size of forest parcels (ha)	0,30

Source: Glück et al., 2011

The structure of private forests by property size classes and the number of owners are presented in Table 3. More than 72% of owners have properties smaller than 1 ha,

26% of them own property from 1 to 10 ha, and 2% of the total number of forest owners have forest property bigger than 10 ha (Glück et al., 2011).

Table 3: Structure of private forest property by number of owners*

0,01-1 ha	1-10 ha	10-20 ha	20-30 ha	over 30 ha	Total
638.322	233.846	8.372	1.516	426	882.482

*The data relate to the territory of Serbia without Autonomous Provinces of Kosovo and Metohija and Vojvodina

Source: Glück et al., 2011

After 2006 (i.e. after the adoption of Law on Restitution of property to churches and religious communities), a new sub-category of private forests - church forests – occurs in the private forest ownership category. According to the data from the Directorate for Restitution the total area of returned forests was 23.196 ha by the end of 2010 (Nonić et al., 2011b).

4.1.2. Critical comparison of national data with the data in FRA reporting

According to FRA report, the total area of forests in Serbia is 2.713.000 ha (Table 4).

Table 4: Forest areas by sub-groups in Serbia (2010)

FRA 2010 Categories	Forest area (1000 hectares)	%
	2010	
Public ownership	1,382	50,9
Private ownership	1,213	44,7
...of which owned by individuals	1,213	
...of which owned by private business entities and institutions	0	
...of which owned by local communities	0	
...of which owned by indigenous / tribal communities	0	
Other types of ownership	118	4,4
TOTAL	2,713	

Source: www.fao.org/docrep/013/al622E/al622E.pdf

Difference in the Table 1 and data from the FRA report, regarding the total area of forests in Serbia (which in FRA is 2.713.000 ha) are caused by the territory to which the data relate. Data from FRA refer also to the forest area from the territory of Autonomous Province of Kosovo and Metohija.

4.2. Unclear or disputed forest ownership

In Serbia, there is an unclear situation regarding the ownership of the forests that belong to the legal entities, which have arisen with the privatization of former cooperatives, social companies and factory farms. However, there are no official data about this, because there are no precise data on the sub-category of company forests. There are also cooperatives that have not been privatized and which have management planning documents, but there are no official figures.

Apart from cooperatives, there are agricultural complexes that own forests. The ownership relations are very complicated, because all of these farms cultivate state-owned land, and sometimes the forests are owned by the state, while the factory farms are registered as users, but sometimes they are the forest owners.

4.3. Legal provisions for buying or inheriting forests

4.3.1. Legal restrictions on buying or selling forests

In the field of private forest ownership there are no restrictions on buying or selling forests. Selling or buying of forests is done through the process of privatization, where a buying business unit (cooperatives, companies, etc.) or a new owner buys the forest. In most cases, the new owners are not interested in forest management. Besides, individual forest owners can buy forests from other owners.

According to The Law on Forests (2010) it is forbidden to sell a state forest, except in some specific cases. The Law states: 'a part of a state forest or forest land, in which cannot be organized rational management, can be sold by the forest user, with the Government approval, under market conditions, or exchanged for a private forest or forest land if such forests are isolated, i.e. if they are enclaves or semi-enclaves in the complexes of state forests' (Law on Forests, 2010).

4.3.2. Specific inheritance (or marriage) rules applied to forests

In Serbia, there are no specific inheritance or marriage rules applied to forests. This situation will cause problems in future in the field of efficient management of forests, because the limit for forest fragmentation is 0.5 ha. Also, there are a lot of properties that are still not divided in property terms between the heirs, and the property is related to the previous owners.

4.4. Changes of the forest ownership structure in the last three decades

4.4.1. Changes in the public and private ownership

In the period after WWII, with the new government, there were great social changes in the state system, in the system of ownership and in the legal and property structure of forests. The first step in this direction was the establishment of social property, or public forests originating from state-owned, communal, private, monastery and church forests, larger than the legal maximum forest area (detailed data on maximum forest area are given in chapter 4.4.2). Rural and communal forests disappeared as property categories and they were defined as state forests.

According to the available statistics, it can be concluded that in the period after WWII, there were predominantly two categories of ownership of forests in Serbia (Table 5): social and private forests (which changed their name in “forests with the right of ownership”).

Table 5: Forest area by type of ownership in Serbia (1979)

№	Type of ownership	Forest	
		(ha)	(%)
1.	Social forests	1.143.334	49.43
2.	Private forests	1.169.533	50.57
Σ	Total forest and forest land area	2.312.867	100

Source: Inventory of growing stock, 1983

According to the latest National Forest Inventory, private forests cover 47% of the total forest area in the territory of Serbia, without the Kosovo province (Banković et al, 2009).

4.4.2. Changes in the public ownership categories

The ownership category of social forests was introduced after WWII. According to The Law on Agrarian Reform and Colonization (1945), social property included public forests originating from state, communal, private, monastery and church forests, with the area larger than the maximum legal area:

- for monastery and church forests max area was 30 ha of forests,
- for private individuals max area was 5-10 ha of forests.

Social forests were not the same category as the state forests. Social ownership was the property of the whole community. It is typical of socialist regulations. Former rural and

communal forests disappeared as property categories after WWII and they were defined as social forests. These forests (rural and communal) today belong to the state forests.

According to The Law on Forests of the Republic of Serbia (1991), the new categories are highlighted and built around new forms of ownership - state property (in addition to the existing social property) and private property.

4.4.3. Changes in the private forest ownership

It should be noted that the statistics related to private forests does not include the category of monastery and church forests, which have been returned through the restitution process since 2006 and cover a bit over 1% of the country area. They belong to the category of private forests.

Furthermore, in the process of privatization of social assets (companies, cooperatives, etc.), some small areas of social forests became private forests, but there are no official data about this process.

4.4.4. Main trends of forest ownership change

Across Europe, the following drivers for ownership changes have been identified in the COST Action:

- Privatization, or restitution, of forest land (giving or selling state forest land to private people or bodies)
- Privatization of public forest management (introduction of private forms of management, e.g. state-owned companies)
- New private forest owners who have bought forests
- New forest ownership through afforestation of former agricultural or waste land
- Changing life style, motivation and attitudes of forest owners (e.g. when farms are abandoned or the heirs are not farmers any more)

Trends in forest ownership: New forest ownership through...	Significance*
• Privatization, or restitution, of forest land (giving or selling state forest land to private people or bodies)	2
• Privatization of public forest management (introduction of private forms of management, e.g. state owned company)	0
• New private forest owners who have bought forests	0
• New forest ownership through afforestation of formerly agricultural or waste lands	1
• Changing life style, motivations and attitudes of forest owners (e.g. when farms are given up or heirs are not farmers any more)	0
• Other trend, namely:	0

*0 (not relevant); 1 (to some extent); 2 (rather important); 3 (highly important)

CASE STUDY 1: RESTITUTION

The process of restitution in Serbia started in 2006, with the adoption of The Law on Restitution of Property to Churches and Religious Communities (2006). The law regulates only a part of the restitution - the one that deals with only one category of entities, church and religious communities, their foundation and societies.

During the two-year deadline for filing claims for restitution (1st October 2006 – 30th September 2008), churches and religious communities submitted 3,049 claims for the refund of property to the Directorate for Restitution. Almost the whole area of forests and forest land (99%) is claimed by the Serbian Orthodox Church (33,798 ha), while other religious communities claim only 68 ha.

By 2011, a total of 23.195 ha of forests and forest land, and 10.028 ha of agricultural land were returned to churches and religious communities (Agency for restitution, 2014). In 2011, The Law on Property Restitution and Compensation was adopted in Serbia. This Law regulates another part of restitution which is focused on physical persons. According to this Law, the subject of restitution is the nationalized property: construction land, agricultural land, forests and woodlands, residential and commercial buildings, flats and business premises and other buildings that exist on the date of this Act enactment. This process has recently been started. In the first phase, a two-year period (from March 2012 to March 2014) was provided for the submission of the restitution applications. The second phase, the return of property, has not started yet, considering that the deadline for the submission of the claims has just passed.

Through these processes, forests were given back to churches, religious communities and physical persons whose property had been confiscated on the basis of regulations on agrarian reform, nationalization, etc., which were applied in 1945. These properties were, before the WWII located mainly in the vicinity of churches and homes of these physical persons. According to this, we can say that these are `new forest owners`. These private forest owners are very important because they represent large-scale forest owners (church), and it can be expected that their influence on forest policy will increase. Moreover, these changes will lead to a great diversity in terms of interests, values and demands of different private forest owners, which will influence the priorities in terms of their management.

The management of forests owned by churches and religious communities is done in different ways. Some dioceses (diocese of Šabac) have formed their own companies for forest management, while some other dioceses (Diocese of Braničevo) engage other legal entities in the management of their forests. Smaller forests complexes (monastery Kaona) are managed by the monasteries themselves, and expertise is provided by professionals (Glavonjić et al., 2011).

4.5. Gender issues in relation to forest ownership

In Serbia, there is no gender related ownership data.

4.6. Charitable, NGO, or not-for-profit ownership of the forests

This section is concerned with forests owned by organizations such as conservation and heritage NGOs, self-organized community-based institutions and other philanthropic ("Characterized or motivated by philanthropy; benevolent; humane", OED) organizations. The management objective of these forests is

usually to deliver social or environmental aims with maximization of financial or timber returns as a secondary concern. Most owners are corporate and may invoke at least an element of group or participatory decision-making on management objectives and high ethical standards. It is possible for such ownership to be entirely private. However, the provision of public benefits (services (e.g. biodiversity, amenity, recreation etc.) which are free for everyone to enjoy or provide benefits to local communities (employment for disadvantaged people etc.) are sometimes recognized in the form of charitable registration. This in turn puts restrictions on the rights of the owners to use profits and to dispose of assets in exchange for tax exemptions and access to charitable funding.

Forests owned by ...	Yes	No	Uncertain
• Foundations or trusts		x	
• NGO with environmental or social objectives		x	
• Self-organized local community groups	x		
• Co-operatives/forest owner associations	x		
• Social enterprises		x	
• Recognized charitable status for land-owners		x	
• Other forms of charitable ownerships, namely:		x	

In Serbia, there is a forest community, named 'Beočin Forest community'. The community was founded in 1903. It covers an area of 293 ha of forests and counts 77 members. The functioning of forest communities relies on joint management of forest land. The aim of the association was to help owners who were mostly poor peasants earn additional income and meet their needs for firewood through joint forest management (Nonić, 2004).

The forest community performs all activities related to forest management. The basic principle of community organization is that each member, i.e. co-owner has a certain number of 'ideal parts' and makes profit on the basis of the participation in the ideal parts. Ideal parts always remain in the property of the individuals or the community because no owner is allowed to sell his/her share in the property to a person who is not a member of the forest community. Assembly of the community members decides who can buy a patch of forest on sale.

The establishment of private forest owners associations (PFOAs) in the territory of Serbia began in 2006. Since then, 22 associations

have been established at the local level. From 2010 onwards, some of them have been cancelled due to the changes in The Law on Associations (2009) (Table 6). The changes related to the process prior to the registration of associations and the need to collect certain funds for this purpose. Most of PFOAs were established with the support from FAO projects³ at that time and thanks to government subsidies for the construction of roads in private forests. The basic support included logistic and professional support.

³ FAO project FAO/TCP/YUG/2902(A): "Institutional Development and Capacity building for the National Forest Program" and FAO project GCP/FRY/003/FIN: "Forest Sector Development in Serbia".

Table 6: Private Forest Owners Associations in Serbia

No	Name and headquarters	Year of foundation	Active (2014)*
1.	Rastište - Bajina Bašta	2006.	No
2.	Miličinica - Valjevo	2006.	No
3.	Podgorac - Boljevac	2006.	No
4.	Bigrenica - Čuprija	2007.	No
5.	Selacka - Zaječar	2007.	No
6.	Negotin - Negotin	2007.	No
7.	Mačkov Kamen - Krupanj	2008.	No
8.	Kršijora - Zlot	2008.	No
9.	Stol - Kej	2009.	No
10.	DAR - Knjaževac	2009.	No
11.	Krivelj - Bor	2009.	No
12.	Kandalica - Kandalica	2009.	No
13.	Grezna - Grezna	2009.	No
14.	Vlaško Polje - Vlaško Polje	2009.	No
15.	Plavna - Plavna	2009.	No
16.	Crni Vrh - Crni Vrh	2009.	No
17.	Tilve - Slatina	2009.	No
18.	Čuštica - Prekrnski Del	2009.	No
19.	Crni Timok - Mali Izvor	2009.	No
20.	Prijepolje	2008.	Yes
21.	Majdanpek - Majdanpek	2013.	Yes
22.	Kamena Gora - Kamena Gora	2013.	Yes

* According to data from Serbian Business Register Agency

Source: Regional Centre for Forestry and Rural Development, 2013; Serbian Business Register Agency, 2014

As can be seen from the table, there are only three active associations today. These associations have the same organizational structure as the associations that existed in the past, but they are registered in accordance with the new legislation which regulates this area.

PFOAs are NGOs and their statutes and overall goals are very similar (Milijic, 2007). Their aim is 'to represent the interests of their members and not of joint forest management. Every owner manages his own forests, while the association coordinates joint works like forest infrastructure, and joint marketing activities' (Nonić and Milijic, 2009). PFOAs bring owners of small forest holdings benefits similar to those of the owners of large forest holdings, which is very important considering the intense fragmentation of forest property in Serbia. It is typical of this model of organization that the owners themselves do all the most important forest management jobs (Nonić and Milijic, 2009).

In 2009, Serbian Federation of Private Forest Owners' Associations (SFPFOA) was founded as an umbrella organization, with the

support of CEPF/PROFOR project⁴ (Milijic et al., 2010). It was an independent organization, established to represent interests of the Federation members and private forest owners (Nonić et al., 2010). The main objective of the SFPFOA was to support the work of local forest owners' associations, implementation of projects related to forestry development, improvement of forest management in private ownership, utilization, silviculture, and maintenance of forest order, which would all contribute to the sustainable development of the private forestry sector, improving the quality and value of private forests and rural living conditions.

SFPFOA ceased its operations in 2011 due to unfavourable changes in The Law on Associations, when all national NGOs were obliged to re-register. It was a costly procedure that the association could not afford. No support from external projects or donors was found at that moment and the only feasible solution was to abolish the

⁴ CEPF/PROFOR project: Private and Community Forestry - Developing Livelihoods on the Basis of Secure Property Rights (www.profor.info/knowledge/private-and-community-forestry-developing-livelihoods-basis-secure-property-rights)

national association, while local associations of private forest owners continued to exist, but with limited activities.

The model of private forest owners associations in Serbia has been functioning since 2006, but it has not been fully

developed yet. The reason lies in the fact that, without the harmonization of the public interests of the state and the personal interests of the owners and without their partnership, it is not possible to make associate forest owners in a suitable way.

CASE STUDY 2: FOREST OWNERS ASSOCIATION `PODGORAC`

Forest owners association `Podgorac` was established in 2006. The association had a status of a legal entity. According to the Statute, the objective of the association was to improve living conditions in rural areas through agricultural and forestry activities (Milijić, 2007). The main goals of the association were: protection of the common interests of the association members and of rural population, protection of natural resources and their use in accordance with the principles of sustainable development, organization of joint market activities, promotion and development of forestry and forestry products, rural tourism, food production, development of other activities (hunting, use of medicinal plants and wild fruits, wood and other products). The membership in the association was voluntary. The association had 23 members with an average size of a forest amounting to 7.7 ha (Milijić, 2007). The main activities of the association were charcoal production, selling wood, and operations of cutting and transporting wood to state enterprises. This organization received a government subsidy for the construction of forest roads. A total of about 10 km of roads was built. The statute allows the establishment of the professional service for administrative, technical, financial and other tasks needed to carry out the activities of associations. However, this service was not established (Milijić, 2007).

4.7. Common pool resource regimes

Commons - forest common property regimes (CPR) are resource regimes where property is shared among users and management rules are derived and operated on self-managed, collective action, and self-organization (of rules and decisions). Examples of traditional CPR regimes are pastures, forest land communities in Sweden, Slovakia, Romania Italy and other European countries or irrigation systems in Africa or Asia. The number of new common property regimes is growing and it is challenge of this Action to transfer knowledge and skills of traditional CPRs in new CPRs and vice versa. Example of the new CPR regime is the community woodlands in UK, established in the last 20 years, mainly in Scotland, Wales.

Our interest in "traditional" and "new" common pool resources regimes (CPRs) in European forest, is based on the understanding that robust resource regimes are critical for sustainable forest management regardless of property rights. Ongoing practice shows that local land users (without an ownership share) leased use agreement may also be CPR regime if they have the rights to determine management rules typical for commons (e.g. self-organization and shared rights and responsibilities). Thus proper rules on management (harvesting, decision making and conflict resolution mechanism, cost/benefit sharing, sanctioning etc.) are the key factors for sustainable use of CPR regimes.

There is an example of CPR in Serbia. It is `Beočin Forest Community`.

CASE STUDY 3: 'BEOČIN FOREST COMMUNITY'

The management of the forest land is based on the principle of so-called 'ideal parts'. Ideal parts always remain in the property of individuals or the community, thus preventing possible arbitrariness of individual members to burden the community with obligations of a private arrangement, which would be prejudicial to forest community and its other members. The share of individual owners, as compared to the size of the share, indicate that the majority of owners (54) have a smaller share, and only two owners have a greater share of ideal parts (Beočin Forest Community, 2003), as shown in Table 7.

Table 7: Share of individual owners in their forest community

Size of forest share	Number of owners	Number of ideal parts	Part for distribution (m ³)	
			By owner	Total
11/2	1	1,50	18	18
11/4	1	1,25	15	15
1	21	21,00	12	252
3/4	1	0,75	9	9
2/3	2	1,33	8	16
1/2	27	13,50	6	162
1/3	12	4,00	4	48
1/4	8	2,00	3	24
1/6	4	0,67	2	8
Σ	77	46,00	-	552

Source: Forest community Beočin, 2003

The principle of harvested wood distribution is based on 'the division of 552 m³ into 46 integral parts, resulting that the ideal part share amounts to 12 m³' (Nonić and Milijić, 2009). 'The rest of the harvested wood is sold and the profit is divided according to the shares again' (Nonić and Milijić, 2009). About 25% of the annual revenues cover the cost of production (tree cutting and extraction), and about 15% is allocated for further investment (Beočin Forest Community, 2003).

The forest community is located in the National Park (NP) Fruška Gora, in the second zone of protection and managed on the basis of special forest management plans, in accordance with the spatial plan of the NP. Members of the forest community follow the defined management measures and modes, and professional - technical jobs in the community forests are performed by a forestry technician (secondary school education), who is also a member of the community (Beočin Forest Community, 2003).

The Association does not have joint machinery. Furthermore, they finance the construction of forest roads themselves. The only help from the state, so far, has been in seedlings. The bodies of the forest community are the Assembly and Board of Directors. The majority of members (65%) live in Beočin and its surroundings (Beočin Forest Community, 2003).

5. Forest management approaches to new forest owner types

The Action is interested if there are any new forest management approaches that specifically address new forest owner types, or that could be particularly relevant for new forest owner types. We are aware that there is not much awareness for this and that there is not much literature available, however, we are convinced that this is an issue: if owners have different goals regarding their forests there must be new kinds of management; if they have not the skills any more to do it themselves, then there must be new service offers, etc. There are assumingly implications in silviculture, technology, work organization, business models, etc. Such new approaches may be discussed under the key word of new ownership types but often not.

5.1. Forest management in Serbia

The state is the biggest forest owner in Serbia. It delegates management services to several public enterprises. Public enterprises manage state forests and give technical and advisory services to small private forest owners all round Serbia. State companies have not defined time span for management rights with the state. State companies were established 20 years ago and their duties and rights are very similar to the ones that existed when they were established.

Small private forest owners (estimated at around 900,000) are dispersed without any strong association or voice. They are not represented in the forest policy arena. This stagnant situation exists for quite a long time. Private forest owners are used to their property being dominated by state forest administration.

After the restitution process (2006), private companies in forest management made an arrangement with **churches and monasteries** to manage their forests and with the obligation of paying concession fees for doing this job.

The management of forests is still based on old national legislation and forest acts although a new private forest owner entity has emerged. There are two types of organization in church forest management. The first type of organization is represented by **church-owned limited companies** within the eparchy where the forest is. The second model exists when the management rights are given to a private company with qualified staff. Both management approach types require ten-year management plans for the property they manage. Private companies that have won the right to manage a church forest sign a ten-year contract with the church authority.

5.1.1. Forest management companies

There are two main public enterprises (PE) responsible for the management of state forest resources. PE `Srbijašume` is responsible for the management of state forests in the central part of Serbia and PE `Vojvodinašume` in the autonomous province of Vojvodina. The responsibility for the autonomous province of Vojvodina was delegated according to The Law on Establishing Certain Competencies for the Autonomous Province of Vojvodina (2002). Apart from these two enterprises, state forests are also managed by five public enterprises that are responsible for the management of national parks. Furthermore, PE `Borjak` manage state forests in one municipality in central Serbia and The Faculty of Forestry has the use right of state forest with the main purpose of education and research. Other organizations, mostly agricultural, water or military entities (Table 8) have management rights for a small part of state forests. In the table below we can see the percentage distribution of different management entities.

Table 8: State forest managers in Serbia

No	Organization responsible for the management of forest	Area (ha)	Area (%)
1	PE Srbijašume	775.000	77,9
2	PE Vojvodinašume	108.000	10,9
3	PE National parks	80.000	8,0
4	PE Borjak	8.000	0,8
5	Faculty of Forestry	6.000	0,6
6	Other organizations	23.000	2,3
	Total state forest	995.000	100

Source: Nonić, 2010

As it was previously said, the management of state forests is given mainly to public enterprises, while there are no official data for other types of ownership. Public enterprises have contracts made on a long term basis and defined by The Law on Forests (2010) and The Law on Public Enterprises (2012). In 2012, The Church of Braničevo region, as a new private forest owner, signed a ten-year contract with FORNET LTD Company for the management of their forest (around 7000 ha). In other regions, there are few small private companies that provide services of church forest management. Another approach applied in some church regions is that relevant church authorities establish their own church limited companies and employ

qualified staff for the purpose of forest management. These companies do not pay fees to the church and the profit goes into the church budget. In both church management approaches they are not dependent of state forest services or public enterprises while they rely on the existing forest staff within their companies.

Since private forests account for around 47% of forests, they are of huge importance. Technical expertise in small private forests is provided mainly by the state enterprises. This expertise is financed by the ministry responsible for forestry. The table below contains a list of public enterprises that provide such technical expertise and their percentages (Table 9).

Table 9: Private forest area under the responsibility of public enterprises

No	Organization responsible for the management of forest	Area (ha)	Area (%)
1	PE Srbijašume	989.000	96,7
2	PE Vojvodinašume	5.000	0,5
3	PE National parks	25.000	2,4
4	PE Borjak	4.000	0,4
	Total private forest	1.023.000	100

Source: Nonić, 2010

Enterprise represents the basic organizational form in the process of reproduction whose function is related to the satisfaction of social needs for specific products and/or services (Ranković, 2008). It represents a legal entity which carries out work for profit. The owners of enterprises may be legal, individual, state, or local government. Public enterprises perform duties of special and general interest (Živković, 2006), and the state is involved in its management through its representatives.

The establishment of a public enterprise is aimed at ensuring and protecting the interests of the state in the operation of the most important industries (Paunović, 2013). State capital in PEs comprises funds invested by the state, the right of use of the property and rights owned by the state. The capital is divided into shares of a particular nominal

value and they are entered into the share register (2012). Public enterprises for conducting activities in forests and PAs are defined by the Law on National Parks (1993) and The Law on Forests (2010). Public enterprises are founded by the state, autonomous provinces, and local self-governments. They are formed to perform tasks in the field of infrastructure, public services, important government economic systems and exploitation of natural resources that are of public interest. In the case of national parks, these PEs have a productive purpose and in the form of organization they are obligatory. By size, all PEs responsible for the management of NPs are medium and they are established for an indefinite period of time.

5.1.2. Forest management in protected areas

Beside PEs, which are involved in the

management of forest, there are also other types of management bodies that are present in the sector of nature protection (Figure 1).

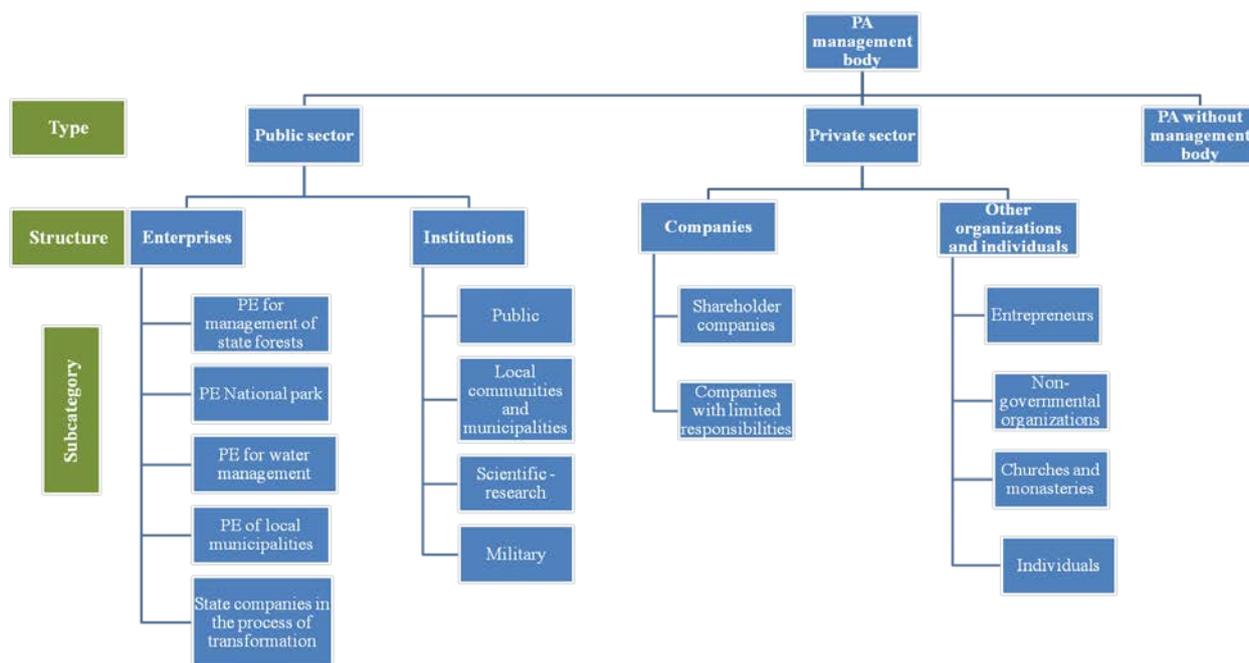


Figure 1: Types and structure of PA managers in Serbia (Source: Đorđević et al., 2014)

According to the current legislation, protected area managers can be different legal entities, from state enterprises and different types of private enterprises to non-governmental organizations and religious institutions. State enterprises with the largest share in the management are public enterprises, tourist organizations, local self-management units and military institutions. Private enterprises with the largest share in the management of protected areas are limited liability companies and joint-stock companies. Non-governmental organizations are a new type of management and they are increasingly popular in the field of protected areas. Apart from the managers who are directly involved in the work of the protected areas, The Law on Nature Protection designates entities of protection at national, provincial and local levels (Đorđević et al, 2011). It is important to indicate that these management categories are not ownership categories since most of the land is still owned by state and this represents just a decentralized system of managing PAs.

5.1.3. Change in the governance of forest management

The change in the ownership concerning the churches and monasteries is still in progress, but most of this has already been explained in the previous chapters. The change in the management of forests is also present in the management of protected areas. In the last decade, due to the restitution process, some of the forests have been given back to their original owners. The greatest part of the restitution in this sector has been done concerning the forests that were owned by churches and monasteries. In the case of protected areas, only the landscape with exquisite features “Dolina Pčinje” has a full private ownership and management authority over one part of the PA. This shift is really relevant since it represents the process of decentralization of management authority to a local actor, NGO, private body or some other authority. In the graphs below we can see the trends in establishing PAs in Serbia, for the

whole period from 1950 to 2010 (these data have not been published yet). Comparison will be made for companies owned by the

state, private, NGO, and other bodies, using average annual exponential growth rate (Is) and absolute values (Diagram 1).

Diagram 1: Management of public, private and NGO sector in PA

Diagram 1a. Management of the public sector in PA (1948-1989)

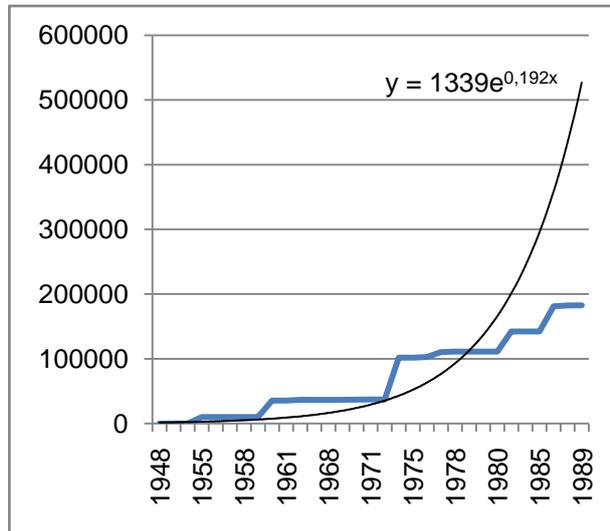


Diagram 1b. Management of the public sector in PA (1989-2009)

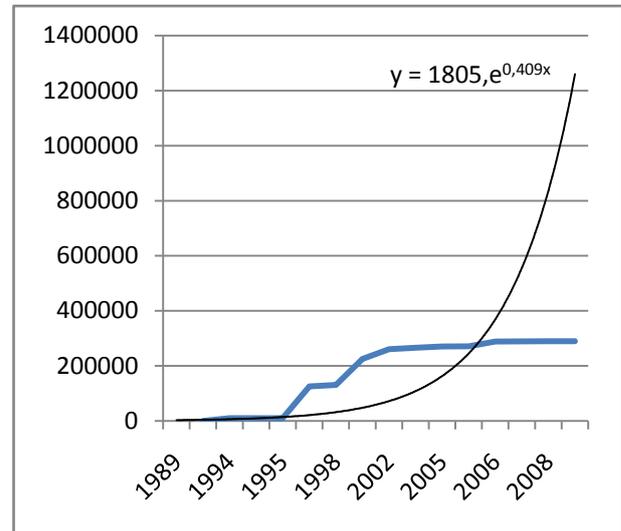


Diagram 1c. Management of the private sector in PA (1989-2006)

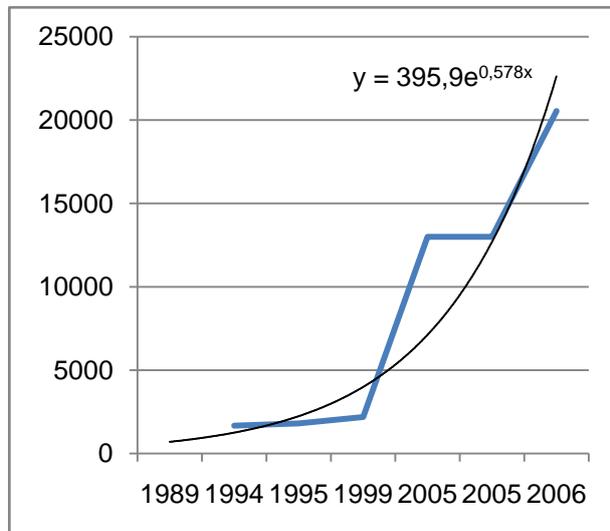
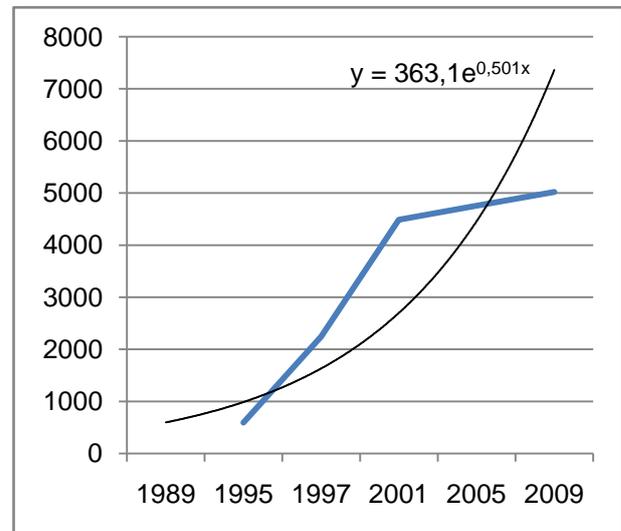


Diagram 1d. Management of the NGO sector in PA (1989-2009)



Source: Register of protected natural goods, 2012

As can be seen from the diagrams above, there has been a growth in the change of governance concerning the management of protected areas in Serbia since 1990. Most of PAs are still managed by companies on the state level (PEs, local municipalities, or tourist organizations), but around 8.7% of the total area is given to some other management bodies. This change started two decades ago and is still in progress.

Forest management service is in the new forest ownership organized the same way it is organized in the management of state forest. The basic plans for the management of forest areas are (The Law on Forests, 2010):

- 1) The plan for the development of forest areas, with a respective plan for the development of forests in national parks;
- 2) The forest management plan (10-year)

- 3) The programme for forest management (this programme is carried out for the forest management units that cover the forestland of a large number of private forest owners, with each forest holding being smaller than 100 ha);
- 4) The annual forest management plan;
- 5) The operational forest management plan.

5.2. New or innovative forest management approaches relevant to the new forest owner types

There are several new forest management approaches in Serbian forestry. They can be divided as follows:

- 1) Management after restitution, mainly church forests;
- 2) Management in nature protected areas by non-governmental organizations;
- 3) Management of forests that belong to forest community;
- 4) Management of state forests by municipal public enterprises.

The process of restitution has brought a new model of forest management. After the restitution of church forests, several church or private limited forest companies started with the management and utilization of church forests. In nature protected areas, e.g. in the Special Nature Reserve `Zasavica`, the management is based on tourism and recreation. Manager is one NGO Nature movement. `Beočin Forest community` has 77 members and it covers an area of 293 ha of forests. The forest community performs all activities related to forest management. The functioning of forest community relies on joint management of forest land.

The restitution of church forests has created a different forest management model. The companies responsible for the management of church forests employ an optimal number of skilled and trained workers. The number of employees with forestry background is significantly higher compared to the number of their counterparts in state forest companies. Flexibility and adaptability of the decision-making process in forest management open up new opportunities for

diversification of income sources much oftener than in the state companies (bio-energy, non-wood forest products). Public enterprises are burdened by complicated public procurement laws and under the direct influence of the ruling political parties, while private companies significantly faster respond to market changes and can easily adapt to new challenges in the forest management. The emergence of large private forest owners with professional staff has opened up possibilities for the improvement of management of small forest lots. This ownership change can enhance the interest representation of all private forest owners in the national forest policy arena.

Certain improvement of forest management has been identified in the state companies that manage state forests and national parks, in NGOs managing nature protected areas and in private companies. State companies have made improvements in the forest services – mainly recreational services, new technologies – harvesters, new technology in road constructions, organizational and institutional innovations – like new Laws and Strategies or cooperation. NGOs have made improvements in the field of forest recreation and nature tourism. Private companies have introduced product innovations such as pellets and briquettes. Innovative forest management has been recognized in several fields (Poduška et al., 2011):

- Service innovation: recreation and forestry-based tourism; lessing of forest land,
- Technological innovation: machinery and processing technology,
- Organizational and Institutional innovation: laws and policies; environmental innovation; internal reorganization; co-operation,
- Product innovation: wood production.

The most common improvements were achieved in the field of innovative services, such as recreation and forestry-based tourism. Recreation is a value-added service mostly in protected forest areas. Regarded the new ownership types, it is recognized in Special Nature Reserve `Zasavica`. `Zasavica` is managed by a non-governmental organization on mainly community land.

Organizational and institutional improvements in the forestry sector resulted from the harmonization of a set of laws regulating the field of forestry. There have been attempts to improve business operations by means of the restructuring of state companies. A new way of land use was introduced through a land lease agreement between PE `Vojvodinašume` and Beška Agricultural Cooperative.

Private forest owners have made significant organizational innovations. Sixteen PFOAs have joined to form a Union of private forest owners association in Serbia. The Union was founded in 2009. Unfortunately most of PFOAs do not exist or are not active any more. The main goal of the Union was to enhance the private forestry sector and to improve the quality and value of private forests and rural living conditions. The cooperation between forest owners may, apart from defending their own private interests, lead to the introduction of the principles of sustainable forest management and thus satisfy public interest as well.

The expected effects of the association of private forest owners are: joint activities to protect forests, construction and maintenance of roads, joint marketing activities, lobbying and representing members' interests, spread of shared knowledge and experiences, spread of information, financial assistance, provision of grants and loans, provision of management services for absent forest owners; physical consolidation of very small forest plots, motivation for reforestation.

Support has mostly been provided to forest owners in the framework of projects carried out by the United Nations Food and Agriculture Organization - FAO and the Forest Administration (FAO/TCP/YUG/2902 (A): "Institutional Development and Capacity Building for the National Forest Programme in Serbia" and "Forest Sector Development in Serbia" (GCP/FRY/003/FIN) (Poduška, 2010).

Another example of organizational innovation is the Agreement on cooperation between PFOAs from the Balkan countries (2011b). According to this agreement PFOAs from Bosnia and Herzegovina, Montenegro, Croatia, Macedonia, Slovenia and Serbia made consensus on mutual cooperation, networking, project preparation, exchange of

information and experience, possibilities of certification and standardization.

The new business model in the management of forest areas has been influenced by the process of restitution that has been going on for a decade. Based on the Law on Restitution of Property to Churches and Religious Communities, certain forest areas have been given back to their original owners. Consequently, churches and monasteries have become one of the biggest forest owners, following public enterprises. Some of these churches and monasteries manage the forests themselves, but some of them have given the land to the companies specialized in forestry. In our country, the biggest company that deals with this issue is `FORNET`, specialized in consulting and providing services in forestry. Today "FORNET" manages 6,500 ha in the region of Braničevo (2014).

The biggest change occurred after the enforcement of the Law on Restitution of Property to Churches and Religious Communities which hire private companies and individual organization to organize management of their forestland. Another change occurred after establishing PFOA, discussed above, and their engagement in managing forest areas. So today, basically we have four approaches in managing forests. One approach represents the management of state forests by PEs which includes advisory service. The second approach is applied by private companies that are registered for this activity and provide forest management services. The third approach is implemented by churches and monasteries, which use their internal organization to manage their forest land and the fourth approach is the management by PFOA.

5.3. Main opportunities for innovative forest management

5.3.1. Needs of forest managers

Studying the main needs of forest professionals and managers, some researchers started investigating the needs for professional education. Education and professional training programs are carried out

by Universities, Research Institutes, Associations of PFO, Enterprises and other organizations. The majority of forest managers (85.7%) attend such events, but 14.3% do not (Poduška et al., 2013). The main professional education needs are as follows (Poduška and Đorđević, 2012):

1. New knowledge in professional domain
2. Professional Seminars and Fairs
3. Professional journals
4. Foreign language
5. Software literacy
6. Computer literacy

Forest owners and managers need new knowledge in the relevant domain of forestry. This is the most important measure that has to be taken to improve management. According to managers' attitude, they need to attend fairs and professional seminars. Then come professional literature and foreign languages, while they still do not see software and computer literacy as an urgent issue for forest owners and managers.

5.3.2. Main opportunities for innovative forest management

The main opportunities for innovative forest management can be found in shifting from mere production of wood to offering ecosystem services, especially recreational services. A recent research reveals that managers in protected areas need different types of support. Flow of information is considered to be a very important factor influencing the forest management in PA. The research shows that various sources of information affect the possibility to improve forest management. They are ranked in the following way (Poduška et al. 2013):

1. Professional literature
2. Experience from colleagues
3. Seminars
4. Internet info
5. E-mail
6. Fairs
7. TV
8. News paper

The most important source of information for forest owners and managers are professional literature, followed by colleagues and professional seminars.

The same research reveals what managers perceive as business opportunities. The most important business opportunities by priority are as follows (Poduška et al. 2013):

1. Recreational services and Nature Tourism
2. Branding of local products
3. Fishing
4. NWFP
5. Forest management on the municipal level
6. Big game hunting
7. Small game hunting
8. Biomass production
9. Real estates
10. Extension service PFO
11. Mining

The most promising opportunities are recognized in recreational services and nature-based tourism. They are followed by: branding of local products, fishing, collecting and processing of non-wood forest products. Less applicable management opportunities are: forest management on the municipal level, hunting activities, biomass production, real estate business, extension service to PFO and mining.

Having in mind the difficult economic situation our country is faced with, tradition of the forest sector and demands of society, at least one strategic orientation for forest owners and managers can be proposed. Strategies should go in the way of diversification into tourism and recreational services. Recreational services are a type of environmental services and need to be planned by the management in each organization. Besides planning the activities, evaluation of recreational services is still an open issue and need to be performed in future. Diversification into recreational services will provide financial autonomy of organizations and lead to multifunctional management of forests, which implies harmonization of numerous forest benefits (Poduška and Đorđević, 2012).

5.4. Obstacles to innovative forest management approaches

To develop new and innovative forest management approaches, managers need to overcome various obstacles. According to a research with managers in nature protected areas, they can be summarized and cautiously applied to the whole forest sector in Serbia. The main hindering factors for forest managers in PAs are listed according to priority (Poduška et al., 2013):

- 1) Lack of funds
- 2) Interference of politics in forest management
- 3) Lack of information on new products and services
- 4) Lack of information on new procedures
- 5) Procedures and Certificates
- 6) Cooperation with other companies
- 7) Law on Nature Protection
- 8) Law on Forests

Forest owners generally miss funds for appropriate forest management. Interference

of politics in forest management is direct, especially in enterprises. Lack of information is in the middle of the revealed hindering factors. It is followed by procedures and cooperation with other companies.

Analyzing the main needs of forest professionals and managers, some researchers start with investigation in needs for professional education. Education and professional training programs are carried out by Universities, Research Institutes, Associations of PFO, Enterprises and other organizations. The majority of forest managers attend such programs 85.7%, but 14.3% does not attend professional education and trainings (Poduška et al., 2013). Main needs for professional education are as follows (Poduška and Đorđević, 2012):

- 1) New knowledge in professional domain
- 2) Professional Seminars and Fairs
- 3) Professional journals
- 4) Foreign language
- 5) Software literacy
- 6) Computer literacy

CASE STUDY 4: SPECIAL NATURE RESERVE "ZASAVICA"

`Zasavica` was declared a Special Nature Reserve (SNR) of the first category by the Government of the Republic of Serbia on June, 12th 1997. It covers 671 ha and has a protective zone (buffer zone) of 1.150 ha. The ownership structure of this first category protected territory is as follows: 472 ha are in public property, 138 ha are state-owned, and the remaining 60 ha are privately-owned.

`Zasavica` Special Nature Reserve has special natural values, including more than 700 plant species, some of which are protected and listed in the Red Book of Serbian Flora. It is a habitat of 180 species of birds, 20 fish species and as many amphibians and reptiles.

Most of `Zasavica` Special Nature Reserve is located on community land. The Nature Conservation Movement (NCM) `Gorani` from Sremska Mitrovica town manages this property. Sremska Mitrovica is the political, economical and social centre of the Srem county. The town has a long history and it is mostly known as one of the four Roman empire capitals – *Sirmium*. The Nature Conservation Movement is the oldest ecological non-governmental organization in Serbia and Europe. The activities of the organization are related to education and participation of citizens, especially the young, in the field of preservation and improvement of natural values. The NCM has been planting trees for more than 40 years. They have planted trees on 400.000 ha of waste land as well as a few millions of seedlings in the cities, villages and parks of Serbia. For these activities, The NCM was awarded *Global 500 Honour Roll* by the UN.

For their excellent results in the field of Nature protection, the NCM of Sremska Mitrovica was given to manage the SNR Zasavica. It is the first time that the management of a protected nature property in Serbia has been given to a non-governmental organization. In that way, one of the basic goals of modern concept of managing through cooperation with local people has been achieved.

After the first three years of work, the NCM of Sremska Mitrovica has successfully carried out the programme for protection and development of the area, its presentation to the public, cooperation with educational, scientific and expert institutions and it has provided conditions for using this area for the purposes of education and different kinds of tourism.

Preserved authentic landscapes, folklore, and cultural-historical monuments describe Zasavica as a unique and complete tourist entity. A picturesque mosaic of forests, meadows, rivers and river banks, abundance of plants and animals, traditional way of life on the river presented in folklore and everyday life, historical heritage dating back to ancient times, all offer visitors a rare, attractive and unique experience all the year around.

SNR Zasavica offers: relaxation, recreation, sailing, watching and study of nature as well as educational programs for pupils and students.

Due to its biodiversity, presence of relict, endemic, and rare species and their communities, insufficient knowledge about some groups (e. g. insects), possibility to study inter- and intraspecific relations, interactions of biotic and abiotic factors, the area can be designated as an area of scientific interest suitable for scientific research (Zasavica, 2014).

Currently there is a conflict between the farmers whose farms are adjacent to the Reserve and who want to increase the productivity of their fields by lowering the water table, and the SNR managers who claim that a high water table is required to protect critical biodiversity. This problem can be resolved by extending the area of the reserve and including the adjacent areas in the management. The future border of the reserve should coincide with the border of the hydrological unit or catchment. Naturally, it does not mean that the farmers should stop farming the land. It is indispensable that the farmers stay and continue farming but without having to compete with farmers who work in more optimal conditions.

The Government should support the farmers by introducing agro-environmental measures that would help the farmers replace their traditional production methods with more nature-oriented ones. There is a growing demand for nature-friendly products that offer farmers a good option to earn a good income. However, the adaptation to environmental agriculture will take time and it will require coordinated efforts of PA managers and farmers. On the other hand, introduction of nature-friendly farming will help keep the workforce and income in rural areas and keep the countryside alive (Zasavica, 2014).

Foresters are applying close to nature forestry techniques using only native tree species and supporting the protection and management of typical habitats and species in the SNR. The new management approach is in close relation to agro-forestry where agriculture is restricted to grazing and hay making and farmers are not allowed to use pesticides, herbicides and chemical fertilizers. They use domestic cattle typical of the region like the Manguliza pig and Podolian cattle for grazing. Farmers earn additional income by offering services to tourists. Recommendations to improve the forest management are (Zasavica 2011):

- Improve the forest management by prohibiting clear cuttings, restoring natural oak and ash forests, replanting with native deciduous tree species and reducing the area covered with non-native poplar plantations. Preserve mosaic structure of the forest habitats on Zovik (*Morimus funereus*, *Lucanus cervus*, *Zamenis longissimus*, *Equisetum hiemale*, *Viola elatior*).
- Establish/maintain ecological corridors between forest patches in meanders. Preserve forest and forest edging habitats (*Quercus robur* and *Fraxinus angustifolia*). Restore forest ecosystems and convert shrub vegetation to forest vegetation (*Morimus funereus*, *Lucanus cervus*, *Zamenis longissimus*, *Equisetum hiemale*, *Viola elatior*).

Contact: Pokret gorana

Svetog Save 19, 22000 Sremska Mitrovica, Serbia

tel/fax: +381 22/614-300, e-mail: zasavica@zasavica.org.rs , web: www.zasavica.org.rs

6. Policies influencing ownership development / Policy instruments for new forest owners

Policy and ownership are related in various ways: Policies directly or indirectly influence ownership development or even encourage or create new forms of ownership; and policy instruments are emerging that answer ownership changes, including instruments addressed to support new types of owners e.g. through advisory services, cooperative or joint forest management, etc.

6.1. Influences of policies on the development of forest ownership

6.1.1. Private forest owners and new legislation adoption

During the last decade, Serbian parliament and Serbian government introduced plurality of new policy documents into majority of sectors, either as a result of the transition to democracy and market economy or within the process of preparation for the EU accession. A number of adopted documents proved to have influence on the forest sector. The most remarkable influence is certainly exercised by the new Forest Law of the Republic of Serbia, which was enacted in 2010. The major difference between this Law (2010) and the former Forest Law (1991) is that private and public forest ownerships are now on an equal footing. Thus, private forests got their recognition as an ownership category, contrary to the past times when they were mostly neglected. For the first time, an independent role of private forest owners (PFOs) was acknowledged through the support of developing private forest owners' associations (Forest Law 2010, article 73). It creates a new basis for the relationship between the state and private forest owners, especially when sustainable management of small private properties is concerned (Petrović 2012).

6.1.2. Regulation

The new Forest Law (2010) was created as a legal support to the first national Forestry Development Strategy of the Republic of Serbia enacted in 2006. This Strategy defines

new directions in the development of the private forest sector with the special focus on the support to its interest organizations and getting the small-scale forestry more efficiently managed (Petrovic 2012). In particular, the Government was obliged to create normative preconditions and measures of economic policy in order to stop the process of ownership fragmentation (Forest Directorate, 2006). Currently, the Inheritance Act of the Republic of Serbia (1995) still favours such fragmentation processes. It allows division of the inheritance into equal parts (1995), which affects further creation of smaller parcels. The current number of parcels is estimated at 3,900,000 (Table 2) and if the fragmentation trend continues, one would in the future `probably speak more about family ownership rather than about private ownership in a common sense` (Petrovic 2012). Due to the average parcel size of 0.3 ha (Medarević, Banković 2008), Serbian private forests already have a character of `heavily` fragmented ownership. Accordingly, the effects of the currently enforced Inheritance Law (1995) might lead to the situation where long-term forest policy measures can hardly be effective (Petrovic 2012). Private forest owners themselves seem to be aware of the fragmentation barriers and consider that they hinder an organized and efficient (fuel) wood production in the first place (Jankov et al. 2012).

6.1.3. Afforestation

Together with the forest policy, the newly adopted forest-related policies also affect the development of the forest ownership. For instance, the adoption of the new Law on Agricultural Land (2006) affects afforestation issues. Article 23 of this Law allows owners/users of agricultural land to change its current purpose and conduct afforestation, provided that they have Ministerial approval. The new Forest Law (2010) complements this allowance as it foresees planning and economic instruments to support the priority measure of "increasing forest area through afforestation" (Articles 19, 80). Planning refers to the Forestry development programs

(of the Republic and of the Autonomous Province) and their implementation through Forest management plans (Forest law 2010, Article 19), whereas the financial support needed for afforestation measures can be driven from the newly established budgetary fund for forestry (Forest Law 2010, article 80). Finances go directly from the fund to the producers of seedlings who are obliged to provide plants and advisory services free of charge to the landowners. In the autonomous province of Vojvodina the finances are provided from the provincial fund and the landowners get additional financial support for the first five years of tending. In both Vojvodina and central Serbia, landowners have to submit the afforestation proposals first, which are then followed by the annual call announced by the state and province (Annual program for using budgetary funds). According to the official statistics (Statistical Bulletins of the Republic of Serbia 2002 to 2013) the amount of afforested agricultural land in the period 2003 -2012 was 12 349 ha in total (both state and private).

6.1.4. Regulation on church property / restitution

The Law on Restitution of Property to Churches and Religious Communities was enacted in 2006. This Law initiated the restitution of the property that was seized from churches, religious communities and their endowments, according to the regulations on agrarian reform, nationalization, sequestration and other regulations that were adopted in the period after 1945 and all other acts by which property was seized without compensation (Nonic et al. 2011b). So far, 69% or 23 195 ha of forests and forest land have been returned, which makes 1% of the total forest growing stock in Serbia (see chapter 3.1.5.7). Accordingly, church and religious communities appear as a new category of forest owners. The emergence of additional forest owner categories is expected after the ongoing restitution process in Serbia has been finished. This primarily refers to the process of restitution of properties to individuals and subjects other than church. The Law on Property Restitution and Compensation (2011) should provide a legal

basis for that process, as previously mentioned. This Law defines, among other things, the cases in which forests and forest land can (Articles 15, 24) or cannot be returned (Article 25) to the former owners and their successors. Although it is in the initial phase, the implementation of this Law and the preferred natural type of restitution (prioritized in Articles 8 and 9) will lead to a further increase of the private forest area.

6.2. Influences of policies on forest management

6.2.1. Forest management plans

According to the Forest Law (2010) private forests are managed either by their owners or this right is conferred to the Association of private forest owners which then licenses a professional body. Whatever the case, the Law requires forest management plans to be designed and approved by the Ministry (Article 25). The Law (2010) foresees annual plans (Article 30) and work projects (Article 31) as implementation instruments. It further prescribes a number of duties for the owners/associations, such as recording conducted works (Article 34), recording changes in the forest (forest chronicle, Article 35), forest guarding (Article 39), conducting protection measures (Article 42), maintaining forest roads (Article 66), etc. All activities in private forests need to comply with forest management plans. According to the same Law (2010), PFOs are required to obtain cutting permits, get the trees marked before harvesting, be in the possession of delivery notes when the wood is marketed, etc. The existence of a large number of obligations and restrictions makes private forest owners heavily dependent either on the representatives of the forest service or on the public enterprises managing state forests (Petrović 2012).

The Forest Law (2010) differentiates between the PFOs / Associations that have more than 100 hectares and the ones with less than 100 hectares, not only because the requirements for their forest management plans differ but also because of the financial support for their development. Whereas the former finance the development of the forest management plans on their own, the latter have the designing

work subsidized (plans for PFOs with the property size under 100 ha are financed by the State).

6.2.2. Measures for improved management of private forests

The Forestry Development Strategy of the Republic of Serbia emphasizes that the principle of sustainable forest management might be endangered in private forests (in the periods of significant disturbances of economic and social development forest owners are often forced to harvest their forests beyond the forest potential) which means that mutual and harmonized efforts of the State and the owners are needed in order to obtain permanent protection of those forest functions that are both in the general interest and in the owners' interest. The Strategy foresees several measures for the improvement of the state of private forests (Forest Directorate, 2006):

- Assessment of the state of private forests and development of the planning and control system of private forest management;
- Professional and financial support to the organization of forest owners with the aim of strengthening their capacity for the realization of sustainable forest management;
- Efficient system of support to private forest owners and to the establishment of small and medium enterprises in forestry and related activities;
- Creation of legal preconditions for smooth implementation of sustainable management in the cases when the owners are not able to, do not want to, or do not have the interest to execute the plan documents, by which they endanger the general interest and the interest of other forest owners;
- By creating normative preconditions, the consolidation of private forest holdings will be enabled, which will be stimulated by measures of economic policy whereas further fragmentation of forest holdings will be prevented;
- The Government will use the optimum measures of economic policy and

ensure permanent and long-term financial means to stimulate private forest owners to ensure the protection and improvement of the state of private forest resources.

Creation of a favourable investment climate in the private sector includes financial means, removal of market barriers, initiation of amendments to forestry regulations, finding the optimal form for financing forest protection and enhancement, as well as development of a more transparent and reliable governance and regulation system. It will enable the development of the market-oriented forestry (Forest Directorate, 2006).

6.2.3. Forest Directorate

Forest Directorate was established in 2002 under the Ministry of natural resources and environment, in order to conduct authority duties over the whole forest area, regardless of ownership. Today it works under the Ministry of agriculture, forestry and water management. Together with the formulation and implementation of the (forest-policy) program goals, it conducts implementation control and strives toward the improved state of private forests. The latest research results demonstrate weak forest authority that fails in fulfilling public tasks in private forests (Stevanov and Krott 2013). This finding goes in line with the expectation that in every case when the state forest authority acts as a separate unit, without sufficient financial support, its performance is always weak (Krott 2005, in Stevanov and Krott 2013).

6.2.4. Compensations

Formally, the new Forest Law (2010) foresees the cases in which a forest is assigned the priority function of general interest (by the document regulating nature protection). In such cases, the owner should get compensated for the restrictions in use or increased management costs (Article 14). The compensation should be provided either by the legal entity requesting establishment of the particular priority function or by the end users (Article 14). Although some private properties are subject to this regulation (private forests in national parks, protected areas, etc.), their implementation is still vague.

6.3. Policy instruments specifically addressing different ownership categories

6.3.1. No specific policy instruments exist

There are no specific policy instruments directed at new forest owner types (chapter 3.4). The Forestry Development Strategy (Directorate for Forests, 2006) recognizes “insufficient information and unawareness” of private forest owners with respect to “the available forest resource potentials and the method of management which enables maximum utilization of the potentials under the principle of sustainability”, which requires “a special approach to permanent and qualified education and information of private forest owners” (p. 22). In the same document, the Government is obliged to provide “better technical and consulting support“, by “taking into account the rights and demands of private forest owners” (chapter 5.4.4). The new Forest Law (2010) recognizes provision of relevant advisory services. It offers the possibility of technical support in private forests in the form of a Public Forest Enterprise service or the legal body with the license. Similar to the above-mentioned case (i.e. lack of forest management plans in the practice of managing private forests, with a few exceptions - Petrović 2012), the implementation of new advisory types is still poorly-developed. As main reason of existing situation can be mentioned lack of development of advisory programs within institution responsible for service providing. Institution responsible for service providing simply implement technical requirements defined in Law on forests (marking the tree, issuing transport licences in private forests, etc) and neglect advisory services due to lack of financial and precise rules for such support. Small-scale private forest owners are used to dominance of strong public service on their private property during long time of communistic period, when government did not nationalized small-scale forest, but pretty neglected interest of private forest owners. This situation is somewhat changed today, but most of the advisory services related to needs of private forest owners is lacking in practice.

Contrary to the previous law, the new Forest Law (2010) supports the establishment of private forest owners` associations (Article 73). They should represent and protect the interests of their members, by putting these interests into political agenda. Interviewees claim that the best approach for the private forest owners` association is a voluntary approach, which can be best realized if financial initiatives are provided (Avdibegovic et al. 2010b).

6.4. Factors affecting innovation in policies

6.4.1. Weak political role

After the system change in Serbia, the United Nations Food and Agriculture Organization (FAO) and the Serbian State Forest Administration initiated “Institutional Development and Capacity Building for the National Forest Programme in Serbia” 2003-2004 and a follow-up project “Forest Sector Development in Serbia” 2005-2008. The main innovation related to these processes was participation of different stakeholders, incl. private forest owners, through workshops and survey questionnaires. The Forestry Development Strategy (2006) emerged as one of the outputs. In this document the Government declares that it will further support “the participation of the private sector in forestry development”, through more transparent and simpler governance procedures, among others.

Although a certain change can be observed in the attitudes of policy makers toward the role and significance of private forest owners (Avdibegovic et al. 2010b), these actors are still underrepresented in the policy processes (Petrovic 2012). In spite of their great number, private forest owners are not organized and lack their strong political lobby (Petrović 2012). New institutional environment proves to be unfavourable for PFOAs, due to the changes in the Law on NGOs. Consequently, most of the associations are currently either not active (Table 6) or show limited activity.

It seems to be common that the political role is neglected not only by private forest owners/associations but also by the whole forest sector in Serbia. The forest authority keeps being silent in advocating forestry

interests in the broader policy arena
(Stevanov and Krott 2013).

7. Literature

- Act on business activities classification (2010): Official Gazette of the Republic of Serbia.
- Avdibegović, M., Nonić, D., Bliss, J., Mataruga, M., Petrović, N., Milijić, V. and Marić, B. (2010a) 'Organization of private forest owners in Serbia and Bosnia-Herzegovina: socio-economical characteristics and political indicators', in: Medved, M. (ed.) *Proceedings of the conference Small scale forestry in a changing world: opportunities and challenges and the role of extension and technology transfer*, Ljubljana: Slovenian forestry institute & Slovenia Forest Service.
- Avdibegović, M., Nonić, D., Posavec, S., Petrović, N., Marić, B., Milijić, V., Krajer, S., Ioras, F. and Abrudan.I.V. (2010b) 'Policy Options for Private Forest Owners in Western Balkans: A Qualitative Study', *Notulae Botanicae Horti Agrobotanici Cluj-Napoca*, vol. 38, no. 1, pp. 257-261.
- Avdibegović, M., Petrović, N., Nonić, D., Posavec, S., Marić, B. and Vuletić, D. (2010c) 'Readiness of Private Forest Owners in Croatia, Serbia and Bosnia-Herzegovina to Cooperate in Forest Roads Construction and Maintenance', *Šumarski list* no. 1-2, pp. 55-64. (in Croatian)
- (2011b) Agreement on cooperation between PFO associations, 18.06.2011. Teslić, Republic of Srpska, B&H
- Banković, S., Medarević, M., Pantić, D. and Petrović, N. (2009) *The National Forest Inventory of the Republic of Serbia - the growing stock of the Republic of Serbia*. Belgrade: Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia, Forest Directorate.
- Bouriaud, L., Nichiforel, L., Weiss, G., Bajraktari, A., Curovic, M., Dobsinska, Z., Glavonjic, P., Jarský, V., Sarvasova, Z., Teder, M. and Zalite, Z. (2013) 'Governance of private forests in Eastern and Central Europe: An analysis of forest harvesting and management rights', *Annals of Forest Research*, vol. 56, no 1, pp. 199-215.
- Damnjanović, S. (1986) 'Socio-economic status of the private forestry sector in Serbia', In: *Advising on the improvement of the management of forests with a right of ownership and on realization of social agreement on forestry development for the period 1986-1990*, Gornji Milanovac: AFETS, pp. 103-116. (In Serbian)
- Directorate for Forests (2006) *Forestry Development Strategy of the Republic of Serbia*, Belgrade: Ministry of Agriculture, Forestry and Water Management, Official Gazette of the Republic of Serbia 59/2006.
- Đorđević I., Nonić D. and Nedeljković J. (2014) 'Management of protected areas in Serbia: Types and structure of managers', *Agriculture & Forestry*, vol. 60, issue 2, pp. 7-26, Podgorica.
- Đorđević I., Nevenić R. and Poduška Z. (2011) 'Analysis of different financial mechanism in National Park "Fruška gora"', *Sustainable Forestry collection*, vol. 59-60, Institute of Forestry, Belgrade.
- Forest community Beočin (2003) *Our century*, Anniversary edition, prepared for the members of the Forest community in Beočin to celebrate 100 years since the establishment (1903-2003), Beocin: Forest community.
- Fornet (2012) *Internal documentation*, Belgrade: Fornet ltd.
- Glavonjić, P., Nonić, D., Ranković, N., Milijić, V. and Jankov D. (2011) 'Analysis of legislative and institutional framework of the restitution process in forestry of Serbia and the countries of Southeastern Europe', *First Serbian Forestry Congress: Future with Forests* [CD ROM] Belgrade: University of Belgrade, Faculty of Forestry, pp. 226-236.
- (2010): *Global Forest Resources Assessment 2010: Country Report Serbia*. Food and Agriculture Organization of the United Nations, Department for Forestry, Rome.
- Glück, P., Avdibegović, M., Čabaravdić, A., Nonić, D., Petrović, N., Posavec, S. and Stojanovska, M. (2010) 'The preconditions for the formation of private forest owners' interest associations in the Western Balkan Region', *Forest Policy and Economics*, vol. 12, issue 4, April, pp. 250-263.
- Glück, P., Avdibegović, M., Čabaravdić, A., Nonić, D., Petrović, N., Posavec, S. and Stojanovska, M. (2011) Private forest owners in the Western Balkans – Ready for the Formation of Interest Association, European Forest Institute Research Report 25, Joensuu: EFI.

- Halder, P., Paladinić, E., Stevanov, M., Orlović, S., Hokkanen, T., Pelkonen, P. (2014) 'Energy Wood Production from Private Forests—Private Forest Owners' Perceptions and Attitudes in Croatia and Serbia', *Renewable and sustainable energy reviews*, vol. 35, pp. 515-526.
- Inventory of growing stock for 1979 (1983) Belgrade: Republic Statistical Office of Serbia.
- Jankov, D., Stevanov, M., Orlovic, S. (2012) 'State and perspectives of using privately owned forests for energy purposes', *Poplar*, No. 189 - 190, pp: 171 – 183 (*in Serbian*).
- Jankov, D. (2013) Socio-economic precondition for biomass production in private forests in Serbia. Master Thesis. Belgrade: University of Belgrade, Faculty of Forestry.
- Law on Agrarian Reform and Colonization (1945): Official Gazette of the Democratic Federal Yugoslavia.
- Law on Agricultural Land (2006) Official Gazette of the Republic of Serbia.
- Law on Associations (2009): Official Gazette of the Republic of Serbia.
- Law on Forests (1991) Official Gazette of the Republic of Serbia.
- Law on Forests (2010) Official Gazette of the Republic of Serbia.
- Law on Inheritance (1995) Official Gazette of the Republic of Serbia.
- Law on National Parks (1993): Official Gazette of the Republic of Serbia.
- Law on Property Restitution and Compensation (2011): Official Gazette of the Republic of Serbia.
- Law on Public Enterprises (2012): Official Gazette of the Republic of Serbia.
- Law on Restitution of property to churches and religious communities (2006) Belgrade: Official Gazette of the Republic of Serbia.
- Manastirske šume (2010) *Internal documentation*, Loznica: Manastirske šume ltd.
- Medarević, M., Banković, S. (2008) 'Serbian forests today'. *Forests*, No. 100, pp. 6-11 (*in Serbian*).
- Mendes, A., Štefanek, B., Feliciano, D., Mizaraite, D., Nonić, D., Kitchoukov, E., Nybakk, E., Duduman, G., Weiss, G., Nichiforel, L., Stoyanova, M., Mäkinen, P., Alves, R., Milijić, V. and Sarvašová, Z. (2011) '*Institutional innovation in European private forestry: the emergence of forest owners' organizations*', in: Weiss, G., Pettenella, D., Ollongvist, P. and Slee, B. (ed.) *Innovation in forestry: territorial and value chain approaches*, CAB International .
- Milijić, V. (2007) 'Structural and Social Characteristics of Private Forest Owners' Associations', *Forestry*, no. 3-4, pp. 119-128. (*in Serbian*)
- Milijić, V., Nonić, D., Radosavljević, A. and Grujičić I. (2007) 'Associating Private Forest Owners as a Contribution to Rural Development of Serbia', In: *Proceedings book of the International Scientific Conference Integral protection of forests: Scientific-technological platform*, Belgrade: Institute of Forestry, pp. 69-74
- Milijić, V., Nonić, D. and Grujičić I. (2008) 'Private forest owners and management of protected areas: National park Djerdap', *Protection of nature* no. 60/1-2, pp. 97-106. (*in Serbian*)
- Milijić, V., Ranković, N., Nonić, D. and Nedeljković J. (2010) 'Organization of private forest sector in Timok forest area', *Annals of Forest Research*, vol. 53, no. 1, pp. 59-69.
- Neuman, W. L. (2006) *Social research methods: Qualitative and Quantitative Approaches* (6th Edition), Pearson Inc.
- Nikolić, V., Nonić, D., Ranković, N., Radosavljević, A., Nedeljković, J. and Glavonjić, P. (2012) 'Changes in Serbian forestry sector and their effects on private forests ownership', in: Avdibegović, M., Buttoud, G., Marić, B. and Shannon, M. (ed.) *Proceedings of Abstracts from the IUFRO Seminar "Assessing Forest Governance in a Context of Change*, Sarajevo: Faculty of Forestry University of Sarajevo.
- Nonić, D. (1993) 'Development of property rights in forestry in Serbia'. *Forestry*, no. 3-5, pp. 155-166. (*in Serbian*)
- Nonić, D. and Ranković, N. (1997) 'Ownership Transformation and Organisation of Management in Private Forests in Serbia', *Conference Proceedings*, 3rd International Conference on the

- Development of Forestry, Wood Science and Technology, Faculty of Forestry of Belgrade University, Belgrade & Mt. Goč, pp. 569-575.
- Nonić, D. (2004) *Organization of forestry in the transition process: Relation of public forest administration and private forest owners*. Doctoral dissertation. Belgrade: University of Belgrade, Faculty of Forestry. (in Serbian)
- Nonić, D. (2005) 'Relation of public forest administration and private forest owners in Serbia', *Forestry*, no. 1-2, pp. 33-48. (in Serbian)
- Nonić, D., Tomić, N., Marković, J., Herbst, P. and Krajčić, D. (2006) 'Organization of private forest owners in Serbia compared to Austria, Slovenia and other Central European countries', *Forstwissenschaftliche Beiträge Forstpolitik und Forstökonomie*, no. 35, pp. 95-106.
- Nonić, D., Begus, J., Milijić, V. and Radosavljević, A. (2007) 'Development of an Organizational System of Support for the Private Forest Sector in Serbia', *IUFRO Division VI Symposium: Integrative Science for Integrative Management, Extension Working Party 6.06-03* [Electronic], Available: www.metla.fi/tapahtumat/2007/iufro-d6/abstracts/Nonic-Begus-Milijic-Radosavljevic.pdf [6 Feb 2014].
- Nonić, D. and Herbst, P. (2008) 'Fragen des Privatwaldsektors in Serbien', in: Herbst, P., Mekić, F., Avdibegović, M. and Schmithüsen F. (ed.) *Forstwirtschaft und Forstrecht in den Reformstaaten Mittel-und Osteuropas 1990 -2007*, Sarajevo: Universität Sarajevo.
- Nonić, D., Radosavljević, A., Milijić, V. and Grujičić, I. (2008) 'Forest Development Strategy & Organization of Private Forest Owners in Serbia', *Proceedings*, International IUFRO Symposium Small-scale Rural Forest Use and Management: Global Policies versus Local Knowledge, Gérardmer, pp. 264-265.
- Nonić, D. and Milijić, V. (2009) *Status quo analysis: Private Forestry in Serbia and its role in the NFP/NFS Process*, Sopron: World Bank – Profor & Confederation of European Forest Owners.
- Nonić, D., Milijić, V., Radosavljević, A. and Marković J. (2009) 'The private forest sector in Serbia - Legal and political aspects', in: Avdibegović, M., Herbst, P. and Schmithüsen, F. (ed.): *Proceedings of the 10th International Symposium Legal Aspects of European Forest Sustainable Development*. Sarajevo: Faculty of Forestry, University of Sarajevo.
- Nonić, D. (2010) *Organization and business in Forestry*, University of Belgrade-Faculty of Forestry, Belgrade.
- Nonić, D., Milijić, V. and Radosavljević A. (2010) 'Development of private forestry sector in Serbia and its role in NFS/NFP processes', in: Šulek, R., Herbst, P., Schmithüsen, F. (ed.) *Proceedings of the 11th International Symposium Legal aspects of European Forest Sustainable Development*, Zvolen: Faculty of Forestry, Technical University in Zvolen.
- Nonić, D., Bliss, J., Milijić, V., Petrović, N., Avdibegović, M. and Mataruga M. (2011a) 'Challenges of Organizing Private Forest Owners in Serbia', *Small-scale forestry*, vol. 10, no. 4, November, pp. 435-455.
- Nonić, D., Ranković, N., Nedeljković, J., Glavonjić, P. and Marinković M. (2011b) 'Transition process in forestry sector in Serbia and selected CSEE countries: Policy and property rights reforms', in: Deltuvass, R., Herbst, P., Činga, G. (ed.) *Proceedings of IUFRO 13th International Symposium on Legal aspects of European Forest Sustainable Development*, Kaunas: Aleksandras Stulginskis University.
- Nonić, D. and Glavonjić, P. (2012) 'Organizing private forest owners in order to mobilize wood resources: analysis of association models in Austria, Bavaria and Serbia', *Forestry*, no. 3-4, pp. 131-151. (in Serbian)
- Nonić, D., Ranković, N., Glavonjić, P. and Nedeljković, J. (2013) 'Typology of private forest owners in Serbia', *Forestry*, no. 3-4, pp. 133-156. (in Serbian)
- Paunović, B. (2013) *Economics of enterprise-enterprise, environment and investment*, Center for the publishing activities of the Faculty of Economics, Belgrade. (in Serbian)
- Petrović, N. and Čabaravdić, A. (2010) 'Outlook for the Formation of Private Forest Owners' Associations in the Western Balkan Region', in: Tuomasjukka T. (ed.) *Forest Policy and Economics in Support of Good Governance*, EFI proceeding 58, Joensuu: EFI.

- Petrović, N. (2012) *Attitude of the state and private forest owners towards forests as the basis for defining the model of forest management planning in Serbia* Doctoral dissertation. Belgrade: University of Belgrade, Faculty of Forestry. (in Serbian)
- Poduška Z, Đorđević I, (2012) Organisation of Forest Enterprise and its Influence on Capacity to Manage Nature Protected Areas. In Proceedings of International Scientific Conference: *Forests in the Future Sustainable Use, Risks and Challenges*, Institute of Forestry, Belgrade. pp 801-810.
- Poduška, Z., Đorđević, I., Nevenić, R., Bilibajkić, S., Gagić Serdar, R., Češljarić, G., Stefanović, T. (2013) 'Possibilities for improvement of the management of protected natural areas'. Sustainable forestry collection tom 67-68. p175-186. Institute of Forestry, Belgrade.
- Poduška, Z. (2010): *Innovation and entrepreneurship in forestry in Serbia*, Report of Ministry of Agriculture, Forestry and Water Management - Department of Forestry, Republic of Serbia. Institute of Forestry, Belgrade.
- Poduška, Z., Bilibajkić, S., Gagić-Serdar, R., Češljarić, G., Đorđević, I., Stefanović, T., and Nevenić, R. (2011) "Impact of Innovativeness on New Technology Implementation in Forestry Companies". *Sustainable Forestry Collection* Vol. 63-64, pp. 161-170.
- Poduška, Z. and Đorđević, I. (2012) "Organization of Forest Enterprise and its Influence on Capacity to Manage Nature Protected Areas". in *Proceedings of International Scientific Conference: Forests in the Future Sustainable Use, Risks and Challenges*, Institute of Forestry, Belgrade. pp 801-810.
- Poduška, Z., Đorđević, I., Nevenić, R., Bilibajkić, S., Gagić Serdar, R., Češljarić, G., and Stefanović, T. (2013) "Possibilities for improvement of the management of protected natural areas". *Sustainable forestry collection* vol. 67-68, pp. 175-186.
- Ranković, N. (2008): *Economics of Forestry*, University of Belgrade-Faculty of Forestry, Belgrade.
- Ratknić, M., Ranković, N. and Nonić, D. (2001) 'Models of organization of private forest owners', in: Ratknić M., Toković Z. (ed.) *State, problems and improvement of the management of private forests (book of methods)*, Belgrade: Ministry for agriculture, forestry and water management. (in Serbian)
- Regional Centre for Forestry and Rural Development (2013) *Report on Visit to Private Forest owners in Bor and Majdanpek region, East Serbia*, [Online], Available: <http://refordcentre.org/documents/Report%20on%20visit%20of%20Private%20Forest%20owners%20in%20Bor%20region.pdf> [13 Feb 2014].
- Registry of protected areas (2012): Institute for Nature Protection, Belgrade.
- Stevanov, M, Krott, M (2013) 'Measuring the success of state forest institutions through the example of Serbia and Croatia', *International Forestry Review*, Vol. 14, No. 3, pp. 368-386.
- Stevanov, M., Krajer Ostoic, S., Vuletic, D., Orlovic, S. (2013) 'Consultation process on forest biomass and sustainable forest management: How knowledge mobilization in the cross-border region of Croatia and Serbia worked?', *Periodicum Biologorum*, Vol. 115, No. 3, pp. 435 – 445.
- Zasavica, (2011). *Management plan 2012-2020 Special Nature Reserve Zasavica*. BBI Matra Programme of the Ministry of Economic Affairs, Agriculture and Innovation of the Netherlands)
- Živković, M. (2006) *Economic of business*. Megatrend University of sciences, Belgrade.

Internet sources:

- Agency for restitution (2014) *Property returned according to the decisions of Directorate for Restitution*, [Online], Available: www.restitucija.gov.rs/direkcija-za-restituciju.php [13 Feb 2014].
- Serbian Business Register Agency (2014) *Register of Associations*, [Online], Available: www.apr.gov.rs/eng/Registers/Associations.aspx [13 Feb 2014].
- FORNET Consulting and services in forestry (2014). List of forest management project, [Online], Available: www.fornetserbia.com/sr-lat/Gazdovanje.html [26 Aug 2014].

8. Annexes

8.1. Tables with detailed descriptions of 11 most important publications

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Avdibegović, M., Nonić, D., Posavec, S., Petrović, N., Marić, B., Milijić, V., Krajter, S., Loras, F. and Abrudan. I.V. (2010) 'Policy Options for Private Forest Owners in Western Balkans: A Qualitative Study', Notulae Botanicae Horti Agrobotanici Cluj-Napoca, vol. 38, no. 1, pp. 257-261.
English language summary/abstract	Private forest owners start to play an important role in Western Balkans` forestry and they are essential to the successful implementation of environmental policies. Little is known about how forest policy can support private forest owners in these countries and therefore this study was conducted through a qualitative method, based on personal interviews with representatives of 54 stakeholders that include state forest authorities and administration, private forest owners associations, forest science and research and private sector in Bosnia Herzegovina, Croatia and Serbia. The results show significant homogeneity across the region towards creation of independent interest forest owners associations based on financial support. Regression analysis identified stakeholder attitudes as significant predictors of policy preferences and also identified owners of forest production as more supportive of such policies.
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input checked="" type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below) <input type="text"/>
Type of funding used(multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input checked="" type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input type="checkbox"/> National <input checked="" type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	Group theory, Theory of collective action
Methodical approach	Qualitative interviews

Thematic focus	ownership change (incl. on changes in <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.) <input type="checkbox"/> motives and behaviour of ownership types <input type="checkbox"/> new management approaches <input checked="" type="checkbox"/> policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
web link	http://www.notulaeobotanicae.ro/index.php/nbha/article/view/4691

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Glück, P., Avdibegović, M., Čabaravdić, A., Nonić, D., Petrović, N., Posavec, S. and Stojanovska, M. (2010) 'The preconditions for the formation of private forest owners' interest associations in the Western Balkan Region', Forest Policy and Economics, vol. 12, issue 4, April, pp. 250-263.
English language summary/abstract	The private forest owners in Bosnia and Herzegovina, Croatia, Macedonia and Serbia are to a large extent not organized in interest organizations although their forests make up between 10% (Macedonia) and 52% (Serbia) of the total forest area. Private forest owners' interests are mainly in the hands of the public forest administration. This situation is not in accordance with democratic political systems. The paper investigates the preconditions for change by scrutinizing prevailing interest group theories by random surveys of private forest owners and in-depth interviews of forest policy decision-makers. As a result of the empirical research it has been found that, in spite of the large number of private forest owners, there are good chances for the formation of private forest owners' interest associations in all four countries, mainly because of the high critical mass of engaged private forest owners and the support of the majority of forest policy decision makers.
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below) <input type="text"/>
Type of funding used(multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input checked="" type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input type="checkbox"/> National <input checked="" type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	Pluralism, Theory of collective action, Exchange theory, Voice, exit and loyalty, Theory of critical mass
Methodical approach	quantitative door-to-door surveys, qualitative in-depth interviews

<p>Thematic focus</p>	<p>ownership change (incl. on changes in <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.) <input checked="" type="checkbox"/> motives and behaviour of ownership types <input type="checkbox"/> new management approaches <input type="checkbox"/> policy instruments addressing ownership</p>
<p>Main results should be given here if not yet included in the summary.</p>	
<p>web link</p>	<p>http://www.sciencedirect.com/science/article/pii/S138993411000016X#</p>

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Glück, P., Avdibegović, M., Čabaravdić, A., Nonić, D., Petrović, N., Posavec, S. and Stojanovska, M. (2011) Private forest owners in the Western Balkans – Ready for the Formation of Interest Association, European Forest Institute Research Report 25, Joensuu: EFI.
English language summary/abstract	<p>The thing that the Western Balkan countries: Bosnia and Herzegovina, Croatia, Macedonia and Serbia have in common is that their private forests are significant resources for the development of market economy and private ownership. Although the share of private forests varies between 10% (Macedonia) and 47% (Serbia), and probably will increase when the restitution and privatization process finishes, the private forest owners are poorly represented in national forest policy due to the lack of independent interest associations. Private forest owners' interests are mainly in the hands of public forest administration. In all four countries there are a very large number of private owners of predominantly small-scale forests varying between 240,000 in Macedonia and 800,000 in Serbia. They are mainly males of an average age of 53 years and most of them live in rural areas in settlements with less than 5,000 inhabitants. More than a half of them are farmers, lower-level employees or unemployed people. Regarding education, more than a half of them have high-school or vocational-college qualifications and a quarter of them have elementary school have qualification. The majority of private forest owners have inherited the forests and want to leave them to their children. Most private forest owners hold forest properties smaller than 1 ha. In addition, these properties are often fragmented into 2 to 7 parcels on average, usually in Serbia and Bosnia and Herzegovina. Mixed and coppice forests dominate and the volume and annual increment per hectare are modest compared to state forests. Private forests are mainly used for domestic fuel wood and saw log consumption; tourism, nature conservation, and hunting are of minor importance. Consequently, for about one half of private forest owners the forest is a source of income or a contribution to the household income. In order to increase the efficiency of forest management, all forest owners are prepared to cooperate with other private forest owners, first and foremost in road construction and maintenance. The second top priority is the cooperation in forest training for the respondents from Bosnia and Herzegovina, Macedonia, and Croatia, and cooperation in sharing harvesting equipment for Serbian respondents. Almost all private forest owners are dissatisfied with the existing situation. They lack extension services of the public forest administrations and state forest enterprises for improving their forest management. Most forest owners lack advice in harvesting, support in road construction and maintenance and advice in silviculture, but with different priorities in the four countries according to their special needs. Private forest owners are also very concerned that their interests are not appropriately represented in national forest policy by an independent interest association. In particular they expect such an association to fight for the provision of financial incentives, tax breaks and reformulation of the existing forest laws in the interest of private forest owners. The respondents have to put up with restrictive legal regulations concerning private forest owners. The obligation to pay levies for timber harvests and obtain permissions for harvesting and tree marking by the forest authority before felling are indicated as the most restrictive ones. Although private forest owners' organizations are very rare for the time being, the respondents are well aware of their tasks. The preconditions for the formation of private forest owners' associations for both extension service at the local and regional levels and interest representation at the national level are favourable. Between one and two quarters of the respondents are prepared to engage themselves in the formation of an interest group. They are willing to join such an organization if they may expect either economic advantages or positive performance of the organization or a very low membership fee. In each of the four countries there is a critical mass of entrepreneurial forest owners who strongly support</p>

	an association of private forest owners; in Bosnia and Herzegovina the “drivers” amount to 55% of the respondents. A majority of Bosnian private forest owners (two thirds) support the compulsory membership which is in accordance with the forest policy decision makers in this country, while the attitudes of both private forest owners and representatives of institutions in Serbia and Croatia are reserved in this respect. This difference can be explained with the fact that in Serbia private forest owners’ associations at the local level have been developing slowly during the last two years, while Croatia supports their formation by the Forest Extension Service, a department of the public forest administration. In Macedonia, the compulsory membership is most strongly opposed by the representatives of the existing private forest owners’ associations.
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below)
Type of funding used(multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input checked="" type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input type="checkbox"/> National <input checked="" type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	Pluralism, Theory of collective action, Exchange theory, Voice, exit and loyalty, Theory of critical mass
Methodical approach	quantitative door-to-door surveys, qualitative in-depth interviews
Thematic focus	<p>ownership change (incl. on changes in</p> <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.) <input checked="" type="checkbox"/> motives and behaviour of ownership types <input type="checkbox"/> new management approaches <input checked="" type="checkbox"/> policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
web link	http://www.efi.int/portal/virtual_library/publications/research_reports/25/

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Nonić, D. (2004) <i>Organization of forestry in the transition process: Relation of public forest administration and private forest owners. Doctoral dissertation. Belgrade: University of Belgrade, Faculty of Forestry.</i>
English language summary/abstract	<p>One of the most important priorities of forestry in Serbia is the need to reorganize the private forest sector, with the aim of accomplishing, through participation and co-operation, the concept of modern forestry with the sustainable management of private forests. The need to change the existing system of support to the private forest sector is evident, because of its inefficiency and significant changes both in the public administration, and in the environment. Within the framework of the private forest sector in Serbia to date there has been no organized approach of the State, i.e. its organs, to addressing the issues of private forest owners. For this reason, this study is primarily directed at the research of the possibilities of promoting the co-operation of the public administration and private forest owners. The study deals with the regulatory frameworks of the organization of private forest sector, institutional frameworks and professional capacities, frameworks of forest policy, as well as financial instruments and the means of achieving the major objectives. Organizational issues and their causes have been identified using the system analysis; the basic shortcomings of the organization of the current system and the derived problems have been defined in relation to the current legislation and stakeholders. Based on the above, the targets and the alternatives for the accomplishment of the objectives are proposed and the proposed measures as well as the basis of the enhancement of the actual state of private forest defined. The system of direct and indirect support measures is proposed, and in the framework of each of the offered measures, we analyze historical experiences, modern solutions and international commitments, based on which the system frameworks for their establishment and operation are proposed. The framework of the model of private forest sector organization includes the possibilities of its development and the main assumptions of the support system, as well as the organizational models that can be realized in its functioning. These are at the same time the most significant tasks to be carried out in the process of transformation of private forest sector organization by the relevant state institutions during the transition period. Based on the study analyses of forestry organization in Serbia, it was concluded that, regarding the transformation of the relations of public forest administration and private forest owners, it is necessary to upgrade the relations in the direction of co-operation and partnership development. It was also concluded that the model of upgrading the relations of public forest administration and private forest owners in Serbia should be proposed. It should be done through the organization of the advisory system, establishment of forestry extension and advisory service, introduction of financing of support measures and association of private forest owners. The issues of forestry organization in the transition process and the harmonization of the conflicts of interests and relations between the particular owners have not been studied in our professional and scientific literature to date. This topic is relatively new at the European level as well. Its significance has been especially emphasized during the last ten years or so, with the beginning of the processes of transition and social changes in the countries of the former East European block. This study also opens the field of new researches on this topic in our region.</p>
Language of the study/publication	Serbian

Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input checked="" type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below)
Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input checked="" type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input checked="" type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input checked="" type="checkbox"/> National <input checked="" type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	organization in forestry, forest policy, system theory
Methodical approach	qualitative interviews and method of observation
Thematic focus	ownership change (incl. on changes in <input checked="" type="checkbox"/> quantitative terms, emerging new ownership types, etc.) <input type="checkbox"/> motives and behaviour of ownership types <input type="checkbox"/> new management approaches <input checked="" type="checkbox"/> policy instruments addressing ownership

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Nonić, D., Bliss, J., Milijić, V., Petrović, N., Avdibegović, M. and Mataruga M. (2011) 'Challenges of Organizing Private Forest Owners in Serbia', Small-scale forestry, vol. 10, no, 4, November, 435-455.
English language summary/abstract	Small-scale forestry in Serbia is characterized by high fragmentation of properties, a large number of parcels and forest owners. Numerous activities for private forest owners in Serbia supported by the State, FAO and CEPF have resulted in an increased interest of owners in forming private forest owners' associations (PFOA). The goal of this paper is to explore preconditions that are necessary for organizing private forest owners in Serbia into effective associations. In order to reach this goal, results of PRIFORT project were used. The over-arching research questions of this paper are: "What is the level of interest among forest owners in forming owners' associations?"; "Why has forest owner interest in organizing developed so slowly?" and "What are the necessary preconditions for the development of private forest owners' organizations in the country?" In order to answer these questions, a quantitative survey with 42 close, open and Likert scale questions was conducted. The sample size was determined following Malhotra's proportion method. A total of 350 private forest owners, from nine municipalities were interviewed. The results of this paper show that the majority of respondents are very little or not at all aware of the existing legislation. Almost a half of the respondents consider that their interests are not represented well. Although about 50% of the interviewed forest owners miss interest organization, only 0.3% of them are members of PFOA. More than 70% are ready to join association, if it would provide them with some economic advantages.
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below) <input type="text"/>
Type of funding used(multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input checked="" type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input checked="" type="checkbox"/> National <input type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	group theory, theory of collective action
Methodical approach	quantitative survey

Thematic focus	<p>ownership change (incl. on changes in <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.)</p> <p><input checked="" type="checkbox"/> motives and behaviour of ownership types</p> <p><input type="checkbox"/> new management approaches</p> <p><input type="checkbox"/> policy instruments addressing ownership</p>
Main results should be given here if not yet included in the summary.	
web link	http://link.springer.com/article/10.1007%2Fs11842-011-9160-4

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Nonić, D. and Glavonjić, P. (2012) 'Organizing private forest owners in order to mobilize wood resources: analysis of association models in Austria, Bavaria and Serbia', Forestry, no. 3-4, pp. 131-151.
English language summary/abstract	<p>The low level of utilization of wood resources from small-scale forest properties in private ownership results in poor mobilization of wood resources, and therefore the lack of wood as a raw material in the market. This situation is the result of structural defects in small forest lands, as well as the weak position of private forest owners in the market, lack of knowledge about forest management, a small amount of wood that is obtained by one owner, low level of utilization of machines and the difficulties in getting the promotion and support from government authorities. A measure to improve the mobilization of wood resources is the association of private forest owners in the appropriate interest organizations. Associations of private forest owners provide benefits for the owners of small-scale forest holdings similar to those of the owners of large-scale forest holdings. Interest organizations orient their main activities, primarily, towards cooperation in the procurement of equipment, information and economic cooperation, and to the economic and financial functions, as well as cooperation in the joint management of forest holdings. In this way, the level of utilization of wood resources increases, and therefore, because of the higher amounts of wood products and lower production costs, wood from small-scale forest holdings becomes more competitive in the market, compared to the wood from the owners of small-scale forest holdings who appear on the market independently. Three countries were studied: Austria, Bavaria and Serbia. They were selected on the basis of similarities in terms of total area and the area of forest resources, and the possibilities of mutual comparison of organizational models of FOA (Forest Owners Associations). In addition, some of the analyzed countries are good examples of private forest owner organization methods, utilization of wood resources and the mobilization of wood originating from private forests. Eight different forms of association of forest owners were studied in the selected countries: 4 in Austria, 2 in Bavaria and 2 in Serbia. The observed responsibilities and obligations undertaken by forest owners within each model of organization were: conclusion of contracts, determination of assortment categories, logging, transport, and invoicing. On the basis of good practices in European countries, the main task of the paper was to define the organizational models in Serbia which could increase the mobilization of wood resources from private forests. It was confirmed that the model of forest owners association must be carefully selected in accordance with the needs of forest owners and their objectives. It was shown that the "Styrian FOC Model" is the most suitable for forest owners who have some specific skills and knowledge in the management of forest holdings. The main difference and the advantage of this model compared to the existing FOA in Serbia is that there is a certain safety in business, because the associations' governing bodies arrange the sale and conclude contracts at the beginning of the year with the fixed prices of wood products throughout the year. In this way, forest owners are not faced with the problem of wood sale and a greater mobilization of wood products is encouraged. The best model for forest owners who have no knowledge of forestry and live far from their forest holdings, the so-called "urban" forest owners, is the model of dividends or the model of 'community forest'. The owners have no contact with their forest holdings, but they have a certain income and security because their forest holding is managed by a professional. The most suitable organizational model for private forest owners who are between these two extreme types is the "individual accounting model". They are the owners who do not have the skills and knowledge in the management of forest holdings but they live in the immediate vicinity and they spend a part of their time in the forest. The whole process of management, from the preparation of planning documents to harvesting and timber production, is performed by licensed professionals, with the participation of forest owners.</p>
Language of the study/publication	Serbian

Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below)
Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input checked="" type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input type="checkbox"/> National <input checked="" type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	Organization in forestry, forest policy
Methodical approach	case study, method of analysis
Thematic focus	<p>ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.)</p> <input type="checkbox"/> ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.) <input checked="" type="checkbox"/> motives and behaviour of ownership types <input type="checkbox"/> new management approaches <input type="checkbox"/> policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
web link	www.srpskosumarskoudruzenje.org.rs/index.php?option=com_content&task=view&id=322&Itemid=30

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Nonić D. and Milijić V. (2008) <i>Status quo analysis: Private Forestry in Serbia and its role in the NFP/NFS Process</i>, Brussels: Confederation of European Forest Owners.
English language summary/abstract	<p>Based on the results of the National Forest Inventory forests cover 2.2 million ha in Serbia (2008). This corresponds to 29.1% of the state territory. The total timber volume is approximately 362 million m³ and the total annual increment exceeds 9 million m³. Private forests are most abundant covering approximately 52.2% of the total forest area, followed by state forests, covering 39.8 % of the total forest area. The ownership of about 8 % of forests was not determined by the National Forest Inventory 2008. The development of property rights in Serbian forestry and their organization must be viewed historically (Nonić, 1993). The property types and their changes are closely related to the socioeconomic conditions experienced in different stages of development. The development of forest ownership went through the stages of forest as a public source of welfare owned by the society in mid of 19th century. Different forms of forest ownership (private, communal, rural) were then formed by the end of 19th century and defined in the first Serbian Forest Law from 1891. After WWII, the process went on in the opposite direction, and social attention was drawn to the state or public forest sector. However, it should be emphasized that the private forest ownership existed in former Yugoslavia throughout the whole period after WWII, unlike most of "the Eastern European Block" socialist countries, although the usage of private forests was limited. The structure of private forests in Serbia in 2008 shows a large number of forest owners, with corresponding small average forest properties in small parcels. The private forest sector in Serbia is characterized by high fragmentation of properties, a large number of parcels and owners, and by insufficient organization of forest management. Consequently, small-sized private forests under today's forest policy circumstances are a significant problem for efficient forests management therein. However, their size, significant timber volume, and annual increment, which are similar to those of the state forests, stress their importance as resources. Two models of forest owners' organizations exist at the moment in Serbia - community forest model aiming at joint forest management and private forest owners' associations aiming at the representation of the members' interests. The forest community (Šumska zajednica) Beočin was established in 1903 by 79 owners. The goal of the Association was to help members, who were mainly poor peasants, to secure some additional income and satisfy their needs for wood for their households through common management of the forests (Nonić, 2004). The forest community has predominated as the only one in the region through many historical changes (changes of state and their administrative requirements) and therefore presents a unique value even on the European scale. During 2006, several private forest owners' associations (PFOA) were formed. The associations are NGOs and their statutes and overall goals are very similar (Milijic, 2007). They aim at representing the interests of their members and not at joint forest management. Every owner manages his own forests, while the association coordinates joint works such as forest infrastructure, and joint marketing activities. Training and cooperation with other associations and institutions are carried out jointly. Even though all existing PFOAs have been formed in the past two years, some of them, like PFOA Podgorac, present a good example to other associations and disunited forest owners. The example of PFOA Podgorac clearly shows that the establishment of a well-organized system of state support (financial, advisory and technical) can encourage activities of associations and stimulate disunited forest owners to associate. However, this process takes more time to develop. Although there are ten PFOAs, a national umbrella organization of forest owners in Serbia has not been established yet. This can be explained by the fact that most of the local associations are not very active and members are not willing to support them or do not see clear interests and benefits from such a national level organization. The present forest legislation is not supportive enough of that while the local members do not have capacities and defined clear interests to</p>

	<p>succeed. However, there are some initiatives to establish an umbrella organization, which deserves further support of the state administration. One can see that many private forest owners manage their forests. The public forestry enterprises are entrusted with performing so-called professional and technical tasks in private forests in the area they manage (PE 'Srbijašume' and PE 'Vojvodinašume'). However, the current organization of extension and technical services for private forests and the lack of an organized advisory service satisfy neither owners' needs nor the State demands for sustainable stewardship and improvement of private forests. The biggest drawback of the current system of organizing professional and technical tasks in private forests is a clear conflict of interest. Since the major task of PEs is the state forest management, private forest issues cannot be the focus of their attention. Performing services for private forest owners can cause conflicts of interest, since foresters cannot be independent in technical activities and advising (Begus, 2006). Reorganization of professional and technical service and foundation of an advisory support service are seen as priorities for further improvement of private forests as well as profits for the owners (Nonic et al, 2007). At present, the Law does not even mention indirect and direct measures of financial support for private forest owners. Moreover, the constitutional status of private forests is controversial, since private and state ownership rights are equal and have equal legislative protection but all natural resources are goods of public interest and therefore are owned by the state. This does not adequately define the status of private forests, since they are not considered to be the goods of public interests. Moreover, the support to private forest owners in Serbia is in initial phase and it is implemented through the FAO project and its activities on the capacity building of public forest administration and support for forest owners' associations. The activities are performed through workshops and education of forest owners. Forest policy and organization of forestry in Serbia in the last 15 years has been built on a centralized institutional framework, as laid out in the 1991 Law on Forests. After the political changes in Serbia, the Serbian forest sector has not been fully-reformed, especially in the process of deregulation and privatization. Significant steps have been made to establish a strategic framework for the development of forestry in general culminating in the formulation of the National Forest Program of Serbia. In July 2006 the Forest Development Strategy of the Republic of Serbia was prepared and adopted. This document represents a basic strategic and development document of the Serbian forest sector, and by it, the State determined the principles, development goals and the measures of implementation. It set the framework and demands for institutional reform and redefinition of relations, roles, and responsibilities within the complete Serbian forestry sector. The State has recognized the importance of the private forest sector and its role is emphasized in the Strategy. The measures defined by the Strategy help develop the private forestry sector, improve the condition of forests and enhance the economic state of their owners. The Strategy emphasizes the need for the development of small and medium-sized enterprises in forestry (SME). The traditional significance of forests for residents of rural regions, primarily for satisfaction of their basic needs for firewood and timber, determined the forms of business in forestry and related branches. The basic goal of the establishment and development of small and medium-sized enterprises in forestry is to increase the contribution of forestry to economic and social development of the Republic of Serbia. The National Forest Action Program (NFAP) of the Republic of Serbia is according to the Forestry Development Strategy the action plan for implementation. The NFAP was passed in the Parliament of the Republic of Serbia and it is valid for a period of ten years. Two basic principles were set for private forests - increasing public interest in the principles of sustainable forest management and achieving owners' personal interests. The most serious problems of the private forest sector got identified during the preparation of the NFAP and solutions to those problems were foreseen. It is planned that forest owners receive money from its financial source, the Forest Fund, for the improvement of forest conditions</p>
--	---

	<p>through direct support in the co-financing work. According to the NFAP about 40% of the funds allocated to forest reproduction, is intended for private forest owners. The support planned for private forest owners' associations will be financed from the Forest Fund, and realized as advisory support for the establishment of interest organizations on regional and national levels and direct support for the establishment of new associations on the local level. The support from the Forest Fund is planned for the development of small and medium-sized enterprises in forestry, as advisory support, and support for the establishment and development of SMEs. Funds for forest management and labour protection will be available for the associated forest owners. Approximately 1.4% of the total ten-year funds for implementation of NFAP are planned to be directed as support to private forest owners' associations. Planned measures of support for private forest owners and small and medium enterprises in forestry as well as the funds intended to this purpose can be a significant encouragement for the development of private forestry. However, realization of those measures depends on preparation and passing of necessary documents, especially the new forest law and the National Forest Action Program. National political issues and willingness of certain interest groups and decision-makers to support the reformation of Serbian forestry and development of private forest sector are also important.</p>
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below)
Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input checked="" type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input checked="" type="checkbox"/> National <input type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	organization in forestry, forest policy
Methodical approach	Method of content analysis
Thematic focus	<input type="checkbox"/> ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.) <input type="checkbox"/> motives and behaviour of ownership types <input type="checkbox"/> new management approaches <input checked="" type="checkbox"/> policy instruments addressing ownership

<p>Main results should be given here if not yet included in the summary.</p>	
<p>web link</p>	<p>http://www.profor.info/sites/profor.info/files/Annex%204%20-%20SQA%20Serbia_E.pdf</p>

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Nonić, D., Ranković, N., Glavonjić, P. and Nedeljković, J. (2013) 'Typology of private forest owners in Serbia', <i>Forestry</i>, no. 3-4, pp. 133-156.
English language summary/abstract	<p>The impacts of socio-economic and demographic changes occurring during the transition period have also influenced the forestry sector. In Serbia, this was the period of formation of private forest owners' associations, but also of the development of "new" types of owners, who were given back their property in the process of restitution. The consequence of these changes was the pronounced heterogeneity of actual forest owner characteristics and their relationship to forest property, which was caused by different social, economic and cultural conditions. The study was aimed at the definition of the basic types of private forest owners in Serbia, based on the forest property characteristics and forest management objectives. Based on the defined owner types, the purpose of the research was to understand the structure of forest owners in terms of forest property management stand points and objectives, as well as forest property characteristics, intended for the creation of more efficient forest policy instruments. The subject of the study was private forest owners, i.e. their attitude and behaviour with regard to their forest property management. The research was performed in four forest areas (Podrinjsko-Kolubarsko, Severnokučajsko, Južnokučajsko and Timočko Forest Area). Basic criteria for the selection of forest areas were geographical distribution, percentage of private forests, presence of different private owner categories (monastery forests), and the existence of private forest owners' associations. Ten municipalities with 50 cadastral plots were then selected in the study area. The study data were collected during 2012-2013, and altogether 248 private forest owners were surveyed. The questionnaire comprised 40 questions, grouped in 3 groups. Nine questions were selected and analysed for the purpose of this study, to be used as the criteria for the selection of the types of private forest owners: 1. group: "socio-demographic characteristics of forest owners"-two questions (actual place of residence, and agricultural socialisation); 2. group: "aspects of forest management"-five questions (forest property size, number of parcels, distance of parcels, management objectives, time consumed in forestry jobs); 3. group: "economic aspects"-two questions (volume of felled wood, and returns from forestry). The data were processed using statistical methods, i.e. using descriptive statistical analysis and non-hierarchical and hierarchical cluster analyses. The applied non-hierarchical methods were post stratification, two-step cluster analysis, and k-mean clustering. The hierarchical cluster analysis was selected because it can define the homogeneous groups, i.e. the variables based on the selected characteristics. Based on post-stratification cluster analysis, and using Hodges-Delenius rule, it was found that there were three optimal types (clusters) of forest owners with regard to property size classes: 1. types of owners with forest property below 4.19 ha (49%); 2. types of owners with forest property 4.20-8.38 ha (25%); 3. types of owners with forest property more than 8.39 ha (26%). Using two-step cluster analysis, 3 types of private forest owners were defined: 1. owner type with 10.48 ha of forest property-annual cut 318 m³ of fuel-wood, more than 7 parcels, more than 50 percent of owners (55%) spend ¼ to ½ of total annual activities in forestry, all owners (100%) use fuel wood for sale and domestic use, for 62% of owners, the returns from fuel-wood sale account for ½ to ¾ of total annual returns; 2. owner type with 9.98 ha of forest property-annual cut 64 m³ of fuel-wood, more than 6 parcels, 62% of owners of this type spend up to ¼ of total annual activities in forestry, 55% of owners produce fuel-wood for domestic use, for 65% of owners, the returns from fuel wood sale account for up to ¼ of total annual returns; 3. owner type with 4.26 ha of forest property-annual cut 17 m³ of fuel-wood, more than 4 parcels, all the owners of this type spend up to ¼ of total annual activities in forestry, all owners use fuel-wood exclusively for domestic use, for 99% of owners, the returns from fuel-wood sale account for up to ¼ of total yearly income. K-mean cluster analysis showed three types of private forest owners: 1. "indifferent" owners-the type whose primary objective is fuel-wood production and the production of</p>

	<p>industrial wood is not of great significance. Also, protection function, biodiversity conservation and socio-cultural services are not at all significant objectives of forest management; 2. "traditional" owners-the type whose primary objective is also fuel wood production, and the production of industrial wood is not of great significance. However, In contrast to the previous type, protection function and biodiversity conservation are highly significant forest management objectives for the owners belonging to this type; 3. "owners with multiple objectives"-the type with several objectives of forest property management: wood production, both fuel-wood and industrial wood, both for domestic purposes, and for sale, protection function and biodiversity conservation. Based on the results of hierarchical cluster analysis, six types of owners can be identified in the area of researched municipalities: 1. Jagodina and Knjaževac with dominant management objectives-fuel-wood production, and also biodiversity conservation and protection forest function; 2. Boljevac and Bor with the dominant objective- fuel-wood production, where as other objectives are of lower significance; 3. Loznica with intermediate impact of management objectives- fuel-wood production and protection forest function; 4. Despotovac and Valjevo with the dominant impact of management objective-biodiversity conservation, where as fuel-wood production has an intermediate impact; 5. Žagubica with the dominant impact of management objectives-protection function and biodiversity conservation, where as fuel-wood production has an intermediate impact on forest property management; 6. Ljubovija and Kučevo with the absolutely dominant objective- fuel-wood production, while other management objectives are of low or no effect on forest property management. The study results obtained and explained using the above methods made it possible to define the conceptual model of the types of forest owners, which can be applied in future research and also in the designation and implementation of the basic elements of forest policy towards the private forest owners in Serbia.</p>
Language of the study/publication	Serbian
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below)
Type of funding used(multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input checked="" type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input checked="" type="checkbox"/> National <input type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	organization in forestry, conceptual model
Methodical approach	questionnaire survey

Thematic focus	<p>ownership change (incl. on changes in <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.)</p> <p><input checked="" type="checkbox"/> motives and behaviour of ownership types</p> <p><input type="checkbox"/> new management approaches</p> <p><input type="checkbox"/> policy instruments addressing ownership</p>
Main results should be given here if not yet included in the summary.	
web link	http://www.srpskosumarskoudruzenje.org.rs/pdf/sumarstvo/2013_3-4/sumarstvo2013_3-4_rad09.pdf

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Nonić ,D., Tomić, N., Marković, J., Herbst, P. and Krajcic D. (2006) 'Organization of private forest owners in Serbia compared to Austria, Slovenia and other Central European countries', Forstwissenschaftliche Beiträge Forstpolitik und Forstökonomie, no. 35, pp. 95-106.
English language summary/abstract	The subject of this paper is to identify possibilities and strategies of methodical cooperation between the Serbian state forest administration and private forests owners which is based on the development of an organizational system of support to the private sector. It sets out some of the research results with regard to the effort of solving one of the most impending problems of forestry in Serbia which is the urgent need for re-organization of the private forest sector. Because of some similarities of their natural, economic and social characteristics of the past the paper also considers comparable findings from Slovenia and Austria. During the last century, the political as well as socio-economic relations in these three countries changed significantly, and so did the structures and forms of forest ownership.
Language of the study/publication	English
Type of organization conducting the study	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below)
Type of funding used(multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input checked="" type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input checked="" type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input checked="" type="checkbox"/> National <input checked="" type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	organization in forestry, forest policy
Methodical approach	case studies
Thematic focus	ownership change (incl. on changes in <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.) <input type="checkbox"/> motives and behaviour of ownership types <input type="checkbox"/> new management approaches <input checked="" type="checkbox"/> policy instruments addressing ownership
web link	http://www.iufro.org/science/divisions/division-9/90000/90600/publications/

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Petrović, N. (2012) <i>Attitude of the state and private forest owners towards forests as the basis for defining the model of forest management planning in Serbia</i>. Doctoral dissertation. Belgrade: University of Belgrade, Faculty of Forestry.
English language summary/abstract	<p>Private forests in Serbia occupy an area of over one million hectares, which accounts for 47% of all forests in Serbia. After the completion of the restitution to religious communities and individuals, this percentage is expected to increase at the expense of state-owned forests. Along with the Netherlands, Germany, Hungary and Belgium, Serbia belongs to the countries with a balanced ratio of private and state-owned forests. Private forests with over one million hectares represent a significant potential for the economic development of Serbia, especially in rural areas, where they are likely to contribute to the reduction of poverty of the local population. Since recently, Western European countries are turning to renewable energy resources in contrast to non-renewable ones such as oil or gas. The potential of wood from private forests in Serbia is not being sufficiently exploited both in timber industry and in the production of raw materials employed to produce energy. The main reason for the insufficient mobilization of wood from private forests lies in the characteristics of private forests, including the small size of forest estates, coppice origin of forests, a large number of forest parcels, undefined ownership status, outdated land registry, the lack of advisory services that meet the owners' needs and the habit of owners to depend on the activity of public forest administrations. For this reason, many private forest owners find that their forest property is not economically worthwhile. One way of mobilization of the wood from private forests could be through the establishment of private forest owners' associations that would help the owners pursue their interests at the local level in terms of more adequate forest management, and achieve more favourable terms for the management of their forest estates at the national level through lobbying. It is estimated that the number of private forest owners varies from 500 to 800 thousand, and there are no strong interest-independent associations of private forest owners. From the viewpoint of the Truman's theory of interest groups, this is a phenomenon, because every interest group that has a clear interest in the realization of common interests will be initiated and organized in order to realize these common interests, i.e. there are no organizations without a clear interest. According to the Olson's theory of collective action, large groups, such as private forest owners in Serbia, have problems with initiation and organization in order to achieve well-being for all their potential members, because everyone thinks that someone else should carry these activities out for them, thus enabling them to use the resulting benefits for free, as a result of joint or collective action. Another phenomenon investigated is linked to the legal obligation to produce forest management plans for private forests and their general lack in practice, except for a few exceptions. The existing content and the procedure of making plans for small private estates are almost identical to those for large state-owned estates. This doctoral dissertation examines the main reasons for the lack of strong interest associations of private forest owners, in spite of their large number at the national level (500-800 thousand), as well as the basic prerequisites for the creation of a strong national private forest owners' association. This dissertation also provides basic information on the content of the plans for private forests, based on the needs of private forest owners, the basic socio-economic characteristics of private forest owners, their impact on the preconditions for the creation of an interest association of private forest owners, and the content of forest management plans for private forests. The methodology applied in this dissertation is a mixed model of quantitative research used for private forest owners, and qualitative research employed in the investigation of important decision makers in the forestry sector. The methods used are a survey given to a random sample of 350 private forest owners in the municipalities with the highest percentage of forests in Serbia, combined with the municipalities that have the highest percentage of private forests. In-depth interviews were used in the examination of decision makers.</p>

	<p>Data analysis was performed using the SPSS software version 18. Frequencies and correlations were used to obtain the basic characteristics of private forest owners and their views pertaining to the socio-economic characteristics. Private forest owners in Serbia constitute a large group of people from the viewpoint of the Olson's theory of collective action, and as such they have a problem with the initiation of collective action in the aim of interest association. One way to overcome this problem is to define selective (financial) initiatives in order to achieve collective action. Besides showing selective initiatives, private forest owners are not a homogenous group. They vary in terms of willingness to invest private effort into the creation of an association and thus obtain the wood for charcoal more easily, or facilitate the sales of their wood to industrial plants. Private forest owners are particularly interested in the information on the amount of wood allowed to be cut, the possibilities of building and maintenance of forest roads and the information on how to improve the management of their estates. They particularly singled out as a significant issue the verification of activities on their estate by handwritten signature. This study confirms that the forest owners who mainly live in the countryside and utilize their forest are very interested in economic information regarding their estates. Plans for small forest estates should not have the character of legal provisions, but rather of recommendations for economically successful management, and they should reflect the needs of private forest owners. Taking into consideration the provision on limited rights over forests, forest policy should adopt measures pertaining to protection against reduction in forest area. The issues of quality and improvement of the state of private forests through subsidies or advisory services should be left to the economic and informational instruments. This paper also provides a draft version of a plan for a small private estate based on the private forest owners' needs. This draft version may also provide to the state an example of an economically measured plan that will be both legitimate during its implementation and economically measured in terms of its production costs.</p>
Language of the study/publication	Serbian
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below)
Type of funding used(multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input checked="" type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input checked="" type="checkbox"/> National <input type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	Theory of collective action
Methodical approach	questionnaire survey and qualitative interviews

<p>Thematic focus</p>	<p>ownership change (incl. on changes in <input type="checkbox"/> quantitative terms, emerging new ownership types, etc.) <input checked="" type="checkbox"/> motives and behaviour of ownership types <input checked="" type="checkbox"/> new management approaches <input type="checkbox"/> policy instruments addressing ownership</p>
<p>Main results should be given here if not yet included in the summary.</p>	
<p>web link</p>	

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Halder P., Paladinić, E., Stevanov, M., Orlović, S., Hokkanen, T., Pelkonen, P. (2014) Energy Wood Production from Private Forests: Private Forest Owner's Perceptions and Attitudes in Croatia and Serbia, Renewable and Sustainable Energy Reviews 35, p. 515-526.
English language summary/abstract	Private forests in Croatia and Serbia are highly fragmented in small plots with low productivity and owned by a large number of small-scale non industrial private forest owners (NIPFs). The study conducted surveys among 232 NIPFs in these two countries to find out their perceptions and attitudes related to energy wood production from their forests. The secondary objective of the study was to provide policy recommendations to the public authorities and professionals in these countries for improving the preconditions for energy wood mobilization from private forests. The study found that the NIPFs perceived underdeveloped market and low price for energy wood, absence of favourable policies, fragmented forests properties, older NIPFs' lack of interests in energy wood production, and difficulties in getting bank loan for energy wood related business activities as barriers against energy wood production from private forests. However, the NIPFs showed positive attitudes towards producing energy wood from their forests and they considered the possibilities of creating new jobs and commercial opportunities as strengths of energy wood production. The NIPFs' socio-demographic background had statistically significant relations with their perceptions and attitudes related to energy wood production. The dimensions of the NIPFs' perceptions and attitudes related to energy wood production showed two key dimensions – institutionalists and enthusiasts. The variables to explain the NIPFs' attitudes to energy wood production were different between the two countries and they indicated the differences in the country level circumstances for energy wood production. The results appeared to be relevant for understanding the issues that the NIPFs perceived as barriers against developing a viable energy wood market in their countries. When new forestry institutions and policies are emerging in these countries, the existing public and private forestry institutions need to play an important role for improving the preconditions for energy wood production from private forests.
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	<input type="checkbox"/> University <input checked="" type="checkbox"/> Public Research Institute <input type="checkbox"/> Private Research Institute <input type="checkbox"/> Other (please name below)
Type of funding used (multiple answers allowed)	<input type="checkbox"/> Private Industry <input type="checkbox"/> Private other <input type="checkbox"/> National <input type="checkbox"/> Public Sub-National <input checked="" type="checkbox"/> Public EU/cross-national Europe <input type="checkbox"/> Public International beyond Europe <input type="checkbox"/> Public other
Regional scope	<input type="checkbox"/> Sub-national <input type="checkbox"/> National <input checked="" type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach)	Political sciences

Methodical approach	Questionnaire survey
Thematic focus	<p>ownership change (incl. on changes in</p> <p><input type="checkbox"/> quantitative terms, emerging new ownership types, etc.)</p> <p><input checked="" type="checkbox"/> motives and behaviour of ownership types</p> <p><input type="checkbox"/> new management approaches</p> <p><input type="checkbox"/> policy instruments addressing ownership</p>
Main results should be given here if not yet included in the summary.	
web link	http://www.sciencedirect.com/science/article/pii/S1364032114002652



EUROPEAN FOREST INSTITUTE
CENTRAL-EAST AND SOUTH-EAST EUROPEAN
REGIONAL OFFICE - EFICEEC-EFISEE

European Forest Institute Central-East and South-East European
Regional Office (EFICEEC-EFISEE) c/o
University of Natural Resources and Life Sciences, Vienna (BOKU)
Feistmantelstrasse 4
1180 Vienna, Austria

Tel: + 43-1-47654-4410
eficeec@efi.int
www.eficeec.efi.int

