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Forest Land Ownership Change in Bosnia and Herzegovina

COST Action FP1201 FACESMAP Country Report



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

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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.

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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

1. Introduction	1
1.1. Forests, forest ownership and forest management in Bosnia and Herzegovina	1
1.2. Overview of the country report	1
2. Methods	3
2.1. General approach.....	3
2.2. Methods used.....	3
3. Literature review on forest ownership in change	4
3.1. Research framework and research approaches	4
3.1.1. Major results and insights	5
3.2. New forest ownership types	5
3.3. Policy change/policy instruments	6
4. Forest ownership	7
4.1. Forest ownership structure.....	7
4.1.1. National data set.....	7
4.1.2. Critical comparison with national data in FRA reporting	8
4.2. Unclear or disputed forest ownership	9
4.3. Legal provisions on buying or inheriting forests.....	10
4.3.1. Legal restrictions for buying or selling forests.....	10
4.3.2. Specific inheritance (or marriage) rules applied to forests.....	10
4.4. Changes of the forest ownership structure in last three decades	10
4.4.1. Changes between public and private ownership	10
4.4.2. Changes within public ownership categories.....	10
4.4.3. Changes within private forest ownership	11
4.4.4. Main trends of forest ownership change.....	11
4.5. Gender issues in relation to forest ownership	11
4.6. Charitable, NGO or not-for-profit ownership of the forests.....	11
4.7. Common pool resources regimes	12
5. Forest management approaches for new forest owner types	14
5.1. Forest management in B-H	14
5.1.1. Organisation of forest management practice in B-H.....	14
5.2. Main opportunities for innovative forest management.....	14
5.3. Obstacles for innovative forest management approaches	15
6. Policies influencing ownership development / Policy instruments for new forest owners	16
6.1. Influences of policies on the development of forest ownership	16
6.2. Influences of policies in forest management	16
6.3. Policy instruments specifically addressing different ownership categories	17
6.4. Factors affecting innovation in policies.....	17
7. Literature	18
8. Annexes	20
8.1. Tables with detailed description of 7 most important publications	20

Figures

Figure 1: Forest ownership structure in B-H.....7

Tables

Table 1: Forest ownership structure in B-H.....7
Table 2: Growing stock of accessible high and coppice economic forests per
ownership in B-H.....8
Table 3: FRA and national data on forest area in B-H8
Table 4: Distribution of other wooded land category per ownership types in B-H.....8

Acronyms and abbreviations

B-H	Bosnia and Herzegovina
CPR	Commons - forest common property regimes
EC	European Commission
EU	European Union
FACESMAP	Forest Land Ownership Changes in Europe: Significance for Management and Policy
FAO	Food and Agriculture Organization of the United Nations
FB-H	Federation of Bosnia and Herzegovina
FMP	Forest Management Plan
FMU	Forest Management Unit
FOPER	Project "Forest Policy and Economics Education, Training and Research in the Western Balkan Region"
FRA	Forest Resources Assessments
FSC	Forest Stewardship Council
NFP	National Forest Program
NGO	Non-governmental Organisation
PFOA	Private Forest Owners Association
RS	Republic of Srpska

1. Introduction

1.1. Forests, forest ownership and forest management in Bosnia and Herzegovina

Forests in Bosnia and Herzegovina (hereinafter B-H) comprise a diversity of forest types from coastal Mediterranean forest to mountain forests in central B-H. Covering more than half of the country, forest resources have great importance for both national economy and local livelihood. Together with wood-processing industry and agriculture, forestry plays a key role in development and well-being of most rural areas. Total number of people employed in forestry sector in B-H is around 10.000.

According to the official data (First National Forest Inventory 1964-1968), forests and forest lands in B-H cover 2.709.769 ha (52% of the total area). The state owns 2.186.332 ha (80.68%) while private forest owners hold 523.437 ha (19.32%). Official results of the Second National Forest Inventory (2006-2009) are not available yet. Still, some of the available results revealed that forest cover in B-H has been increased up to 63% of the total area of the country (USAID – FIRMA, 2012).

Forest resources in B-H show typical structures for countries in South-East Europe, for which a huge amount of coppice forests are typical. Ratios of high forests and coppice forests are diametrically opposed when comparing state and private owned forests – most of the high forests are state-owned while most of the coppice forests in B-H are privately owned.

Term “state owned forest” is widely used to refer to the public forests and it can be recognized in both official documents and day-to-day life. According to the constitutional set up of the country, the ownership of public forests rests with the two Entities (the Federation of Bosnia and Herzegovina and Republic of Srpska), while the Cantons (in the Federation of Bosnia and Herzegovina) and municipalities (in both entities) have no ownership rights over the public forests.

The percentage of privately owned forests is higher in the lowland area of B-H where the forest coverage is the smallest, while public

forests are located in areas with high forest cover. Private forests are mainly owned by individuals. During the socialism, private forest ownership was marginalized by national forest policy. Comparing to relatively intensive management of public forests, private forests have been quite neglected by both, forest policy decision makers and private forest owners.

The organisation of forestry sector in B-H is complex and divided between two entities: the Federation of Bosnia and Herzegovina (hereinafter FB-H), Republic of Srpska (hereinafter RS) and Brčko district. In the FB-H, the ownership of the public forest resources rests with entity level while management rights are transferred to 10 Cantons. Cantons transfer these rights to Cantonal Forest Management Enterprises (one in each canton). Forestry Department within the Ministry of Agriculture, Forestry and Water Management, is responsible for forests and forestry in RS. Public forest enterprise “Šume Republike Srpske” is responsible for management of public forests. It has a hierarchical organization with headquarter and 25 Forest Management Units. In Brčko district, where forestry plays a subordinated role, there is the Department for Agriculture, Forestry and Water management.

Beside the above mentioned public forest enterprises, some public forests within protected areas are managed by public institutions responsible for management of protected areas (e.g. National parks, protected landscapes etc.).

1.2. Overview of the country report

According to the official data from the First National Forest Inventory, current forest ownership structure in B-H (80% of public and 20% of private owned forests) is similar to the ownership structure during the Austro-Hungarian annexation of B-H. In many aspects, public and private forests in B-H significantly differ. While high forests are mainly owned by the state, private forest owners own most of the coppice forests.

When it comes to the definitions of the

property types, there is no ambiguity between national definitions and those provided by FRA. Difference lies in the lack of various categories of private ownership in national Laws on Forests due to underdeveloped private ownership in B-H (no strict rules for selling private owned forests, traditional customary rights are not accepted by current legal framework, private forest ownership category is overregulated etc.). Still, forest-related legislation frameworks in B-H are passing through rather turbulent processes, which will result with many changes. Some of these changes will probably refer to improvement of the status of private forest ownership category, which is pretty neglected in current legislative and policy solutions in the country. For this to happen, it is not possible to indicate neither concrete examples of new forest ownership types in the country nor examples of policy instruments directed toward them. Therefore, one of the main opportunities of forest management practice in B-H is to introduce innovative forest management approaches in both legislative and policy framework of the forest sector and day-to-day management practice.

Private forests in B-H are valuable source of various goods and services that could be effectively managed by their owners with help of state forest administration. One of the main problems related to private forest owners is their under-representativeness in policy planning and implementation of executive plans. Private forest owners in B-H have no potential to adopt innovative management approaches due to the fact that laws at all administrative levels and institutional

arrangements do not recognise this category of forest ownership equally important as public forests. In order to increase their role in implementation of forest management plans, private forest owners should be organised in private forest owners associations (hereinafter PFOAs).

Despite of the fact that private forest owners in B-H are characterized as inert and unorganized, there are some of the bright examples of PFOAs in the country (PFOAs "Naša šuma" and "Šume Krajine"). Recently adopted Laws on renewable energy sources and efficient cogeneration in both entities prescribe subsidies, as economic instrument of forest policy, both for production and consumption of woody biomass for energy. This regulation represent good example for improvement of legal framework toward supporting the establishment of interest-based associations of private forest owners in the Country.

Scientific focus of conducted research on private forest ownership in the country were mainly related to the motives and behaviour of private forest owners, analysis of policy and legislative solutions related to private forest ownership and recommendations for creation of specific policy instruments in order to improve situation in this ownership category. Lack of analytical capacities and abilities to publish the results internationally is seen as the weakest point of conducted research. Focus of future research efforts should be on developing and testing appropriate mix of forest policy instruments to promote better cooperation of private forest owners and sustainable management of privately owned forests.

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 a 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 (own 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 mechanisms of change and of 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

Since comprehensive analysis of forest ownership represents main goal of this Country report, its preparation demanded application of mix of various research methods as follows: literature reviews of secondary data (mostly the results of national

and regional studies on private forest ownership), analysis of statistical data from national forest inventories and other relevant forest-related sources of information (such as Global Forest Resources Assessment, official statistical reports of the country etc.), own expert knowledge (mainly for estimations of future trends related to forest ownership in the country) and provision of appropriate case examples.

The data collection was obtained in the period February - March 2014. Collection of secondary data sources entailed collection of various scientific papers and studies that have been dealing with forest ownership issues on both national (B-H) and regional scale (Western Balkan region), collection of relevant statistical sources (annual bulletins of forest sector, statistical yearbooks etc.) and analysis of forest-related laws and strategic documents that regulate framework for forest management activities in B-H. Illustrative case examples were obtained in order to describe certain specificities related to forest ownership issues in B-H (examples from regulatory frameworks, specific innovative solutions, socio-cultural contexts etc.).

Finally, expert knowledge was mainly used to backup certain statements, predictions of future trends and overall estimations of the situation.

3. Literature review 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 for new forest owner types, and 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 pages 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 contains the following questions: Which research frameworks and research approaches are used by research? What forms of new forest ownership types are identified? Which specific forest management approaches exist or are discussed? Which policies possibly influence 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

The project "Research into the Organization of Private Forest Owners' Interest Associations in the Western Balkan Region (PRIFORT) (started on May 2007, finished on April 2009) conducted as part of the project "Forest Policy and Economics Education, Training and Research in the Western Balkan

Region (FOPER)", financed by Finnish Ministry of Foreign Affairs, represents a starting point in research of private forest ownership in B-H and entire Western Balkan Region. Thus, results of the PRIFORT project represent cornerstone of all recently conducted research on private forests in B-H that are presented in this report.

Main research questions of this project are as follows (Glück et al, 2011: 12):

- Why are private forest owners' interest associations (PFOAs) in the four countries almost not existent?
- What is the procedure of forming PFOAs?
- What kinds of services and lobbying are expected by potential members of PFOAs?
- What are the possible choices, constraints and possibilities to form PFOAs in the Western Balkan region?

All papers that were published based on results of PRIFORT project were trying, each in specific perspective, to answer on some of these questions. Scientific focus was mainly related to the motives and behaviour of private forest owners, analysis of policy and legislative solutions related to private forest ownership and recommendations for creation of specific policy instruments in order to improve situation in this ownership category. Due to the fact that countries involved in PRIFORT project were once joined in one State (Yugoslavia), specific focus of most of the research papers were on cross-country comparisons.

Coming back to the overall goal of FOPER project which was to build regional capacities in fields of forest economics, policy and governance, the research presented in these scientific publications are from the fields of sociology and political science. Quantitative door-to-door surveys and qualitative in-depth interviews were main research methods applied. Specific focus of analysed research papers/projects were on formation of interest associations that implies probing of following theories: Pluralism; Theory of collective action; Exchange theory; Voice, exit and loyalty and Theory of critical mass.

Furthermore, PRIFORT bring together experts in field of forest policy and economics from universities and public forest-related research institutes from Western Balkan region. Working together on realisation of PRIFORT and FOPER project, regional researchers got opportunity to work together on various scientific publications. This means that research presented in these papers were funded mainly as part of FOPER project that was financed by Finnish Ministry of Foreign Affairs.

3.1.1. Major results and insights

As it was previously emphasised, historical background of the countries involved in the implementation of PRIFORT project had imposed cross-country comparisons related to private forest ownership category. Therefore, major results and insights of conducted research are divided on those which are refereeing to cross-country comparisons and those for B-H.

Privately owned forest parcels are small (most of them are smaller than 1 ha) and fragmented into several parcels (2 to 7 parcels on average, most often in Serbia and B-H). Most of the respondents suffer from restrictive legal regulations concerning private forest owners (Glück et al., 2011). Yet, analysis showed that new Laws on Forests in Serbia, B-H and Macedonia prescribe some stimulating regulations for private forest owners such as support for creation of private forest owners associations, incentives and subsidies, participation in decision making process etc. (Nikolić et al., 2011). Furthermore, results showed that private forest owners are underrepresented in current organisation of forest sector and they perceive formation of interest association as way to achieve common goals. First and foremost goal is road construction and maintenance (Glück et al., 2011; Avdibegović et al., 2010). Beside forest road construction and maintenance, in case of private forest owners from Slovenia and B-H, results revealed that silvicultural advice and strengthening of entrepreneurship represent other two expectations from interest associations (Pezdevšek-Malovrh et al., 2011). The results show significant homogeneity across the region towards creation of independent interest forest owners

associations based on financial support (Glück et al., 2011). 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 (Croatia, B-H, Serbia and Macedonia), mainly because of the high critical mass of engaged private forest owners and the support of the majority of forest policy decision makers (Glück et al., 2010).

As concerns private forest owners in B-H, results showed that they can be grouped in three clusters based on differences in willingness of private forest owners to join in interest associations (Čabaravdić et al., 2011). Different clustering methods applied (post-stratification, two-step, k-means and hierarchical clustering) resulted in different cluster sizes of private forest owners and their characteristics (Čabaravdić et al., 2011). Property size based stratification resulted with three groups identifying boundaries of property sizes (< 0,70 ha, 0,71-3,0 ha, >3,1 ha) pointed out majority of very small size forest properties (Čabaravdić et al., 2011). On the other hand, post-stratification and two-step clustering resulted in three clusters with different forest property features but without differences in interest for PFO association (Čabaravdić et al., 2011). The k-means clustering based on willingness for cooperation generated three clusters with different attitude towards PFOAs (Čabaravdić et al., 2011). The first cluster expressed support for all common activities, the second cluster expressed interest for cooperation in forest road construction and maintenance while third cluster did not support common activities at all (Čabaravdić et al., 2011).

Lack of analytical capacities and abilities to publish the results internationally is seen as the weakest point of conducted research. Focus of future research efforts should be on developing and testing appropriate mix of forest policy instruments to promote better cooperation of private forest owners and sustainable management of private forests.

3.2. New forest ownership types

Currently, B-H has no changing forest ownership trends. Results of the PRIFORT project (Glück et al., 2011) revealed following: only 3% of private forest owners live in

settlements with more than 5.000 inhabitants. This clearly refers that most of the private forest owners are living in rural areas of B-H. Furthermore, majority of the respondents belong to low income population. Either half of them are retired or unemployed, while more than one third are lower-level employees, manual workers and farmers. Only 3% of private forest owners have college or university education - the majority have either vocational or high school qualifications while one third has only elementary school qualifications or even no formal education at all. Having in mind such characteristics of private forest owners, it is difficult to expect significant appearance of new forest ownership types in B-H. By that, it is impossible to expect any changes in forest management approaches as well.

Still, some of the political processes could result with their formation in future. Processes of denationalisation and restitution may lead to the increase number of "new private forest owners". Yet, absence of legislative framework has slowed down these processes. However, the comparison of forest inventory results conducted by Austro-Hungarian monarchy (1880-1885) with the area of private forests in B-H indicates that the share of private forests will not significantly increase as a results of denationalisation and restitution processes (Glück et al., 2011). Official data on current forest ownership structure in B-H (80% of public and 20% of private owned forests) is similar to the ownership structure during the Austro-Hungarian annexation of B-H.

3.3. Policy change / policy instruments

When it comes to the Law on Forests in the FB-H, by the request of the non-profit and non-governmental organisation "Association of Municipalities and Cities of the Federation of Bosnia and Herzegovina" in 2009, the Constitutional Court of B-H had proclaimed

the Law on Forests of the FB-H (Official Gazette of the FB-H, No. 23/02) as invalid. The reason for such verdict was due to the fact that the Law was not in compliance with the European Charter of Local Self-Governments that was signed by the officials as well as the Law on Local Self-Governments of the FB-H. According to the justification of such verdict, implementation of the Law on Forests from 2002 could directly affect the several issues of concern of local self-governments in the FB-H especially in the regulation and management of public affairs under the responsibility of local self-governments. By the verdict, this is especially manifested in relation to the development plans of local self-governments, economic growth and achievement of higher employment rate, creation and implementation of spatial planning documents, environmental protection and management of natural resources. Even though the verdict prescribed that Parliament of the FB-H, in consolidation with the Association of municipalities and cities, has opportunity to harmonize the Law on Forests from 2002 with European Charter on Local Self-Governments within six months after the publication of the verdict in the Official Gazette of the FB-H, until now (six years later), new Law on Forests in the FB-H has not been adopted. Therefore, it is not possible to indicate neither concrete examples of policy instruments which are directed at new forest owner types nor challenges of different stakeholders which are connected to new ownership forms.

Having in mind significant political power that stakeholders gathered around Association of Municipalities and Cities currently have on (forest) policy arena in the FB-H, it is speculated that such political process could resulted with appearance of local communities (cities and towns) as "new forest ownership" or at least "new forest management" type in the FB-H (own expert 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 the national data sets in the country reports. In order to make this information comparable still, the information is also collected in an international format which is used in the Forest Resources Assessments by FAO. The transfer from national data sets to international definitions is, however, not always easy. This report therefore critically assesses in how far the 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

B-H consists of two Entities (the FB-H and RS). There is neither common forest policy nor national forest legislation at the state administrative level of B-H. Thus, governing and management of forests resources are under the jurisdiction of the Entities. Therefore, national data set on ownership structure will be presented separately for two Entities. Furthermore, official results of the Second National Forest Inventory (2006-2009) have not been published yet. Available results of the Second National Forest Inventory (USAID – FIRMA, 2012) do not contain information on forest ownership structure. Therefore, following official data on forest ownership structure in B-H represent the results of the First National Forest Inventory.

Table 1: Forest ownership structure in B-H

	RS		The FB-H		B-H	
	ha	%	ha	%	ha	%
Public forests	979.716	81.00	1.206.616	80.43	2.186.332	80.68
Private forests	229.874	19.00	293.563	19.57	523.437	19.32
Total forests and forest lands	1.209.590		1.500.179		2.709.769	

Total area covered by forests and forest lands in Bosnia and Herzegovina amounts to 2.709.769 hectares or 53.4% of the state's territory (Glück et al., 2011: 31). Data about forest ownership structure in B-H is presented in Table 1 and Figure 1. For both Entities, ownership structure is quite similar (in case of RS 81% of the forests are owned by the state and 19% by private forest owners while in the FB-H 80.4% of forests are owned by the state and 19.6% by private forest owners). In total,

ownership structure for entire country is as follows: 80.7% of the forests are owned by the state and 19.32% are owned by private forest owners. In many aspects there is a significant difference between state and private forests in B-H. While high forests are mainly owned by the state, private forest owners own most of the coppice forests. Compared to state forests, wood volume and growing stock in private forests are significantly lower (Table 2).

Structure of the forest ownership in B-H

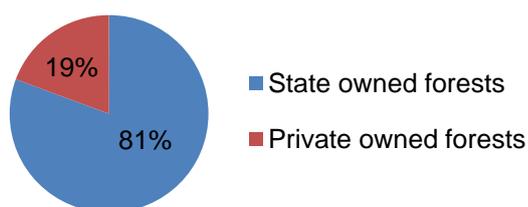


Figure 1: Forest ownership structure in B-H

(Sources: Glück, et al. (2011); Federal Ministry of Physical Planning and Environment, Ministry of Planning and Ecology of RS and World Bank (2003))

Table 2: Growing stock of accessible high and coppice economic forests per ownership in B-H

Economic forests	Growing stock - wood volume				
	Public owned		Private owned		Total in B-H
	1,000 m ³	m ³ /ha	1,000 m ³	m ³ /ha	m ³ /ha
High forest	299,630	282	53,968	202	266
Coppice forest	35,710	87	46,412	107	97
All forests	335,340	228	100,380	143	201

Source: USAID - FIRMA (2012)

4.1.2. Critical comparison with national data in FRA reporting

Table 3: FRA and national data on forest area in B-H

FRA 2010 Forest Ownership Categories	Forest area - FRA	Forest area - national data	Forest area - national data
	Year 2005	Data from the first forest inventory (1964-1968)	Data from the second forest inventory (2006-2009)
Public ownership	1.718.000	2.186.332	<i>Official results are not published yet</i>
Private ownership	467.000	523.437	<i>Official results are not published yet</i>
...of which owned by individuals	n.a.	n.a.	-
...of which owned by private business entities and institutions	n.a.	n.a.	-
...of which owned by local communities	n.a.	n.a.	-
...of which owned by indigenous / tribal communities	n.a.	n.a.	-
Other types of ownership	0	0	-
TOTAL	2.185.000	2.709.769	3.231.500

Sources: FRA (2010); Glück et al. (2011: 31); USAID – FIRMA (2012: 33)

When it comes to the definitions of the property types, there is no ambiguity between national definitions and those provided by FRA. Difference lies in the lack of various private ownership categories in national Laws on Forests due to underdeveloped private ownership in B-H. Still, it is important to notice that data on distribution of forests and forest lands per ownership categories differ between those given by FRA and national

data (from First National Forest Inventory). Reason for the difference lies in the fact that data from National FRA report (Table 3) did not include category of „other wooded land“. Data on other wooded land category are given in Table 4 (FRA, 2010). This leads to the conclusion on absence of significant difference between FRA and national data (from First National Forest Inventory) when it comes to the total forest cover in B-H.

Table 4: Distribution of other wooded land category per ownership types in B-H

	Area in 1000 ha for B-H		
	State	Private	Total
Other wooded land	461	88	549

Source: FRA (2010)

According to the Article 3, paragraph 1 of the Law on Forests of RS (Official Gazette of RS No.75/08), forests and forest lands in RS can be owned by RS or other legal and natural persons. By Article 39 of this Law, private-owned forests and forest lands are both managed and governed by their owners with professional and technical expertise of public

forest enterprise responsible for forest management at the territory of RS. The Law prescribes forest management plans for all private forests within one municipality (Article 18). Unlike the situation in the FB-H, forest management plans must be adopted by the Municipality Assembly before its implementation (Article 22). Law on Forests

of RS prescribes a number of legal regulations to private forest owners in RS. Many of them include elements of very strict regulations. For example, felling of trees in private forests is carried out by the owner in accordance with the provisions of the forest management plan (Article 69). Labelling of trees in private forests and issuing of a waybill is done by the enterprise and in the presence of the private forest owner or authorised person (Articles 39 and 70, paragraph 2). Furthermore, prior to labelling of trees in privately owned forests, private forest owner is obliged to show valid approval of ownership (Article 70, paragraph 3). What is more, by the Article 55, paragraph 1, private forest owners as well as public enterprise responsible for management of public forests have obligation to adopt Plans for protection against forest fires. Generally, private forest owners are responsible for integral forest protection as well as forest utilization (Article 39).

When it comes to the Law on Forests in the FB-H law-abolition in 2009 caused severe difficulties in organising of both managing and governing in forest sector¹. Therefore, legal aspect of private forest ownership category will be analysed from perspective of former Law on Forests of the FB-H (Official Gazette of the FB-H No.23/02). According to the Article 3, paragraph 17 of this Law, forest owners are legal or natural persons who have a legally registered right of ownership to a forest or forest land. The Law prescribes two main types of ownership: forest and forest land in State property (public forests) and private forests (Glück et al, 2011: 35). The ownership right for private forests must be proved by valid documents from the land registry and the cadastre of real estate (Glück et al, 2011: 35). Private forests are managed by their owners in accordance with the legal regulations and provisions laid down in mandatory forest management plans. The Cantonal forest offices are obliged to prepare forest management plans for private forests. The common forest management plan is prepared for all private forests within a

municipality. Private forest owners are obliged to carry out afforestation, forest protection and other silvicultural activities specified in the forest management plans (Glück et al, 2011: 35).

As mentioned above, national forest legislation prescribes a number of legal regulations to private forest owners in B-H. Considering legally based dominance of public forest administration and state forest enterprises one can understand that the private forest sector in Bosnia and Herzegovina is discriminated by forest legislation (Glück et al, 2011: 36-37). This is not a case in the new European forest legislation which is moving towards reduced regulation of many aspects of private forest management by public forest administration (Glück et al, 2011:36). It focuses on setting frame conditions by defining minimum requirements and performance standards while guidelines for best management practices are increasingly used (Cirelli and Schmithüsen, 2000: 20). Another interesting result of PRIFORT project refers to the level of awareness of forest regulations on private forests. Results revealed that level of awareness is very low with 9% of private forest owners included in this survey were familiar with forest legislation (Glück et al, 2011:42).

4.2. Unclear or disputed forest ownership

Both public forest management enterprises (in the FB-H as well as in RS) and official statistics do not publish data on unclear or disputed ownership in their annual reports. Therefore, it is hard to estimate exact size of areas with unclear or disputed ownership. Nevertheless, according to our expert knowledge, land disputes in case of both private and public forests are common problem in B-H. Yet, it is not possible to give their exact size due to the unstructured and unified data on land disputes.

Despite of the characteristics of private forest ownership in B-H (small-sized, fragmented in 2-4 parcels, mainly smaller than 1 hectare and mainly collectively owned within one family), complicated situation with land register, as well as the socio-economic circumstances of the Country, one can be

¹ Under the term 'forest sector', we consider only forestry and not wood-processing industry - these two branches of the national economy are under the responsibility of different ministries.

surprised by the fact that 97% of the respondents know the size (acreage) of their forest estates (Glück et al, 2011:39).

4.3. Legal provisions on buying or inheriting forests

4.3.1. Legal restrictions for buying or selling forests

According to the Articles 3 and 32 of the Law on Forests of RS (Official Gazette of RS, No.75/08), forests owned by RS cannot be subject of privatisation except in the case of consolidation of owned parcels. Same also holds for the Law on Forests of the FB-H (Official Gazette, No. 23/02). According to the Article 45, trade of the public (state-owned) forests and forest land is strictly forbidden except in the case of consolidation of owned parcels or its exchange. These activities require a permission of the Ministry for Agriculture, Water Management and Forestry which is based upon opinion of cantonal and federal offices for forestry.

Public forests and forest land can be sold to another legal or natural person when it is in accordance with spatial planning adopted by Parliament of the FB-H. The FB-H has priority in buying forests and forest lands from private forest owners that owned forests proclaimed as protected or protective forests by Government of the FB-H.

When it comes to the legal restrictions for buying or selling private owned forests in B-H, it is not forbidden in both entities. Still the amount of these transactions is quite modest. According to the results of PRIFORT project, only 5% of private forest owners had purchased or sold their forests during the last decade (Glück et al, 2011:40).

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

Formal inheritance process of privately owned forests is in accordance with Law on Inheritance of RS (Official Gazette of RS No. 1/09) and Law on Inheritance of B-H (Official Gazette of SRBiH, No. 15/80). Forest land is mainly a subject of family heritage but in many cases the process of formal ownership transfer is not officially completed. As the

procedure of land partition among successors is relatively expensive and time-consuming, in many cases the land is not designated to single person. According to the legislation, all children, regardless their gender, have equal right to inherit the land. Still, customary rights in B-H imply that mainly sons inherit the land while daughters are giving up their inheritance rights. Furthermore, patriarchal society of B-H is not that supportive toward formal share of ownership rights between husbands and wives. This means that in most of the cases male members of families own the land.

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

4.4.1. Changes between public and private ownership

There are some indications that share of private owned forests have been increased within last 20 years. This will be revealed by results of the Second National forest inventory. These results will reveal exact changes in ownership structure. Available results of the Second National Forest Inventory (USAID – FIRMA, 2012) do not contain this type of information. Without official data on change of ownership structure it is not possible to assess it.

4.4.2. Changes within public ownership categories

As a result of Dayton Peace Agreement, former Socialist Republic of Bosnia and Herzegovina had been comprised on two entities. Such decision had influenced inner organization of forest sector as well. Before war, forests and forest lands at the territory of B-H were managed by one State forest enterprise. After Dayton Peace Agreement, public forest enterprises were established on following way: one public forest enterprise at the level of Entity (in case of RS) established by Government of RS and ten cantonal public forest enterprises (in case of the FB-H) established by Governments of each canton. This organisation is not fully implemented in two cantons - in Canton 2 (*Posavina Canton*) with lowland area where forests play minor

role and Canton 7 (*Herzegovina-Neretva Canton*) where a number of municipality-based enterprises are not integrated in existing Cantonal Forest Management Enterprise. By that, currently there are eight cantonal public forest enterprises in the FB-H.

4.4.3. Changes within private forest ownership

There is no data on exact change of ownership structure within private forest ownership. Reason for such situation is mainly due to the continuous inheritance process and further fragmentation of parcels. Still, it is important to mention that results of PRIFORT project revealed that only 5% of private forest owners had purchased or sold their forests during the last decade (Glück et al, 2011:40).

4.4.4. Main trends of forest ownership change

Across Europe, the following drivers for

ownership changes had 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 company)
- New private forest owners who have bought forests
- New forest ownership through afforestation of formerly agricultural or waste lands
- Changing life style, motivations and attitudes of forest owners (e.g. when farms are given up or heirs are not farmers any more)

Significance of these trends in B-H is assessed in the table below, with the case example describing the rather important trend - new forest ownership through afforestation of formerly agricultural or waste lands.

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)	0
• Privatization of public forest management (introduction of private forms of management, e.g. state owned company)	1
• New private forest owners who have bought forests	0
• New forest ownership through afforestation of formerly agricultural or waste lands	2
• Changing life style, motivations and attitudes of forest owners (e.g. when farms are given up or heirs are not farmers any more)	1
• Other trend	-

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

CASE STUDY 1: EXPANSION OF FORESTS ON FORMER AGRICULTURAL LANDS IN RURAL AREAS OF B-H

Results of the Second National Forest Inventory will reveal significant increase of forests and forest lands (for around 500.000 ha). What is particularly interesting is the fact that these changes are the most prominent in the rural remote and mountainous areas of B-H with numerous abandoned villages. Such trend is direct output of war between 1992 and 1995 when over half of the pre-war population of the country has been displaced from their homes (Toal and O'Loughlin, 2009: 7). In many cases, rural population that has been displaced during the war did not return to pre-war settlements and many villages are still abandoned. Therefore, agriculture land in rural areas has been continuously diminished as result of forest expansion and natural afforestation.

4.5. Gender issues in relation to forest ownership

Private forests owners in B-H are mainly owned by males (97%), a result of the socio-cultural characteristics of B-H society where women rarely share formal ownership rights (particularly land) with their husbands (Glück et al, 2011: 39).

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

This section is concerned with forests owned by organisations such as conservation and heritage NGOs, self-organised community-based institutions and other philanthropic ("Characterized or motivated by philanthropy;

benevolent; humane” OED) organisations. The management objective for these forests is usually to deliver social or environmental aims with maximisation 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 recognised 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.

For B-H situation in this regards is as follows:

Forests owned by ...	Yes	No	Uncertain
• Foundations or trusts		X	
• NGO with environmental or social objectives		X	
• Self-organised 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	

According the Article 40 of the Law on Forests of RS (Official Gazette of RS, No. 75/08), private forest owners have right to associate in private forest owners associations in order to improve overall conditions of private owned forests and to apply forest management measures. According to this article, PFOAs are responsible for information sharing about programs, procedures and possibilities for supporting private sector and rural development, advisory activities, representation of various interests of PFOAs members and other duties which are not

opposite to this Law and other regulations. In RS, two Private Forest Owners Associations were established. In terms of the number of members and engagement in project activities, main association is PFOA „Naša šuma“, and second (smaller) association is PFOA "Šume Krajine". There are no data on activities of PFOA „Šume Krajine“ while PFOA „Naša šuma“ has active web site with updated information on its activities. What follows is information about this association according to the data available on their official web site (www.nasasuma.com).

CASE STUDY 2: FOREST OWNER ASSOCIATION IN B-H - „Naša šuma“

Association of private forest owners „Naša šuma“ was established on 30 July 2006 in Municipality of Čelinač, RS. Mission of this association is to become common voice of all private forest owners in B-H for fulfilment of their rights and implementation of legislative obligations related to forest management and to improve provision of professional assistance in forest management activities in privately owned forests.

Vision of the association of private forest owners “Naša šuma” is to assure equal status of private forest with public forests and to become a leader in organising private forest owners in RS and the FB-H, to participate in adoption of legislative framework and to become member of CEPF. Besides, vision of this association is to become recognized by private forest owners in B-H as an institution which represents their interests. Any natural or legal persons in B-H that have forests or forest land can be a member of this association. Enrolment in this organisation is enabled through its regional branches. Currently, this association has regional branches across entire RS as well as in Canton 10 of the FB-H. Association has its expert bodies, different commissions and council for forest management. In 2010, this Association published the *Guide for private forest owners* in RS that is consisting out of most important economic, social, ecological and legislative information about organisation of forest management practice in RS.

4.7. Common pool resources regimes

Commons - forest common property regimes (CPRs) are resource regimes where property is shared among users and management

rules are derived and operated on self-management, collective actions and self-organization (of rules and decisions). Examples of traditional CPR regime 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 to new CPRs and vice versa. Example of new CPR regime is community woodlands in UK, established in 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 the property rights. Ongoing practice shows that local land users (without 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-organisation and shared rights and responsibilities). Thus proper rules on management (harvesting, decision making and conflict resolution mechanism, cost/benefit sharing, sanctioning etc) are key for sustainable use of CPR regimes.

CASE STUDY 3: HISTORICAL DEVELOPMENT OF FOREST OWNERSHIP PATTERNS IN B-H AND ITS IMPLICATIONS ON TRADITIONAL USAGE RIGHTS

Currently, there is no example of existing CPR regimes in B-H. Yet, historical development of forest ownership regimes has significant influence on traditional usage rights of local population in B-H. Period of the Ottoman Empire brought completely new forest ownership pattern in B-H. The legal base for forest land tenure was the Islamic canonical law (the Shariat). Forests were considered as public good that could not become subject of private ownership (Begović, 1960). Some forests, called "baltalici", were designated for the satisfaction of the local population's needs. It is the complex type of using rights which evolved in other European countries into community forests. In addition, some remote forests, called "džiboli-mubah", were allowed to use by local population as "free forests" without any charge, either for their own needs or for commercial purposes (Čomić, 1999). Immediately after the annexation of B-H by the Austro-Hungarian monarchy (1878), the first cadastre was conducted (1880-1885) and forest ownership issues were regulated in accordance with "Ševal's Law on Forests" from 1869. "Baltalici" remained property of the state although some restricted users' rights of the local population were recognised (so-called "meremat" right of local rural population). In this context, community forests, as a special type of forest ownership, were abolished. For achieving Austro-Hungarian political aims, some forest areas were given to private owners, mainly to powerful local feudalists. Consequently, at the end of the XIX century, privately owned forests in B-H amounted to about 550.000 ha (Forestry encyclopaedia, 1980). Following regimes in B-H (Yugoslavian monarchy and Socialistic Federal Republic of Yugoslavia) had completely marginalised private ownership category. Still, traditional usage rights of forests stayed as heritage right of local populations in B-H. Very often, these traditional rights are not recognized as legitimate ones. For example, in the Laws on Forests of both Entities of B-H, grazing is strictly forbidden and treated as illegal activity. Furthermore, traditional usage rights are perceived as main cause of small-scale illegal activities in forestry.

5. Forest management approaches for 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 for 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 organisation, 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 B-H

5.1.1. Organisation of forest management practice in B-H

Forestry Department within the Ministry of Agriculture, Forestry and Water Management of RS is responsible for governing of forest sector. Public forest company "Šume Republike Srpske" is responsible for management of the state-owned forests in RS. It has a hierarchical organization with headquarter, 25 Forest Management Units (FMUs), a Research Development and Design Centre which undertakes forest management planning, a Centre for Seedling Production and a Karst Management Centre. By Article 39 of the Law on Forests of RS (Official Gazette of RS No.75/08), private owned forests and forest lands are managed by their owners with professional and technical expertise of public forest enterprise responsible for forest management at the territory of RS. Furthermore, Article 40 of this Law prescribes formation of associations of private forest owners in order to improve overall conditions of private owned forests and to assure full implementation of forest management instruments. Forest management of the private forests is based on adoption of forest management plans for all private owned forests within one municipality (Article 18) and executive plans

for silviculture activities (Article 25). Unlike situation in the FB-H, forest management plans must be adopted by the Municipality Assembly before its implementation (Article 22).

In case of the FB-H, public forests are owned by the FB-H, which transfers management rights to 10 Cantons. The Cantons transfer these rights to Cantonal Forest Management Enterprises (one in each canton). This organisation is not fully implemented in two cantons: in Canton 2 (Posavina Canton) and Canton 7 (Herzegovina-Neretva Canton). Department for Forestry within the Ministry of Agriculture, Water Management and Forestry and a Federal Forest Office are responsible for forest governing at the level of the FB-H. At the Cantonal level, responsibility for forestry rests with the responsible Ministry (Cantonal Forest Office) whose main function is to control activities of the cantonal forest management enterprise and provide advice and support to private forest owners. According to the Law on Forests of the FB-H (Official Gazette, No. 23/02), private forests are managed by their owners in accordance with the regulations and provisions laid down in mandatory forest management plans. The Cantonal forest offices are obliged to prepare forest management plans for private owned forests. The common forest management plan is prepared for all private forests within a municipality. Private forest owners are obliged to carry out afforestation, forest protection and other silvicultural activities specified in the forest management plans (Glück et al, 2011: 35).

5.2. Main opportunities for innovative forest management

So far, there are no any forms of new forest ownership types in B-H. Therefore, one of the main opportunities of forest management practice in B-H is to introduce innovative forest management approaches in both legislative and policy framework of the forest sector and day-to-day management practice.

Main opportunities for innovative forest management in B-H are related to the improvement of traditional way of forest management which is based on technical expertise that do not include participation of other relevant stakeholders (representatives of other sectors, forest owners etc.). Based on that fact, the need for improvement of traditional way of planning and implementation of management plans is recognised. This is mainly related to necessity to improve effectiveness of forest utilisation and to make significant change from “timber production” orientation toward “maintaining forest service” orientation. The second is connected to potentials of forest resources in B-H to provide various goods and services beside just timber. To fulfil these intentions, new forest management approaches have to be applied in order to get more benefits (social, ecological and economical) from utilisation of timber and other forest products and services as one of the main resources for economic development of B-H.

Private forests in B-H are valuable source of various goods and services that could be effectively managed by their owners with help of state forest administration. One of the main problems related to private forest owners is their under-representativeness in policy

planning and implementation of executive plans. In order to increase their role in implementation of forest management plans, private forest owners should be organised in interest associations. Together, they could establish joint forest management system and communicate with state forest administration on various fields of forest management.

5.3. Obstacles for innovative forest management approaches

Private forest owners in B-H have neither potential nor opportunity to adopt innovative management approaches. Reasons for such situation stem from the laws at all administrative levels and institutional arrangements that do not recognise this category of forest ownership equally important as public forests. This is mainly related to economic benefits provided by state forests and their contribution to national economy. As it was already mentioned, forest owners are poorly organised in interests association and do not have access to information related to new management approaches as well as information related to potential sources of funds to implement silvicultural and other activities in their property.

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 to 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

Period of socialism had completely abolished private forest ownership category. The agrarian reform in former Yugoslavia (1945) limited the ownership of private forests to 8-30 ha, depending on terrain. After dissolution of Yugoslavia, all ex-Yugoslavian countries had raised question of restitution and denationalisation of once deprived property.

According to the result of the in-depth interview conducted with president of Commission for Restitution of B-H, 763.582,8 ha of forests and forest lands were deprived during former Yugoslavia (Delić et al, 2013: 103). Still, applicable legislative framework for restitution and denationalisation has not been adopted yet. Therefore, it is hard to estimate future perspective for resolving this problem in B-H as well as its effects on forest ownership structure.

Furthermore, constant fragmentation of private forest represents a serious issue related to private forest ownership category in B-H. What is more, none of the forest-related legislation or legislation that is dealing with inheritance process did prescribe any limits of the size of private owned forest parcels that lead to their continuous fragmentation .

6.2. Influences of policies in forest management

Based on a contract between the Municipality Assemblies and responsible forest districts, the Public Forestry Enterprise "Šume Republike Srpske" carries out all forestry

activities in private forests. Felling of trees in private forests is carried out by the owner in accordance with the provisions of the forest management plan and a decision appointed by the public forest enterprise. Labelling of felled trees in private forests and issuing of a waybill is also done by the enterprise. According to the Amendment to the Law on Forests of the RS (Official Gazette of RS, 60/13), private forest owners are obliged to allot funds for biological reproduction of forests. Private forest owners shall be obliged to pay 10% of the net income from the approved quantity of wood to two separate accounts in the following ratio: 80% to the Forest Management Enterprise account (to perform forest management activities in private forests), and 20% to a separate account for forest biological reproduction of the Municipality (funds has to be used for making forest management plans, establishment of new forests, forest care and protection of forests in private ownership). This amount is calculated on the basis of market prices.

According to the Law on Forests of the FB-H (Official Gazette, No.23/02), the Cantonal forest offices carry out following tasks in private forests for ensuring sustainable forest management: marking of trees before felling, measuring and labelling of timber, issuing of a waybill, planning of silvicultural activities etc. They can also transfer certain tasks to the Cantonal Forest Management Companies. The Law prescribes that Cantonal forest offices provide financial and professional support for the establishment and functioning of forest owners' associations, where the reduced size of forest parcels, fragmentation or dispersal of parcels are detrimental to sustainable forest management. However, none of the Cantons is implementing this provision. Private forest owners in the FB-H are obliged to allot funds for biological reproduction of forests. Prior to selling wood, private forest owners must pay 15% of the gross income from the approved quantity of wood, as calculated on the basis of market prices. This money is paid to the Cantonal funds for the enhancement of forest cover. Private forest owners are obliged to carry out

afforestation, forest tending and other silvicultural activities specified in the forest management plans. The Law prescribes that silvicultural measures in private forests can be co-financed by the Federation and Cantonal funds for enhancement of forest cover, if income from timber is not sufficient to carry out the necessary silvicultural activities' (Glück et al, 2011: 35).

6.3. Policy instruments specifically addressing different ownership categories

Even though fund for subsidies is prescribed by Laws on Forests of both Entities, results of PRIFORT project showed that none of the interviewees received any subsidies from public forest administration (Glück et al, 2011:42). Furthermore, recently adopted Law on Renewable Energy Sources and Efficient Cogeneration (Official Gazette of RS, No. 39/13) and Law on utilization of renewable energy sources and efficient cogeneration (Official Gazette of the FB-H, No. 70/13) prescribe that Federal Ministry of Industry, Energetics and Mining/Ministry of Industry, Energetics and Mining of RS are obliged to inform public on various sources of subsidies for both production and consumption of renewable energy sources and cogeneration, which includes woody biomass. Both laws were adopted just recently and it is early to assess enforcement of their regulations. This example was described just to point out on certain improvements of legal framework that is referring to private forest owners in B-H. Subsidies as motive for joint production of woody biomass can be perceived as good driving force for establishment of interest-based associations.

6.4. Factors affecting innovation in policies

One of the result of PRIFORT project showed very low awareness on forest regulations by private forest owners - 9% of private forest owners included in this survey were familiar with forest legislation (Glück et al, 2011:42). On the other hand, analysis showed that private forest ownership is overregulated in FB-H.

Furthermore, results of the PRIFORT project revealed that more than 80% of private forest owners believe that their interests are not appropriately represented (Glück et al, 2011:44). The majority of private forest owners included in this survey need an interest association to support them in managing their forests (e.g. silviculture, harvesting operations, timber market access etc.) and to represent their interests by lobbying political parties, civil servants in ministries/governments in order to improve the social and economic situation of private forest owners (Glück et al, 2011:44). The most desired services from private forest owners' associations regarding interest representation are subsidies, opening of new markets, cadastral issues or tax reduction (Glück et al, 2011:46).

As previously mentioned, examples on establishing PFOAs ("Naša šuma" and "Šume Krajine") implies certain positive changes and "awakening" of private forest owners in B-H toward improving their position on (forest) policy agenda in country. These trends can be explained by political commitment of B-H to become member of the European Union and demanding changes with whom forestry sector are becoming to facing with. One of these changes is definitely referring to strengthening of the private forest ownership category in B-H. Since reforms in forest sector as well as in entire B-H society are rather slow and unstructured, private forest owners in B-H are still rather inert in lobbying for improvement of their position in forest policy agenda of the country. Concrete improvements and their engagement in improving the status of private forest ownership category in B-H are yet to come.

7. Literature

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- Law on Forests of the Federation of Bosnia and Herzegovina (Official Gazette of the Federation of Bosnia and Herzegovina, No.23/02)
- Law on renewable energy sources and efficient cogeneration (Official Gazette of Republic of Srpska, No. 39/13)
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8. Annexes

8.1. Tables with detailed description of 7 most important publications

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Nikolić, V., Radosavljević, A., Petrović, N., Marić, B., Bećirović, DŽ., Pezdevšek Malovrh, Š. and Avdibegović, M. (2011) <i>Forest Law regulations on private forests in Serbia, the Federation of Bosnia and Herzegovina and Macedonia</i>, Conference Proceedings, 13th International Symposium on Legal Aspects of European Forest Sustainable Development, IUFRO Research Group 9.06.00 Forest Law and Environmental Legislation, Kaunas, Lithuania, pp. 166-177 [Electronic version available at: http://goo.gl/5Wvpiv, 26 Feb 2014].
English language summary/abstract	Private forests in Western Balkan countries occupy significant part of total forest area, and the share of private forests in these countries varies between 10% in Macedonia and 47% in Serbia. Nevertheless, a significant lack of research on private forests in this region remains, especially related to social, economic and policy aspects. Due to formal political tendencies to join EU, the legislative framework including forest legislation in these countries should be adapted to EU directives and international forest policy principles. Among the new forest policy actors, private forest owners seem to be the strongest ones, so there is a need for better understanding of the regulations on new Forestry laws referring to the issues on private forest ownership. Forest laws in Western Balkan countries are relatively new and they caused some changes in rights and duties of private forest owners. This paper offers an overview of national forest legislation concerning private forests in Serbia, Federation of Bosnia and Herzegovina (hereinafter: FB-H) and Macedonia. For this, a text analysis of both Forestry laws and related scientific papers is used. Furthermore, an appropriate SWOT analysis is conducted as a tool for comparative analyses between the countries. The results point out almost the same level of legally prescribed obligations for private forest owners and State Forest companies. However, new forest legislation regulates rights and duties of private forest owners more precisely than the previous one. The new Forest Laws prescribe some stimulating regulations for private forest owners such as support for creation of private forest owners associations, incentives and subsidies, participation in decision making process etc. Although some improvements of current forest legislation in terms of precise regulation of private forest ownership are obvious, the fact that this type of ownership has significant potentials for wood mobilisation, biodiversity protection, carbon storage and rural development, refers to the need for further research focused on political and economic aspects of private forests in Western Balkan countries. Key words: Forest legislation, private forests, Western Balkan countries, Forest policy.
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	Legislative analysis
Methodical approach	Comparative analysis with application of SWOT analysis of respective Laws on forests of Serbia, the Federation of Bosnia and Herzegovina and Macedonia
Thematic focus	<p>ownership change (incl. on changes in</p> <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.	
Weblink	http://goo.gl/5Wvpiv

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Čabaravdić, A., Avdibegović, M., Kadrić, N., Marić, B., Delić, S. and Pezdevšek Malovrh, Š. (2011) <i>A Typology of Private Forest Owners in Bosnia and Herzegovina Based on Different Clustering Methods</i>, Works of the Faculty of Forestry University of Sarajevo, Vol. 41, No. 2., pp. 45-56 [Electronic, version available: http://goo.gl/tD3pGe, 26 Feb 2014].
English language summary/abstract	According to FAO, the total forest area in Bosnia and Herzegovina amounts 2.709.769 ha or 53,4% of overall state territory. While the total area of private forests is 523.437 ha, private forest ownership is characterized by huge number of small-scale and fragmented individual estates. The aim of this research is to examine how the groups of private forest owners can be created with different clustering methods, regarding different criteria. The data presented in this paper are obtained from PRIFORT project (Research into the Organizations of Private Forest Owners Associations in the Western Balkan Region). Results show that private forest owners in Bosnia and Herzegovina can be grouped in three clusters by using different clustering methods, based on criteria defined in advance. Significant differences in willingness of private forest owners (PFO) to join to their interest associations are noticed for identified clusters. From forest policy aspect, the clusters gathering homogenous groups of private forest owners should be treated by different policy instruments (regulatory, economical or informational) in order to ensure better contribution of private forests to overall economical, ecological and social outcomes expected from forests as the most important natural resources in Bosnia and Herzegovina. Key words: Bosnia and Herzegovina, forest policy, private forests, private forest owners, interests associations of private forest owners, clustering methods.
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	sociology
Methodical approach	Questionnaire survey.

<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>Weblink</p>	<p>http://goo.gl/tD3pGe</p>

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Pezdevšek Malovrh, Š., Hodges, D. G., Marić, B. and Avdibegović, M. (2011) <i>Private Forest Owners' Expectations of Interest Associations: Comparative Analysis Between Slovenia and Bosnia and Herzegovina</i>, Šumarski list, No. 11-12, CXXXV, pp. 557-566 [Electronic version available: http://goo.gl/bs2MFt, 26 Feb 2014].
English language summary/abstract	Private forests in Slovenia and Bosnia and Herzegovina are important resources for national economic development. Based on differences in the proportion of private forests, the countries differ substantially with regard to the role of private forest owners, as well as the conditions of owner interest associations in the forest policy processes. Since private forest owners are so diverse, there is a need to better understand their expectation for interest associations. Surveys were conducted in 2008 on random samples of private forest owners in Slovenia and Bosnia and Herzegovina to examine the factors affecting their expectations. The study examined seven categories of expectations: silvicultural advice, harvesting advice, information about timber markets, information about legal regulations, information about strengthening entrepreneurship, support of forest road construction/maintenance and forest management training. Seven models were developed to examine the factors affecting each category of expectations. The results reveal that socio-demographic characteristics of private forest owners, ownership structure, and property conditions were associated with expectations. Three models (silvicultural advice, strengthening entrepreneurship and support of forest road construction/maintenance) were statistically significant in both countries. The strongest factor that influences the expectations for Slovenian private forest owners was education while in Bosnia and Herzegovina it was property size. Gender did not influence expectations of private forest owners in either country. Understanding the underlying factors influencing private forest owner expectations could aid in developing appropriate forest policy instruments to support owner cooperation within interest associations and improve private forest management. Key words: private forests, interest associations, private forest owner expectations, Slovenia, Bosnia and Herzegovina
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 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 type="checkbox"/> National <input checked="" type="checkbox"/> Cross-national Europe <input type="checkbox"/> International beyond Europe
Theoretical approach	Sociology and political sciences

Methodical approach	Questionnaire survey
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 checked="" 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.	
Weblink	http://goo.gl/bs2MFt

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Glück, P., Avdibegović, M., Čabaravdić, A., Nonić, D., Petrović, N., Posavec, S. and Stojanovska, M. (2011) <i>Private Forest Owners in the Western Balkans – Ready for the Formation of Interest Association</i>, EFI Research Report 25, p.230
English language summary/abstract	<p>The Western Balkan countries: Bosnia and Herzegovina, Croatia, Macedonia and Serbia have in common 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 52% (Serbia), and probably will increase when the restitution and privatization process will have been finished, the private forest owners are almost not 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 very large numbers of private owners of predominantly small-scaled 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 one half of them are farmers, lower-level employees or unemployed. Regarding education, more than one half of them have high school or vocational college qualifications and one quarter elementary school 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, most often in Serbia and Bosnia and Herzegovina. Mixed and coppice forests dominate and volume and annual increment per hectare are modest compared to state forests. The 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 the private forest owners the forest is a gain, as reflected in its 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. Of second priority is 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 unsatisfied with the existing situation. They miss extension services of the public forest administrations and state forest enterprises for improving their forest management. Most forest owners miss advice in harvesting, support of road construction and maintenance and advice in silviculture, however, with different priorities in the four countries according to their special needs. Private forest owners are also much 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 provision of financial incentives, tax breaks and reformulation of the existing forest laws in the interest of private forest owners. The respondents suffer from restrictive legal regulations concerning private forest owners. Prescription to pay levies for timber harvests and 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 about 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 declare to join such an organization voluntarily if they may expect either economic advantages or positive performance of the organization or very low membership fee. In each of the four countries there is a critical mass of</p>

	entrepreneurial forest owners who strongly support an association of private forest owners; in Bosnia and Herzegovina the “drivers” amount to 55% of the respondents. A majority of two thirds of Bosnian private forest owners also support compulsory membership in accordance with the forest policy decision makers in this country, while the positions of both private forest owners and representatives of institutions in Serbia and Croatia are reserved in this respect. An explanation could be that in Serbia private forest owners’ associations at the local level have been developing slowly during the last two years, and Croatia supports their formation by the Forest Extension Service, a department of the public forest administration. In Macedonia compulsory membership is most refused by the representatives of 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 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	Sociology, political sciences. Theories about formation of interest associations: Pluralism; Theory of collective action; Exchange theory; Voice, exit and loyalty; Theory of critical mass.
Methodical approach	Questionnaire survey, qualitative interviews (in-depth).
Thematic focus	ownership change (incl. on changes in <input checked="" 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 checked="" type="checkbox"/> policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Avdibegović, M., Nonić, D., Posavec, S., Petrović, N., Marić, B., Milijić, V., Krajer, S., Ioras, F. and Abrudan, I.V. (2010) <i>Policy Options for Private Forest Owners in Western Balkans: A Qualitative Study</i>, <i>Notulae Botanicae Horti Agrobotanici Cluj-Napoca</i>, Vol 38, No 1, pp. 257-261 [Electronic version available: http://goo.gl/MUFGFI, 26 Feb 2014].
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 production forest as more supportive of such policies. Key words: Bosnia Herzegovina, Croatia, Serbia, 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 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	Qualitative in-depth interviews
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
Weblink	http://goo.gl/MUFGFI

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Glück, P., Avdibegović, M., Čabaravdić, A., Nonić, D., Petrović, N., Posavec, S. and Stojanovska, M. (2010) <i>The preconditions for the formation of private forest owners' interest associations in the Western Balkan Region</i>, Forest Policy and Economics, Vol. 12, Issue 4, 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 organised in interest organisations 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 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	<input checked="" type="checkbox"/> University <input type="checkbox"/> Public Research Insitiute <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, sociology. Theories about formation of interest associations: Pluralism; Theory of collective action; Exchange theory; Voice, exit and loyalty; Theory of critical mass.
Methodical approach	Quantitative door-to-door survey and qualitative in-depth interviews.
Thematic focus	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 checked="" type="checkbox"/> policy instruments addressing ownership
Weblink	

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	Avdibegović, M., Petrović, N., Nonić D., Posavec, S., Marić, B. and Vuletić, D. (2010) <i>Readiness of private Forest Owners in Croatia, Serbia and Bosnia and Herzegovina to Cooperate in Forest Roads Construction and Maintenance</i>, Šumarski list, No. 1-2, CXXXIV, pp. 55-63 [Electronic version available: http://goo.gl/pJRYmR, 26 Feb 2014].
English language summary/abstract	<p>State of private forests and needs of private forest owners have not been in the focus of forest economics and policies research in the region of South-Eastern Europe so far. The past socio-political regime used to prioritize public property and management of private forest was therefore neglected for a long time resulting in degradation of forests. The present lack of forest roads is only one of the numerous consequences and sequentially has led to lower degree of fulfilment of different activities in private forests (silvicultural treatments, planning, and protection). Nowadays, different processes (transition, restitution, and privatisation) present in region support the development of rural areas where private forests are an important part of rural economy and overall management of natural resources. Findings of this research show that financially more demanding activities like forest roads construction and maintenance present a motive strong enough to establish interests groups like forest owners associations aiming to reach common goals. Research data was collected as a part of PRIFORT project, financed by the Ministry of Agriculture, Forestry, Environment and Water Management of Republic of Austria. The main interest of the project was research of the state of private forests and establishment of private forest associations in countries of the South-Eastern Europe. Theoretical framework was set between the Pluralistic theory and the Theory of Collective Action through which the group behaviour was analysed. Afterwards, some findings have been confronted with the Exchange theory where better explanations for different behaviour group patterns were found. Homogeneity and heterogeneity of groups were also defined by the Critic Mass theory. The main hypothesis was „readiness for establishing interests groups is more pronounced in connection to activities which are financially more demanding as forest roads construction“. Results for all three countries (Croatia, Serbia and B-H) show that private forest owners are interested in cooperation in construction and maintenance of forest roads. Generally, private forest owners are a part of elderly rural population with relatively small forest plots, mainly used for private needs (fuel wood) and with low income. Private forests are fragmented, with average plots smaller than 1 hectare. Most of the private forest owners expressed the need for having interest associations from which they would expect support in different aspects of forest management (Graph 2). The majority of forest owners expressed interest in cooperation on construction and maintenance of forest roads (Graph 1). Results and conclusions presented in this paper provide useful information for decision makers in government bodies responsible for rural development with special consideration given to possibilities of private forest sector development.</p>
Language of the study/publication	Croatian
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	Sociology. Theories about formation of interest associations: Pluralism; Theory of collective action; Exchange theory; Voice, exit and loyalty; Theory of critical mass.
Methodical approach	Quantitative door-to-door survey.
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 type="checkbox"/> policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	http://goo.gl/pJRYmR



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