

UNECE



**United Nations
Economic Commission for Europe**

**Food and Agriculture Organization
of the United Nations**

GENEVA TIMBER AND FOREST STUDY PAPER 25

PRIVATE FOREST OWNERSHIP IN EUROPE

Franz Schmithüsen and Franziska Hirsch



UNITED NATIONS

Draft for approval

Draft for approval

United Nations Economic Commission for Europe/
Food and Agriculture Organization of the United Nations

UNECE



Timber Section, Geneva, Switzerland

GENEVA TIMBER AND FOREST STUDY PAPER 25

PRIVATE FOREST OWNERSHIP IN EUROPE

By

Franz Schmithüsen and Franziska Hirsch



UNITED NATIONS
Geneva, 2009

Draft for approval

Note

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Abstract

More than half of Europe's forests, not including Russia and other CIS countries, are owned privately. Private forest owners play a key role in sustaining forest ecosystems, enhancing rural development and supplying resources to markets. Nevertheless, a significant lack of knowledge on private forest ownership in Europe remains. A joint enquiry carried out by the United Nations Economic Commission for Europe, the Food and Agriculture Organization of the United Nations, the Ministerial Conference on the Protection of Forests in Europe (MCPFE) and the Confederation of European Forest Owners (CEPF) was elaborated and conducted during 2006-2007, in an attempt to contribute to closing this knowledge gap. A questionnaire was addressed to 38 MCPFE member countries with records of private forestry. 23 countries have participated through submitting national reports, mostly for the year 2005: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Finland, France, Germany, Hungary, Iceland, Ireland, Latvia, Lithuania, Netherlands, Norway, Poland, Romania, Serbia, Slovakia, Slovenia, Sweden, Switzerland and the United Kingdom. This study paper presents the main findings from the national country reports and draws conclusions on the state of private forestry in Europe in terms of ownership distribution, holding structure, socio-economic findings and trends, with regard to restitution/privatization, changes of ownership patterns and association of private forest owners.

Keywords:

Forest ownership; private forest sector; wood resources; sustainable forest management; data base, empirical enquiry.

ECE/TIM/SP/25

UNITED NATIONS PUBLICATIONS

Sales No. E. 09.XX.X.XX
ISBN XXX-XX-X-XXXXX-X
ISSN 1020 2269

Draft for approval

Acknowledgements

The secretariat wishes to express its appreciation to the authors of this study paper, Prof. Dr. Franz Schmithüsen, Swiss Federal Institute of Technology (ETH), Zurich and Franziska Hirsch, responsible for forest policies and institutions at UNECE/FAO.

While UNECE/FAO took the lead in conducting the enquiry and the establishment of a dataset on private forest ownership in Europe, both authors worked together in analysing the findings of the data gathered which provided the basis for this study.

The secretariat wishes to thank Alexander Korotkov and Matthias Wilnhammer for the preparation and initial conduct of the private forest ownership study. Helena Guarin and Richard Slaby provided invaluable support in the validation of the data and the preparation of the private forest ownership database, available on the UNECE/FAO website (<http://www.unece.org/trade/timber/fra/PFO.htm>). Matthias Wilnhammer is owed special thanks for the production of the graphics taken up in this paper, and for the production of the initial data tables. The authors wish to thank Kit Prins, Chief, UNECE Timber Section, as well as Atilla Lengyel and Morton Thoroe, Confederation of European Private Forest Owners (CEPF) for their review and excellent comments which helped improve the paper. They also thank Matthew Fonseca for his work on the editing and layout of the paper.

The secretariat wishes to thank the national country correspondents for the submission of duly completed national reports, completed often in cooperation with counterparts in the country and in correspondence with the secretariat. Without the dedication of the national correspondents, this study would not have been possible.

The secretariat would also like to state its appreciation for the contribution of its partners in the preparation of the questionnaire on private forest ownership in Europe. Valuable comments on the draft enquiry were provided by CEPF, the European Landowner's Organization, the Fédération européenne des communes forestières (FECOF), European Landowners' Organisation (ELO), the European Forest Institute (EFI) and the Joint UNECE/FAO Working Party on Forest Economics and Statistics, which reviewed the draft enquiry during its 28th session and endorsed its distribution. Special thanks for review and the provision of valuable suggestions which led to improvements of the paper is owed to Simon Gillam (UK), Florian Borlea (Romania) and Florian Steierer (University of Hamburg, UNECE/FAO).

Draft for approval

TABLE OF CONTENTS

| | <i>page</i> |
|---|-------------|
| 1. CONTEXT AND PROJECT DEVELOPMENT | 1 |
| 1.1 Context..... | 1 |
| 1.2 Project Development..... | 1 |
| 1.3 Participation by Countries..... | 2 |
| 1.4 Data Availability | 4 |
| 1.5 Database and Results | 4 |
| 2. RESULTS AND ANALYSIS..... | 6 |
| 2.1 Ownership Categories by Area and Management Status | 6 |
| 2.2 Size Classes and Ownership Categories of Private Forests | 11 |
| 2.3 Growing Stock, Increment, Annual Fellings and Certified Area | 20 |
| 2.4 Economic Indicators of Forest Production..... | 26 |
| 2.5 Demographic and Socio-economic Data..... | 27 |
| 2.6 Information from Country Statements by MCPFE Country Groups | 32 |
| 3. OVERVIEW OF SIGNIFICANT ISSUES AND TRENDS | 45 |
| 3.1 Changing Ownership Structure..... | 45 |
| 3.2 Forest Owners' Interests and Profiles | 48 |
| 3.3 National Organisation and International Representation of Private Forest Owners | 50 |
| 3.4 Management Information and Training | 53 |
| 3.5 Forest Policy Framework..... | 54 |
| 3.6 New demands for additional wood resources | 57 |
| 4. CONCLUSIONS AND OUTLOOK..... | 61 |
| 5. REFERENCES..... | 65 |
| ANNEX 1: PRIVATE FOREST OWNERSHIP ENQUIRY..... | 68 |
| ANNEX 2: TERMS AND DEFINITIONS | 86 |
| ANNEX 3: INFORMATION FROM COUNTRY STATEMENTS..... | 90 |

Draft for approval

LIST OF FIGURES

| | <i>page</i> |
|--|-------------|
| Figure 1.3.1: Participation of Countries in the Private Forest Owners Project 2006-2007 | 3 |
| Figure 1.3.2: Participating Countries According to MCPFE Country Groups | 4 |
| Figure 2.1.1: Private and public ownership in 23 European countries participating in the PFO Enquiry 2006 in terms of % share of forest ownership and other wooded land | 7 |
| Figure 2.1.2: Trends at country level of changes in private ownership between 2000 and 2005 (in 1000 ha and %) | 7 |
| Figure 2.1.3: Countries with predominance of private ownership of forest and other wooded land..... | 8 |
| Figure 2.1.4: Countries with balanced private and public ownership of forest and other wooded land (1) Germany: forest area only) | 8 |
| Figure 2.1.5: Countries with predominance of public ownership of forest and other wooded land (1) Lithuania: forest area only) | 9 |
| Figure 2.1.6: Share of private ownership in forest and other wooded land according to MCPFE Warsaw Country Groups | 10 |
| Figure 2.1.7: Percentage share of managed area of forests and other wooded land by private and public ownership categories (14 countries) | 11 |
| Figure 2.2.1: Size structure by number of private holdings as percentage of total number of holdings (9 Countries: Austria, Belgium, Bulgaria, France, Hungary, Latvia, Lithuania, Slovakia and United Kingdom)..... | 12 |
| Figure 2.2.2: Share (%) of size classes in total area of holdings, 8 countries (Austria, Belgium, Bulgaria, France, Hungary, Latvia, Slovakia, United Kingdom)..... | 12 |
| Figure 2.2.3: Size structure smaller than 6 ha, 12 countries..... | 13 |
| Figure 2.2.4: Size structure area over 100 ha, 13 countries | 13 |
| Figure 2.2.5: Aggregate structure of private and public ownership, 11 countries (Belgium, Bulgaria, Czech Republic, Finland, France, Hungary, Norway, Poland, Romania, Slovakia, United Kingdom)..... | 14 |
| Figure 2.2.6: Belgium: Ownership structure of forest and other wood land area..... | 15 |
| Figure 2.2.7: Bulgaria: Ownership structure of forest and other wood land area..... | 15 |
| Figure 2.2.8: Czech Republic: Ownership structure of forest and other wood land area | 16 |
| Figure 2.2.9: Finland: Ownership structure of forest and other wood land area | 16 |
| Figure 2.2.10: France: Ownership structure of forest and other wood land area | 17 |
| Figure 2.2.11: Hungary: Ownership structure of forest and other wood land area | 17 |
| Figure 2.2.12: Norway: Ownership structure of forest and other wood land area | 18 |
| Figure 2.2.13: Poland: Ownership structure of forest and other wood land area | 18 |
| Figure 2.2.14: Romania: Ownership structure of forest and other wood land area..... | 19 |
| Figure 2.2.15: Slovakia: Ownership structure of forest and other wood land area | 19 |
| Figure 2.2.16: United Kingdom: Ownership structure of forest and other wood land area | 20 |
| Figure 2.3.1: Total growing stock of forest and other wooded land by ownership categories | 20 |
| Figure 2.3.2: Total annual fellings on forest and other wooded land by ownership categories | 21 |
| Figure 2.3.3: Comparison between gross annual increment and annual fellings in the private forest sector | 22 |
| Figure 2.3.4: Comparison between gross annual increment and annual fellings in the public forest sector | 23 |
| Figure 2.3.5: Utilization rate of private and public forest and other wooded land, i.e. gross annual increment/annual fellings..... | 23 |
| Figure 2.3.6: Share of certified areas of forest and other wooded land..... | 24 |
| Figure 2.3.7: Share of certified area in the private forest sector | 25 |
| Figure 2.3.8: Share of certified area in the public forest sector..... | 25 |
| Figure 2.4.1: Volume and value of roundwood production (industrial wood and fuelwood)) in the private sector by countries | 27 |
| Figure 2.4.2: Volume and value of roundwood production (industrial wood and fuelwood) in the public sector by countries | 27 |
| Figure 2.5.1: Distribution of age classes among private forest owners..... | 28 |
| Figure 2.5.2: Share of female and male forest owners | 28 |
| Figure 2.5.3: Share of female and male forest owners according to age classes | 29 |
| Figure 2.5.4: Field of occupation of individual owners | 30 |
| Figure 2.5.5: Full-time and part-time occupation in agriculture and forestry | 30 |
| Figure 2.5.6: Residence of individual forest owners..... | 31 |
| Figure 2.5.7: Utilization and management objectives of private forest owners | 32 |

Preface

This space will be used for the preface, which is yet to be written.

Draft for approval

Draft for approval

Draft for approval

1. CONTEXT AND PROJECT DEVELOPMENT

1.1 Context

The importance of private forestry has been acknowledged in several political processes and expert meetings. The EU Forestry Strategy recognised in 1998 the importance of private forest owners within the European Union and the wide variety of ownership types.¹ In 2003, the fourth Ministerial Conference on the Protection of Forests in Europe (MCPFE) stated that sustainable forest management in Europe relies, *inter alia*, on private owners². MCPFE Vienna resolution 2 “Enhancing economic viability of sustainable forest management in Europe” highlights awareness that sustainable forest management in Europe relies on millions of private owners.³ Moreover, the mobilization of incentives for Sustainable Forest Management practices among small private forest landowners was stressed in the policy recommendations in the fifth Session Report of the United Nations Forum on Forests (UNFF)⁴.

The workshop “Mobilizing Wood Resources” in January 2007, organized by UNECE, FAO, MCPFE, the Confederation of European Paper Industries (CEPI) and other partners, identified the empowerment of private forest owners as an important means for sustainably mobilizing wood resources in order to meet both the needs of the forest-based and related wood processing industry as well as of the bio-energy sector. It was recognized that there is a necessity to improve knowledge of ownership structures as well as on the attitudes, goals and motivations of forest owners, which may affect wood production and mobilization. This was reflected in Warsaw Resolution 1 on “Forests, Wood and Energy”, adopted at the 5th MCPFE Ministerial Conference in November 2007, through which Signatory States commit themselves “to encourage partnerships among public and private forest owners, forest based industries and energy producers aiming at the development of markets for bio-energy.”⁵

Despite the accepted importance of the private forestry sector for sustainable rural development, there is a significant lack of information on forest ownership in Europe, especially with regard to private forest holdings. Comprehensive information is crucial for the development of policies for private forestry, and for European forestry in general.

1.2 Project Development

With the objective of contributing to closing this knowledge deficit, UNECE/FAO Timber Section, together with MCPFE and the Confederation of European Forest Owners (CEPF) decided in October 2005 to launch the establishment of a private forest ownership database (PFO Project 2006-07). A questionnaire, containing both quantitative and qualitative parts, was developed and sent to national correspondents. During the design and development of the enquiry, comments were received from the Federation of European Communal Forests (FECOF), the European Landowners Organisation (ELO) and from European forest ownership experts⁶. In December 2005, a draft questionnaire was tested by

¹ EU Forestry Strategy (1998). Council Resolution of 15 December 1998 on a Forestry Strategy for the European Union: “*The implementation of the EU Forestry Strategy (...) is a dynamic process. The strategy encourages a participatory and transparent approach involving all stakeholders, while recognising the wide variety of ownership regimes within the Community and the important role of forest owners.*”

² MCPFE Liaison Unit Vienna, UNECE/FAO Timber Branch Geneva (2003). State of Europe’s Forests, The MCPFE Report on Sustainable Forest Management in Europe, Vienna 2003.

³ http://www.mcpfe.org/system/files/u1/vienna_resolution_v2.pdf

⁴ United Nations Forum on Forests (2005). Discussion paper contributed by the Farmers and Small Forest Landowners Major Group, New York 2005: “Policy and decision makers need to give higher priority to the establishment of clear ownership structures in favour of family forest owners and community forest owners.”

⁵ http://www.mcpfe.org/files/u1/warsaw_resolution_1.pdf

⁶ 2nd Meeting of the UNECE/FAO Team of Specialists on “Monitoring forest resources for SFM in the UNECE Region”

Finland, Slovakia and Lithuania. The feedback from the test questionnaires allowed adjusting the enquiry towards its final implementation.

The launch of the regional private forest ownership project was endorsed by the 28th session of the Joint FAO/UNECE Working Party on Forest Economics and Statistics in March 2006. National Data Reporting Forms were sent to the 38 MCPFE countries with private forestry in May 2006 with an initial deadline for responses of 30 July 2006. As several countries had problems to meet the deadline, a final submission date was set for 19 December 2006. During the response period, national correspondents were assisted in filling in the data reporting forms by the UNECE/FAO secretariat.

1.3 Participation by Countries

Altogether, 23 country reports have been received by January 2007, from the following countries: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Finland, France, Germany, Hungary, Iceland, Ireland, Latvia, Lithuania, Netherlands, Norway, Poland, Romania, Serbia, Slovakia, Slovenia, Sweden, Switzerland and the UK. As indicated by some countries the reasons for the limited response may be seen in insufficient national data, lack of reporting capacities or a too detailed questionnaire. Country reports received were validated with regard to data consistency and comprehensiveness. The compatibility with other data sets was verified, namely with the regional UNECE/FAO Forest Resources Assessment and Quantitative Criteria & Indicators on Sustainable Forest Management (Criterion 6.1: Forest Holdings) which were collected in the context of the reporting for the 5th MCPFE, and analysed in the report on "State of Europe's Forests in 2007". The response rate of countries participating in the PFO Project amounts to 60% i.e. 23 responding countries of the 38 MCPFE countries that had been initially addressed⁷ (*Figure 1.1*). The forest and other wooded land area of the 23 countries participating in the enquiry amounts to 138 million hectares or 70% of the European countries initially addressed which represent a total of 198 million hectares⁸.

If related to the European MCPFE Warsaw country group classification (*Figure 1.2*) the sub-regional representation is as follows.

- Nordic/Baltic Group: 6 participating countries out of 8 (Finland, Iceland, Latvia, Lithuania, Norway, Sweden, making up 52% of the area of forest and other wooded lands (FOWL) of the participating countries⁹).
- North West Group: 6 participating countries out of 7 (Belgium, France, Germany, Ireland, The Netherlands, United Kingdom, making up 23% of the FOWL area of the participating countries).
- Central Group: 7 participating countries out of 8 (Austria, Czech Republic, Hungary, Poland, Slovak Republic, Slovenia, Switzerland, making up 16% of the FOWL area of the participating countries)
- South West Group: no participating country out of 5 (0% of the region's forest area)
- South East Group: 4 participating countries out of 10 (Bulgaria, Cyprus, Serbia, Romania, making up 9% of the FOWL area of the participating countries)

⁷ The enquiry was addressed to the following 38 of the 46 MCPFE countries, with records of private forest area, according to the TBFRA-2000: Albania, Andorra, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Montenegro, Norway, the Netherlands, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the UK.

⁸ Figures from Forest Resources Assessment (FRA) 2005, Europe without Belarus, Moldova, Russian Federation, Ukraine.

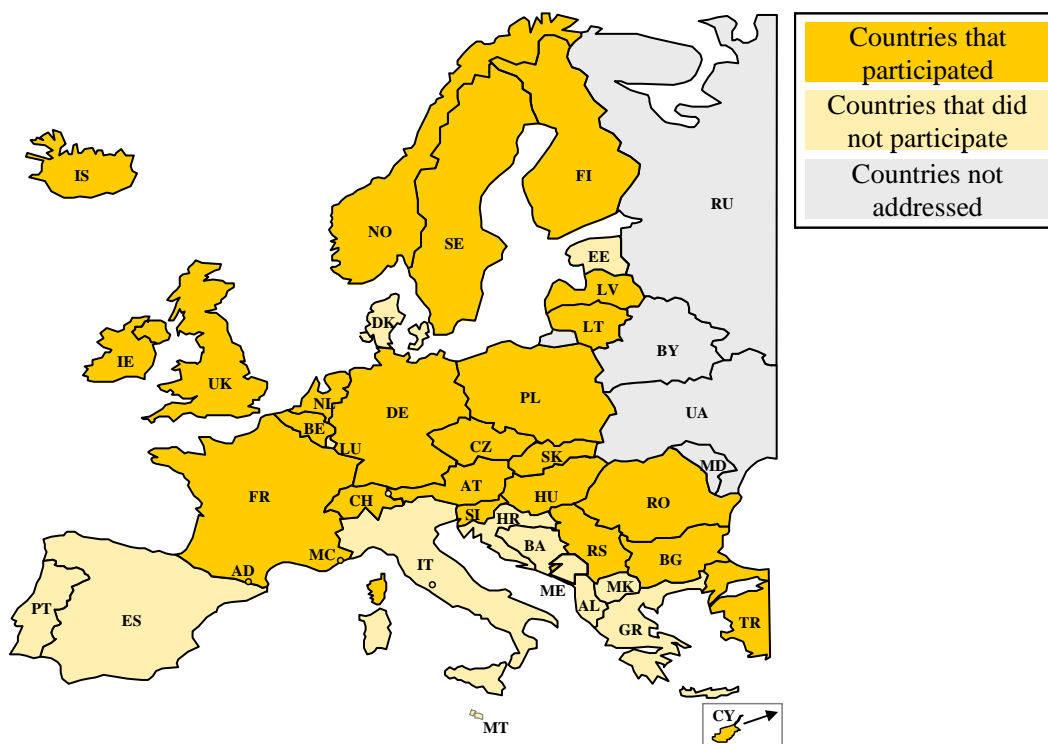
⁹ Forest area and other wood land, as reported in the private forest ownership enquiry (for Germany, forest area only).

As a result of the private forest ownership enquiry, the Private Forest Ownership Database was established in 2007 (*Private Forest Ownership database, based on 2006-2007 enquiry*), organized according to the format of the original questionnaire (Annex I):

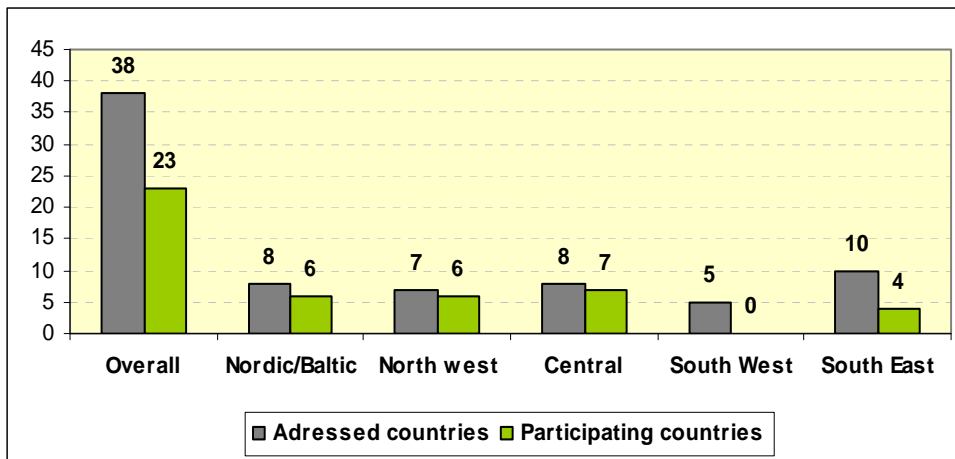
1. Forest ownership categories by area and management status
2. Area and number of private forest holdings according to size of holding
3. Characteristics of forest and other wooded land by area and volume
4. Economic indicators of private ownership
5. Economic indicators of public ownership
6. Demographic information on individual private forest owners
7. Social background of individual private forest owners
8. Country statements on changes in private forest holdings, forest management and association.

Information obtained for data frames 1-7 is of a quantitative nature whereas country statements for reporting form 8 are qualitative findings. This information is presented in a database, available along with the 23 national country reports at <http://www.unece.org/trade/timber/fra/PFO.htm>.

Figure 1.3.1: Participation of Countries in the Private Forest Owners Project 2006-2007



Draft for approval

Figure 1.3.2: Participating Countries According to MCPFE Country Groups

1.4 Data Availability

General data for ownership distribution, growing stock and annual wood production are available for all or most responding 23 countries. Other information for instance specific data on size class distribution of private forest owners or on economic values for non-wood forest products and services are rather weakly reported. Such data are either difficult to trace or not at all available in a number of countries.

Most data were submitted for the year 2005, as requested in the enquiry. However, correspondents could freely choose the reference year for each reporting form, and have in some cases provided data for different reference years. The reference period is indicated for each reporting form in the database

A lack of information can be observed notably in the PFO categories individual/family owners, forest industries, private institutions and on socio-economic issues. Data are more easily available on an aggregate national level (PFO total, public forests total), on area and management status, and on holding structures except for small holdings. Basic forest inventory data (growing stock, annual increment) are usually available for public ownership -but not necessarily for small scale private forest holdings. Demographic information on individual owners (gender, age) are scarce, as well as data on their social background (knowledge, motivation, objectives). Insufficient data were received on volume and value of wood production (notably from private forests) and value of non-wood forest products (NWFP). Descriptive information in response to question 8 revealed good insight into the privatization and/or restitution processes, ongoing ownership changes and their underlying reasons, as well as association and training of private forest owners. While some country information is more extensive than others, for most countries descriptive information can be obtained more easily. Further work on private forestry is required to validate and complete some of the findings and trends presented in this paper, and to complement the information base needed for adequate policy making.

1.5 Database and Results

The Private Forest Ownership Database together with the original country reports is available on the UNECE/FAO website: <http://www.unece.org/trade/timber/fra/PFO.htm>. It is structured in a manner which allows inserting additional forthcoming information and complementing the information available as of December 2007 with data from further investigations.

The findings of the PFO enquiry are compatible with the UNECE/FAO Temperate and Boreal Forest Resources Assessment (TBFR-2000), but go further by addressing in addition socio-economic issues of forest ownership. Results have been presented as part of the overall FAO forest tenure work at the

18th session of the FAO Committee on Forestry (COFO) in March 2007¹⁰ and are reflected, together with the findings from Indicator 6.1 “Forest Holdings”, in the Report on the State of Europe’s Forests 2007 prepared for 5th MCPFE Ministerial Conference in November 2007.¹¹ The main findings along with a draft study have been presented to the Joint FAO/UNECE Working Party on Forest Economics and Statistics which “it welcomed, as a major step forward in an area which had been little known at the European level before (...). It considered the study should be repeated at intervals of 5-10 years. The timing should be coordinated with other data collection activities.”¹²

The findings presented in Chapters 2 and 3 of this Discussion Paper follow the structure which formed the basis for information collection, the reporting forms 1-8 (Annex 1). Technical terms and definitions are available in Annex 2. The full database is accessible on the UNECE/FAO website (<http://www.unece.org/trade/timber/fra/PFO.htm>.) The results obtained from country respondents in response to the 12 questions posed in reporting form F8 are resumed in Annex 3.

¹⁰ http://www.fao.org/forestry/foris/data/cofo/2007/reeb_dominique_et_all_understanding_forest_tenure_towards_forest_tenure_diversification.pdf

¹¹ http://www.mcpfe.org/system/files/u1/publications/pdf/FE_EN.pdf

¹² Report of the Working Party on Forest Economics and Statistics at its 38th session, para 32 (<http://www.unece.org/trade/timber/docs/stats-sessions/stats-30/english/report.pdf>)

2. RESULTS AND ANALYSIS

2.1 Ownership Categories by Area and Management Status

Classification of ownership categories

Forests and other wooded land¹³ classified as privately owned comprise areas owned by persons and families either individually or under some form of cooperative arrangement, by forest industries or by private organizations, i.e. private corporations, co-operatives or institutions (religious, educational, pension or investment funds, nature conservation societies). Forests and other wooded land classified as publicly owned comprise land that belongs to the state, either at the central or provincial level, as well as communal forest land owned by communes, cities, and municipalities.¹⁴

In a few countries, ownership of some forest areas has been classified as neither public nor private, for instance, if the ownership status is unknown or has not yet definitely been acknowledged. The largest proportion of other ownership (383,500 ha.) is found in Germany, the so-called “Treuhand Wald,” areas expropriated within the scope of the land reform in the GDR, transferred into public ownership and now either privatised or about to be privatised. Other examples for countries having classified certain forest areas as “other ownership,” as reported, are Hungary (2,240 ha) and Slovakia (113,000 ha).

.... with 50 % private forest ownership in the 23 countries submitting information

The land base of the private and public forest sector in the 23 countries responding to the enquiry amounts to 138.5 million hectares forest and other wooded land, of which 128.5 million (93%) are classified as forests and 10 million (7%) as other wooded land. The distribution between private and public ownership is balanced. 68.5 million hectares (49.6%) are privately owned forest and other wooded land, around 70 million (50%) are publicly owned, and 0.5 million ha (0.4%) have been reported as other ownership (*Reporting form 1*¹⁵, *Figure 2.1.1*).

.... and 58% private ownership in western and central Europe

For the major forest countries of western and central Europe as a whole, with a cumulative area of 198 million ha of forest and other wood land, the part of private forest ownership is higher. Information from the Global Forest Resources Assessment 2005 shows a distribution of 115 million hectares (58%) private forest land versus 83 million hectares (42%) public forest land.

.... but only 10.5% private forest ownership in Europe at a continental scale

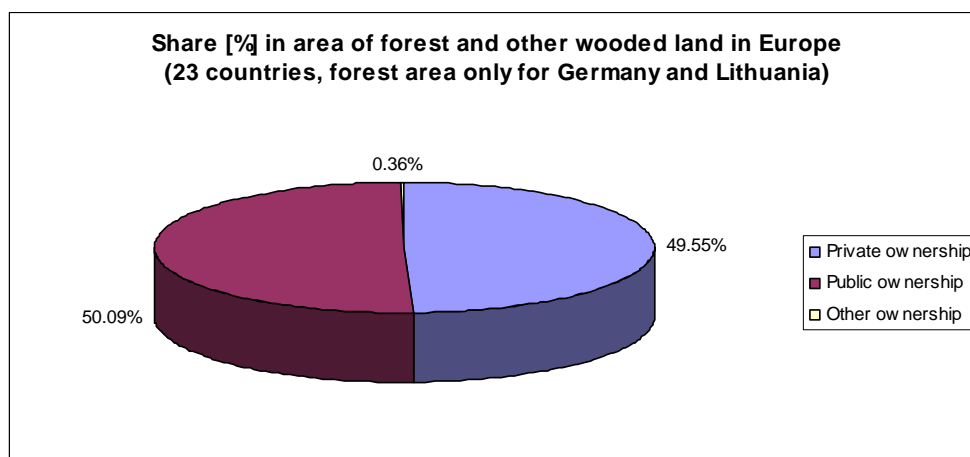
The percentage share of the private forestry is significantly reduced when considering the ownership structure at a European continental scale, including Russia, Belarus and the Ukraine where up to 100% of the forests is publicly owned. The data of the Global Forest Resources Assessment 2005 indicate a total of 1,098 million hectares forest and other wooded land for the European continent, of which 998 million are classified as forest and 100 million as other wooded land. 882 million ha (80%) of this enormous land resource are situated in the Russian Federation, and another 19 million (1.7 %) in the eastern European countries Belarus and Ukraine. All forest land in the Russian Federation, Belarus and Ukraine is presently classified as publicly owned. Public forestry in terms of land resources on the whole European continent (comprising the Russian Federation, Belarus, Ukraine, western, central and southern Europe) comprises 983 million ha (89.5%) of the total of 1,098 million hectares. The proportion of privately owned forest land at the European continental scale thus amounts presently to 10.5%.

¹³ In accordance with the Forest Resources Assessment, the term “forest” in the context of this enquiry refers to land with tree crown cover or an equivalent stocking level of more than 10% and an area of more than 0.5 hectare. Other wooded land refers to areas with a tree crown cover or an equivalent stocking level of 5-10 % of trees able to reach a height of 5 meters at maturity in situ. See Annex Terms and Definitions.

¹⁴ For more detailed definitions of private and public ownership categories see Annex 2 Terms and Definitions.

¹⁵ The reporting forms in their blank version are presented in Annex 1. For the final data, please refer to the database on the website: <http://www.unece.org/trade/timber/fra/PFO.htm>

Figure 2.1.1: Private and public ownership in 23 European countries participating in the PFO Enquiry 2006 in terms of % share of forest ownership and other wooded land

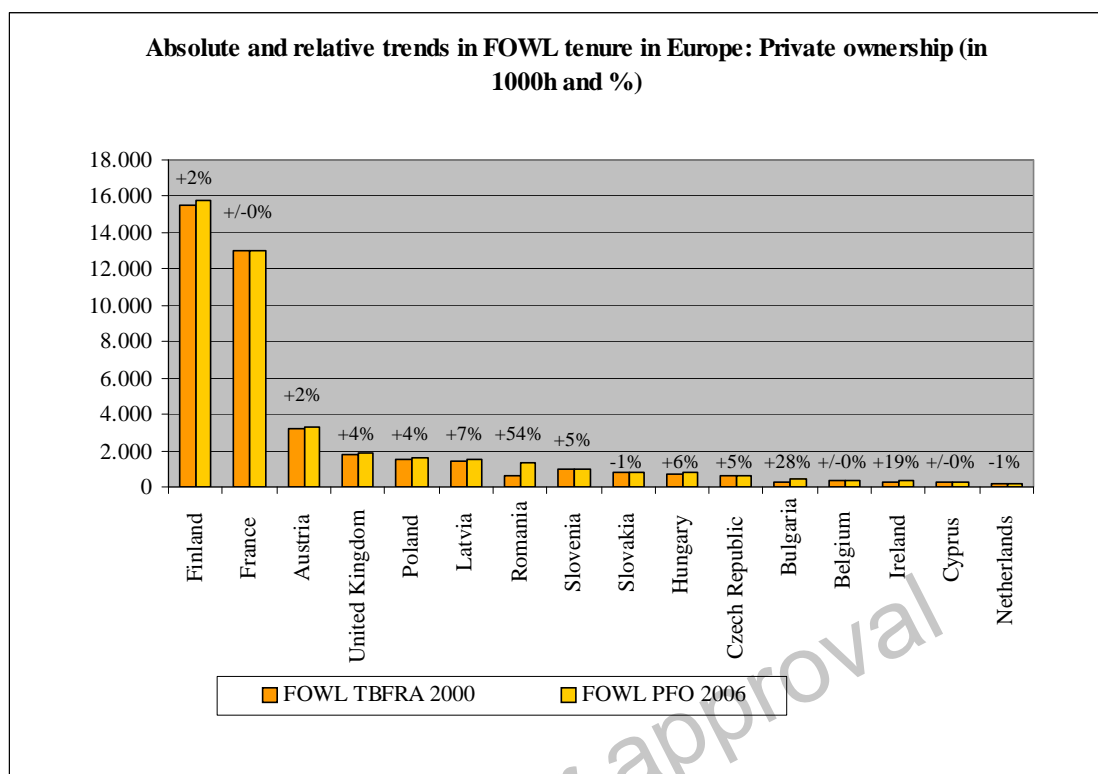


Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting forms 1.1, 1.2

Growing private forest area

Comparing the data available from the PFO Database for those countries which have provided 2005 data, and for which comparable data was available for the year 2000 from the Forest Resources Assessment (TBFRA) 2005, an increase in private forest ownership at country level is noticeable (*Figure 2.1.2*). Total private land area of the 14 countries with comparable information has risen by 6 % from 28.1 million hectares to 29.7 million hectares between 2000 and 2005. In the private forest ownership enquiry 18 out of the 23 countries indicated an increase in private forest area and in growing stock, mostly due to afforestation (answers to open questions in reporting form F8).

Figure 2.1.2: Trends at country level of changes in private ownership between 2000 and 2005 (in 1000 ha and %)



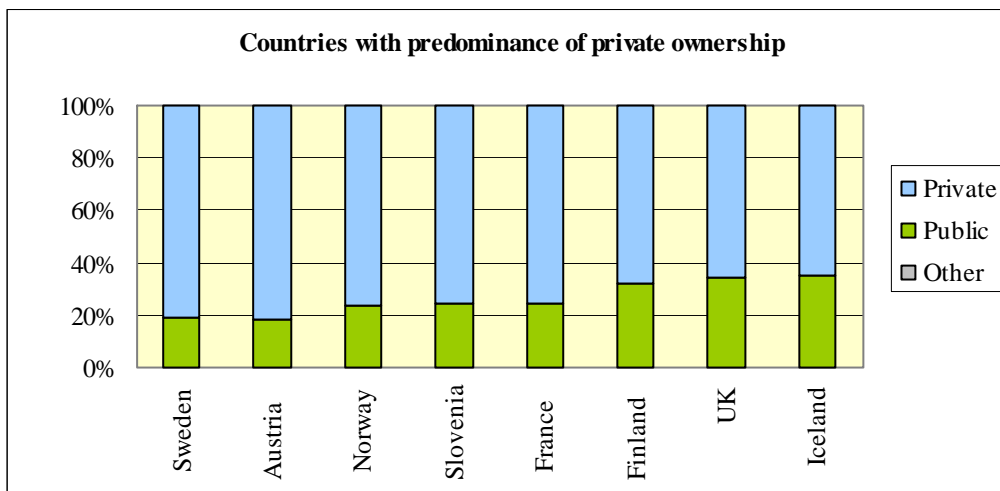
Source: FRA 2005 (data for 2000) and Private Forest Ownership database, based on 2006-2007 enquiry (data for 2005)

Large difference in ownership structure at country level

There is a great variance of ownership structure among the countries in terms of distribution of private and public holdings. *Figures 2.1.3, 2.1.4 and 2.1.5* present a grouping of countries with a predominantly private forest ownership, a balanced ownership structure, and predominantly public ownership, respectively.

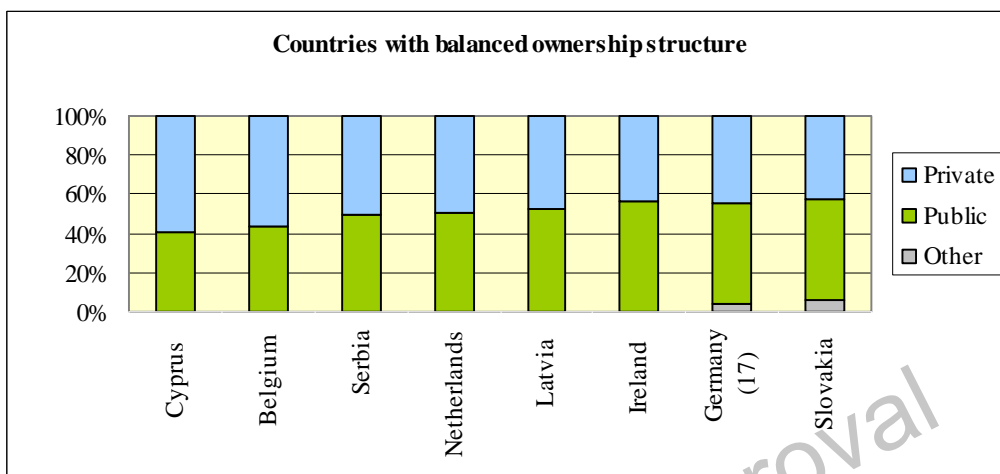
Private forest area in Austria, France, Norway, Slovenia and Sweden accounts, for instance, for more than 75% of the total forest area, whereas in Poland and Bulgaria it accounts for less than 20%. In 8 out of 23 responding countries, private ownership clearly dominates and varies between 80% and 60% of the countries' forests. In 8 countries there is a more balanced ratio between private and public forest land. In another 6 countries public forest ownership extends over more than 60% of the area: Seven countries had no record of private forestry, according to the FRA, at time of the launch of the enquiry: Belarus, Georgia, Holy See, Malta, Moldova, Russia, and Ukraine.¹⁶

Figure 2.1.3: Countries with predominance of private ownership of forest and other wooded land



Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1.1, 1.2

Figure 2.1.4: Countries with balanced private and public ownership of forest and other wooded land¹⁷ (1) Germany: forest area only)

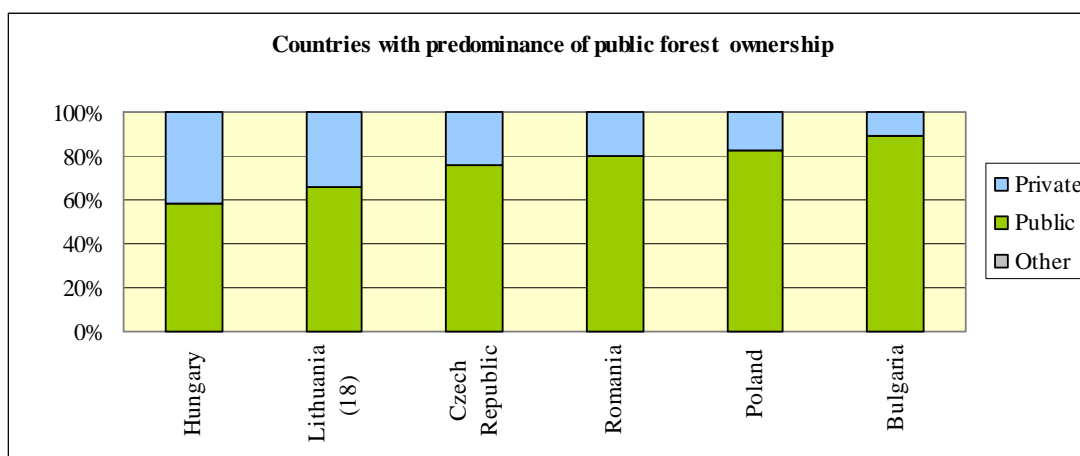


¹⁶ According to the Forest Resources Assessment 2005

¹⁷ Germany; Forest area only.

Source: Private Forest Ownership database, based on 2006-2007 enquiry Reporting form 1.1, 1.2

Figure 2.1.5: Countries with predominance of public ownership of forest and other wooded land
¹⁸ (1) Lithuania: forest area only



Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1.1, 1.2¹⁹

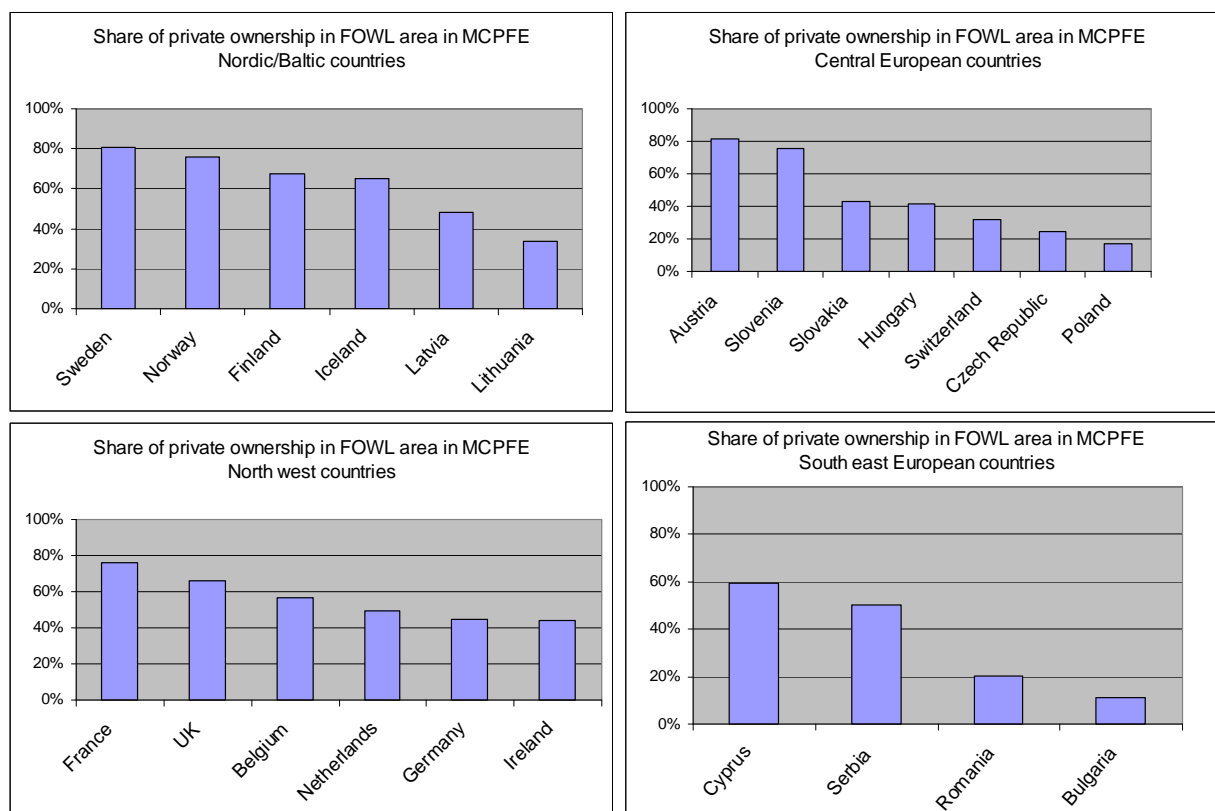
Differences among countries by European MCPFE sub-regions

There are considerable differences in terms of private and public ownership distribution amongst countries in the various European MCPFE sub-regions participating in the enquiry. In the Nordic/Baltic sub-region, in Sweden, Norway, Finland and Iceland, private ownership amounts to 2/3 of the total forest area, whereas it is below 50% in Latvia and Lithuania. In the Central European country group, Austria and Slovenia have more than 3/4 private forest land whereas the share of private forests in Slovakia, Hungary Switzerland, the Czech Republic and Poland ranges between 17% and 43%. The countries of the North West sub-region show a more even distribution of private forest area ranging from 76% (France) to slightly below 50% (Netherlands, Germany, Ireland). In the Southeast European group, there is a higher proportion of public ownership of forest and other wooded land ranging from 40% in Cyprus to around 90% in Bulgaria (Figure 2.1.6).

¹⁸ Lithuania: Forest area only

¹⁹ The data for Romania are based on the information submitted by the national correspondent for 2005. As of 2008, an additional 1.5 million ha. have been privatized, resulting in a higher percentage share of private ownership, compared with public ownership. Additional information is provided in footnote 23 to Figure 2.2.12.

Figure 2.1.6: Share of private ownership in forest and other wooded land according to MCPFE Warsaw Country Groups



Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1.1, 1.2

Managed forest and other wooded land areas

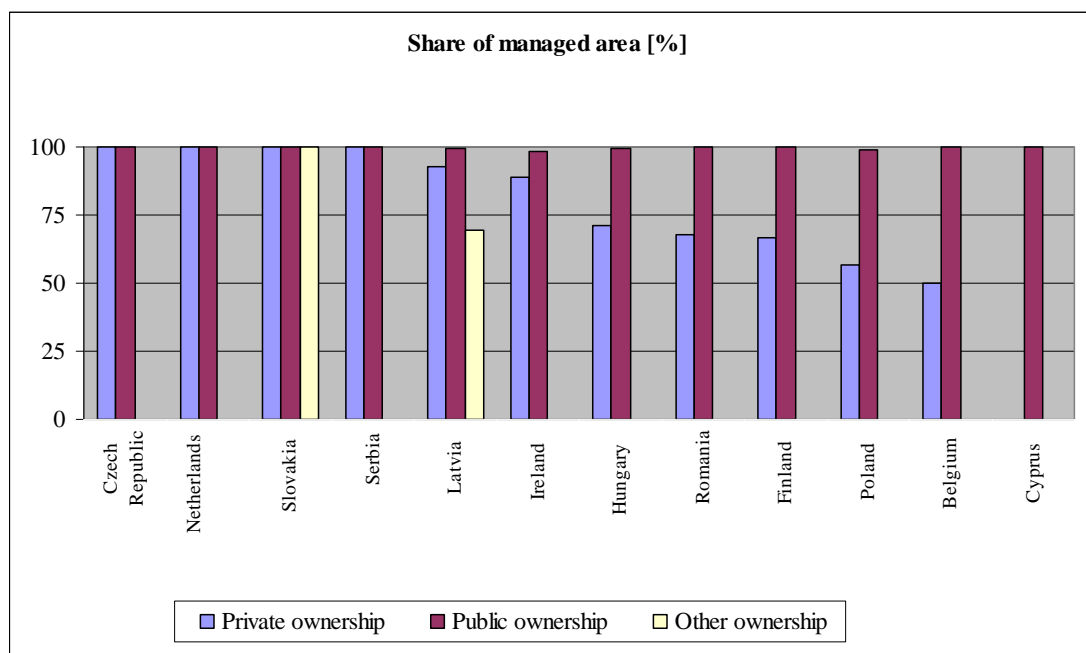
Managed forests and other wooded land have been defined, for the purpose of the enquiry, as areas managed in accordance with a formal or an informal plan applied regularly over a sufficiently long period (five years or more). Management operations include the tasks to be accomplished in individual forest stands e.g. compartments during the given period.²⁰ 14 responding countries have supplied information on the share of managed areas according to ownership categories (*Figure 2.1.7*). In seven countries (Czech Republic, the Netherlands, Slovakia, Serbia, Latvia and Ireland) both private and public forests have been reported to be completely or almost completely under some form of management. In some of the countries, governments require the adoption of a management plan for all types of forests, both private and public.

In five countries (Hungary, Romania, Finland, Poland, Belgium), there is a significant difference between the management requirements with regard to private and public holdings. Whereas practically all public forests are under a management status, only between 50% and 75% of private forests are at present classified as managed forest areas. In Iceland, only a small proportion of both ownership categories are classified as managed forests.

Overall, it remains difficult to draw general conclusions from the presence or absence of a management plan about the sustainability of the management of public or private forests. While management plans contain requirements with regard to sustainable forest management, such requirements differ. Furthermore, the absence of a management plan, in particular in small-scale often privately owned forests, does not necessarily imply that the forest owners do not have the objective to managed their forests sustainably.

²⁰ See Annex Terms and Definitions.

Figure 2.1.7: Percentage share of managed area of forests and other wooded land by private and public ownership categories (14 countries)



Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1.1, 1.2

2.2 Size Classes and Ownership Categories of Private Forests

Prevailing number of smallholdings...

In terms of numbers of private forest owners as well as distributions of size classes, small scale land holdings prevail in European forests. This is demonstrated by the data from responding countries that were able to furnish detailed information on the prevailing land structure of holdings. *Reporting form 2.2.1* provides an overview of total area, total number of holdings²¹ and average size of units of private forests in 9 responding countries. Aggregated figures²² show that 61% of all private forest holdings have an area of less than 1 hectare and 86% of all holdings belong to the size classes of up to 5 hectares. 13% of the private forest holdings are in the size classes from 6 to 50 hectares and around 1% of the owners have forest units over 50 hectares (*Figure 2.2.1*). The total reported number of private forest holdings in the 9 countries amounts to 4,343,097.

...with a non negligible share in area

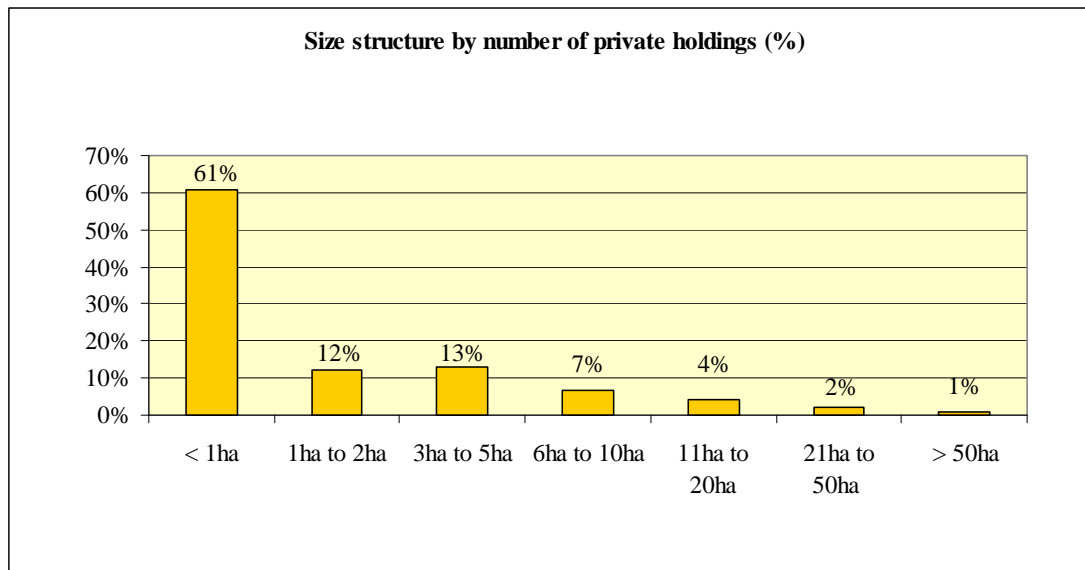
The situation is different if one examines the private forest structure of holdings by area. For instances, the combined area of forest holdings in the size classes 0-5 hectares in 8 reporting countries²³ amounts to 19%; the area of the size classes 6-50 hectares to 40%; and the size classes with more than 50 hectares to 41% (*Figure 2.2.2*). The total reported area of private forest land in the 8 countries amounts to 20.3 million hectares.

²¹ One or more parcels of forest and other wooded land which constitutes a single unit from the point of view of management or utilization. For more detailed explanations see Annex Terms and Definitions

²² Austria, Belgium, Bulgaria, France, Hungary, Latvia, Lithuania, Slovak Republic and United Kingdom

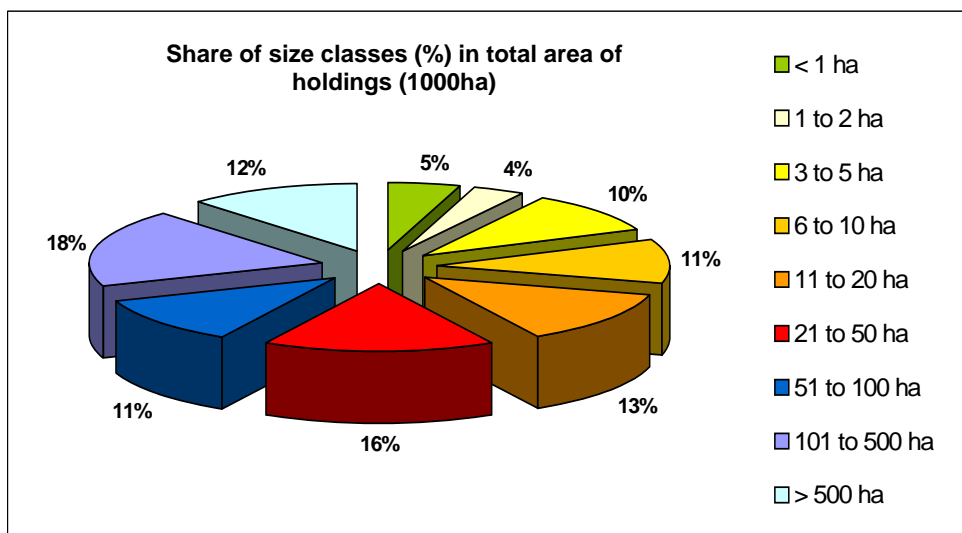
²³ Austria, Belgium, Bulgaria, France, Hungary, Latvia, Slovak Republic and United Kingdom

Figure 2.2.1: Size structure by number of private holdings as percentage of total number of holdings (9 Countries: Austria, Belgium, Bulgaria, France, Hungary, Latvia, Lithuania, Slovakia and United Kingdom)



Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 2

Figure 2.2.2: Share (%) of size classes in total area of holdings, 8 countries (Austria, Belgium, Bulgaria, France, Hungary, Latvia, Slovakia, United Kingdom).



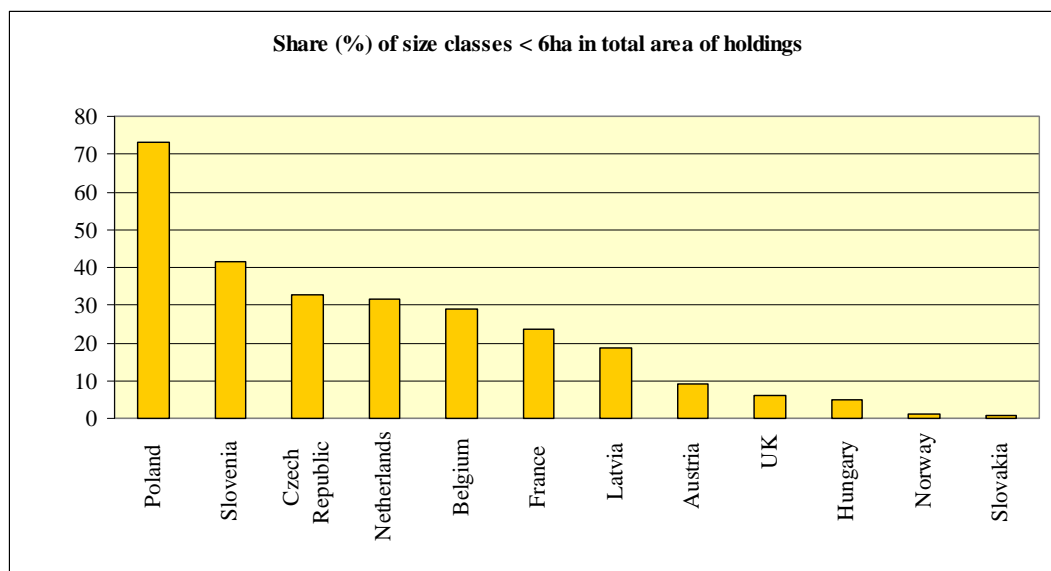
Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 2, for countries which provided detailed data in the breakdown of size classes as indicated)

Draft for approval

.... and differences in area structure by size classes of private holdings

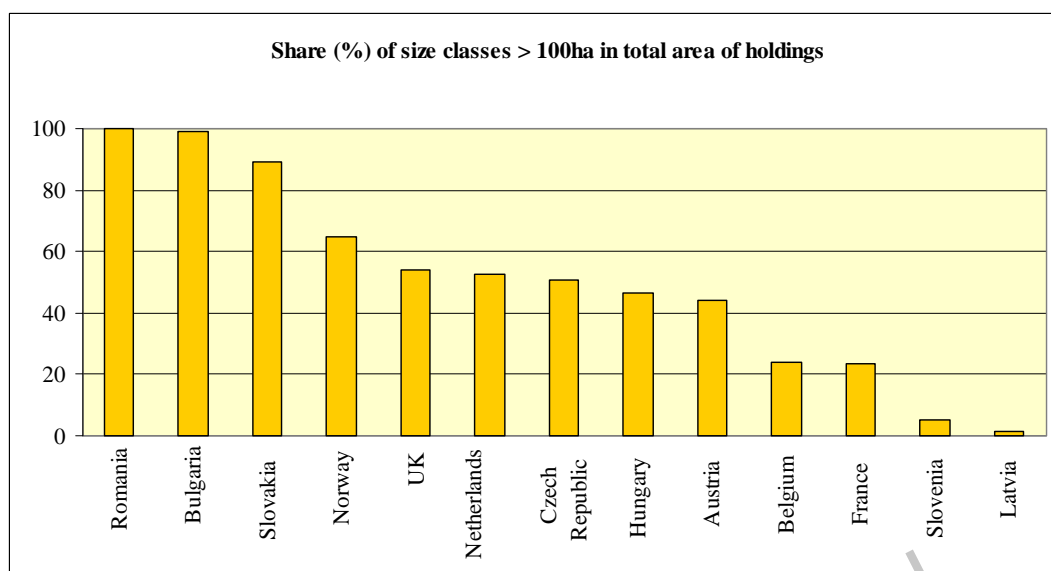
There are differences in the area structure of private forest holdings among countries. The data from 12 reporting countries²⁴ show the variations of area size classes below 6 hectares and those from 13 reporting countries²⁵ the variations of area size classes above 100 hectares (Figure 2.2.3, Figure 2.2.4).

Figure 2.2.3: Size structure smaller than 6 ha, 12 countries



Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 2

Figure 2.2.4: Size structure area over 100 ha, 13 countries



Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 2

²⁴ Poland, Slovenia, Czech Republic, The Netherlands, Belgium, France, Latvia, Austria, United Kingdom, Hungary, Norway, Slovak Republic

²⁵ Romania, Bulgaria, Slovak Republic, Norway, United Kingdom, The Netherlands, Czech Republic, Hungary, Austria, Belgium, France, Slovenia, Latvia

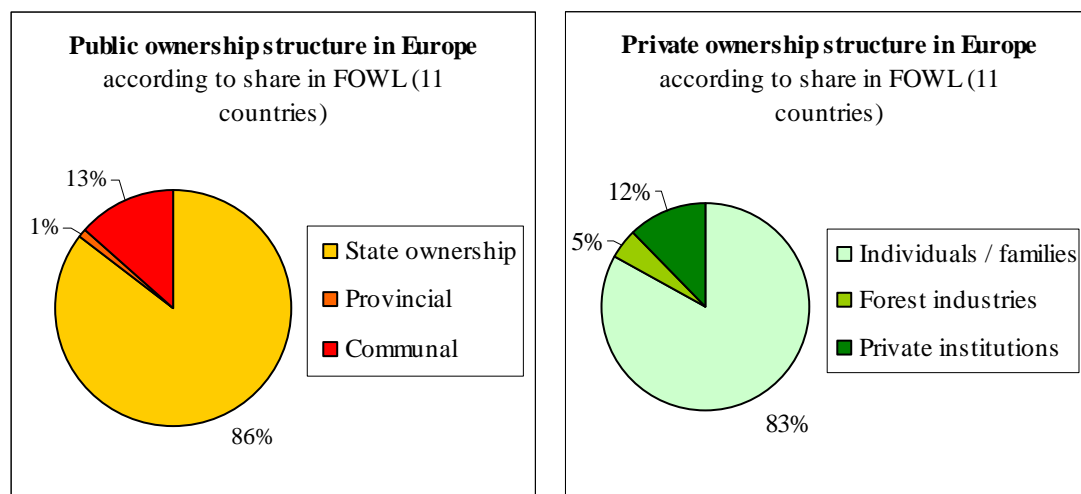
Several categories of private and public forest holdings

The private forest ownership enquiry distinguishes between several categories of private and public forest holdings. Among private owners of forests and other wood land the first and most important category by numbers refers to individuals and families including those that have organized themselves into companies. This category comprises individuals and families combining forestry with agriculture (farm forests) as well as those living in or near their forest holdings or those who live elsewhere (absentee owners).²⁶ A second category of holdings are forests and other wooded land owned by private wood-processing enterprises or industries. The third category of owners is formed by private institutions such as, for instance, corporations and co-operatives, religious and educational entities, or pension and investment funds. With regard to public forest holdings, state ownership at central and/or provincial (sub-national) and communal ownership may be distinguished.

.... with private forests mostly owned by individuals and families

Not only does the structure of holdings differ significantly at the country level, but also the distribution of forest area amongst different private and public owners. At an aggregate level (*Figure 2.2.5*) the results for 11 countries which reported data in this detailed breakdown show that private forests are mostly owned by individuals/families and public forests by the state.

Figure 2.2.5: Aggregate structure of private and public ownership, 11 countries (Belgium, Bulgaria, Czech Republic, Finland, France, Hungary, Norway, Poland, Romania, Slovakia, United Kingdom)



Source: Private Forest Ownership database, based on 2006-2007 enquiry, Reporting form 1, data for countries which provided information on each ownership category indicated below

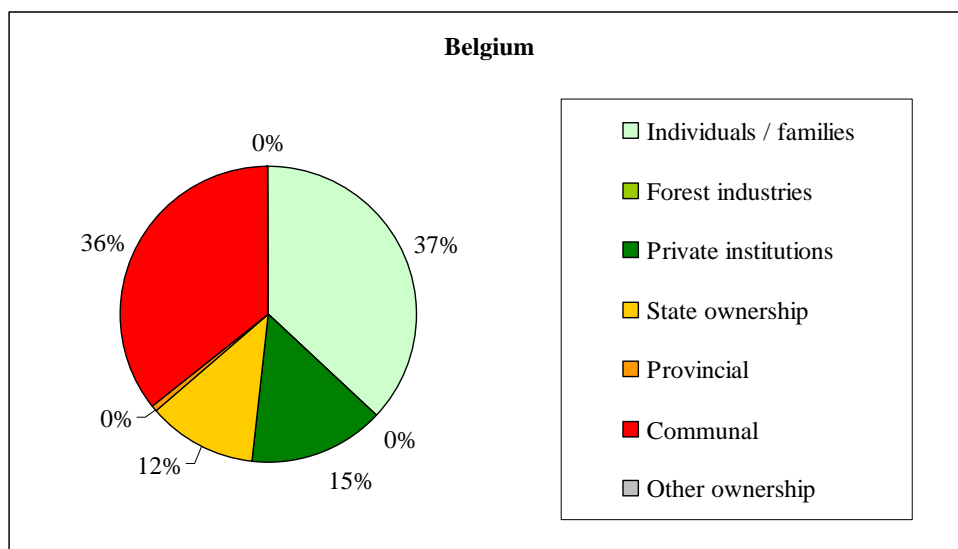
A large variety of ownership profiles at the country level

The ownership profiles from countries that have been able to provide specific information on the national ownership structure show a variety of combinations of private and public land ownership categories (*Figures 2.2.6 to 2.2.16*). Examples of countries in which private forest holdings clearly dominate are Finland, France and Norway. In Finland, for example, around two-thirds of forests are privately owned by individuals and families (56%), forest industries (8%) and private institutions (4%). In France 64% of the forest area belong to individuals and families and 12% to private institutions. On the other hand, the examples of Bulgaria (89%), Poland (83%) and Romania (79%) show countries in which state and communal ownership of forests are the dominating categories at the

²⁶ Annex Terms and Definitions

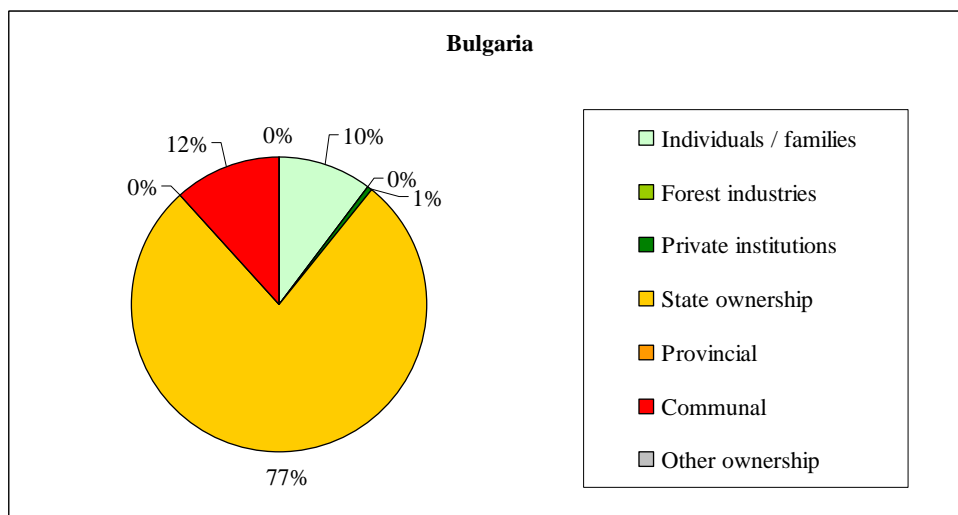
reference period for which data was provided (Bulgaria: 2000, Poland, Romania: 2005). The ownership profile in Belgium has a more balanced distribution of private and public holdings. Private holdings amount to slightly more than half of the forest area whereas 36% respectively 12% are communal and state forests. A similar situation exists in Slovakia where the ownership structure is rather diversified.

Figure 2.2.6: Belgium: Ownership structure of forest and other wood land area



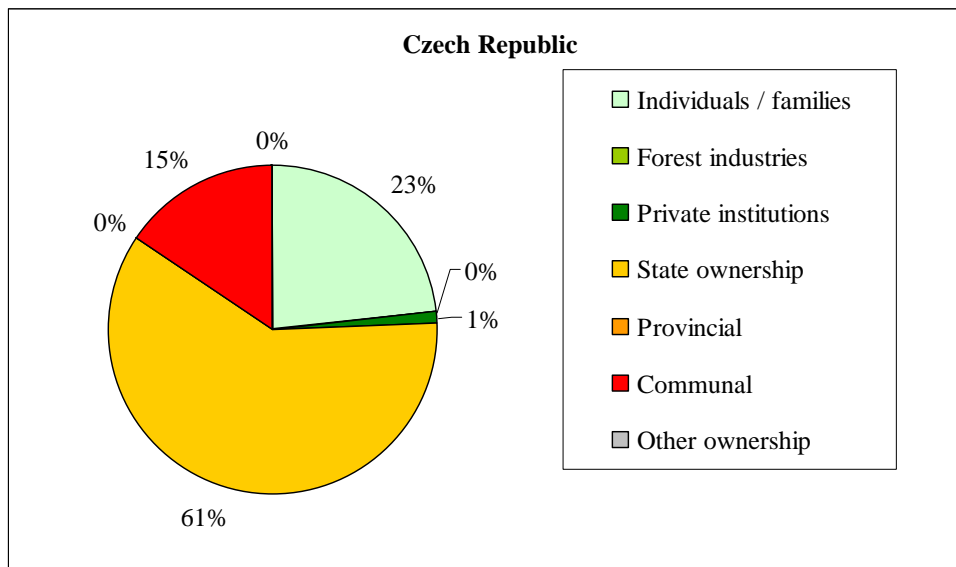
Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1.

Figure 2.2.7: Bulgaria: Ownership structure of forest and other wood land area

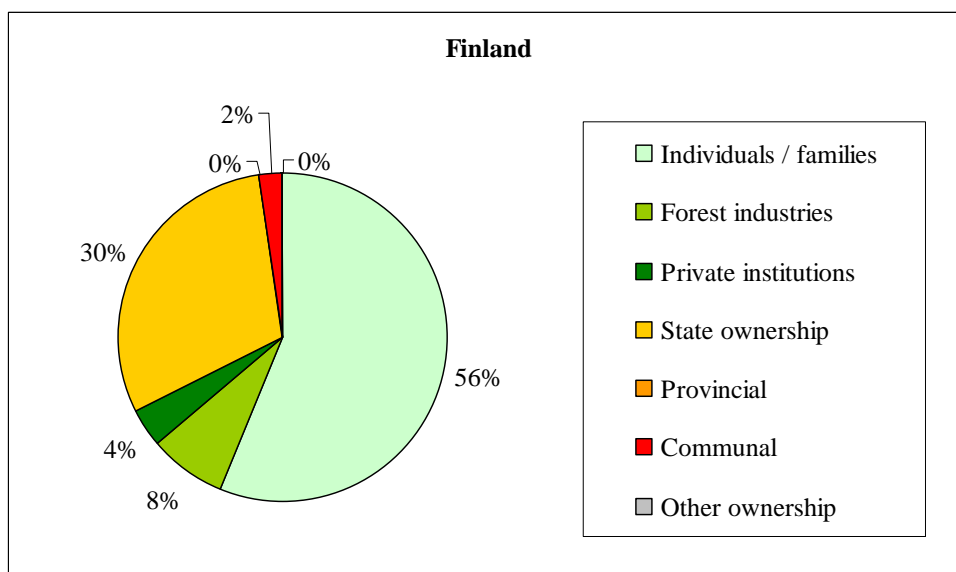


Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1, data for 2000.

Draft for approval

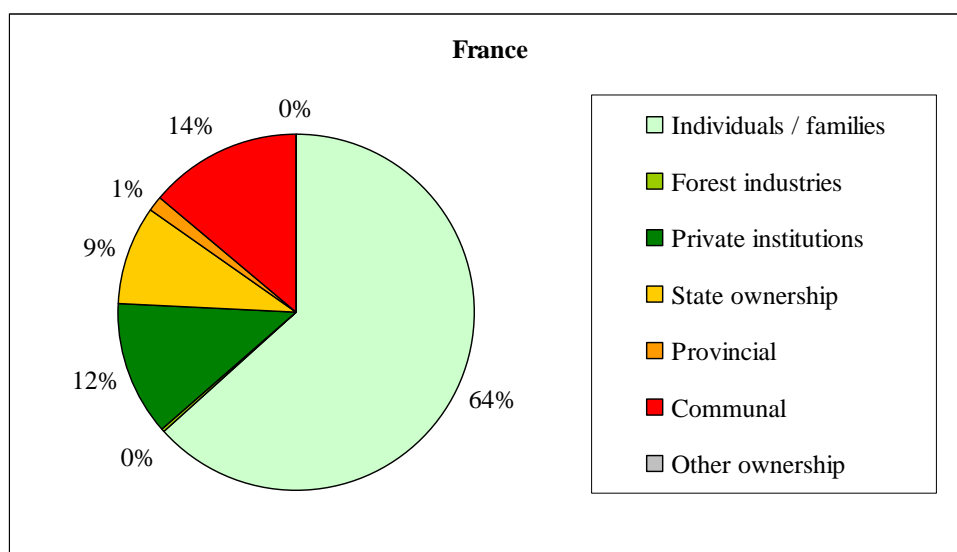
Figure 2.2.8: Czech Republic: Ownership structure of forest and other wood land area

Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1, data for 2005.

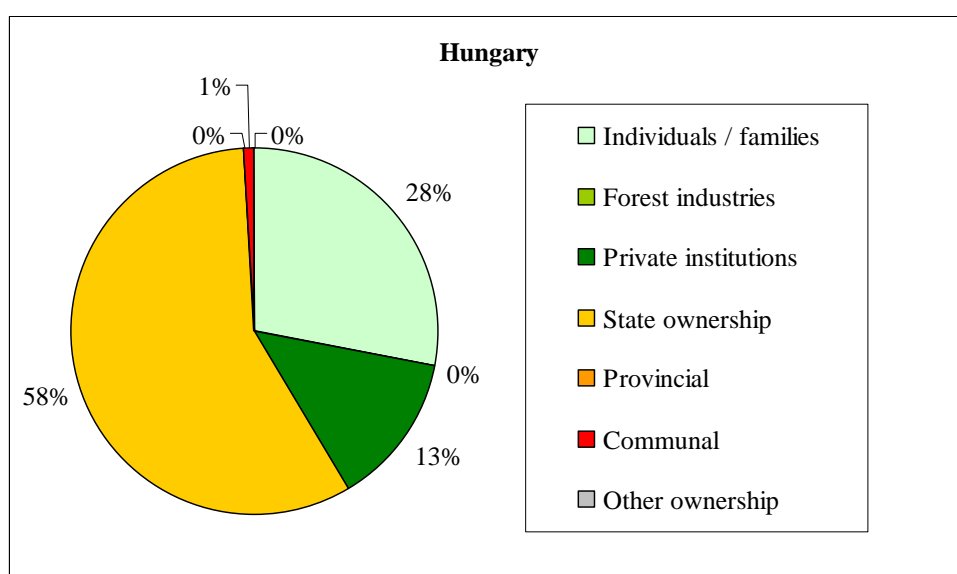
Figure 2.2.9: Finland: Ownership structure of forest and other wood land area

Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1, data for 2005.

Draft for approval

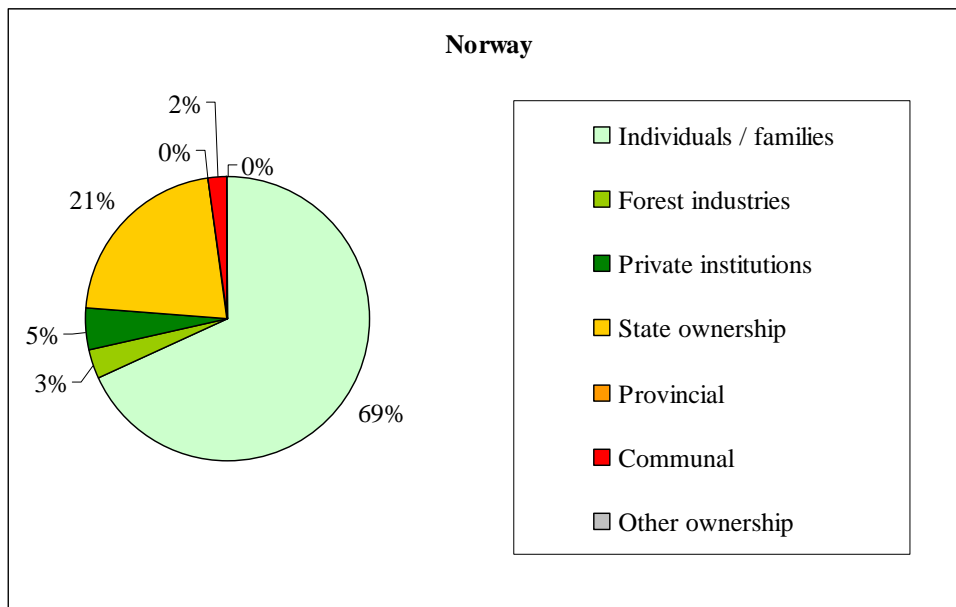
Figure 2.2.10: France: Ownership structure of forest and other wood land area

Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1, data for 2005.

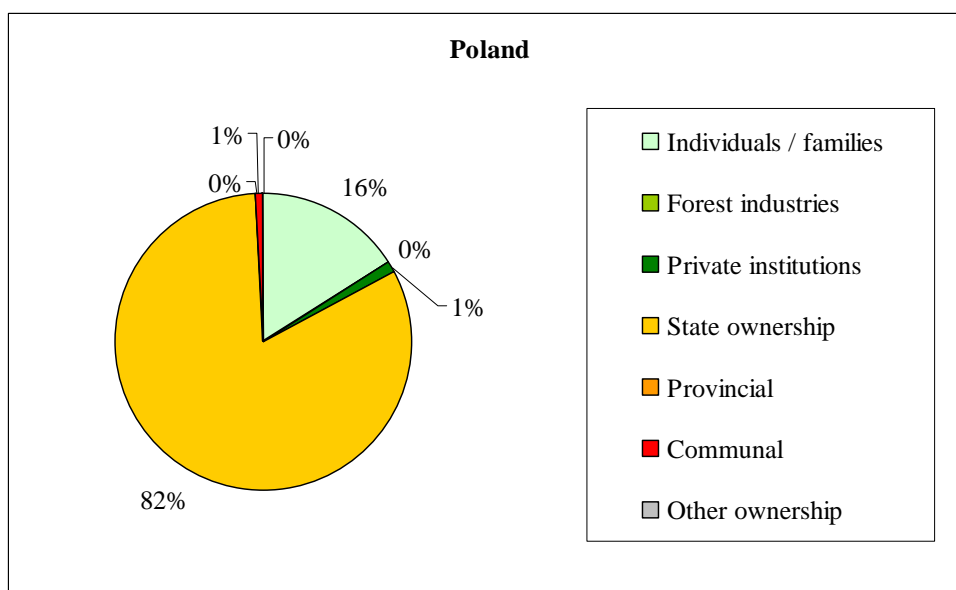
Figure 2.2.11: Hungary: Ownership structure of forest and other wood land area

Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1, data for 2000

Draft for approval

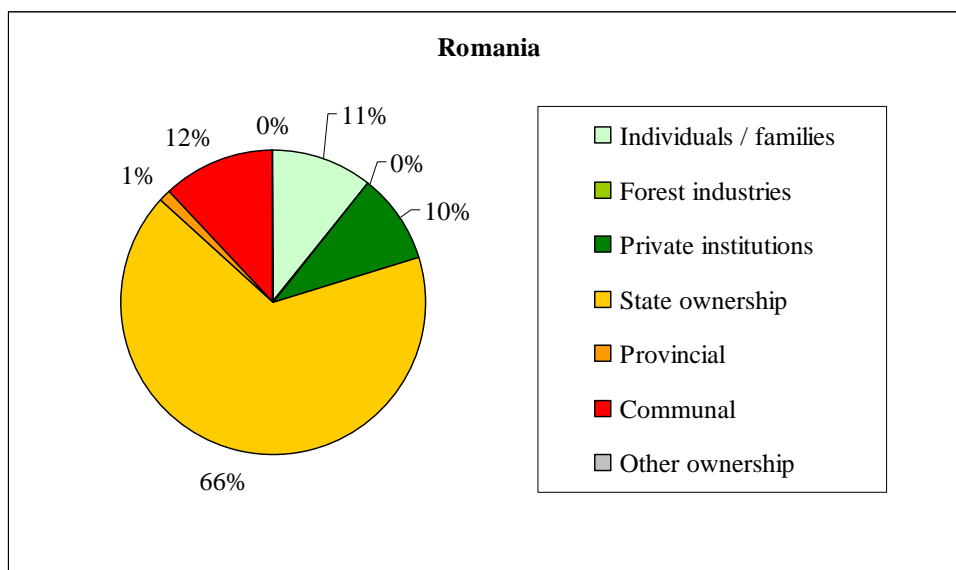
Figure 2.2.12: Norway: Ownership structure of forest and other wood land area

Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1, data for 2000.

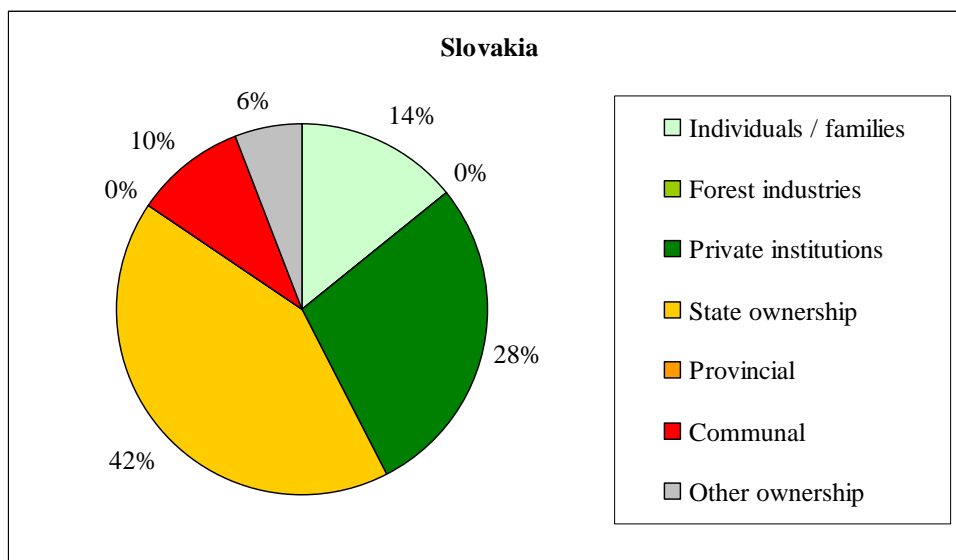
Figure 2.2.13: Poland: Ownership structure of forest and other wood land area

Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1, data for 2005.

Draft for approval

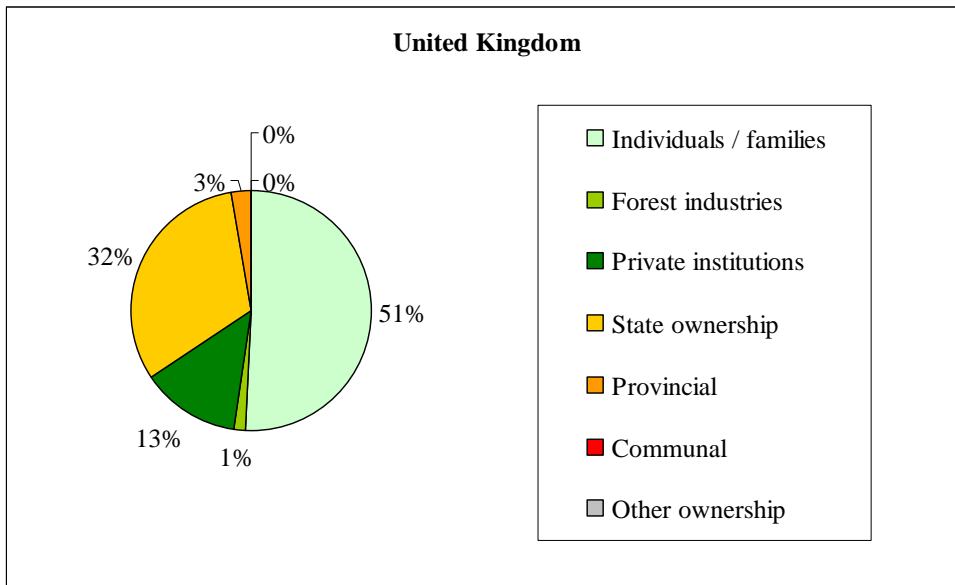
Figure 2.2.14: Romania: Ownership structure of forest and other wood land area²⁷

Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1, data for 2005.

Figure 2.2.15: Slovakia: Ownership structure of forest and other wood land area

Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1, data for 2005.

²⁷ As of 2008, the ownership structure in Romania changed, according to the Ministry of Agriculture and Rural development, with approx. 1.5 million additional hectares having been privatized as follows: individuals/families 1 033 218 ha; associative forms of property 676 332 ha ("composesorates"); "urbarial", "obsti" and church 107 775 ha; communal and municipal ownership 929.246 ha; with a total area of private forest in Romania of 2 743 571 ha (31.03.2008). These 1.5 million hectares represent 23% of the total FOWL ownership as indicated in the private forest ownership enquiry.

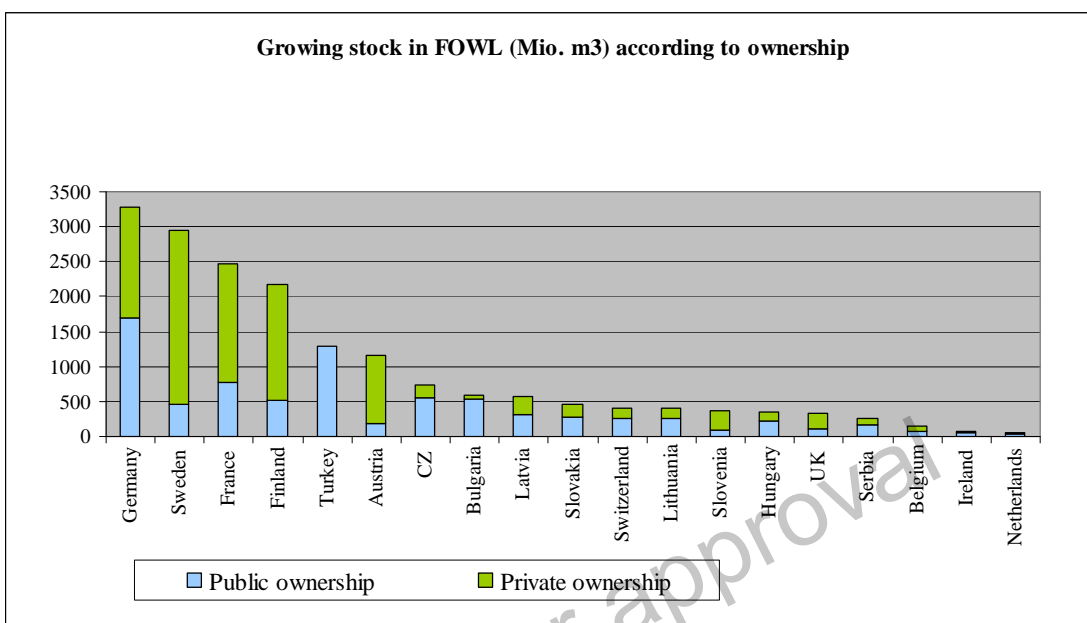
Figure 2.2.16: United Kingdom: Ownership structure of forest and other wood land area

Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 1, data for 2005.

2.3 Growing Stock, Increment, Annual Fellings and Certified Area

Large difference in growing stock

Total volume of growing stock, both in private and public forests varies considerably at the country level (*Figure 2.3.1*). Countries with a high share of growing stock on private lands are, for instance, Sweden, France, Finland, Austria, Slovenia and United Kingdom. Among the countries with a high proportion of growing stock on public lands are the Czech Republic, Switzerland, Lithuania, Hungary and Serbia. Germany, Latvia, and the Slovak Republic show a more balanced distribution of the stocking volume.

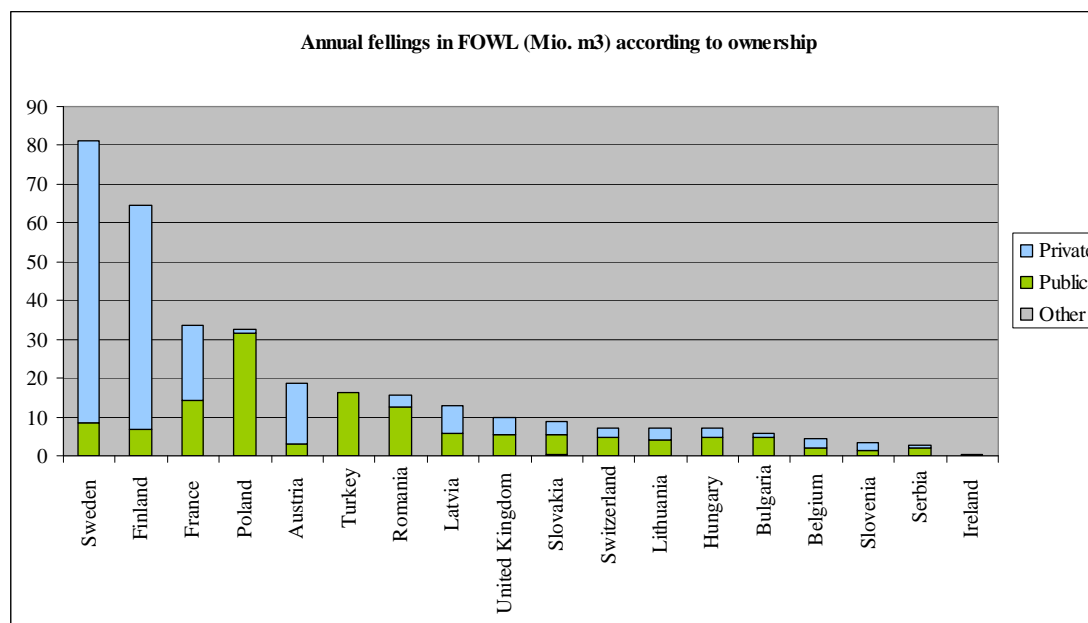
Figure 2.3.1: Total growing stock of forest and other wooded land by ownership categories

Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 3.

...and annual fellings

Total annual fellings on forest and other wooded land amount to around 80 million m³ in Sweden, more than 60 million m³ in Finland, more than 30 million m³ in France and around 30 million m³ in Poland. Total annual fellings among the other responding countries are below 20 million m³ (Figure 2.3.2). The share of the private and respectively the public sector shows largely a similar distribution as for the growing stock.

Figure 2.3.2: Total annual fellings on forest and other wooded land by ownership categories



Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 3.

Utilization rate

A comparison between gross annual increment and annual fellings (utilization rate) on private and public forest land, provided by correspondents through the private forest ownership enquiry, indicates in a number of countries a rather balanced relationship but in others notable difference.

.... in private forest highest in Belgium, Bulgaria, Finland and Slovakia ...

Countries which use their private forests intensively are, for instance: Belgium, Bulgaria, Finland and Slovakia. In Austria, Germany, Switzerland and the UK, annual fellings amount to approx. half of the annual increment of private forests (Figure 2.3.3).

.... in public forests highest in Austria, Belgium, Slovakia and Switzerland

Some of the countries with a high utilization of their public forests are Austria, Belgium, Slovakia and Switzerland (Figure 2.3.4).

.... and generally higher in public forests, but higher in private forests in 3 countries

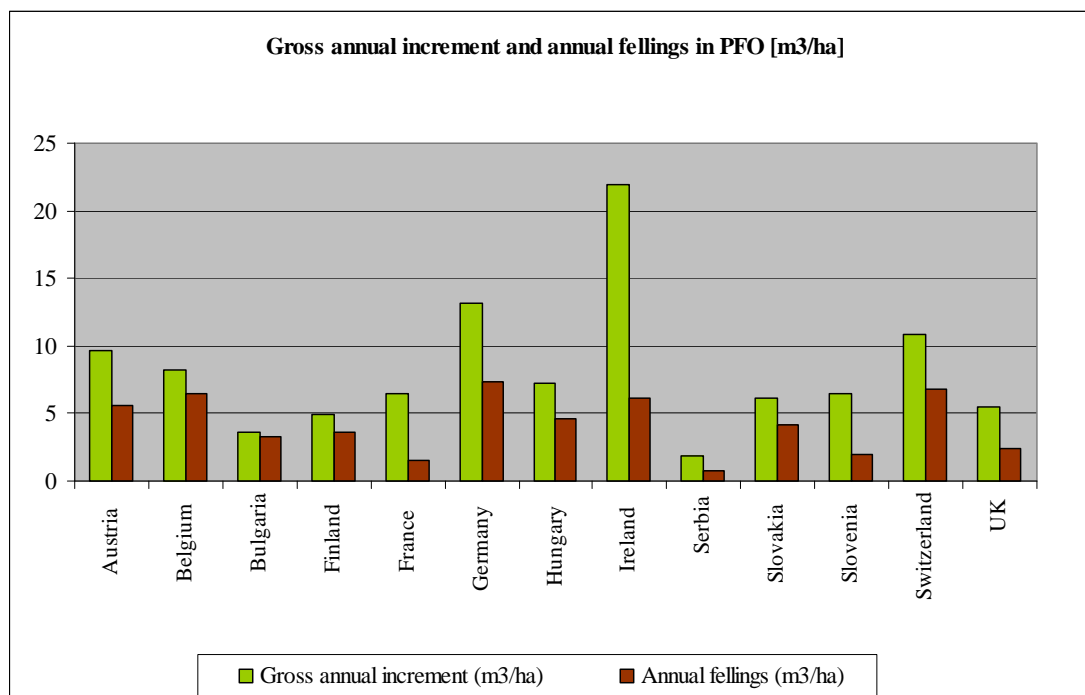
A comparison of the utilization rate in private and public forests shows that in the majority (8) of the countries which provided data on annual increment and annual fellings, the utilization rate is higher on public forest land: Austria, Belgium, Serbia, Slovakia, Slovenia, Switzerland, and the UK. In 3 out of the 10 reporting countries, the utilization rate is higher in private forests: Bulgaria, Finland, France (Figure 2.3.5). In Finland and France, there is a large proportion of private ownership, 68% and 76%, respectively. In Bulgaria, public forests predominate, as private forests only make up 11% of the total. This finding emphasizes the potential for enhanced efforts to mobilizing private forest owners and to stimulating wood utilisation and sustainable forest management, further discussed in Chapter 3.

Interpreting country data on utilization rates

Several factors may determine the relationship between annual increment and annual fellings for individual countries and ownership categories and it is important to take into account the data on real utilization rates. In countries or ownership categories with large areas of plantations that are currently established or have been established recently, such as for instance in private forest in Ireland, gross annual increment is high whereas fellings are still limited due to the large areas of young stands not ready yet for wood harvesting. A similar situation has been described for public sector planting in the United Kingdom which had been undertaken during previous decades and had made up the majority of softwood harvesting up to now. To some extent the apparent differences in the utilization rates are thus determined by natural and socio-economic factors such as age class distribution of forest stands, afforestation of marginal agricultural land at certain periods of time, or replanting of forest land after devastating effects of large scale storm calamities. In some countries such as Finland and Sweden, public forests tend to be in remote areas with lower productivity and higher biodiversity values, leading to a lower utilization rate.

At the same time one has to be aware that the degree to what extent forest owners are in a position to mobilize wood resources within the limits of the annual allowable cutting regime is an important factor to be considered in this context. Using annual increment as an indicator of potential wood supply is limited by a number of factors, including that annual increment only reports stem wood from forests, but not other biomass in the forests, e.g. branches, tops and stumps. Harvesting increment in the long run would not necessarily be sustainable, as increment is a dynamic figure that may change over time as it refers to the age structure of the forest and the potential rotation age.²⁸

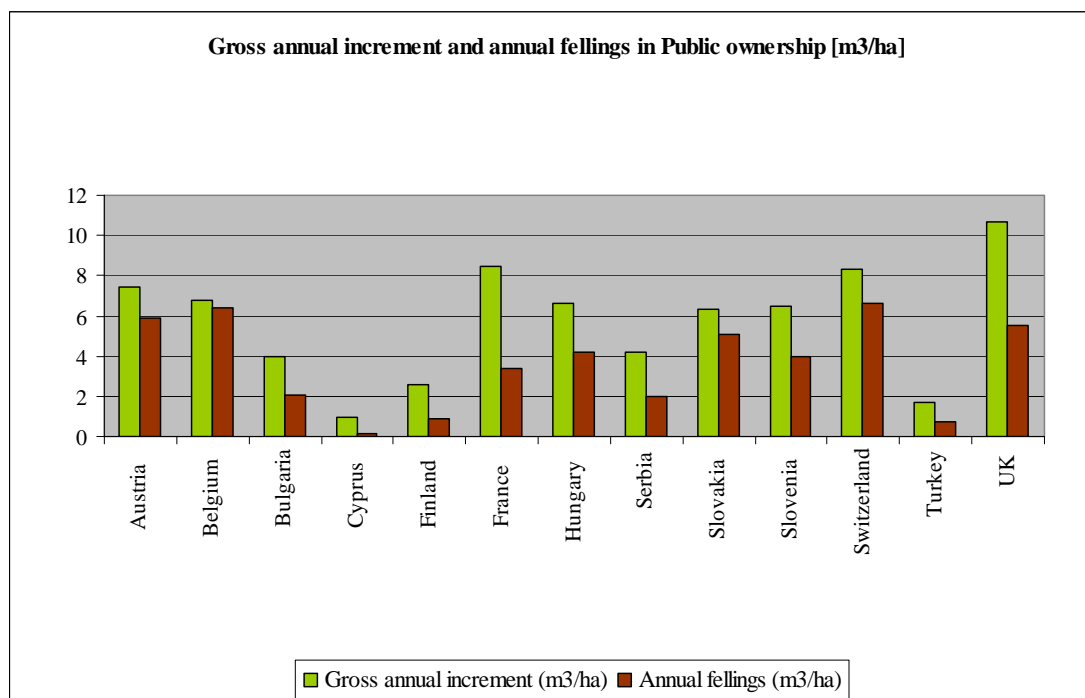
Figure 2.3.3: Comparison between gross annual increment and annual fellings in the private forest sector



Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 3.

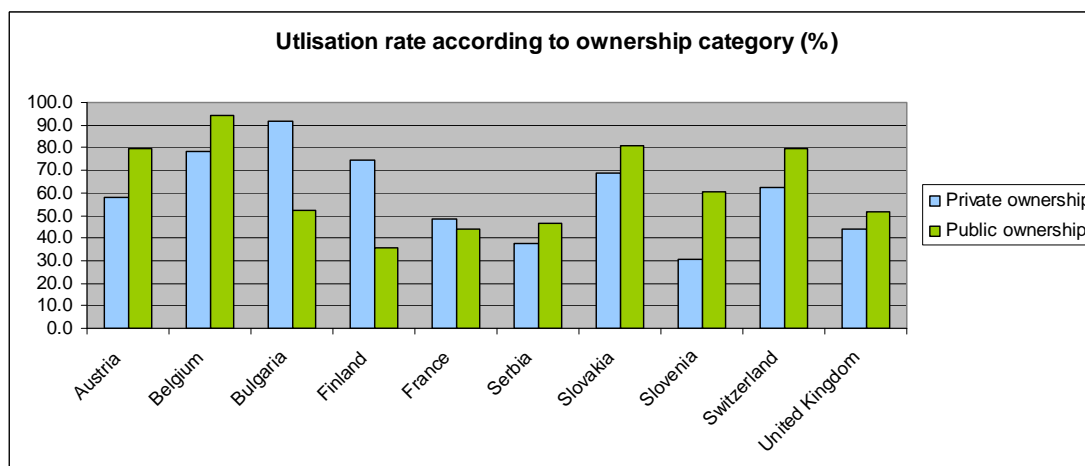
²⁸ Hetsch, Steierer, Prins: wood resources availability and demands II – future wood flows in the forest and energy sector. UNECE, FAO and University of Hamburg, March 2008. (http://www.unece.org/trade/timber/workshops/2008/wood-balance/docs/wood_availability_part2.pdf).

Figure 2.3.4: Comparison between gross annual increment and annual fellings in the public forest sector



Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 3.

Figure 2.3.5: Utilization rate of private and public forest and other wooded land, i.e. gross annual increment/annual fellings



Source: Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 3.

Important role of individual and family owners in private forest wood harvesting

Information from 9 reporting countries shows that private forest institutions are dominant players in wood harvesting, in particular individual and family holdings in annual wood harvesting in the private forest sector (*Private Forest Ownership database, based on 2006-2007 enquiry, reporting form 3*). Countries in which more than 50% of private annual fellings come from individual and family

