STATE FOREST MANAGEMENT ENTERPRISES IN SERBIA:
ORGANIZATION AND MANAGEMENT ANALYSIS

MASTER THESIS

Maja Srndović, dipl. ecc.

BELGRADE, 2012.
Candidate: Maja Srndović, dipl. ecc.
MSc Student in Forest Policy and Economics
Faculty of Forestry, University of Belgrade

Supervisor: Dr. Roderich von Detten, assistant professor
Institute of Forestry Economics
University of Freiburg, Germany

Regional professor: Dr. Stjepan Posavec, assistant professor
Faculty of Forestry, University of Zagreb

Host professor: Dr. Dragan Nonić, associate professor
Faculty of Forestry, University of Belgrade

Title: “State Forest Management Enterprises in Serbia: Organization and Management Analysis”
Thank to all persons and institutions that have helped to the completion of this master thesis. Many thanks to supervisor Dr. Roderich von Detten and co-supervisors Dr. Stjepan Posavec and Prof. Dr. Dragan Nonić. Also, many thanks to the coordinator of FOPER program Prof. Dr. Margaret Shannon and coordinators Prof. Dr. Mersudin Avdibegović and Nenad Petrović for successful project.

Special thanks to Ministry of Agriculture, Trade, Forestry and Water Management of Republic of Serbia – Directorate for Forests, State Enterprises for forest management “Srbijašume” and “Vojvodinašume” and Austrian Federal Forests (ÖBf) for professional support.
CONTENT

LIST OF ACRONYMS ................................................................. 6
LIST OF GRAPHICS, PICTURES, TABLES AND FIGURES ....................... 6
LIST OF ANNEXES .............................................................. 7

1. INTRODUCTION ............................................................... 8
   1.1. ECONOMY OF NATURAL RESOURCES ........................................ 9
   1.2. BUSINESS ANALYSIS .......................................................... 10
   1.3. NEEDITY OF STRATEGIC MANAGEMENT IN FORESTRY ................ 11
   1.4. AIMS AND HYPOTHESIS ....................................................... 13

2. THEORETICAL FRAMEWORK .................................................. 15
   2.1. COMPETITIVE STRATEGIES ................................................... 15
   2.2. BENCHMARK ANALYSIS ....................................................... 16
   2.3. BALANCED SCORECARD ......................................................... 17

3. MATERIALS ................................................................... 21
   3.1. FORESTRY SECTOR IN SERBIA ................................................. 21
   3.2. FORESTRY SECTOR IN AUSTRIA .............................................. 24
   3.3. STATE ENTERPRISE „SRBIJAŠUME“ ......................................... 26
       3.3.1. Organizational structure of SE „Srbişaume“ ...................... 27
       3.3.2. Private Forest Management ....................................... 29
       3.3.3. Sustainable Forest Management ................................ 30
   3.4. AUSTRIAN FEDERAL FORESTS –ÖSTERREICHISCHEBUNDESFORSTE (ÖBF). 30
       3.4.1. Forest / Timber ......................................................... 33
       3.4.2. Forest Management .................................................. 36
       3.4.3. Other Business Activities ........................................... 37

4. METHODOLOGY ............................................................... 38
   4.1. ANALYSIS OF BUSINESS ENVIRONMENT .................................. 38
   4.2. BENCHMARK ANALYSIS ....................................................... 40
   4.3. PLAN OF COLLECTING DATA ................................................. 42
   4.4. SWOT ANALYSIS ............................................................. 42
   4.5. INTERVIEWS ................................................................. 43
   4.6. KEY FOREST PERFORMANCE INDICATORS .................................. 44

5. RESULTS ........................................................................ 45
   5.1. ANALYSIS OF BUSINESS RESULTS ......................................... 45
       5.1.1. State Enterprise “Srbişaume“ ........................................ 45
       5.1.2. Austrian Federal Forests –ÖBF .................................... 48
   5.2. KEY FOREST PERFORMANCE INDICATORS ................................... 51
       5.2.1. Financial Benchmarks .................................................. 51
       5.2.2. Social Benchmarks .......................................................... 53
       5.2.3. Ecological Benchmarks .................................................... 54
   5.3. SWOT ANALYSIS ............................................................. 55
   5.4. INTERVIEWS ................................................................. 57
LIST OF ACRONYMS

ADA  Austrian Development Agency
BSC  Balanced Scorecard
DG   Directorate General
EBIT Earnings before Income and Taxes
EC   European Countries
EU   European Union
FAO  Food and Agriculture Organization
FE   Forest Estate
FU   Forest Unit
GFRA Global Forest Resource Assessment
ha   Hectare
i.e. that means
MATFWM Ministry of Agriculture, Trade, Forestry and Water management
NGO  Non-governmental organization
NP   National Park
ÖBf  Österreichische Bundesforste
ROI  Return on Investment
ROS  Return on Sale
SE   State Enterprise
SE’s State Enterprises
SME  Small and Medium Enterprises
SWOT Strengths-Weaknesses-Opportunities-Threats
WB   Western Balkans

LIST OF GRAPHICS

Graphic 1. Development 2000 – 2010 in 1,000 harvested solid cubic meters 34
Graphic 2. Measures for the protection of nature in 2010 54
Graphic 3. Specify the institution where you are employed 57
Graphic 4. Aspects of sustainable forest management 57
Graphic 5. Activities by importance for achieving profit 58

LIST OF PICTURES

Picture 1. The Balanced Scorecard Tree 18
Picture 2. Key functions of Austrian Federal Forests 25
Picture 3. Geographical position of Republic of Serbia 28
Picture 4. Territorial position of forest entities in SE Srbijašume 28
Picture 5. Organizational structure of SE 29
Picture 6. Type of wood production 35
Picture 7. Process of Benchmarking 41
Picture 8. Choice of strategy by SWOT analysis 43
LIST OF TABLES

Table 1. Total area structure in Serbia 21
Table 2. Forest and wooded land structure 21
Table 3. Structure of stocked and unstocked areas 22
Table 4. Forest condition 22
Table 5. Ownership categories 25
Table 6. Composition of the timber harvest volumes 33
Table 7. Development of the harvested timber volume 34
Table 8. Exploitation of ÖBf timber in 2010 35
Table 9. Forest management measures in 2010 36
Table 10. Types of benchmarking processes and their comparison 41
Table 11. Key Forest Performance Indicators 44
Table 12. Performance of business activities in 2010, SE Srbijašume 45
Table 13. Business results 2008 – 2010, SE Srbijašume 46
Table 14. Average Earnings, SE Srbijašume 46
Table 15. Liquidity and financial stability, SE Srbijašume 47
Table 16. Solvency Ratio, SE Srbijašume 47
Table 17. Profitability Ratio, SE Srbijašume 47
Table 18. Investments in 2010, SE Srbijašume 48
Table 19. Achieved investments in period 2008 – 2010 (in €), SE Srbijašume 48
Table 20. Operating performance 2008 – 2010, ÖBf 49
Table 21. Key data 2008 – 2010, ÖBf 50
Table 22. Man and Society – ÖBF group and AG 50
Table 23. Net profit 51
Table 24. Earnings Before Income and Taxes 52
Table 25. Return on sales, ÖBf and SE Srbijašume 52
Table 26. Number of accidents 53
Table 27. Number of employees in ÖBf 53
Table 28. Number of employees in SE Srbijašume, 2010 54
Table 29. SWOT analysis of SE Srbijašume 56

LIST OF FIGURES

Figure 1. The Balanced Scorecard Perspectives 19

LIST OF ANNEXES

Annex 1. Balanced Scorecard – Austrian Federal Forest 67
Annex 2. Questionnaire 68
1. INTRODUCTION

Western Balkan region is in the period of economic transition and for all countries, as well as for Serbia, many challenges are on their way to the European Union (EU), as they seek to develop their forest management institutions in a manner which is perceived to be broadly consistent with other EU models and standards. This is indeed hard task for any country – organizational transition. Transition can be defined as “...moving toward market economy...” as well as “...replacement of regulative state mechanisms with new one, with market and competitive mechanism...” (Cerović, 2000). Projects of transition in ex-social economies should be considered as choice of one development concept or direction of development that is in accordance with modern economy conditions” (Cerović, 2000).

It is the aspect of the organisational transition which has perhaps been most difficult: how to transform financially secure forest organization from centrally planned institution with strong regulatory function to organization with roles which are fundamentally service delivery ones and for which public expenditures have to mobilize from increasingly constrained sources. As with other institutional changes in transition economies, the process of reforming forest organization has been subject to the risk of being co-opted by intertwined political and economic interests, sometimes undermining long term objectives of sustainable forest management (The World Bank, 2005).

Policy should favour the development of organizations which have as their objective multi-functional forest management. Taking in consideration wide scope of functions of forest organizations (policy and legislation, forest management services and other services), it is also important to note they can be provided by multiple forest organizations, both within the public sector, as well as outside of it, by the private sector and by civil society organizations (The World Bank, 2005).

There is no consistent model of a “good” forest organization or of how forest organizations are financed, either amongst transition economies or among European countries. Key variables which influence the structure of a country’s forest organizations include whether the country is forest rich or forest poor, the depth of overall markets reforms, the sophistication of the forest industry, the extent to which forests remain nationalized or have been returned to former private owners. There are no so many empirical researches which show that organizational structures, by themselves and in isolation, are the key element to a successful reform process. Contrary, the evidence strongly suggests that the functional form of a forest organization simply does not matter. Very different models can succeed and very different model can fail (The World Bank, 2005).

One of the most important issues in forestry sector in Serbia today is function of state forest enterprises. What kinds of enterprises are necessary in forestry sector is decision that should be made by state, policy decision makers and stakeholders. It is crucial question of today business. Some state companies in Serbia are still achieving their aims only regarding social aspects, taking on mind that state enterprises are usually companies with large number of employees. But in accordance with EU’s and today’s market demands, it is necessary to think about market oriented forestry companies that will achieve higher income with optimal number of employees. To satisfied sustainability forest management, companies have to find balance between social, economic and ecological aspect and that is not easy task. Exactly because of this important question, in this master thesis are shown “the best practices” in forestry management and, based on benchmark analysis, offered solutions, recommendations and proposals how SE “Srbijašume” can improve own business performance.

Current organisation of state forest management enterprises in Serbia including eight enterprises: SE Srbijašume, SE Vojvodinašume, 5 National Parks and SE for management of protected forest “Borjak”, Vrnjačka Banja (Nonić, 2010). This master thesis will apply deeply analyze of SE Srbijašume and in broader context will take in consideration SE Vojvodinašume, regarding competitiveness and business environment analysis.

Cooperation between SE Srbijašume and Austrian Federal Forests started in 2005, with project “Participatory Development of a Plan to Implement Srbijašume Restructure”. The Ministry of Agriculture, Forestry and Water Management has expressed interest to support in this change process by
State Forest Management Enterprises in Serbia: Organization and Management Analysis

Osterreichische Bundesforste AG Consulting. OB AG Consulting is part of OB AG who was undergone a very successful restructure process in 1997 and has since provided consultancy service for the restructure process of several central and eastern European state forest organizations. Given the multi-functionality, environmental and socio economic importance of Serbia’s state forests and Serbian forestry sector the Austrian Development Agency agreed to co-finance the participatory process to develop a plan to implement Srbijašume’s restructuring (SE Srbijašume, 2005).

1.1. Economics of Natural Resources

Forestry includes all those human activities which are intended to enable the use of forest ecosystems and to supply the required goods in accordance with human needs. Therefore, the forest ecosystems must be brought in state or maintained in such a state in which they can meet people's needs for goods (Oestin, 2001).

With forestry management, men consciously intervene in nature and affect the development of forest ecosystems that people put at the disposal of certain goods. Modern human society in front of the forestry and forest resource management make increasing challenges in terms of socially responsible managements, stronger contribution to the development of rural areas and ensuring ecological stability of forest ecosystems for the benefit of future generations (Schmithusen, et.al. 2009).

Total development shows that forests are, on many ways, important for the people and forest utilization represents important factor in the economy. The utilization of forest in commercial purposes during many generations is possible under condition that way and scope of interventions does not violate nature potential and state of resources. Forestry represents example of how a sustainable mode of use was developed over a long period. Sustainable use of resources is closely connected to specific economic and technological conditions. Careful forms of use, investment into reforestation and care of existing stands and long term planning of production process requires thoroughly human understanding and social norms (Klemperer, 1996). Economic responsibly use is that one, which brings values for all interested parties.

In recent decades concept of sustainable forestry become accepted like way of living in harmony with environment and defining like development which satisfied need not only of today, either of future, by controlling requests of economic development and development of enterprise by respecting need of environment and of society. Sustainable forestry represents process of changes which include exploitation of resources, directing investments, orientation in technological development and institutional changes in harmony. Reaching sustainable forestry development requires strategic approach which is long term and integrates different processes (Schmithusen, et.al. 2009).

Sustainable forest management in accordance with definition by European Ministerial Conference on forest protection in Helsinki (1994) requires: maintain forests as ecosystems on large areas and used so that they can meet the important social, economic and cultural needs of people (MCPFE, 1993). Today, understanding of forestry is multifunctional and behind timber production it refers to all forms of use and their impacts on forest ecosystems. This includes the preservation of protective forest effects for leisure and tourism and conservation of biodiversity, soil protection, groundwater and water supply areas. Important characteristic of multifunctional forest management is principle of multiple uses which realization requires high requests for forest owners and them who managed forests. This principle contains balance of different interest within certain economic and environmental limits and different combinations between production goods and services. On this way forestry can flexibly be adapted to different social priorities that are caused by new needs and value attitudes, as well as with changes economic and technological framework conditions (Kohm, Franklin 1997).

The complexity of the current requirements of human society to forest caused creation of generally acceptable meaning of sustainable forest management, which includes ecologically based, economically viable and socially responsible forest resources management. Like the most important assumption of sustainable forest management is the cognition that use and natural conditions are mutually conditioned and that current production process must to have regard to the future needs. On the places where is building of settlements and intensive land use, it is necessary long term regulation through sustainable
production processes, social norms and political decisions. Sustainable forestry requires investment in maintenance of productivity and adjusting the intensity of use natural given resources. Because of this, it is necessary to create political and economic framework conditions which provide balance of different interests of users (Pandey, 2002).

In accordance with economy in Serbia from forestry sector is expected to have positive business, a sufficient amount of wood for industrial processing industry, to make a contribution to the development of rural areas with employing local people and to balance with ecological stability of forest ecosystems.

Forestry production is a long term production process that leads to the necessity of application of strategic planning in forestry, with making long term decisions. The global market requires improving competitive advantages and strategic planning, which are key factors for successful business of forest enterprises, on domestic and foreign markets.

1.2. BUSINESS ANALYSIS

In all European countries, there are state-owned forests enterprises, but, in the sense of forest management, there are many differences between them (the area of state forests, their relative importance for government budgets, the scope of their responsibilities, and the social and environmental obligations assigned to them). Nearly every Government developed its own management approach and public sector is increasingly under pressure to increase its efficiency. Forestry sector definitely made great efforts and, since the second half of 1990’s, about 85 % of state forest management organizations were either in the process of reform or had already completed a major re-organization. The state forest management organizations, along with other public institutions, have been set the requirement to report on their performance in terms that are neutral and understandable to the public and the decision makers.

To enable fair and unbiased evaluation of state forest management, predetermined performance objectives and criteria are necessary. The relevance of conventional economic indicators, such as return on capital, to forest management is uncertain. Benchmark analysis, i.e. the comparison of key performance indicators between similar organizations, represents a sound approach to evaluating the efficiency of alternative ways of organizing and conducting forest management in different countries.

The traditional management control system has been criticized, during the years, for being insufficient in their development, of which newer and more modern strategic management control tools have been presented to the market. Organizations that compete in today’s market act in a setting quite different from scenery that existed just a few decades before. There are several factors for this changing environment, but first and foremost, is the globalization and deregulation of markets, the rapid technological development and an increasing significance of knowledge that contribute the most to organization’s changing conditions, environments and designs (Wenisch, 2004).

Forests resources are known for providing a range of benefits to society. These include both market and non-market goods and services: 1) forests as a source of timber; 2) forests as a source of tangible non-market products (this includes products such as fruits, mushrooms and medicinal that are collected and consumed by households but not bought and sold in markets; 3) forests as a source of less tangible amenities consumed by households (such as existence values for biodiversity and the satisfaction gained from scenic and cultural values); 4) forests as a source of environmental services to other industries (ecological functions such as watershed protection ); 5) forests as a source and sink for carbon dioxide; 6) forests as a source of land for other purposes; 7) forest management as an activity that creates demand for inputs such as labor, materials and human-made capital (Vincent, Hartwick 1998).

The increasing competition on the market place and the changes in the environment requires constant improvements within the organizations. Constant improvements are necessary in order for the companies to maintain their competing strength and edge, and thereby guarantee their continuous survival. What comes to mind when mentioning the concept of constant improvements is the Kaizen method as well as Benchmarking, through there is also another tool for improvements, namely the Balanced Scorecard (BSC). Kozak (2004) describes the BSC as a performance measurement method which utilizes the
combination of both quantitative and qualitative measures. This author notes that the BSC considers both financial and non-financial perspectives as successful tools on today’s market place. The BSC is a tool that guides companies into focusing on both internal and external environments in order to improve the processes within their own structures (Kozak, 2004).

Benchmark analysis is an integral part of the planning and on-going review process to ensure a focus on the external environment and to strengthen the use of actual information in developing plans. Benchmark analysis is used to improve performance by understanding the methods and practices required to achieve world-class performance level. Primary objective is to understand those practices that will provide a competitive advantage; target setting is secondary (Camp, 1995).

Benchmark analysis based on financial data is relatively straightforward, and is used by some state forest enterprises to establish performance based on financial statistics – turnover, profit, earnings before interest and tax (EBIT), return on investment (ROI).

Because of differences in the legal framework, forest management objectives, system of accountancy and other factors, a comparison between enterprises in terms of social and ecological indicators is extremely difficult (Coillte, 2002).

The benchmark analysis could be based on the institution’s own standards of performance, its performance expectations, or could be derived from published statistics of other institutions performance. For this kind of analysis, to be useful, state forest enterprise needs first to understand its critical success factors and its business environment, and then to develop a benchmark which reflects its overall importance to the organization’s mission, values and strategy. While financial benchmarking is relatively common, it also provides only a narrow perspective. There is a recognized need for social and environmental benchmarking as well.

1.3. NECESSITY OF STRATEGIC MANAGEMENT IN FORESTRY

Increasing public demand on multifunctional forest effects and services represents new challenges for multiple forest management systems. European forestry should take changing values into account and more than even before, there is a chance to establish various sources of income. Forest business is confronted with an increasing complexity of the economic environment. In order to deal with an increasingly complex business environment, state forest management organizations should pursue a permanent development process able to take into consideration technological, economic and social changes.

Strategic management deals with the question of what oaths to take in order to accomplish the operational aims of the enterprise in the long run. The defined business goals represent the basis of any strategic orientation (Gaiser, 1992). The goal of strategic planning is to find the best possible way (strategy) to realize defined business goals. There is an essential part of strategic management, in which the implementation and the evaluation are included. Attention should be paid to the explicit definition of an enterprise strategy, which promotes the process of market oriented development as well as specific controlling.

The sustainability principle defined by forestry in Central Europe is the most important aspect of use forests like renewable resources. This definition assumes that volume of current consumption resources and space and options for future action options always have impact on decisions about forest management. The necessity of sustainable forest management shows in Central Europe as a result of the continually growing demand for wood and obvious wood scarcity. Rapid growth of regional and international trade with logs and sawn brings to increasing demand and higher prices of wood which are expressed in many forest areas in central Europe (Kohm, Frenklin 1997).

In Europe, thanks to highly develop and production capable forestry, wood supplies and annual growth of forests after long period of overtime use continues increasing. Forestry management in central Europe is characterized by the relatively small areas and in harmony with nature. Forestry management aims and a measure respects habitat conditions, potential of domestic tree species and composition of existing forests.
This type of management keeps a nature close and variety forests and offers a flexible and long timber production (Oesten, Roeder 2001).

The use and forest management is placed in complex field of conflict, between the potential of current forests and changing demands and need of forest owners and other stakeholders. Especially, it is important to distinguish interests related with forests like economic resource, renewable resource for timber production and other forest products and natural landscape as cultural resource. On forest management affects number of stakeholders which have partially conflicting expectations and requests and which evaluate differently social benefits from forests (Oestind, Roeder 2001).

Business success represents the existential question of any business system. The success rate of business means the successful conduct of business activities in certain circumstances and within the appropriate organizational form. The founder of this concept, by which success of the business is understood as a constant striving for a balance between effectiveness and efficiency of operations is Peter Drucker. To be an effective means doing the right things, and be an effective means to do things on the right way (Drucker, 1997).

The most obvious external factor of business performance (effectiveness) of forest enterprises is certainly request for continues (sustainable) satisfying needs of buyers of forest products (traditionally wood industries companies) and all other users of multifunctional forests. From view of forest enterprises to be effective means to offer such production and business portfolio and be recognized from customers and the public as “real thing”. In this context, forest enterprises have to be able to identify the needs and demands of its customers and public, develop and promote a range of activities to meet that needs. Efficiency, as a statement of business performance has an entirely different focus – business should be conducted on the “right way”, i.e. with lower cost of resources involved.

The question is how, in terms of variable requires, the company related to forest resources, can achieve and maintain effective and efficient operations, and how to shape a portfolio of products and services that customers and society at the same time want to use the resources on a long way, with the financial viability of the whole concept. The answer can be found exclusively in establishing an appropriate balance between efficiency and effectiveness, with profit as a short term, due to the slow turnover of capital in forestry, may not be the sole indicator of business performance (Avdibegović, 2006).

The specific conditions in forest entities compared to industrial production mainly reflected in the next: (Schmithuesen et al., 2006):

- An unusually long period of production compared to other industries,
- Long term of bonding large parts of the business assets in the form of wood stock,
- Large variability in the definitions of products and their level of maturity,
- Often chain production,
- Mutually impact of the production and productivity.

From economic point of view wood production (soil treatment activities, care of young stands etc) and use of timber (planned harvest, final consumption, felling) are for many forestry enterprises of great importance: over 90% of income coming from timber sales and 50% and 60% expenses are directly related with production and use of wood. Production process in enterprises has been largely limited with conditions of natural spaces (location, shape of terrain, climate, and existing species of wood etc) in technical and economic sense. Economic and legal framework conditions limit the far reaching impact on the natural production conditions (Avdibegović, 2006).

Problems of decision making in forestry are result mostly from overlapping of different time horizons which are relevant for decision making. Despite the far reaching consequences on work forest entities, forestry business could not be assessed independently and even for 80 or 100 years. Forestry is subject of constant feedback and evaluation by the owner and the same is for stakeholders, customers, creditors and debts and because of this reason logic and the market dynamic are the most important factors for forest
entities. The specificity of forestry like social activity creates certain issues in the execution of business plans and in calculation of financial operations.

1.4. AIMS AND HYPOTHESIS

For successful understanding of main characteristics and business performance of SE “Srbijašume”, it is necessary to describe physical and business environment where organization operating, characteristics of the organization, characteristics of the local economic context and conditions set by country Government (policy decision makers). Master thesis will show results of comparison of SE “Srbijašume” with “the best practice” in Central Europe, Austrian Federal Forests (ÖBf). With this work, it will be easier to understand own and competitor position on the market, determine weaknesses and strengths of the company and help company in determination of new business activities that will be the most important in the process of management improvement.

Analysis of the environment has two aims:

1. identification of relevant trends and performing opportunities and threats;
2. representation the most important success factors.

The main concept of master thesis, benchmark analysis, can be used as management action and the tool at the same time and represents improvement of business results or indicators. Benchmark comparative analyses is kind of quality, what make important part of improving procedure and as well as prefer procedure. It is helping to the company, in organization procedure, in way how to do and how to make the challenge of ideality and how to be excellently first-class.

With society changes, society view to nature resources is changed too, what brings state enterprises in position of adaptation of business mission and organizational structure to new demands. This implicates significant changes in implementation traditional forestry activities and redefining role of state enterprises. On the first place this adaptation requests organizational structure of state enterprises with aim of achieving external and internal success factors of their management. Performance of the enterprise represents essential question of any business subject. When talking about state enterprise performance, it is usually mean on successful transaction business activities in certain circumstances and in certain organizational structure. Success performance of state enterprises, according to Peter Drucker (1977) can be taken like continues tendency for balance between effectiveness and efficiency of management. Be effective means doing right thing, but be efficient means doing things on right way. The most pronounced success factor in forest enterprises is request for continues (sustainable) satisfaction of customers (traditionally enterprises of wood industry) and users of all other recreational forest functions.

From the aspect of state forest enterprises, be effective means recognize needs and demands of their customers and other public, develop and improve activities to achieve these aims. Efficiency has different focus; management should be implemented on right way, with lower costs of resources. With new market demands state enterprises in forestry have to be oriented to making profit and minimization of cost production like important internal success factor of management. Effectiveness and efficiency, like indicators of successful management, has opposite directional oriented concepts. Effectiveness is more oriented to external environment, market and public, while efficiency is oriented to inside, to rational resources use and reducing costs. In forestry, this means that beside continues supplies it is necessary satisfied increasing demands of society for social aspects of forests, and secure financial assumptions for efficiency meeting these demands.

One of the questions is how, in conditions of changing demands of society regard forest resources, in the same time achieve and held effective and efficiency management, how form products and services which customers and society wants and use resources on sustainable way with financial sustainability of whole concept. Answer could possibly be found in determination of appropriate balance between effectiveness and efficiency and profit like short-run effect with slow process of capital turnover cannot be exclusive indicator of successful management in forestry. Sustainable forest management considers continues
management with achieving long term revenues and mission implementation – sustainable meeting today and future society demands in relation of forest resources.

**Research Questions:**
- Can political influence on forestry sector be decreased in the situation of changed organizational structure of state forestry enterprise “Srbijašume”?
- Is state forestry enterprise “Srbijašume” competitive related to state forest enterprises in EU?
- Should state forestry enterprise “Srbijašume” be most profit oriented?
- Is it possible to develop other profit oriented forest products and services of state forest enterprise “Srbijašume” instead of timber production?

**The aims of research:**
- Analysis of existing business mission, vision and aims of SE “Srbijašume”,
- Analysis of business environment in forestry sector in Serbia,
- Searching for new opportunities and practice that can be applied,
- Comparison between researching object (SE Srbijašume) and “best practices” (ÖBf) will be based on key forest performance indicators (KFPI)

**Hypothesis:**
- State forest enterprise “Srbijašume” is mostly oriented in timber production and not using other business opportunities to increase own income.
- If organization of state forest enterprise “Srbijašume” could be changed, then business performance would be improved.
- Because of the established monopoly, state forest enterprises in Serbia are not competitive and market oriented in accordance with future EU environment.
- State forest enterprises “Srbijašume” and “Vojvodinašume” pay attention on protective forest function and on that way contribute to sustainable forestry development.
2. THEORETICAL FRAMEWORK

Second chapter will describe used theoretical framework on which is based methodology and research of master thesis. It will start with description of competitive strategy and importance of competitiveness for any market. Chapter will include description of benchmark analysis with basic definitions and aims of this strategic instrument. On the end, as base of benchmarking, balanced scorecard will be described and how this kind of analysis can improve business of company in today’s market conditions.

2.1. COMPETITIVE STRATEGIES

One of the fundamental missions of strategic management research is to investigate and explain differences in performance among firms. The reigning incumbent explanation for the heterogeneity of firm performance is based on concept of competitive advantage. This concept appeared in the strategic management literature in the early work of Ansoff (1965), but is associated, probably, with the Harvard Business School and popularized by the work of Michael Porter in the early 1980’s (Porter, 1980).

Creating and sustaining of competitive advantage represents specific answer of enterprise on impulses from environment. Competitive advantage is rational way on which concrete organization can compete on target market to achieve own special defined aims. By definition, competitive advantage is ability of enterprise to gain superiority than competition (Sajfert et al., 2006).

Michael Porter popularized idea that company achieves profit if formed relevant and sustainable competitive advantage. Today, mostly preferences lose own relevance and only few of them is sustainable. Usually, company wins not only because of one advantage earther because of creating one by one preference compared to the other. Competition is key success or failure of company. Competition defined activities which can contribute results of enterprise in areas like are innovation, internal culture or implementation. Creating and sustaining of competitive advantage is a specific response of enterprise on the impulses from the business environment. Competitive advantage is rational way on which organization can appear or compete on target market to achieve some of special defined aims.

Competition is the key success or failure of the company. Competition determines the appropriateness of activities that can contribute to the results of the company in areas such as innovations, a cohesive culture, or implementation. The competitive strength of a company includes its ability for quick, flexibly and effectively react to market changes, political and social environment, and certain natural conditions (Porter 2000). Competition within the companies operating in the forestry and timber industry is present at all levels of making new value. Because of the constant competition presence, company objectives, strategy development, operational approach and organization of production are subject of constant changes. It could be said that multifunctional forestry is based on defining products and services for which exist concrete demand and security as well as necessary funding.

Innovative business challenges are in the integrated forest management, which takes into account costs and successfully combines economic efficiency, satisfaction of social needs and respect of environmental requirements. The most important prerequisite for sustainable and economic successful forestry is certainly consistent orientation towards the wishes of customers from public and private sector and the rational management of resources which are available for finance measures in forestry management. The company's strategy is a rational response of the organization from environment on events in environment in which company performs its core - business and the broader social mission (Masic, 2007).

Company's strategy is a way of direction or movement of companies in the future to achieve the goals of enterprise development, and it defines the response that the company can reach the desired development goals (Markovic, 2008).

There are different types of strategies and therefore the number of ways for their formulation:

- Types of strategies on different organizational levels: corporate level, business unit level; functional level;
- Types of strategies by type of change: restructuring, reorientation, revitalization;
– Types of strategies with respect to its competitors: offensive, defensive, cooperation, autonomous.

Creating and sustaining of competitive advantage is a key of strategy. By applying the concept of strategic management, organization should be was to respond on changes and challenges which come from the environment and to ensure its continues success and ensuring of surprises it is necessary that in the process of strategic analysis, strategic choice and strategic changes use different methods, concepts, 'tools' and techniques, which can contribute to strategic management be an effective management concept.

2.2. Benchmark Analysis

Competition has become more intense in the forest sector to keep pace with the globalization of world markets. It is informative to see how the EU forest sector has handled the recent increase in globalization, by examining, for example, the development of global export shares. From 1985 to 2005 the EU25 substantially increased its global export shares in all export categories of industrial round wood, sawn wood, wood-based panels, newsprint, printing and writing paper. However, it made losses in pulp and paper and paperboard. Instead of just if being traded, the pulp is used in integrated mills for higher value-added production of different paper grades. The paper losses are in low value-added grades, while shares of high value-added grades have increased.

Benchmark analysis is an integral part of the planning and on-going review process to ensure a focus on the external environment and to strengthen the use of actual information in developing plans. This analysis is used to improve performance by understanding the methods and practices required to achieve world-class performance levels. Its primary objective is to understand those practices that will provide a competitive advantage; target setting is secondary (Camp, 1995).

In modern business conditions, current market situation is characterized by the presence of strong competition and numerous changes in the environment that surrounds us, what is the cause of the growing number of companies that are faced with the problem of stagnation and decline in business. Success is in the rapid and efficient adjustment and changing in accordance with the dynamics of the market. Benchmark analysis as strategic management tool directs company with the aim of solving business processes, technical solutions and functions which can be improved. The most effective way to determine the effective change is learning from others. To succeed, we must find out why some companies better functioning and try to learn how to reach and surpass. The examples in the world show that in some industries certain business companies (IBM, McDonald’s), which are market leader, shaping the overall market situation and the direction of the market assesses is in accordance with activities of market leaders (Liden, 2005).

Surely that benchmarking is not a substitute for a certain strategy and by itself does not improve the operation of the company, but it is still the most effective way of achieving a personal goal, and that is business success. Benchmarking helps companies to focus on the environment that surrounds them and increase efficiency of own business. The increased market sophistication and increasing competition means that competitive advantage of organizations is always in danger of being threatened by the expansion and market development. Benchmarking is based on the idea that is possible to explore the best practices of other companies and then apply the changes formed on the basis of these observations (Duljević, Olstad 2008).

The key of success individual or company in accordance with Harrington is (Harrington &Harrington, 1996):

– Possession of relevant measurement indicators about business,
– Understanding how well company can better perform the same activities,
– Understanding why others business better than use,
– Identification of quick and effective action to overcome them.
Application of benchmarking will provide many benefits to the company:
- Setting objectives which will be achieved,
- Accelerate and manage with changes,
- Improve business processes,
- Enabling individuals to see beyond their immediate environment,
- Causes an understanding of the achievements of the leaders.

Fields of benchmarking application include: strategic planning in the area of establishing short and long term goals of the company, predicting upcoming trends in the relevant business areas, new ideas, and comparison with competitors or companies with best practices and certainly determination of business objectives in accordance with achievement of excellent company.

Benchmarking concept in management with its quality gains new meaning in terms of the level of business organizations with measures needed to evaluate the efficiency and effectiveness of its quality system operations and the level of effectiveness of their product management in direct relation to the effectiveness of the best competitor in the market. This comparative analysis is a technique or tool that is a function of the business improvement. As a tool for continuous and sustainable improvement of processes and products, benchmarking carries great potential for the development of creativity, as opposed to traditional methods of improving product quality.

From marketing and market point, benchmarking is a suitable management tool for achieving the vision and aims of organization and/or products (where company wants to be, which concept of product should be developed) and tactical operational plan of the best business practices on the market with aim to become better then leader.

From manager point it is a useful tool for understanding and continual measurement of the gaps between the internal and external best practice standards by establishing measurable dynamic standards through which the organization will monitoring the achievement of its objectives in quality and, especially, measurable operational objectives of product quality.

2.3. Balanced Scorecard

The Balanced Scorecard is a strategic planning and management system that is used extensively in business and industry, government, and non-profit organizations worldwide to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organization performance against strategic goals. It was originated by Robert Kaplan (Harvard Business School) and David Norton as a performance measurement framework that added strategic non-financial performance measures to traditional financial metrics to give managers and executives a more 'balanced' view of organizational performance. While the phrase balanced scorecard was coined in the early 1990’s, the roots of the this type of approach are deep, and include the pioneering work of General Electric on performance measurement reporting in the 1950’s and the work of French process engineers (who created the Tableau de Bord – literally, a "dashboard" of performance measures) in the early part of the 20th century (Kaplan, Norton 2001).
The balanced scorecard has evolved from its early use as a simple performance measurement framework to a full strategic planning and management system. The “new” balanced scorecard transforms an organization’s strategic plan from an attractive but passive document into the “marching orders” for the organization on a daily basis. It provides a framework that not only provides performance measurements, but helps planners identify what should be done and measured. It enables executives to truly execute their strategies (Kaplan, Norton 1996).

This new approach to strategic management was first detailed in a series of articles and books by Kaplan and Norton. Recognizing some of the weaknesses and vagueness of previous management approaches, the balanced scorecard approach provides a clear prescription as to what companies should measure in order to 'balance' the financial perspective (Figure 1). The balanced scorecard is a management system (not only a measurement system) that enables organizations to clarify their vision and strategy and translate them into action. It provides feedback around both the internal business processes and external outcomes in order to continuously improve strategic performance and results. When fully deployed, the balanced scorecard transforms strategic planning from an academic exercise into the nerve centre of an enterprise (Kaplan, Norton 1996).

Kaplan and Norton describe the innovation of the balanced scorecard as follows: "the balanced scorecard retains traditional financial measures. But financial measures tell the story of past events, an adequate story for industrial age companies for which investments in long-term capabilities and customer relationships were not critical for success. These financial measures are inadequate, however, for guiding and evaluating the journey that information age companies must make to create future value through investment in customers, suppliers, employees, processes, technology, and innovation" (Kaplan, Norton, 1996).
Figure 1 represent four balanced scorecard perspectives connected with main idea of vision and strategy.

**Figure 1: The Balanced Scorecard Perspectives**

- **Financial Perspective**
  - To succeed financially, how should we appear to our stakeholders?

- **Customer Perspective**
  - To achieve our vision, how should we appear to our customers?

- **Internal Business Perspective**
  - To satisfy shareholders and customers, what business processes must we excel at?

- **Learning and Growth Perspective**
  - To achieve our vision, how will we sustain our ability to change and improve?

**Source:** Kaplan, Norton 2004

The balanced scorecard suggests that the organization is viewed from four perspectives, and metrics are developed, data collected and analysed relative to each of these perspectives (Kaplan, Norton 1996):

1. **The Learning & Growth Perspective** – This perspective includes employee training and corporate cultural attitudes related to both individual and corporate self – improvement. In a knowledge-worker organization, people the only repository of knowledge are the main resource. In the current climate of rapid technological change, it is becoming necessary for knowledge workers to be in a continuous learning mode. Metrics can be put into place to guide managers in focusing training funds where they can help the most. In any case, learning and growth constitute the essential foundation for success of any knowledge-worker organization. Kaplan and Norton emphasize that 'learning' is more than 'training'; it also includes things like mentors and tutors within the organization, as well as that ease of communication among workers that allows them to readily get help on a problem when it is needed. It also includes technological tools; what the Baldrige criteria call "high performance work systems."

2. **The Business Process Perspective** – This perspective refers to internal business processes. Metrics based on this perspective allow the managers to know how well their business is running, and whether its products and services conform to customer requirements (the mission). These metrics have to be carefully designed by those who know these processes most intimately; with our unique missions these are not something that can be developed by outside consultants.

3. **The Customer Perspective** – Recent management philosophy has shown an increasing realization of the importance of customer focus and customer satisfaction in any business. These are leading indicators: if customers are not satisfied, they will eventually find other suppliers that will meet their needs. Poor performance from this perspective is thus a leading indicator of future decline, even though the current financial picture may look good. In developing metrics for satisfaction, customers should be analysed in terms of kinds of customers and the kinds of processes for which we are providing a product or service to those customer groups.

4. **The Financial Perspective** – Kaplan and Norton do not disregard the traditional need for financial data. Timely and accurate funding data will always be a priority, and managers will do whatever necessary to provide it. In fact, often there is more than enough handling and processing of financial data. With the implementation of a corporate database, it is hoped that more of the processing can be centralized and automated. But the point is that the current emphasis on financials leads to the "unbalanced" situation with regard to other perspectives.
There is perhaps a need to include additional financial-related data, such as risk assessment and cost-benefit data, in this category.

According to Kaplan and Norton (1999) the outcome measures should be linked into a cause-and-effect relationship in order to mediate the organizations business concept to the employees. Kaplan and Norton (1999) characterize a strategy as “a set of hypothesis about case and effect” and proclaim that these measurements should be interrelated between the hypothesis and the objectives between the four perspectives. The interrelation is important to the fact that it creates a consistency in the BSC and aims at working as a “feedback process”. An illustration regarding this argument could be that good relations between the perspectives provide improvements in employee skills, which in turn cause improvements in process quality and process cycle time which consequently improves time delivery, customer loyalty and as a final result affect the return on investment (Kaplan and Norton, 1999).

Balanced Scorecard (BSC) representing very powerful instrument in today business environment and on one way is base of benchmark analysis. Benchmark analysis exactly from this four BSC perspective can show clearly and precisely defined strategic and aims of any enterprise today.
3. MATERIALS

Third chapter conduct analysis of current situation in forestry sector in Serbia, with focus on main characteristic, issues and relations with other sectors. This chapter also include main characteristics of business environment, with the most important data in forestry sector in Serbia. Also, chapter include description of forestry sector in Austria and description of analyzed SE Srbijašume and Austrian Federal Forests with main business activities and data.

3.1. FORESTRY SECTOR IN SERBIA

Serbia is considered to be a middle-forested country. From the total area of its territory, 29.1 % (in Vojvodina 7.1 % and in Central Serbia 37.6 %) are covered by forest (Bankovic et al, 2009). Forest coverage is, when compared on a global scale, similar to world forest coverage, which accounts for 30 %, but it is considerably lower than the European 46 % (2000). The increase in forest cover compared to the referent year of 1979 is 5.2 %, which undoubtedly resulted in a positive impact on the condition and quality of the living environment in general (Bankovic et al, 2009). In relation to the number of inhabitants, the forest cover makes 0.3 ha per inhabitant, which is less in comparison to some other European countries (Bankovic et al, 2009).

The total forest area in Serbia is 2,252,000 ha. Thereof, 1,194,000 ha or 53% are state owned and 1,058,387 ha or 47 % are privately owned (Bankovic et al, 2009). State Enterprise (SE) “Srbijašume” Belgrade manages state forests and forest land on area of 850,752.24 ha and performs professional activities on private forests on an area 1,058,387.00 ha (stated on 31.12.2010).

In the table below it is presented total area structure in Serbia:

<table>
<thead>
<tr>
<th>Table 1: Total area structure in Serbia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest, forest cultures and wooded land</td>
</tr>
<tr>
<td>Other wooded land</td>
</tr>
<tr>
<td>Usurpated</td>
</tr>
<tr>
<td>Total area (ha)</td>
</tr>
</tbody>
</table>

Source: SE Srbijašume, 2011

From table, it can be seen that the biggest part of total area in Serbia including forest, forest cultures and wooded land, then other wooded land and the smallest part is usurpted land.

For better understanding, next table show only structure of forest and wooded land structure.

<table>
<thead>
<tr>
<th>Table 2: Forest and wooded land structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest</td>
</tr>
<tr>
<td>Forest cultures</td>
</tr>
<tr>
<td>Wooded land</td>
</tr>
<tr>
<td>Total area</td>
</tr>
</tbody>
</table>

Source: SE Srbijašume, 2011

Under forest is almost 85% of total forest area and other parts are forest cultures and wooded land.
Next table show structure of stocked and unstocked areas in Serbia.

### Table 3: Structure of stocked and unstocked areas

<table>
<thead>
<tr>
<th>Description</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stocked (forest + forest cultures)</td>
<td>763,114.80</td>
</tr>
<tr>
<td>Unstuck (wooded land + other land + engaged)</td>
<td>138,972.88</td>
</tr>
<tr>
<td>Total area (ha)</td>
<td>902,087.68</td>
</tr>
</tbody>
</table>

**Source:** SE Srbijašume, 2011

It can be seen that stocked areas taking the biggest part of total area, including forest and forest cultures. Other part is wooded land, other land and engaged and taking near 139,000 ha of total area.

Next table show forest condition in Serbia, by volume, total and average, increment, total and average and planned activity.

### Table 4: Forest condition

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest &amp; forest cultures</td>
<td>763,114.80</td>
</tr>
<tr>
<td>Volume (total)</td>
<td>122,212,093 m³</td>
</tr>
<tr>
<td>Volume (average)</td>
<td>160.1 m³/ha</td>
</tr>
<tr>
<td>Increment (total)</td>
<td>3,195,926 m³</td>
</tr>
<tr>
<td>Increment (average)</td>
<td>4.2 m³/ha</td>
</tr>
<tr>
<td>Planned productivity</td>
<td>1,776,126 m</td>
</tr>
</tbody>
</table>

**Source:** SE Srbijašume, 2011

Average volume is 160.1 m³ per hectare and average increment is 4.2 m³ per hectares. The remaining forest area is managed by private owners, SE’s of National Parks and other state enterprises.

Broadleaves account for 90.7% of the growing stock (beech forests account for 27.6% of the total forest area, oak forests – 24.6%, other hard broadleaves 6.0%, poplar 1.9%, other soft broadleaves 0.6% and mixed broadleaf stands 30%), conifers – 6.0%, mixed forests of broadleaves and conifers – 3.3%. As the data on private forests are less available, only the state-owned forests will be presented in more detail. Forests of seed origin account for 39.6%, coppice 34.6%, forest plantations 14.7%, scrub 5.6% and brushwood 5.5%, meaning that coppice and degraded forests occupy 45.7% of the area. The average volume is 101.7 m³/ha, in forests of seed origin 153 m³/ha, in coppice forests 70 m³/ha.

Forests, as the natural resources and the goods of common interest, have always been, and especially in the previous periods, an essential factor in the State development. They are the sources of goods, services, and consequently the receipts of the society in general.

Serbia, as the country rich in biodiversity, primarily in forest ecosystems, both by a number of plant and animal species and intra specific variability and by the landscape beauty, accepts wholly the concept of sustainable development of the forest sector and sustainable management of forests, which make up a significant percentage of the overall nature riches.

In accordance with Forestry Development Strategy of the Republic of Serbia (2006), the general condition of forests is unsatisfactory, and the current condition of state forests is characterized by insufficient production volume, unfavourable age structure, unsatisfactory density of stocking and forest cover percentage, unfavourable stand condition - high percentage of stands with discontinuous canopy and weeded areas, unsatisfactory health condition.

The pressure on forests is increasing as the result of difficult economic conditions and higher demands for forest products and services. The restraints in the development of the forest sector in Serbia, from the practical, educational and research aspects, are the decade-long backwardness in the technical and technological development and the absence of communication with the international community due to UN sanctions, institutional weakness and the slowness adjustment to changes at the global level, as well as the current forest governance and management (2006).
Forestry and wood industry potentially can have very important role in recovering national economy and achieving social stability in Serbia. But, participation of forestry and agriculture in GDP in 2009 was only 8.7 %. All these evaluations are not engage with important function which forests have in land protection, water supply, making living space for animals and conservation of biodiversity, neither with forestry relationship with other sectors like agriculture and tourism.

In front of state forestry enterprises are very complex requests, which are result from fact that forests are partly renewable natural resource and good from public interest and forests have to managed by respecting continues principle and sustainable management. This mean that is in all business activities necessary strive for balance between economic, ecological and social requests regarding on resource. Harmonization of all three segments of sustainable management represents aim which is necessary to achieve without violation stability of business state enterprises.

Multifunctional management by total area, which is entrusted to enterprise, is surely strategic commitment of public enterprises and, in that direction, defines their business policy. Specificities of enterprises are in accordance with period in which we are, taking in consideration the fact that Serbia is in transition period and preparations for EU assessing, what request adaptation to new circumstances which are result of new laws, market opening and globalization processes.

In the last few years, consequences of world economic crisis significantly had influence on forestry and wood industry sector in world. Decreasing scope of investments especially in construction, lead to decreased demand of products from wood what bring to the changes in business environment forestry and wood industry sectors.

State forestry enterprises in Serbia accepted challenge of time and necessity of adaptation to currently changes. SE “Srbijašume”, from establishment till today, works on organizational improvement. Before almost 10 years, Government of Republic of Serbia adopted Strategic plan, which described mission, aims and measures for achieving the same with aim of restructuring. Extension of this process with aim of establishing modern, market oriented company available to ensure achievement aims of sustainable forest management, should be result of consensus between Government of Serbia, management and employees in the enterprise. Surely that state enterprise strive to respect basic orientations and activities of company which are based by establishing in accordance with policy and strategy of Government and other state agencies as adopted international obligations.

State forestry enterprises affect in business environment, which is under influence of continues economic, political – legal, technological, ecological and social – cultural changes. Enterprises should prove themselves in continues exchange with environment. Processes of changes in business environment are always concern of enterprises. Sustaining stability and autonomy of acting become on that way, management issue which cannot be definitely solved because it representing continues challenge. It is sure that both enterprise and environment are in relation of exchange. Depending on given situation, enterprises have to work actively with help of strategy influence or relatively with help of strategies adaptation.

In the involving and evaluation of environment development, the first that must be defined is what is actually relevant for the enterprise environment and which developments are more or less important, which links exist between certain parts of the relevant environment, which are risks for the company development and from where are chances of successful existence in the future. This choice, inclusion and evaluation of the relevant environment are the task of management, which carries certain risks. State forestry companies business in complex and dynamic environment in conditions of great uncertainty.

The Serbian economy has been in an economic slump for many years. Rebuilding the country’s economy has been very difficult in all sectors including wood processing and furniture industry. The main flaw of this sector concerns the Serbian export structure. Most of the exports have been dealing with primary or secondary raw materials while nearly no technological products requested by the EC markets have been exported. It is out of doubt that Serbian companies are in need of modernization. Before all, product
design must be improved to meet with market Standard which in turn means that workers must be trained to provide higher skills and more quality. This is especially true for management staff, that should at least have a good understanding of the trends and requirements of a consistently more refined and demanding market. European Quality Standards must be implemented throughout the sector and customs duties on highly technological and specific machinery for the wood and furniture industry must be decreased. It is expected that Serbia will need to allocate approximately 100 million Euros over the next five years for technological enhancement of this sector aimed at increasing the country’s export rates (EU, 2007).

Behind described situation in state forestry sector in Serbia, it is important to mention that changes in forest policy in last ten years give significance to small and medium forest enterprises. Establishing and development of small and medium enterprises (SME’s) in forestry and financial support to private forest owners and their associations represent priority area of development of private forestry sector in Serbia (Nonić, 2010).

One of the main objectives of economic policy of the Republic of Serbia is improvement of the institutional conditions and economic – system environment, in order to provide more effective support to the sector of small and medium enterprises. According to Forestry Development Strategy of the republic of Serbia, the main goal of establishment of SME’s in forestry is to increase the contribution of forestry sector to economic and social development of Serbia, as well as improvement and social development of rural areas (Forestry Development Strategy, 2006).

If the Serbian government fails to create a more favourable environment for the development of this sector, then it will be very difficult to enjoy the benefits of the foregoing opportunities. The long economic slump allows no easy approach to the international market. Acting competitively on the market, means funding and investing in technology and know-how, which is quite hard at the moment due to the difficult access to credit lines. At the same time, everyone in this sector agrees that at the moment there is a clear need for development strategies and for this reason a large part of Serbian production units is still seeking a solution on their own.

3.2. Forestry sector in Austria

The forest land is approximately 3 878 000 ha, which represents 46.2% of the land area or half a hectare per capita. Austria consists of nine federal provinces. The forest cover per province depends on territorial shape, agriculture and types of settlement and it extends from 32 to 60%. For example, 41% of Upper Austria is presently covered by forests (FAO, 2010).

The right use of sustainable management can only be done by a natural oriented forestry. This guarantees a continuous supply of timber, a steady flow of income for the owners - the employers as well as for the employees of the forest industry - and it is also the basis of settlement and agricultural utilization of our environment. Natural oriented forest management can only be a compromise between ecological conditions and economic objectives. The conflicting interests of economy and ecology compel foresters to be flexible since they must deal with public interests more and more.

After a significant decrease in economic output of forestry in 2009 the year 2010 was a period of recovery. Due to higher timber prices as well as a greater demand wood utilization in Austrian forests increased by 6.6% compared to 2009 when the forestry industry was affected by the economic crises. With 17.8 million cubic meters under bark the quantity of wood felled was also slightly above the ten-year average (+1.8%). The share of damaged wood (28.6%) was significantly lower than in the preceding years. As a result, the output value of forestry goods went up by 19.8% to about €1.2 bn.

The output value of the forestry industry as a whole, which besides the output of forestry goods (coniferous timber for industrial uses, non-coniferous timber for industrial uses, firewood, other products) also comprises the non-timber sector (forestry services and inseparable secondary activities), reached the total of about €1.5 bn (+17.4% compared to 2009), of which the forestry goods output accounted for about 81.4% and the non-timber sector for about 18.6%. The main item, with a share of about 60.0% of the total output value, was coniferous timber for industrial uses, which consists of both saw able stem
wood and undressed timber for the pulp, paper and board industry. A remarkable high share was also recorded for firewood (16.7%), while non-coniferous timber for industrial uses only represented 2.5% of overall output value. Forestry services accounted for 14.8% and inseparable secondary activities for 3.8% of the output value of forestry industry in 2010 (FAO, 2010).

A basic principle of Austrian forestry is the principle of sustained yields to preserve the forests, their functions and social benefits. This does not necessarily mean to merely copy the regularities of nature but to think in economic terms as well. The strategy of a natural oriented forestry is to combine economy and nature. A well-planned forest policy could be applied to the high standards of environmental policy.

Next picture show ownership categories in Austria, including Austrian federal forests and number of forest owners.

### Table 5: Ownership categories

<table>
<thead>
<tr>
<th>Ownership Category</th>
<th>Percentage of Total Wooded Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forests enterprises less than 200 ha</td>
<td>2 059 000 ha or 53% of total wooded area</td>
</tr>
<tr>
<td>Forests enterprises more than 200 ha</td>
<td>1 238 000 ha or 32%</td>
</tr>
<tr>
<td>Austrian federal forests</td>
<td>581 000 ha or 15%</td>
</tr>
<tr>
<td>Number of forest owners</td>
<td>214 000</td>
</tr>
<tr>
<td>less than 5 ha</td>
<td>140 000</td>
</tr>
<tr>
<td>5 to 20 ha</td>
<td>57 000</td>
</tr>
<tr>
<td>more than 20 ha</td>
<td>17 000</td>
</tr>
</tbody>
</table>

**Source:** FAO, 2010

Key functions of the Austrian forests are presented on next picture (Picture 4).

**Picture 2: Key functions of the Austrian forests**

It can be seen that, the most important function of Austrian forests is economic function. Protective function is on second place but with two times lower percentage and it can be concluded that Austrian forests are turned in market economy with profit orientation of first place. Two functions more, of Austrian forests are mentioned here but they do not have important significance. From picture, it can be seen that beneficial forest function taking part from near 4% and recreational function about 1%.
3.3. **STATE ENTERPRISE „Srbijašume“**

State Enterprise for forest management “Srbijašume” was established on October 1st, 1991 based on the Forest Law from 1991, like state company. SE “Srbijašume” manages approximately one million hectares of forests and parks in Serbia and carries out professional jobs for private forest owners. By Forest Law (1991), to SE „Srbijašume“ were entrusted the protection, promotion, use and forest management and forest lands and other forest resources. Forest management jobs are complex, which stems from the fact that forests are a partly renewable natural resource and resource of general public interest, and that they must be managed with respect principles of continuity and sustainable forest management. In carrying out this activities company strive to balance economic, ecological and social request in relation to the resource. Alignment of the three segments of sustainable forest management is a permanent aim of the company. Today, SE “Srbijašume” includes 17 forest entities and 66 forest administration units, with about 3200 employees (SE Srbijašume, 2010).

Continuous supply of 27 forest nurseries with quality seeds in accordance with European and world standards is provided in 137 seed objects: 73 conifer, 64 deciduous and in the new opened technology centre for forest seen of South Eastern Europe in Požega. SE “Srbijašume” provides every year, about 6 to 7 million of high – quality hardwood and conifer seedlings for reforestation of state and private forests provide.

In 44 hunting areas in “Srbijašume” live 9.5 thousands of large and about 80 thousands small games. Hunting is one of the great potential of Serbia, but for development, it is necessary to careful monitor and cultivation and harvesting of game. In SE “Srbijašume” there are two pheasant and annually production is more than 25,000 pheasant chicks. SE “Srbijašume” was entrusted to the management of fishing waters of Serbia. “Srbijašume” takes care of 92 protected areas, on 244.600, 97 hectares under special protection regime. During 2009 was initiated and implemented a process of restitution forests and forest land to churches and monasteries by decision of the Directorate for Restitution. By these decisions, 12,043 hectares of forest will be return to dioceses and will result with reducing area of state forests managed by state enterprise.

Timber volume in state forests managed by SE “Srbijašume” is a 118.382.574 m³ what is 153 m³ per hectare. The annual increment of wood is 2,881,191 m³ or 3.7 m³ / ha. SE “Srbijašume”, by year, produces about 1.3 million m³ of gross density in state forests.

Activities of SE Srbijašume are prescribed by Law on Forests (1991) and State Enterprise Statute:

- Silviculture, forest maintenance and regeneration, reconstruction and reclamation of degraded forests and brushwood, production of forest seeds and nursery stock and establishment of new forests and forest plantations,
- Production of forest assortments and exploitation of other forest products and their transport, forest recreation, game breeding and hunting, and other aspects of forest utilization,
- Design, construction and maintenance of forest roads, parks and green spaces for recreation and other facilities used in forest management,
- Development of the programs, projects and plans of forest management,
- Soil survey for special purposes,
- Professional jobs in private forests,
- Wholesale and retail,
- Foreign trade,
- Economic activities in foreign countries,
- Improvement and use of multifunction of forests,
- Research work.

Business mission of enterprise include:

- Production of forest assortments and other forest products; forest use for recreation, cultivation and wild hunting; production of seeds and seedlings for market;
- Wholesale and retail,
By the scope and role in the environment, forests are of great importance. Forests are stability factor of climatic elements and phenomena, and representing climate stabilization with large influence on the stability of ecosystems. In Serbia, two million hectares of forest annually produces about eight million tons of oxygen. Forest as a resource and common good have always been an important factor in developing countries and represented the source of goods, services and total income of society. The effectiveness of “Srbijašume” is based on good cooperation with many organizations and individuals, who contribute to the preservation and development of forest in Serbia.

In efforts to conserve existing forests and improve their condition “Srbijašume” organize and implement forest protection from plant diseases and insect pests, fire, wildlife and the protection of forest against encroachment and illegal use (illegal logging). In the last two decades there have been many fires which completely or partially destroyed over 5,000 hectares of forest. The protection of forest fires is essential to achieve three goals: to prevent the occurrence of forest fires, quickly discover them and rapidly quenched. Recognizing the need for protection of valuable forest ecosystems in Serbia so far in various ways is under special protection about 543 000 hectares of forest in the 5 national parks, 15 nature parks, 50 strong and 21 nature reserve. Under special protection are 16 regions and outstanding features, hundreds of monuments and natural rarities of nature.

In accordance with European and global forest policy trends, forestry development strategies of Serbia aims to balance the interests of society in relation to forest, creating a favourable climate for economic development, environmental conservation value forests and providing social and cultural functions of forests. SE “Srbijašume” sustainably managed by forests, forest lands, hunting grounds and picnic areas and the priority task is preserving and improving in the world this already very limited natural resource.

Employees in this company – management, managers of entities, heads of administration units and other workers, have tremendous knowledge and a desire to assess the full potential and natural resources, taking into account the environmental, cultural and social aspects of forests. Priorities of SE “Srbijašume” are forests protection, production of forest products, development programs and projects of forest management plans, participation in the production of new biotechnologies, biogas, using of biodegradable waste. Future activities will include development of tourism as a profitably industry, with focus on hunting – tourism and recreational fisheries (SE Srbijašume, 2011).

### 3.3.1. Organizational structure of SE „Srbijašume“

Organizational structure of SE “Srbijašume” including:

- **Directorate General** - central unit, dealing with strategically activities; has sectors that are further divided into departments;
- **Forest Estates** - lower regional units, formed as a profit centres at the level of forest region; internal organization is further divided into services and sections;
- **Forest Units** - community units, basic organizational and planning units, is further divided into compound.
On the picture 3 it will be presented geographical position of Republic of Serbia and territorial position of forest estates in SE Srbijašume.

**Picture 3: Geographical position of Republic of Serbia**

![Geographical position of Republic of Serbia](image)

**Source:** SE Srbijašume, 2011

With aim of better understanding, next pictures show territorial position of forest entities under the management of SE Srbijašume.

**Picture 4: Territorial position of forest estates in SE Srbijašume**

![Territorial position of forest estates in SE Srbijašume](image)

**Source:** SE Srbijašume, 2011

SE Srbijašume, with 17 forest estates covers area of Central Serbia (Picture 4).
As already stated, organizational structure in SE Srbijašume is based on three levels of organisations and next pictures explaining that.

**Picture 5: Organizational structure of SE**

In accordance with Picture 5, existing governing-managing structure of enterprise is as follow:

- General director,
- Executive directors – sector directors within the Directorate General – highest management level (top management),
- Directors of other parts of enterprises – middle level (middle management),
- Chiefs and heads of lower organizational units – lower level (operative management).

### 3.3.2. Private Forest Management

According to the Forest Law (2010), private forests are forests which belong to physical or legal persons (economic societies, cooperatives, churches and religious communities, associations of citizens).

SE “Srbijašume” performs professional activities in private forests, owned by physical persons on an area of 1,058,387 ha, for about 3 million cadastral parcels and 1 million owners. On the annual average, 700,000 m³ of wood is marked for felling in private forests of physical persons. The entrusted professional activities in private forests of physical persons are (SE Srbijašume, 2010):

- Drawing up of management programs (10 year plans), annual plans and project documentation for works financed from the Budget of the Republic of Serbia,
- Marking of trees for felling,
- Calculating fees for felled and marked timber,
- Issuing of waybills,
- Professional inspection and giving of expert guidelines,
- Control of implementation of planned works and recording of executed activities.
3.3.3. Sustainable Forest Management

The forest is a renewable resource, which can be utilized in different ways, depending on the habitat condition and developmental phase. In the last three centuries, forests have been managed based on the principle of continues productivity (maintaining of balance between productivity and forest increment). The principle of continues productivity represents the first defined attitude towards using of natural resources in general and the first significant contribution to the enhancement of the living environment. From the principle of continues productivity, the modern principle of sustainable development has been derived.

The main objective of forest and wooded land management in forest areas of the Republic of Serbia is permanent, sustainable forest management. It requires the following: long term planning, rational utilization, work on tending, protecting and renewing of existing forests, rising of new forests, etc. For the accomplishment of permanently sustainable forest management the following are necessary: highly professional work, preservation of biodiversity, maintaining of increase productivity and maintenance of forest validity, close to nature management, socially responsible conduct, and satisfaction of needs of present and future generations and taking positive political decisions.

In accordance with Agenda 21, forest resources and forest lands should be sustainability managed to meet the social, economic, ecological, cultural and spiritual human needs of present and future generations.

Programs, plans and projects in accordance with sustainable forest management are:

- Forestry Development Program on the territory of the Republic of Serbia (2011 – 2020) – strategic document which affirms the directions of forest and forestry development with an action plan for their realization,
- Forest Area Development Plan,
- Forest Management Plan,
- Forest Management Program,
- Annual Forest Management Plan,
- Forest Management Execution Project,
- Other Forest Products Utilization Project,
- Other Forest Functions Project.

3.4. Austrian Federal Forests – Österreichische Bundesforste (ÖBF)

The Austrian Federal Forests are managing natural resources on behalf of the Republic of Austria, including 15% of the total forest areas and more than 100 lakes. The company is profit-oriented and works in lean, decentralized structures. After its reorganization in 1997, ÖBF are now a stock corporation paying annual usufruct compensation (50%) of the net profit to the Republic. Core business is the forestry management; additional areas of business are real estate and services. The ÖBF manages forests through 12 Forest Management Units, 1 Technology Unit and 2 National Parks Management Units (Sutter, 2004).

Main activities of Austrian Federal Forests are:

- **Protection and management of nature** - The protection of nature and the environment is an integral part of all ÖBF activities. The company has initiated numerous projects for the protection of species and ecosystems. The foundation for these projects is provided by the profitable management of natural resources. ÖBF also share their ecological expertise by managing other protected areas on a contract basis.

- **Responsibility for man and society** - Intact landscapes, healthy forests, clean water and fresh air are decisive factors for the high quality of life in Austria. ÖBF join together with partners from the tourism and recreation industries to provide an extensive leisure time offering in this unique nature land. Through the promotion of renewable energy, ÖBF make an important contribution to protecting our climate.
Management of natural resources - The primary business of ÖBf is forestry management. All related activities are conducted in full awareness of the needs of nature and in accordance with the principle of sustainability. This means that timber harvests are limited to the volume of new growth. ÖBf supply sawmills as well as the paper, cardboard and pulp industries, and biomass heat and power plants.

The main principles of Austrian Federal Forests are:

- **Nature and Environment:**
  - Commitment to preserve, improve and manage natural resources in a sustainable manner;
  - Provision of renewable raw materials as a contribution to supporting ecological lifecycles;
  - Active participation in nature conservation and ecosystem management;
  - Protection of the quality of life for future generations.

- **Man and Society:**
  - Dynamic and dedicated employees as a key factor for success;
  - Ongoing dialogue with all stakeholder groups;
  - Protection of the conservation, recreation and welfare functions of the forests;
  - Active contribution to regional development.

- **Business and Economy:**
  - Increase in the economic value of ÖBf by improving efficiency and developing new business opportunities;
  - Innovation driver for the Austrian forestry sector;
  - Competitive position through lean structures and processes.

The Austrian Federal Forests (ÖBF AG), a 100% state-owned joint-stock company, was detached from the national budget and transformed from a ministerial unit into a joint stock company in 1997. This step was accompanied by a fundamental transformation program focusing on the strategy, structure and corporate culture of the organization. Through a “change journey” over the last five years, performance and productivity was strengthened substantially. The company started from a negative estimated budget of €-2.3 million in 1996 and developed a positive estimated budget of €24.5 million in 1999. Since the detachment from the national budget, payments totalling more than €100 million have been contributed to the national budget as usufruct payments and dividends. Tax payments were substantial. In addition, noneconomic targets were followed consequently. Four national parks have been established in Austria within the last few years and ÖBF AG has played an active and leading role in their establishment. Nature protection and conservation has developed into a key area of competence and the company is actively investing in silviculture, the enhancement of biodiversity, and its natural heritage (Sutter, 2004).

In the financial year 2010 there was a tangible recovery in the economy compared with 2009. However, it cannot be assumed that the consequences of the global economic downturn of recent years have been fully eliminated and that a long term economic recovery is assured. From ÖBf’s point of view, the improvement in the economic situation was marked above all by the fact that the Austrian timber industry, as the main customer of Bundesforste, had already increased its production again in the first six months of the year – in comparison with the previous year. In general, an increase in demand for the raw material timber was in evidence, which was also reflected in rising prices in the course of the year. Total felling was reduced in the interests of sustained forest management from 2,154 T solid cubic meters in the year 2009 to 1,704 T solid cubic meters in 2010. The second half of the year was characterized by the fact that due to a rising price level, producers who were still cautious in the previous year (e. g. small forests) started to harvest more timber again. In general, it was observed that in 2010 the economic environment and therefore also prices in the area of saw logs recovered somewhat. The demand situation for paper and fiber wood ranges and biomass was lively. The area of renewable energy was of great significance for
Österreichische Bundesforste AG, as in previous years. Bundesforste is active both as a raw materials supplier as well as a constructor and operator of plants through its associated companies (ÖBf, 2010).

By the production and sale of timber biomass an important contribution was also made to forest health (potential breeding material for pests was rapidly removed from the forest in this way), and on the other hand, by thermal utilization the material could be put to a sensible economic purpose, by which an important contribution was made to reducing dependency on fossil fuels and protecting against climate change. Apart from the area of timber biomass, activities in the area of small hydroelectric power plants were pushed forward. 4 power stations are now in operation, and 5 projects are at the concrete planning stage. In the area of wind power, entry into the market is being sounded out at present – partly with cooperation partners, and in the photovoltaic area the company currently has the role of market observer due to the economic framework conditions. In contrast to the “real property crisis” which is clearly perceptible in many countries in the world, ÖBf AG has been able to continue its growth course in terms of demand even in the last few years. This is mainly due to the fact that in the leasing and rental area of ÖBf AG, most marketable real estate has been allocated through long term leasing arrangements (ÖBf, 2010).

The development in the tourism area was also positive (both in the summer and in the winter tourist trade). In addition, the demand for the real properties which Bundesforste can offer is comparatively stable. The sale of mineral resources from Bundesforste also saw a pleasing development, in spite of the state of the construction industry, which is still struggling with problems.
3.4.1. Forest / Timber

The Forest/Timber business division’s accounts at the end of 2010 were better than the forecast at the beginning of the year. The market took off during the year, and the demand for round timber increased slightly. An improved timber price, and at the same time reduced timber harvesting costs, had a positive effect on the result. This meant that the average price rose in comparison with the previous year from 55.7 € to 63.0 €, and timber harvesting costs fell from 29.2 € / harvested solid cubic meters to 27.1 € / harvested solid cubic meters. With a share of 73.8% in the total operating performance, the Forest/Timber division continues to be the core business of Bundesforste. Structural measures to optimize timber processes and timber harvesting costs were laid down in the sustainability concept “Horizon 2020”. The timber harvest is now bundled by newly employed timber harvest managers and specialists, and timber sales are being more strongly customer oriented, with company-wide contact partners. Technical infrastructure (pipes and pumping systems) and wet storages sites have been maintained in operational readiness, so that they can be brought into use quickly. After the intensive harvesting years due to storms, Forestry Work and Technology recorded a lower utilization in 2010, with simultaneously lower market prices – a development which is also reflected in the operating result. Composition of the timber harvest volumes is represented in table below:

Table 6: Composition of the timber harvest volumes

<table>
<thead>
<tr>
<th>Composition of the timber harvest volumes (feeling) - measured according to various criteria in 1000 Efkm (Harvested solid cubic meters)</th>
<th>2009</th>
<th>Change in %</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of sale/Production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct labor (productivity by Öbf employees, Forestry Work and Technology, logging companies and cultivators)</td>
<td>1,851</td>
<td>-28%</td>
<td>1,328</td>
</tr>
<tr>
<td>Stumpage sales</td>
<td>114</td>
<td>-2%</td>
<td>112</td>
</tr>
<tr>
<td>Levy to beneficiaries to forest utilization rights</td>
<td>152</td>
<td>43%</td>
<td>218</td>
</tr>
<tr>
<td>Other (own requirements, free allowances in kind etc)</td>
<td>31</td>
<td>24%</td>
<td>46</td>
</tr>
<tr>
<td>Type of timber</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deciduous timber</td>
<td>294</td>
<td>-26%</td>
<td>218</td>
</tr>
<tr>
<td>Coniferous timber</td>
<td>1,86</td>
<td>-20%</td>
<td>1,486</td>
</tr>
<tr>
<td>Type of use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management actions (previous use)</td>
<td>496</td>
<td>-14%</td>
<td>426</td>
</tr>
<tr>
<td>Harvest of ready to harvest timber (end use)</td>
<td>1,658</td>
<td>-23%</td>
<td>1,278</td>
</tr>
<tr>
<td>Operating class</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial forest</td>
<td>1,839</td>
<td>-21%</td>
<td>1,455</td>
</tr>
<tr>
<td>Protected forest</td>
<td>315</td>
<td>-22%</td>
<td>247</td>
</tr>
<tr>
<td>Total volume</td>
<td>2,154</td>
<td></td>
<td>1,704</td>
</tr>
</tbody>
</table>

Source: ÖBf, 2011

Behind, composition of the timber harvest volumes, represented and described previously, next table will represent development of the harvested timber volume in Austrian Federal Forests. Results include previous ten years with detail representation of achieved management measures, harvest of ready harvest
timber, total harvested volume and of which damaged wood. As can be seen, the highest amount of total harvested volume in this period was in 2008.

**Table 7: Development of the harvested timber volume**

<table>
<thead>
<tr>
<th>Year</th>
<th>Management measures</th>
<th>Harvest of ready harvest timber</th>
<th>Total harvested volume</th>
<th>Of which damaged wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>563</td>
<td>1,128</td>
<td>1,691</td>
<td>697</td>
</tr>
<tr>
<td>2001</td>
<td>569</td>
<td>1,279</td>
<td>1,848</td>
<td>415</td>
</tr>
<tr>
<td>2002</td>
<td>587</td>
<td>1,344</td>
<td>1,931</td>
<td>438</td>
</tr>
<tr>
<td>2003</td>
<td>504</td>
<td>1,984</td>
<td>2,488</td>
<td>1,987</td>
</tr>
<tr>
<td>2004</td>
<td>449</td>
<td>1,570</td>
<td>2,019</td>
<td>1,229</td>
</tr>
<tr>
<td>2005</td>
<td>406</td>
<td>1,532</td>
<td>1,938</td>
<td>1,212</td>
</tr>
<tr>
<td>2006</td>
<td>477</td>
<td>1,308</td>
<td>1,785</td>
<td>1,138</td>
</tr>
<tr>
<td>2007</td>
<td>519</td>
<td>1,831</td>
<td>2,350</td>
<td>2,044</td>
</tr>
<tr>
<td>2008</td>
<td>594</td>
<td>1,917</td>
<td>2,511</td>
<td>2,322</td>
</tr>
<tr>
<td>2009</td>
<td>496</td>
<td>1,658</td>
<td>2,154</td>
<td>1,861</td>
</tr>
<tr>
<td>2010</td>
<td>426</td>
<td>1,278</td>
<td>1,704</td>
<td>1,279</td>
</tr>
</tbody>
</table>

**Source:** ÖBf, 2011

Next graphic representing development in 1.000 harvested solid cubic meters in period 2000 – 2010. Graphic follow four measures, management measures, total harvested volume, harvest of ready to harvest timber and of which damaged timber.

**Graphic 1: Development 2000 – 2010 in 1.000 harvested solid cubic meters**

**Source:** ÖBf, 2011

All of these measures are represented with different colour and from graphic can be seen their changes in last ten years.
Next table show exploitation of ÖBf timber in 2010 (solid wood, measured in 1000 harvested solid cubic meters).

### Table 8: Exploitation of ÖBf timber in 2010

<table>
<thead>
<tr>
<th>Exploitation of ÖBf timber 2010 (Solid wood, measured in 1000 harvested solid cubic meters)</th>
<th>Deciduous timber</th>
<th>Coniferous timber</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saw lags</td>
<td>13</td>
<td>914</td>
<td>927</td>
</tr>
<tr>
<td>Industrial timber</td>
<td>90</td>
<td>396</td>
<td>486</td>
</tr>
<tr>
<td>Energy timber</td>
<td>17</td>
<td>74</td>
<td>91</td>
</tr>
<tr>
<td>Other</td>
<td>97</td>
<td>103</td>
<td>200</td>
</tr>
<tr>
<td>Total</td>
<td>217</td>
<td>1,487</td>
<td>1,704</td>
</tr>
</tbody>
</table>

**Source:** ÖBf, 2011

From the table, it can be concluded that coniferous timber taking a higher part in total exploitation, with saw lags on first place. From deciduous timber other timber has the highest part in exploitation.

In this chapter, of forest and timber production last picture representing type of wood production in Austrian federal forests. As can be seen from picture (Picture 6), the highest part in wood production is related on saw logs, then on industrial timber, other timber and energy timber.

**Picture 6: Type of wood production**

![Type of wood production](source: ÖBf, 2011)

Forest and timber production represented definitely the most important activity in Austrian federal forest. With previously described part with main management measures and results from last ten years, it can be concluded that this company have the most important investments exactly in this activity. Surely, that behind forest timber Austrian Federal developing other activities and invest in them and these activities will be described on next pages.
3.4.2. Forest Management

Expenses for forest management remain unchanged at a high level due to the last major windfalls. Out of a total of 14.65 million € (Table 7), the major share related to combating beetle at 6.2 million €; 3.5 million € were spent on afforestations. In the case of combating beetles, modern methods such as seeking for fresh infestations in standing timber, whip traps and monitoring by means of funnel traps continue to be used. A total of 3.4 million plants were transferred, whereby a large part were spruce and larch, followed by Douglas fir, pine, sycamore, fir and red oak. Climate change is thus taken into consideration and the stands are adapted to this in the composition of tree types. In total, 32 different types of tree were planted. The beech, which is particularly important for large parts of the forest, is rejuvenated extensively, of course.

<table>
<thead>
<tr>
<th>Forest management measures 2010</th>
<th>Costs in million €</th>
<th>Area in ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planting</td>
<td>3.5</td>
<td>1,805</td>
</tr>
<tr>
<td>Care of young trees</td>
<td>1.3</td>
<td>2,685</td>
</tr>
<tr>
<td>(young stand tending)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protection against deer</td>
<td>0.8</td>
<td>5,610</td>
</tr>
<tr>
<td>Protection against grazing livestock</td>
<td>0.2</td>
<td>1,921</td>
</tr>
<tr>
<td>Young forest management</td>
<td>2.0</td>
<td>2,788</td>
</tr>
<tr>
<td>(care of saplings)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measures against bark beetle</td>
<td>6.2</td>
<td>-</td>
</tr>
<tr>
<td>(insects)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other measures</td>
<td>0.6</td>
<td>651</td>
</tr>
<tr>
<td>Initial thinning</td>
<td>-</td>
<td>2,810</td>
</tr>
<tr>
<td>Total expenses</td>
<td>14.6</td>
<td></td>
</tr>
</tbody>
</table>

**Table 9**: Forest management measures in 2010

From table above it can be seen that the highest part of costs in 2010 was related on measures again bark beetle (insects). This year was specific especially of the weather conditions and company have a lot of problems with insects, what was not case in the previous years. With excluding these costs the highest part of total expenses is directed in planting, near 3, 5 million of Euros.
3.4.3. Other Activities

**Real Estate** – Alongside the core forest/timber business, the second business division, Real Estate, has shown sustained growth and has proved indispensable for the overall success of the company. Even the economic crisis failed to put the brakes on the dynamics of growth. With an increase in operating performance of 9.8% compared with the previous year 2010 also developed very positively. The building lease strategy is running particularly successfully: revenue was increased by 20% to 2 million €, and the number of leasing agreements stood at 321 at the end of the year. Growth in lakes management to 5.5 million € is first and foremost attributable to lakes surveying, with the plot boundaries in the lake shore area having to be newly recorded for all lakes. The Bundesforste portfolio now comprehends nearly 7,000 lakes contracts from bathing spots through boat shelters to jetty installations and buoys. Special properties and areas will be put to higher value utilization over the long term. The best example of this is the renovation of a former spa building in Bad Gastein together with its conversion to a modern apartment building.

**Forestry Services** – The effects of the economic crisis were not felt in the Forestry Services profit centres: following the trend of recent years, the result has continually improved and the services offered have been extended. The 10,000 hectare mark was exceeded for the first time in forest management for its customers, which number more than 30. In particular demand were technical planning in the natural environment and forest building and construction. More than 60 forest road projects were carried out – from design and planning through administrative processes, invitation to tender and building supervision to the planning of ecological balancing measures.

**Consulting** – Whilst there was reticence on the part of private customers as regards projects, in particular in the supply chain management area, the international project business with institutional partners such as the World Bank proved stable. Important foundation stones were laid for 2011 by acquisitions and new orders. For example, in the next two years an EU project with an order volume of 3 million Euros for the restructuring and sustained development of the forestry sector in Kosovo is being supported under the management of ÖBf-Consulting. The know-how built up over recent years in the area of forest climate protection is seeing ever stronger demand from project partners worldwide. In an international invitation to tender, ÖBf-Consulting was awarded the contract for a consultancy project in Indonesia over a period of one to two years, with an order volume of 330,000 Euro. So far, ÖBf-Consulting has implemented around 250 projects in more than 40 countries.

**Fisheries & Hunting** – Quality fish is the current trend: at 70 tonnes / year, the quantity of fish sold in 2010 increased considerably compared with previous years, and the number of fisheries and young fish rearing units in fish farming on the Grundlsee was tripled. The Hunting business area was stable: overall, demand for hunting areas has remained constant, whereby a slightly declining trend was evident in large hunting parties, and a slightly increasing trend in small hunting parties. The number of shooting and stalking contracts (1/3 of the area) decreased a little in recent years, whilst leasing contracts (2/3 of the area) declined somewhat. No major change was discernable as regards the inflow of game: companywide monitoring of bark peeling, which records the peeling of tree bark by red deer, shows that the intensity of the new peeling in 2010 did decline slightly, but that the number of trial areas with fresh peeling saw a small increase.

**Climate Protection** – Starting from a comprehensive database which is updated annually, Bundesforste will be bundling its activities strategically in the area of climate protection. For this reason, a CO2 balance sheet was drawn up for the first time in the year covered by the report.

**Renewable energy** – The development of the area of renewable energy was driven forward by the commissioning of another small hydroelectric power plant at Kainischtraun in Salzkammergut. This is the third Bundesforste small hydroelectric power plant, and the largest to date, with annual production of 12.5 GWh, around 2,850 households supplied and a CO2 saving of 2,100 tons in 2010.
4. METHODOLOGY

Next chapter describe methodology of thesis, starting from analysis of business environment in forestry sector in Serbia, with stakeholder analysis. Also, chapter include benchmark analysis like basic concept of thesis and how data in benchmarking were collected. After that, in chapter is given description of Balanced Scorecard with its main four perspectives and explanation all of them. Beside this, chapter will explain SWOT analysis, interviews and key forest performance indicators (KFPI) as methods used in this master thesis.

4.1. ANALYSIS OF BUSINESS ENVIRONMENT IN FORESTRY SECTOR IN SERBIA

An important segment of the analysis business environment public companies in forestry are the stakeholders or interested parties. By this means all persons or institutions, which for achieve own objectives depend on the company and affect on the corporate objectives, their implementation and the conditions under public forestry companies operates.

Timber market in Serbia is very fragmented and its basic characteristic is that state enterprises are in the process of transformation and privatization, while private companies are still not a secure partner. There is a segmentation of the domestic market by the principle of geographical territory covered by forest estates and departments of the company, especially when we speak about some wood products (logs, firewood).

The biggest number of logs buyers on domestic market is private companies and joint stock companies with about 80% in total sales “Srbijašume” and state enterprises participate with about 15% and export is represented with 5%. The largest markets for firewood are the region of Vojvodina and Belgrade, and the largest consumers of fuel wood are the local population. Regarding foreign markets, the strategy of SE “Srbijašume” is not exporting raw materials (logs), but existence larger number of solvent domestic buyers on the domestic market. With this is achieved wood export with a greater degree of processing, which provides a much more effects of state.

If one takes in consideration capacity production of forests, the fact that wood production is limited by increment and trend of demand on domestic market, the real potential for increasing the wood products supply are possible by investing in the care of forests, forest openness or forest roads. Competition on the market representing State Enterprise "Vojvodinašume", State Enterprises of National Parks "Fruška gora", "Tara", "Kopaonik" and "Đerdap", SE “Borjak” and private sector, taking into account that private sector include about 50% of forest resources. In production of "Vojvodinašume" dominate poplar, red oak, soft pulp wood sawmills and firewood soft sawmills, and SE “Srbijašume” mainly produces beech and conifers, pulpwod and saw timber of hard woods. Export is limited due to high transportation costs or the cost of transport by ship and train, especially assortments with a lower price, so on the international market Serbian goods are uncompetitive.

This is significant, if one takes into account the fact that in the production dominate less valuable assortments. The main marketing objective of public forestry enterprises should be the determination of sales place, and it should be choose on the way which can provide the greatest performance for enterprise. This may be sell in the upright (on the stump), ex-truck road, rail or ex-shipping. Strategies should be directed to solvent customers and customers on which can count in the longer term.

The wood and furniture industry has traditionally played an important role in the economy of Serbia and the country is still rich in resources representing the main reason for its ongoing competitive wood and furniture industry, which count over 15,000 highly qualified employees in more than 2000 companies and about 3000 workshops producing wood furniture in Serbia. Serbia’s geographic position, linking southern and central parts of the continent, makes the country easily and quickly accessible from all major import and export markets in this sector (EU, 2007).

Large private forestry holdings are just a few but hold a considerable potential for further growth and development. These companies are well-known suppliers of high quality hard wood and a predominant solid wood used in the local furniture production. Activities carried in private forests are subject to the supervision of SE’s Srbijašume and Vojvodinašume.
In Serbia the production of sawed unrefined timber (boarding) originating from hardwood, appears to be prevalent in the wood industry. Beech wood accounts for the majority of sawed timber and covers 70% of the total production. 8.5% of the boarding and planking production is obtained out of oak while 11.5% is made out of poplar. Thanks to a significant price benefit, timber is also made of fruit trees such as walnuts and cherries. Serbia also produces sawed unrefined timber (boarding) out of softwood mainly obtained from common spruce, fir trees and pine trees available in the country only in limited quantity (9% of the forest in total). The production of this type of boarding is mainly managed by state-owned companies and is hardly expandable to larger industrial scales due to insufficient financial means and the difficult procurement of raw materials (EU, 2007).

In the mass production side, labor costs are less important as are the quality of raw materials. Raw material prices are perceived as high due to the monopolistic position of “Srbijašume” public company, so the input increases the overall costs. Deficiencies in organization and production quality control result of higher waste. An obstacle to higher EU exports is the slow forest certification process required for most manufacturing taking place in the EU. However, large premium forest reserves, geographical proximity to export markets and large number of small flexible firms that can react promptly to market needs are positive signs of potential in this sector. Even so, this is constrained by the inability of domestic companies to meet large production volumes and play a more significant role in foreign markets, partly due to inadequate management and marketing skills, but also due to fragmentation in the sector (EU, 2007).

External analysis of business environment of SE’s in Serbia includes specific qualitative researching regarding forest resources conditions, way of management, and organization of forestry sector and forest policy aims. Representatives of main forest policy actors on every question should give positive, negative or undecided attitude what make a base for deeply external analysis of business environment of SE’s. Matrix result of qualitative research is based on in depth, face to face interviews with representatives of main forest policy actors:

- **Government bodies**: Ministry for Agriculture, Forestry, Trade and Water Management (Directorate for Forests, Rural development support network), Ministry of Finance, Ministry of Economy and Regional Development, Ministry of Environment, Mining and Spatial Planning (Sector for natural resources), State enterprise Srbijašume, Secretariat for Agriculture, Forestry and Water management of Vojvodina province, State enterprise Vojvodinašume, State Enterprises of National parks (Fruška gora, Djevardap, Kopaonik, Tara, Šar planina);
- **Associations**: Political parties, Chamber of commerce of Serbia, Chamber of commerce of Vojvodina, Federation of private forest owners associations, Associations of private forest owners, Hunting association of Serbia, Hunting association of Vojvodina, Agency for Wood - Wood Industry Cluster, Association of forestry engineers and technicians;
- **Private companies**: Consulting company (FORNET), Wood - processing companies;
- **Academia**: University of Belgrade – Faculty of Forestry, Faculty of Agriculture, Faculty of Biology, Forestry Institute Belgrade, Research and development Institute of Lowland Forestry and Environment Novi Sad;
- **NGOs**: National – Eco centre, Green key, etc. International – Environmental ambassadors;
- **Individuals**: Private forest owners, rural population, urban population.

Forest policy actors are in certain relation with state forest companies and, on that way, they all together make business environment. In process of creating mission and vision and especially in analysis of business environment it is necessary understand that is every business system surrounded by large numbers of actors who have their own interests and specific requests, attitudes and expectations. Classic example of different interests and inter sector conflicts in forestry are request of wood enterprises and ecologic non-governmental organizations for nature protection. In that sense, managing of successful communication with interest groups in internal and external business environment on the way to satisfied their totally different interests and expectations, represents the key of successful strategic position of
enterprise bur too requests great management skill. Process of analysis of policy actors’ influence and power and identification of the most powerful stakeholders can be done in next few steps (MacMilan, Jones, 1986):

- identification of stakeholders in business environment;
- identification of stakeholders expectation;
- recognizing the way on which stakeholders can influence on enterprise in the case of unrealization their expectations;
- identification the most powerful stakeholders.

Behind data which are collected and based on financial reports of forestry enterprises, data are collected too through interviewing with forest policy decision makers. This master thesis will include attitudes and perceptions of state forest enterprises in Serbia, SE Srbijašume and SE Vojvodinašume, like two main subjects on market and Ministry of agriculture, forestry, trade and water management, Directorate for forests like competent ministry.

Business strategies are based on full analysis of the business environment. Kenichi Ohmae (1999) as a reliable recipe for strategies success introduces strategic thinking as combination of analytical methods and mental flexibility.

Analysis of the organizations environment is a process of monitoring (controlling) of environment with aim to identify current and future opportunities and threats that may affect the organization's ability to achieve its goals. Organizations environment makes a set of factors inside and outside the organization that may affect the progress towards achieving its goals and purposes of the analysis and prediction of environment organizations, generally speaking, makes assessment of its environment so that management can act rationally and increase success of the organization.

4.2. **Benchmark Analysis**

There are several types of benchmarking and every of them are defined with aim and researching object. Two basic types of benchmarking are internal and external benchmarking. This master thesis will apply external type of benchmark analysis, precisely external no (competitive) benchmark analysis. External benchmarking is based on comparison activity of certain company with activities from other companies, with (in) direct competitors or including identification of products, services and business of our direct competitors or companies on other markets which has the same activity. The aim of external benchmarking is getting specific and important data about (no)competitive companies, their products, services which deliver to customers and business results which achieve so we can compared with own business.

If one takes in consideration that this master thesis will apply benchmarking companies in forestry in Serbia and Austria, it could be said that this is type of external non-competitive benchmarking, since analysis will be based on companies which are not on the same market and they are not direct competitors.

Some companies for benchmarking object take business and functional strategies with intention to understand on which way certain companies achieving competitive advantage. Earlier, idea of understanding competitive strategy was based on analysis activities of competitors in wide context and in determination their futures activities in accordance with understanding of current business.

Today, benchmarking idea of business strategies oversize only analysis of competitors and focus on strategies of any company who has reputation of world class. Strategic benchmarking focus is exactly directed on determined functional area and not on whole business strategy.

Surely is important to understand not only core of benchmarking process either how benchmarking can improve company. This master thesis defined user of benchmarking process and that is public company in Serbia, SE “Srbijašume”. Users requests of benchmarking processes influence on whole business process, resource allocation and area of activities.
Benchmark process includes several steps that should be followed with aim of successful benchmark analysis. On the picture 7, two phases of benchmark process are represented: position analysis and learning from best practices. Position analysis includes four steps, from preparation and planning, data collection, data analysis and reporting. After that, second phase includes learning from best practices, planning and implementing improvement actions and last step is institutionalizing learning. There is a lot of benchmarking process established today, but all of them have common activities and steps.

**Picture 7: Process of Benchmarking**

![Diagram of Benchmarking Process](image)

**Source:** Camp, 1995

Next table representing types of benchmarking processes and their comparison, based on cooperation between participants, importance of information and degree of improvement.

**Table 10: Types of benchmarking processes and their comparison**

<table>
<thead>
<tr>
<th>Type of Benchmarking</th>
<th>Cooperation between participants</th>
<th>Importance of information</th>
<th>Degree of improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>Good</td>
<td>Large</td>
<td>Low</td>
</tr>
<tr>
<td>External Competitive</td>
<td>Weak</td>
<td>Large</td>
<td>Medium</td>
</tr>
<tr>
<td>External Functional</td>
<td>Average</td>
<td>Average</td>
<td>High</td>
</tr>
<tr>
<td>External Generic</td>
<td>Average</td>
<td>Small</td>
<td>High</td>
</tr>
<tr>
<td>Combined: Internal and External</td>
<td>Average</td>
<td>Average</td>
<td>Very High</td>
</tr>
</tbody>
</table>

**Source:** Kaplan, Norton 2008

External benchmarking can be: competitive, functional and generic. Competitive benchmarking represents comparison of our organization with similar or same organizations. That could be direct competitors or equivalent organizations in other countries and on other markets. Functional benchmarking represents comparison products and services, production, processes etc. the best organizations while generic benchmarking concentrate on multifunctional business activities which or scope of business. In accordance with this benchmarking division, this master thesis will apply non-competitive benchmarking.

The most important elements of benchmarking are current state, which efficiency should be estimated (benchmarking object), object which will represent measure of comparison (reference object), applied criteria for comparison and evaluation and additional evaluation methods.

Usually, analyses of company are directed on indicators comparison of certain branch, but in case benchmarking analysis include qualitative aspects. Aim of benchmarking is that with other management
methods identify competitive advantages and indicate on improving possibilities which can be conduct. The most important process elements are current state, company efficiency which should be estimated (benchmarking object), landmark which used like benchmark comparison (reference object), criteria for comparison and evaluation and special evaluation methods.

4.3. PLAN OF COLLECTING DATA

There are two ways for collecting data: finding data which already exists (books, articles, reports, etc) and new researching (interviews, visits, etc). In development of data base usually both methods are using. In accordance to Harrington, every source of data should be estimated in accordance with: reliability, accuracy, using possibilities, costs, reliability and originality (Harrington, Harrington, 1996).

Master thesis includes internal source of data, then external source of data, which were based on interviews with experts, who gain with specific knowledge and information. Internal source of data included state enterprises and management, persons who in accordance with their positions have certain knowledge and were included in similar processes, projects and etc. Internal data will include annually business plans and financial reports of state enterprises and surely data which are available for public, books, articles and etc.

For data collecting with aim of more qualitative master thesis, was done research, which included personal visit to referent object of benchmarking process, ÖBF Austria. This type of data collection is surely one of the most interesting techniques.

Success key of benchmarking is collecting and disposition with right information. Data collecting was made on quantitative and qualitative way too and will consider not just collecting facts and financial data either processes which will enable understanding of company business.

4.4. SWOT ANALYSIS

Like instrument for strategic analysis implementation SWOT concept is useful, not only for initial assessment opportunities and threats in business environment as strengths and weaknesses of enterprises, even like instrument of introspection and group discussion about possibilities for business improvement and more successful enterprises position in changed business environment. SWOT analysis not represents only aim by itself for management, SWOT analysis have own limitations too. Identified enterprises strengths and abilities do not have to result with competitive advantages. Qualitative forest resources and successful business tradition managed by non adequate management hardly by itself can be good base for creating and sustaining successful competitive position of enterprise. SWOT analysis gives only current estimation of business environment useful for determination start point of strategic management. In dramatic changed circumstances of economic, political, social and technological business environment, successful use of this analysis considering adaption of SWOT philosophy and continues implementation of it. SWOT analysis represent only instrument of analysis and by itself can not alone create competitive advantage for enterprise. Use of this analysis is limited on analysis of information from business environment and based on them it is possible to identify key strategic questions and define strategic aims of enterprises.
Next picture shows SWOT analysis diagram with different situations in business and depending on factors of SWOT analysis enterprise choose the most applicable strategy.

**Picture 8: Choice of strategy by SWOT analysis**

![SWOT Analysis Diagram](image)

**Source:** Robinson, 2010

SWOT Analysis Diagram representing strong strategic tool in today business environment. This diagram shows choice of strategy by SWOT analysis, and it is based on four quadrants with different possibilities, depending on type of strategy that enterprise need. On example, if enterprise needs a diversification strategy, from diagram it can be concluded that this strategy require enormous internal strengths and grave environmental threats.

**4.5. INTERVIEWS**

In accordance with external analysis of business environment in forestry sector in Serbia, it was conducted specific qualitative research and collected data about attitudes of main decision makers in Serbia regarding organizational structure of state forest companies, business performance, organization of forestry sector. On every question examinees could answer with affirmative or negative state and describe their own opinion. Interviews were conducted with representative of Ministry of Agriculture, Forestry, Trade and Water Management, Directorate for Forests, SE Srbijašume, Belgrade and SE Vojvodinašume, Novi Sad.

Questionnaire was made in accordance with sustainable forest management approach: social, economic and ecological. First question describes profile of examinee by giving answer from which institutions they are coming, Ministry or SE’s (Directorate or Forest Entity). Second question describes attitudes regarding principle of sustainable forest management where examinees should sort by value, economic, social or ecological aspect of forest management. Behind second, five and six questions are too related for organizational aspect of this issue in Serbia. Next four questions, third, fourth, seventh and eighth are related for economic point of view of state forest enterprises, the way of profit achievement and from which activities. The last question was directed to ecological point of view of state forest enterprises and how they improve protective forest function.

From Ministry and SE’s, Srbijašume and Vojvodinašume, it is chosen sample from 30 examinees. Sample included top management of SE’s Srbijašume and Vojvodinašume and heads of departments in Directorate for Forests, Ministry of AFTWM. Questionnaire include ten questions from economic, organizational, social view on forest management in Serbia and because of that only top management of these two SE’s and Directorate for Forests represented valuable sample.
4.6. **Key Forest Performance Indicators**

The Key Performance Indicators are developed as well derived from the organizations strategies which are consequently connected within a cause and effect relationship which in turn are expected to achieve the desired measurements. The criteria for selecting KPIs of which are having a connection to the organization’s objectives are twofold: they have to be a key to success and they have to be measurable. Kaplan and Norton (1999) explain that the KPIs can be divided into two groups: external and internal indicators. The external indicators keep focus on the organization’s stakeholders that is for instance, loaners/owners and customers, and the internal indicators are concentrated on the internal processes illustrated by for instance, the development of competencies and growth.

The functions of the indicators are that they have to be capable of communicating how the company looks upon itself as well as making the surrounding environment understand the indicators, they have to be connected and interrelated in a cause and effect relationship and they have to be comparable through time and space, both within the company (among units) and between companies.

In accordance with aims of research this master thesis developed Key Forest Performance Indicators based on Key Performance Indicators by Kaplan and Norton (1999) for successful comparison state forest management enterprises in Serbia and Austria. This method request developing financial, social and nature benchmark that can be compared by the same criteria with developed certain strategic aims.

<table>
<thead>
<tr>
<th>Table 11: Key Forest Performance Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Forest Performance Indicators</td>
</tr>
<tr>
<td><strong>Financial Benchmarks</strong></td>
</tr>
<tr>
<td>Profit and Loss</td>
</tr>
<tr>
<td>EBIT</td>
</tr>
<tr>
<td>Return on Sales (ROS)</td>
</tr>
<tr>
<td><strong>Social Benchmarks</strong></td>
</tr>
<tr>
<td>Safety in the workplace</td>
</tr>
<tr>
<td>Employee satisfaction</td>
</tr>
<tr>
<td><strong>Ecological Benchmarks</strong></td>
</tr>
<tr>
<td>Active Ecosystem Management</td>
</tr>
</tbody>
</table>

*Source: Original*
5. RESULTS

In this chapter are presented results obtained and collected through different research methods. After described key economic data in the last three years, results will focus on key forest performance indicators, based on economic, social and ecological indicators compared by same criteria in both enterprises, SE Srbijašume and Austrian Federal Forests. Second part of this chapter will include SWOT analysis of SE Srbijašume and results of interviews with detailed description of results.

5.1. ANALYSIS OF BUSINESS RESULTS

In this part of chapter are represented business results of both companies, SE Srbijašume and ÖBf. Analysis included business results, based on economic financial analysis with the most important segment of business activities and investments. It described liquidity, profitability and solvency of SE’s and key data regarding results in last three years. Analysis includes key data in last three business years, with achieved investments, business performance, average earnings and employee’s data.

5.1.1. State Enterprise “Srbijašume”

In the last few years surely that presence of the financial crisis affected on business of public forestry enterprise and in accordance with this, has been taken measures in the production organization with respect to the dynamics of production and sales, on the time they ensured the necessary technical and material conditions for the realization of the planned work to find the necessary human resources solutions.

For better understanding, table 12 representing performance of business activities in 2010 of SE Srbijašume and their completion in percentage of achieved activities.

<table>
<thead>
<tr>
<th>BUSINESS ACTIVITIES 2010</th>
<th>COMPLETION IN %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silviculture</td>
<td>94 – 100 %</td>
</tr>
<tr>
<td>Remittances in function of preparation plans</td>
<td>103 %</td>
</tr>
<tr>
<td>for growing and harvesting in 2011</td>
<td></td>
</tr>
<tr>
<td>Production of planting materials</td>
<td>102 %</td>
</tr>
<tr>
<td>Realization of planting materials</td>
<td>62 %</td>
</tr>
<tr>
<td>Provision of seeds from seed stands</td>
<td>202 %</td>
</tr>
<tr>
<td>Forest protection from diseases and insect pests</td>
<td>106 – 118 %</td>
</tr>
<tr>
<td>Field and office work</td>
<td>100 %</td>
</tr>
<tr>
<td>Protected areas</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Source: SE Srbijašume, 2011

Wood production was made in 99% and 7% higher than last years. Sale of wood products (which is 70% from total income) was made in 98% and 8% higher than last year. Revenues and expenses are result of positive business in amount from 171,728.04 €. Gross profit is 171,728.04 € what is 48.66% from plan for 2010 (planned gross profit is 352,892 €), but this amount is higher for 118, 10% from achieved gross profit in 2009 with 86,629.88 €.
Achieved investments in 2010 are 5,121,119.98 € or 46.9% from planned investments. In forest roads was
invested 1,124,054.37 € what is 39.7% from plan. In machines and equipment was invested 877,163.01 €,
what represents 33% from plan, in buildings was invested 878,904.35 € what is 34.5% from plan and in
biological investments was invested 2,240,998, 24 € or 78% from plan. Related to previous year
investments are higher for 11.2 %.

Average number of employees based on work hours is 3,204 employees. Average gross earnings for 3,204
employees in 2010 were 454 €.

Next table represents revenues, expenses and their difference in last three years. All revenues and
expenses are divided on operating, financial and others and it can be followed their value from year to
year.

<table>
<thead>
<tr>
<th>Table 13: Business results 2008 – 2010, SE Srbijašume</th>
</tr>
</thead>
<tbody>
<tr>
<td>in 000 €</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Operating</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Financial</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Others</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Source: SE Srbijašume, 2011

Table below shows average earning in SE Srbijašume in period 2008 – 2010 and average earnings in
Republic of Serbia too. It can be concluded that in the last year, 2010, average earning in SE Srbijašume
was lower than average earning on republic level.

Next table represent average earnings on republic level for last three years and average earning in SE
Srbijašume.

<table>
<thead>
<tr>
<th>Table 14: Average Earnings, SE Srbijašume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Earnings in €</td>
</tr>
<tr>
<td>SE Srbijašume</td>
</tr>
<tr>
<td>Republic of Serbia</td>
</tr>
</tbody>
</table>

Source: SE Srbijašume, 2011

The highest average on enterprise level was achieved in 2008, as well as average on republic level. In the
last analyzed year, 2010 average earning was higher on republic then on enterprise level.

Company’s liquidity is its ability to meet own near – term obligations and it is a major measure of
financial health. Liquidity can be measured through several ratios.

The current ratio is the most basic liquidity test. It signifies a company’s ability to meet its short – term
liabilities with its short – term assets. A current ratio greater than or equal to one indicates that current
assets should be able to satisfy near – term obligations. A current ratio of less than one may mean the firm
has liquidity issues.
Table below represent current ratio of SE Srbijašume, based on formula: Current ratio = Current assets/Current Liabilities. Current assets and current liabilities representing very important positions in every financial report, based on them it can be seen state of enterprise in specific moment and level of their liabilities. Behind liquidity ratio, table (Table 15) shows ratio of financial stability.

Table 15: Liquidity and financial stability, SE Srbijašume

<table>
<thead>
<tr>
<th>Year</th>
<th>Current liquidity ratio</th>
<th>Ratio of financial stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>0.65</td>
<td>1.01</td>
</tr>
<tr>
<td>2009</td>
<td>0.43</td>
<td>1.02</td>
</tr>
<tr>
<td>2010</td>
<td>0.38</td>
<td>1.02</td>
</tr>
</tbody>
</table>

Source: SE Srbijašume, 2011

Solvency ratios measure the ability of a company to pay its long term debt and the interest on that debt. Solvency ratios, as a part of financial ratio analysis, help the business owner determine the chances of the firm's long-term survival.

Solvency is often measured as a ratio, the "current ratio," which is the total current assets divided by the total current liabilities. In order to be solvent and cover liabilities, a business should have a current ratio of 2/1, meaning that it has twice as many current assets as current liabilities. This ratio recognizes the fact that selling assets to obtain cash may result in losses, so more assets are needed. Results of solvency ratio in last three years in SE Srbijašume are represented in table below:

Table 16: Solvency Ratio, SE Srbijašume

<table>
<thead>
<tr>
<th>Year</th>
<th>Solvency Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>33.8</td>
</tr>
<tr>
<td>2009</td>
<td>39.3</td>
</tr>
<tr>
<td>2010</td>
<td>37.7</td>
</tr>
</tbody>
</table>

Source: SE Srbijašume, 2011

Every company is most concerned with its profitability. One of the most frequently used tools of financial ratio analysis is profitability ratios which are used to determine the company's bottom line. Profitability measures are important to company managers and owners alike. If a small business has outside investors who have put their own money into the company, the primary owner certainly has to show profitability to those equity investors.

Table 17: Profitability Ratio, SE Srbijašume

<table>
<thead>
<tr>
<th>Year</th>
<th>Net profit €</th>
<th>Gross profit €</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>143.080</td>
<td>174.288</td>
</tr>
<tr>
<td>2009</td>
<td>20.545</td>
<td>86.640</td>
</tr>
<tr>
<td>2010</td>
<td>74.267</td>
<td>171.728</td>
</tr>
</tbody>
</table>

Source: SE Srbijašume, 2011

Profitability ratios show a company's overall efficiency and performance. Table 17 represent profitability in SE Srbijašume, with amounts of net and gross profit.
Next result of business analysis are achieved investments in business in 2010 are 5,121,120 € what is 46.93% from year plan and 11.23% higher than achieved investments in 2009 (4,604,259 €) and this is represented in table below.

**Table 18: Investments in 2010, SE Srbijašume**

<table>
<thead>
<tr>
<th>No.</th>
<th>Type of Investment</th>
<th>2010 Plan €</th>
<th>2010 Achieved €</th>
<th>% of achievement</th>
<th>% of participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Biological investments</td>
<td>2,871,939</td>
<td>2,240,998</td>
<td>78,04</td>
<td>43,76</td>
</tr>
<tr>
<td>2.</td>
<td>Forest truck roads</td>
<td>2,834,282</td>
<td>1,124,054</td>
<td>39,66</td>
<td>21,95</td>
</tr>
<tr>
<td>3.</td>
<td>Machinery and equipment</td>
<td>2,656,862</td>
<td>877,163</td>
<td>33,02</td>
<td>17,12</td>
</tr>
<tr>
<td>4.</td>
<td>Buildings</td>
<td>2,551,106</td>
<td>878,904</td>
<td>34,46</td>
<td>17,15</td>
</tr>
<tr>
<td>5.</td>
<td><strong>Business investments</strong></td>
<td><strong>10,914,189</strong></td>
<td><strong>5,121,119</strong></td>
<td><strong>46,93</strong></td>
<td><strong>99,98</strong></td>
</tr>
<tr>
<td>6.</td>
<td>Housing loans</td>
<td>465,638</td>
<td>968</td>
<td>0,21</td>
<td>0,02</td>
</tr>
<tr>
<td>7.</td>
<td><strong>TOTAL: (5+6)</strong></td>
<td><strong>11,379,827</strong></td>
<td><strong>5,122,087</strong></td>
<td><strong>45,02</strong></td>
<td><strong>100,00</strong></td>
</tr>
</tbody>
</table>

*Source: SE Srbijašume, 2011*

Investments table represent detailed type of investment, achievement plan for 2010 and achieved amount for that year. All of this data are represented in percentage too in this table. Next table is connected with previous one and represent achieved investments for the last three years, by type of investments.

**Table 19: Achieved investments in period 2008 – 2010 (in €), SE Srbijašume**

<table>
<thead>
<tr>
<th>No.</th>
<th>Type of Investment</th>
<th>Investments in 2008</th>
<th>Investments in 2009</th>
<th>Investments in 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Biological investments</td>
<td>3,199,003</td>
<td>2,664,296</td>
<td>2,240,998</td>
</tr>
<tr>
<td>2.</td>
<td>Forest truck roads</td>
<td>2,194,342</td>
<td>1,414,022</td>
<td>1,124,054</td>
</tr>
<tr>
<td>3.</td>
<td>Machinery and equipment</td>
<td>1,851,790</td>
<td>513,922</td>
<td>877,165</td>
</tr>
<tr>
<td>4.</td>
<td>Buildings</td>
<td>405,515</td>
<td>473,894</td>
<td>887,315</td>
</tr>
<tr>
<td>5.</td>
<td>Housing loans</td>
<td>12,696</td>
<td>15,028</td>
<td>968</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>7,663,346</strong></td>
<td><strong>5,081,162</strong></td>
<td><strong>5,130,500</strong></td>
</tr>
</tbody>
</table>

*Source: SE Srbijašume, 2011*

As can be seen from table, the highest amount was invested in 2008 and have decreased trend in next two years. On the first place regarding investments are biological investments, then investments in forest truck roads, investments in machinery and equipment, investments in building and on last place are housing loans.

### 5.1.2. Austrian Federal Forests ÖBf

In the financial year 2010, Österreichische Bundesforste AG achieved a result from ordinary business activity of 15.9 million € (in 2009, 4.0 million €), with an operating performance of 219.8 million € (in 2009, 220.4 million €). The sales volume of own timber was around 1.32 million solid cubic meters and therefore 28.6 % below the previous year’s value. Taking account of the timber stumpage sales and the timber given free of charge to the beneficiaries of forest utilization rights, the total felled was around 1.70 million solid cubic meters (in 2009, 2.15 million solid cubic meters).

The stock of solid wood existing at the beginning of the year was reduced by around 26.3 T solid cubic meters to 76.0 T solid cubic meters. This is also a result of the satisfactory demand already mentioned at the beginning. Again very pleasing, and better than planned, was the development in the real estate
business division in the year covered by the report, in which the business areas leasing and rental, tourism, water, mineral resources and renewable energy are included. In total, operating performance was 3.3 million € (+ 9.8 %) and contribution margin was 1.4 million € (+ 4.4 %) above the respective previous year’s values. The trend towards sustained increases in turnover and profits, which has already been discernible for some years now, has therefore continued (Table 20).

Table 20: Operating performance 2008 – 2010, ÖBf

<table>
<thead>
<tr>
<th>Operating performance, ÖBf</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw timber production</td>
<td>149,1</td>
<td>121,8</td>
<td>95,7</td>
</tr>
<tr>
<td>Timber logistics</td>
<td>32,6</td>
<td>26,8</td>
<td>34,7</td>
</tr>
<tr>
<td>Hunting</td>
<td>16,7</td>
<td>17,1</td>
<td>17,3</td>
</tr>
<tr>
<td>Fishing</td>
<td>2,4</td>
<td>2,5</td>
<td>2,5</td>
</tr>
<tr>
<td>Forest work and technology</td>
<td>16,2</td>
<td>11,7</td>
<td>12,0</td>
</tr>
<tr>
<td>Forest/Timber</td>
<td>217,0</td>
<td>179,9</td>
<td>162,3</td>
</tr>
<tr>
<td>Renting</td>
<td>6,2</td>
<td>7,0</td>
<td>7,2</td>
</tr>
<tr>
<td>Leasing</td>
<td>6,8</td>
<td>6,9</td>
<td>7,0</td>
</tr>
<tr>
<td>Tourism</td>
<td>10,2</td>
<td>10,9</td>
<td>11,7</td>
</tr>
<tr>
<td>Water</td>
<td>0,5</td>
<td>0,5</td>
<td>0,6</td>
</tr>
<tr>
<td>Mineral resources</td>
<td>8,1</td>
<td>7,7</td>
<td>9,4</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>0,6</td>
<td>0,6</td>
<td>0,9</td>
</tr>
<tr>
<td>Real estates</td>
<td>32,5</td>
<td>33,6</td>
<td>36,9</td>
</tr>
<tr>
<td>Consulting</td>
<td>1,5</td>
<td>1,0</td>
<td>0,9</td>
</tr>
<tr>
<td>Inland services</td>
<td>1,0</td>
<td>1,4</td>
<td>1,5</td>
</tr>
<tr>
<td>Ecosystem management</td>
<td>7,0</td>
<td>9,5</td>
<td>9,8</td>
</tr>
<tr>
<td>Services</td>
<td>9,5</td>
<td>11,8</td>
<td>12,2</td>
</tr>
<tr>
<td>Other services including stock changeover</td>
<td>12,6</td>
<td>-4,9</td>
<td>8,6</td>
</tr>
<tr>
<td>Operating performance</td>
<td>271,5</td>
<td>220,4</td>
<td>219,8</td>
</tr>
</tbody>
</table>

Source: ÖBf, 2011

Satisfactory development was also recorded in the Services business division, which includes ecosystem management, the inland services area and ÖBf-Consulting. Operating performance rose to 12.2 million € (in 2009, 11.8 million €). Ecosystem management, whose activities, alongside a multiplicity of individual projects, include the management of the National Parks Donau-Auen and Kalkalpen and the biosphere reserve Wienerwald, also makes a considerable contribution to maintaining the natural landscapes and ecological diversity in Austria.

Table below represent operating performance for last three years in Austrian Federal Forest by main activities: forest/timber, real estates and services. Results here confirming already said, that forest timber is main business activity of this company, on first place with raw timber production but as well as developed other activities and great results, especially in tourism area, mineral resources and ecosystem management.
Behind previous table with main operating performance regarding business activities, next table will include main key data in Austrian Federal Forests in last three years.

**Table 21**: Key data 2008 – 2010, ÖBf

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual sustainable yield (planned harvest volume) ÖBf AG in 1.000 cubic meters</td>
<td>1,600</td>
<td>1,583</td>
<td>1,565</td>
</tr>
<tr>
<td>Timber harvested ÖBf AG in 1.000 cubic meters</td>
<td>2,511</td>
<td>2,154</td>
<td>1,704</td>
</tr>
<tr>
<td>Total area ÖBf AG in ha</td>
<td>854,700</td>
<td>855,200</td>
<td>513,300</td>
</tr>
<tr>
<td>Forest area in ha</td>
<td>514,100</td>
<td>513,600</td>
<td>513,300</td>
</tr>
<tr>
<td>Business and Economy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total output in million €</td>
<td>271.90</td>
<td>220.86</td>
<td>220.80</td>
</tr>
<tr>
<td>Operating profit (EBIT) in million €</td>
<td>28,47</td>
<td>18,11</td>
<td>18,07</td>
</tr>
<tr>
<td>Return on sales in %</td>
<td>8.46</td>
<td>1.84</td>
<td>11.59</td>
</tr>
<tr>
<td>Equity ratio ÖBF AG in %</td>
<td>46.88</td>
<td>46.72</td>
<td>47.21</td>
</tr>
</tbody>
</table>

**Source**: ÖBf, 2011

Next table will include data about man and society from Austrian Federal Forest aspect in last three years. Table shows data as average number of employees, wage employees in ÖBf and data regard nature and environment management.

**Table 22**: Man and Society – ÖBF group and AG

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average number of employees for the year ÖBF group</td>
<td>3,177</td>
<td>2,961</td>
<td>3,132</td>
</tr>
<tr>
<td>In subsidiaries companies</td>
<td>1,949</td>
<td>1,742</td>
<td>1,934</td>
</tr>
<tr>
<td>ÖBF AG</td>
<td>1,228</td>
<td>1,219</td>
<td>1,198</td>
</tr>
<tr>
<td>Wage employees ÖBF AG</td>
<td>506</td>
<td>511</td>
<td>518</td>
</tr>
<tr>
<td>Salaried employees ÖBF AG</td>
<td>722</td>
<td>708</td>
<td>680</td>
</tr>
<tr>
<td>Share of women ÖBF AG in %</td>
<td>12.1</td>
<td>13.5</td>
<td>13.7</td>
</tr>
<tr>
<td>Nature and Environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silvicultural operations - Planting of seedling (afforestation) in 1,000</td>
<td>3,765</td>
<td>3,519</td>
<td>3,417</td>
</tr>
<tr>
<td>Forestry and game - Number of game bite young stems per ha</td>
<td>4,146</td>
<td>3,811</td>
<td>3,897</td>
</tr>
</tbody>
</table>

**Source**: ÖBf, 2011

**Earnings and income situation** – The Group’s result was also essentially determined by the result of ÖBf AG in the financial year 2010. The slightly negative deviation of the Group’s result from the result of ÖBf AG is attributable overall to the affiliated area “timber net product”. Turnover of 209.9 million € (in 2009, 222.6 million €) was consolidated, and an EGT of 16.7 million € (in 2009, 2.1 million €) was achieved.

**Assets and capital structure** – The balance sheet total of the ÖBf Group compared with the previous year fell by around 17.8 million € to 396.7 million €. The difference in comparison with the previous year is chiefly explained by the decline in stocks, increased market demand, and reduced investment requirements, the redemption of financial loans and by the use of the reserve for re-afforestation and combating bark beetle.
Cash flow and financing – Cash flow from ongoing business activity, at 32.1 million €, was at the previous year’s level. The total sum of loan liabilities was reduced compared with the value at the beginning of the year, by around 7.9 million € to 135.9 million €.

5.2. KEY FOREST PERFORMANCE INDICATORS

This part of master thesis represents results of benchmark analysis based on key performance indicators between SE “Srbijašume” and Austrian Federal Forests. As already was described in meaning and function of key performance indicators, this part will directly represent results. Results are based on six indicators, three economic, three social and one nature indicator, which were mostly applicable for comparison between these two companies.

Economic indicators will include profit and loss, productivity and return on sales. Austrian Federal Forests have balanced scorecard while SE Srbijašume still do not have the same. All of these economic indicators are include in balanced scorecard of ÖBf and should be part of future balanced scorecard of SE Srbijašume.

5.2.1. Financial Benchmarks

Net Profit – The importance of net profit from economic point of view is, on the best way, described by Farris et al.: “how does a company decide whether it is successful or not? Probably the most common way is to look at the net profits of the business. Given that companies are collections of projects and markets, individual areas can be judged on how successful they are at adding to the corporate net profit” (Farris et al., 2010). Through analyzing of financial reports of enterprises, stakeholders usually pay attention exactly on this indicator.

From table (Table 23) below can be seen huge difference in amounts between these two enterprises.

<table>
<thead>
<tr>
<th>Year</th>
<th>SE Srbijašume in €</th>
<th>ÖBf in €</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>1,716,955.79</td>
<td>14,408,000</td>
</tr>
<tr>
<td>2009</td>
<td>20,544.63</td>
<td>3,974,000</td>
</tr>
<tr>
<td>2010</td>
<td>74,266.66</td>
<td>15,203,756</td>
</tr>
</tbody>
</table>

Source: SE Srbijašume, 2011

SE Srbijašume has decreased trend of net profit in the last three years, especially in 2009 and that result in even increased in 2010 but it is still on law level. ÖBf results show much better results from enterprise in Serbia, but in this case too, the crises year 2009 record the lowest result. In 2010 ÖBf achieved the best result in the last three years.

Earnings before Interest and Taxes (EBIT) - A measure of a company's earning power from ongoing operations, equal to earnings before deduction of interest payments and income taxes. EBIT excludes income and expenditure from unusual, non-recurring or discontinued activities.
In the case of a company with minimal depreciation and amortization activities, EBIT is watched closely by creditors, since it represents the amount of cash that such a company will be able to use to pay off creditors also called operating profit. Table below shows EBIT in SE Srbijašume and ÖBf for the last three years.

**Table 24: Earnings before Income and Taxes**

<table>
<thead>
<tr>
<th>Year</th>
<th>EBIT Srbijašume in rsd</th>
<th>1 € / 1 RSD</th>
<th>EBIT Srbijašume in €</th>
<th>EBIT ÖBf in million €</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>16.712.000</td>
<td>88,6010</td>
<td>188.620,89</td>
<td>28,47</td>
</tr>
<tr>
<td>2009</td>
<td>8.307.000</td>
<td>95,8888</td>
<td>86.631,59</td>
<td>18,11</td>
</tr>
<tr>
<td>2010</td>
<td>18.117.000</td>
<td>105,4982</td>
<td>171.728,04</td>
<td>18,07</td>
</tr>
</tbody>
</table>

*Source: SE Srbijašume, ÖBf 2011*

First column shows results in Serbian company in dinars (RSD) and the second column shows relation between euro and domestic currency. In SE Srbijašume EBIT is reported in 000 of Euros and in ÖBf results are reported in million of Euros what clearly show huge difference in success of these two companies. The best result, both companies have in 2008 and the lowest result is again in 2009.

**Return on sales (ROS)** - ROS is also known as a firm's "operating profit margin". This measure is helpful to management, providing insight into how much profit is being produced per dollar of sales. As with many ratios, it is best to compare a company's ROS over time to look for trends, and compare it to other companies in the industry. An increasing ROS indicates the company is growing more efficient, while a decreasing ROS could signal looming financial troubles.

Tables below (Table 25) show result first in SE Srbijašume and then in ÖBf. Return on sales shows relation between net profit and revenues.

**Table 25: Return on sales, ÖBf and SE Srbijašume**

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Profit</th>
<th>Revenues</th>
<th>ÖBf, Return on Sales</th>
<th>Srbijašume, Return on Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>1.970</td>
<td>4.084.048</td>
<td>10,5</td>
<td>0,048 %</td>
</tr>
<tr>
<td>2009</td>
<td>12.677</td>
<td>4.364.820</td>
<td>8,3</td>
<td>0,290 %</td>
</tr>
<tr>
<td>2010</td>
<td>7.835</td>
<td>5.303.905</td>
<td>8,3</td>
<td>0,147%</td>
</tr>
</tbody>
</table>

*Source: ÖBf, SE Srbijašume, 2011*

As well as with other economic indicators there is huge difference in results between these two companies. In Serbian case, the best ROS is achieved in 2009, and in Austrian case the best result of ROS is in 2008.
5.2.2. Social benchmarks

**Safety on work place (Accidents and illness), ÖBf** – With 88 notified accidents at work in 2010 (Table 26), two of which were fatal road accidents, the accident rate, at 7.50 (previous year: 9.45) was reduced to its lowest figure since 1981, when systematic accident analyses started. The frequency of accidents also fell by 20 %, as did their seriousness, which fell by 14 % and, at 191 hours, now lies below the long term average of 201 hours again. A marked decline in accident rates and frequency of 28 % was recorded, in particular by the two forest work and technology companies.

<table>
<thead>
<tr>
<th>Year</th>
<th>ÖBf</th>
<th>SE Srbijašume</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>88</td>
<td>54</td>
</tr>
</tbody>
</table>

Table 26: Number of accidents

Table shows number of accidents in ÖBf and SE Srbijašume and year level in 2010. In ÖBf that number is higher. The number of days off sick was reduced slightly to an average of 8.88 days for each person employed for a full year (compared with 2009 at 9.25 days). The total of all days off sick dropped from 10,781 in 2009 to 10,180 in the year covered by the report.

**Injuries of employees, SE Srbijašume** – In 2010 were evident totally 54 injuries of employees and from those 42 minor injuries, 11 serious injuries and one serious injury resulting with death. It is necessary to clarify that two the most difficult injuries happened due to non-compliance elementary rules for safe work.

**Employee’s satisfaction, ÖBf** – The number of employees fell slightly in 2010 and averaged 1,198 employees (680 waged employees and 518 salaried employees). 240 temporary staff were employed for an average period of eight weeks. The proportion of women was 13.7 % and was therefore slightly higher than in the previous year. Disabled persons are employed where it is possible to do so. In the year covered by the report this concerned 28 persons, 16 waged employees and 12 salaried employees. The average age rose slightly from 42.9 to 43.4 years, the most strongly represented age group being the 41 – 50 and the 51 – 60 years age group.

Data are showed in table below, for period 2008 – 2010.

<table>
<thead>
<tr>
<th>Number of employees 2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>ÖBF AG</td>
<td>1,228</td>
<td>1,219</td>
</tr>
</tbody>
</table>

Source: ÖBf, SE Srbijašume 2011

It can be seen that ÖBf decrease number of employees from 2008 till 2011 for 30 employees.

**Employee health and safety, ÖBf** – Investments were again made in 2010 for protective clothing and safety gear for forestry workers. New and more modern materials were used, offering more comfort in wear and improving visibility in the forest. The expenses for personal safety gear and work clothing totalled around 322,000 € in 2010, or about 497 € per employee.

**Training and development, ÖBf** – Comprehensive measures were set in place again in 2010 for employee training and development. For example, seminars and workshops were offered on the subject areas of stress and burnout, career and conflicts, employee management and cooperation and coaching for employees as well as management. An additional training course for forestry specialists, mechanics and office apprentices was also directed towards young specialist staff. Apart from vocational college training, professional and personal skills were the subject of courses at the Forstlichen Ausbildungsstätte Ort in Gmunden (FAST). Forest rangers, operations and office managers and business area developers were able to attend their own training courses. In three modules an in depth understanding of their role, task areas and social competency was provided, and at the same time internal company networking was promoted.

**SE Srbijašume, Human resource development** – Human resource development is realized through scholarships for students and pupils in accordance with needs of forest entities or projection of necessary
staff. Behind this SE’s are developing cooperation with scientific institution, Faculty of Forestry, Belgrade and Institute for Forestry, Belgrade through different projects.

Education area in company includes huge number of seminars, consultations, conferences and other activities for employees. Funds spent on these activities in 2010 were 2.422.890, 95 dinars that is 151 % from plan.

Table 28 represent number of employees in SE Srbijašume in accordance with organization of enterprise.

<table>
<thead>
<tr>
<th>Number</th>
<th>SE Srbijašume</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Directorate General</td>
<td>170</td>
</tr>
<tr>
<td>B.</td>
<td>Parts of the company</td>
<td>3170</td>
</tr>
<tr>
<td>A+B</td>
<td>Total</td>
<td>3340</td>
</tr>
</tbody>
</table>

Source: SE Srbijašume, 2011

Number of employees in 2010 was 3.340; with 170 employed in General Directorate and others 3.170 employed in forest entities and other parts of the company.

5.2.3. Ecological benchmark

Active ecosystem management – Forest protection, ÖBf: 855 voluntary activities for the protection of nature of an average 2.3 “good deeds” per day – this is the pleasing account for the protection of nature in 2010. The largest proportion of this, at 33 %, related to species and habitat protection, 29 % to forest and dead timber management, 17 % to increasing awareness and nature adventure projects, 11 % to project management and research, and 10 % to management of bodies of water and wetlands. This includes retaining endangered habitats such as marsh and wetlands and returning them to nature, biotopes and amphibian ponds, protective measures for old and dead timber and numerous activities for the protection of species such as hanging up bat nesting boxes, management of old meadows with scattered fruit trees and butterfly meadows, or the protection of stream banks. Support for research projects and the area of environmental education / nature adventure projects, in particular guided nature tours, round off our commitment. With a proportion of protected zones of over 50 % of its total land area, Bundesforste is frequently a sought-after partner and initiator for local and supra regional projects for the protection of nature.

Graphic 2: Measures for the protection of nature in 2010

Previous graphic (Graphic 2) represent measures for forest protection of nature in 2010 in Austrian Federal Forest. Forest and timber management is on first place, then increasing awareness, project management and research and species habitat and protection. Project management and research definitely represent important activity in ÖBf today.
Company have aim to increase number of projects in next five years. This company received further recognition for its commitment to the protection of nature, especially for its biodiversity program and activities for the protection over a number of years.

**Forest protection, SE Srbijašume** – Preservation, protection and enhancement of forest conditions, utilization of all forest potentials and their functions and rising of new forests with the aim of achieving optimal forest cover, spatial arrangement and forest growing stock structure into Republic of Serbia refer to a function of common interest.

In the field of silviculture, SE “Srbijašume”, professionally and by planning, conducts measures of regeneration, tending and raising of new forests and produces forest reproductive material.

SE “Srbijašume” in accordance with the Forest Law conducts measures and activities with the aim of preventing, repressing and eliminating of consequences due to harmful effects caused by plant diseases, insects, rodents, wild game, man, fire, natural disasters and other biotic and a biotic factors.

SE Srbijašume continually takes measures on forest protection from illegal activities especially illegal logging. Illegal logging is done by individuals and often by organized groups, often armed and in these situations is necessary help of authorities. With more efficiency working of judiciary and increasing punishments probably will be achieved better results on suppression of illegal activities, especially illegal logging.

The amount of evident illegal logging in 2010 is 9,020 m³. From totally illegal logging on the spot in forest was taken 452 m³ and in traffic was taken 247 m³. Value of taken tree in total amount is 3,231,377 dinars.

In the last observed business year, 2010 SE Srbijašume manages with 96 protected areas on area from 216,858,00 ha. Planned activities in area of forest protection and nature conservation are based on applicable legislation, strategic aims of company to follow ecological principles in forest management and other forest values with securing protection, improvement, promotion and sustainable development of protected areas. In Serbia, under protection is 542,805,00 ha or 6, 14 %. SE Srbijašume manages with about 40% of totally protected area. In the last few years it was adopted series of ecological laws that regulate issues of nature conservation. In these laws, punishments for disrespect are significantly tightened. Behind Waste Management Law and Packaging and Packaging Waste Law, it was done Strategy for Pesticide Applications. It was done guidelines for forest springs and water in forest ecosystems with aim of water protection near forest roads in accordance with Forest law.

It has been established good cooperation with Ministry of Environmental Protection, Mining and Spatial Planning, Ministry of Agriculture, Forestry, Trade and Water Management, Ministry of Infrastructure and Energy, Chamber of Commerce and Industry of Serbia, Central European Forum for Development and couple of ecological non–governmental organizations.

### 5.3. SWOT Analysis

When undertaking a traditional strategic planning process, debating future direction, or assessing existing opportunities for the organization, a board or management team can rely on a SWOT analysis for help. During the analysis, it will be list of the organization’s Strengths, Weaknesses, Opportunities, and Threats, often on a matrix. Each of these controlling forces prompts the team to consider factors that might easily be overlooked as it shapes the future of the organization.

The SWOT analysis is great for developing an understanding of an organization or situation and decision-making for all sorts of situations in business, organizations and for individuals. The SWOT analysis provides a good framework for reviewing strategy, position and direction of a company, product or project. Aims of a SWOT analysis are: reveal own competitive advantages, analyze of own prospects for sales, profitability and product development, preparing company for problems and allowing for the development of contingency plans. SWOT analysis is a process to identify where company is strong and vulnerable — where should defend and attack.

In table 29 it will be represented SWOT analysis of SE Srbijašume.
SWOT analysis of SE Srbijašume describing current state and position of SE on the market, their own strengths, weaknesses, opportunities and threats. Analysis is based on previous research and current situation.

Table 29: SWOT analysis of SE Srbijašume

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Rich natural resources</td>
<td>- Lack of internal audit sector</td>
</tr>
<tr>
<td>- Sustainable Forest Management</td>
<td>- Complicated decision making process</td>
</tr>
<tr>
<td>- Significant number of high educated employees with practical knowledge</td>
<td>- SE does not have own development centre</td>
</tr>
<tr>
<td>- Enterprise covers whole area of Central Serbia</td>
<td>- Insufficient funds for their own investments</td>
</tr>
<tr>
<td>- Business credibility and tradition</td>
<td>- Large differences between natural resources quality which has directly influence on business success</td>
</tr>
<tr>
<td>- Following trends of modern forest science and practice (GIS, FSC)</td>
<td>- NWFP business in not considered as important enough</td>
</tr>
<tr>
<td></td>
<td>- Insufficient number of women on managers positions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Change in organizational structure</td>
<td>- Influence of political changes on SE</td>
</tr>
<tr>
<td>- Attracting foreign investments/partners</td>
<td>- Bank loans with unfavourable conditions</td>
</tr>
<tr>
<td>- Harmonization of new legislative in accordance with EU standard</td>
<td>- Insufficient implementation of legislative</td>
</tr>
<tr>
<td>- Improve cooperation with education and research institution</td>
<td>- Corruption</td>
</tr>
<tr>
<td>- Wide range of products and services required by market</td>
<td>- Changed society requests related to forest resources</td>
</tr>
<tr>
<td>- Improvement of relations with international scientific and research</td>
<td>- Critical approach from nongovernmental organizations for nature protection</td>
</tr>
<tr>
<td>- Diversification of products and services (hunting, real estate, tourism)</td>
<td>- Pressures from local stakeholders on the forest policy in terms of personnel policy and the needs of the timber</td>
</tr>
<tr>
<td>- Candidacy for EU and possibility of using EU accession founds</td>
<td>- Barriers to access to attractive markets due to the fact that competitive enterprises are certified forestry</td>
</tr>
<tr>
<td>- Good geographic position on Balkan</td>
<td>- Insufficient cooperation with other sectors</td>
</tr>
</tbody>
</table>

Source: Original

Strengths include rich natural resources as definitely one of the most important facts for SE Srbijašume and way of sustainable forest management on total area of Central Serbia. What is definitely good is significant number of high educated employees with practical knowledge who following forestry education trends and standards. This analyze as weaknesses excluded: lack of internal audit department, complicated decision making process and lack of development centre as main of them. Many of described weaknesses can become opportunities and SE Srbijašume should used them on the best possible way, with aim of own improvement. Opportunities include change in organizational structure as task that is issue in the last period and definitely one of the most important issues of SE Srbijašume. Threats are surely, strong political influence and insufficient implementation of existing legislative, but this analyse show that with good management policy and determination of aims for next period many of described tasks can become opportunities and strengths on best way for SE Srbijašume.

5.4. INTERVIEWS

As already described in methodology part, interviews (Annex 2) were conducted with employees in Directorate for Forest (MATFWM) and SE’s Srbijašume and Vojvodinašume. Thirty interviews is collected through face to face interview answering on ten questions based on organizational, economic, social and ecological aspect of state forest companies in Serbia. In this chapter will be represented interviews results.
First question (Graphic 3) was directed on profile of examinees (from which institution they are coming from). The 70% of examinees were from General Directorate of State Enterprises, Srbijašume and Vojvodinašume.

**Graphic 3:** Specify the institution where you are employed

![Graphic 3](image)

Source: Original

Second question (Graphic 4) was from organizational aspect and was directed on valuating of aspects of sustainable forest management in state enterprises in Serbia. Economic aspect is on first place in 56,67% of answers, on second place is in 23,33% of answers, and on third place is in 20,00% of answers. Social aspect is on first place in 12,33%, on second place is in 33,33% and on third place is in 53,33% of answers. Ecological aspect is on first place in 30,00% of answers, on second place is in 43,33% and on third place is in 26,67% of answers. As conclusion, economic aspect for the most of examinees representing the most important aspect of sustainable forest management, then social and on third place is ecological aspect.

**Graphic 4:** Aspects of sustainable forest management

![Graphic 4](image)

Source: Original

Third question in interview is from economic aspect and related for market orientation of enterprises. In country where are only two state forest enterprises it is expected that they are market oriented and competitive. Half on examines think that state forest enterprises are market oriented, 36,67% think that enterprises are partly oriented and 13,33% think that enterprises not oriented at all.

Fourth question is from economic point of view and directed on opinion of examinees about competitiveness on forestry market in Serbia. 46,67% of answers are that there is partly competitiveness on state forest enterprises market, and 40% of answers saying that examinees think that there is no competitiveness on market. SE Srbijašume still has the monopolistic position on the market. On same way, state enterprises are territorially divided what representing additional non competitive fact on market.
Fifth question is directed on organization structure of state forest enterprises in Serbia. 53.33% of answers saying that current structure of state enterprises in partly good oriented, 26.67% from answers supporting current organization and 20% of examinees think that organization structure is not well organized. Current organization of state forest enterprises considering three levels: general directorate, forests entities and forest units (additional part of state enterprise can be biro for planning and management). Current status of state forest enterprises by Forest Law and Statue of enterprise is state enterprise (or public enterprise) with firstly public function (forest as essential good from public interest).

Sixth question in interview is from organizational point. It representing important issue how changing of organizational structure of enterprise can decreased fixed costs. Today forest entities are under the general directorate control, and the highest part of fixed costs is exactly made by General Directorate. It is the question would and on which way any possible changes can decrease fixed costs. With carefully systematization of work places and sizing of fixed costs on level of SE it can be made a structure with reasonable and understandable amount of fixed costs. Answers of examines gave quite “good” answer, 53.33% said that only partly fixed costs can be decreased.

Seventh question is connected with economic (profitability) aspect of state forest enterprises. In Serbia there is still strong division on state and private enterprises regarding profit achievement. For state enterprises is still on first place social aspect of their existence (in this case, rural population is mostly employed in state forest enterprises). In accordance with market oriented economy it will be necessary that Serbia has state forest enterprises that achieved profit and would not be only satisfied with covering of fixed costs. 70% of examinees think that state enterprises should make a profit and 23.33% think that profit can be on second place with firstly achieving public function of state enterprise.

Eight question (Graphic 5) describing attitudes of examinees regarding business activities of state forest enterprises. Answers confirmed that the most important activity of state forest enterprises is production and sale of timber, it was on first place in 96.43% of answers. On the second place is surely activity that should be most profitably, hunting with 44.46%. Third place for examinees from profit achieving view is non wood forest product activity with 32.14% that represent important SE’s activity and in the future have opportunity to increase this percentage.

**Graphic 5: Activities by importance for achieving profit**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timber production and sale</td>
<td>96.43</td>
</tr>
<tr>
<td>Non wood forest products</td>
<td>32.14</td>
</tr>
<tr>
<td>Hunting</td>
<td>44.64</td>
</tr>
<tr>
<td>Tourism</td>
<td>50</td>
</tr>
<tr>
<td>Fishing</td>
<td>32</td>
</tr>
<tr>
<td>Real Estate</td>
<td>60</td>
</tr>
</tbody>
</table>

**Source:** Original

On fourth place is tourism with 50% of answers on this position, what implicate importance of tourism from state forest enterprise view. Fishing is on position number five with 32% of answers. Together with hunting it can be achieve even more from profit view. Example of Austrian Federal Forest can represent really good and applicable practice in Serbia regarding this activity. Real estate is on sixth place with 60% of answers for that position.
Question number nine was related for ecological aspect and protective forest function and how examinees see obligation of state forest enterprises on that issue. 66.67% from answers are agreed that state forest enterprises taking enough care on protective forest function. Other part of answers, 33.33% consider that this issue is partly represented. This is only question in which examinees choose two options, and there is no negative answer regarding this topic.

Question number ten is from social aspect of state forest enterprises and giving answer about social security (security of job) of employees in their enterprise. Even 60% of examinees think that social security in their enterprise is good, only 6.67% think that social security in their enterprise is unsatisfactory, and other 33.33% of examinees think that social security is great.
6. DISCUSSION AND CONCLUSION

This master thesis describes current situation in forestry sector in Serbia and deeply analyze of SE Srbijašume from aspects of organization and management. Research is based on benchmark analyze between SE Srbijašume and Austrian Federal Forest (ÖBf), through which is analyzed business environment in forestry sector in two countries and business activities of companies. For SE Srbijašume is surely important to follow and try to implement some of “best practices” from ÖBf, but too, to solve their own organizational issues and improve own business.

For every master thesis is important to determine limitation of research. This work was directed firstly on SE “Srbijašume” and leaving enough space for further researching on this topic, for another state forest enterprises in Serbia. Master thesis conduct analysis of business environment and determination of main forest policy factors, but for the needs of benchmark analysis was included only decision makers from Ministry of AFTWM and SE’s Srbijašume and Vojvodinašume. Further analysis can include other forest policy actors as well for complete picture of stakeholders in forestry sector in Serbia. Determined hypothesis, aims and research question was mainly directed on SE Srbijašume and their current state and position in state forestry sector in Serbia.

Even the most successful strategy can be useless if is not followed by relevant implementation on operative level in form of concrete business activities for strategy realization. Process of strategic management considers close relationship between mission and vision like basic elements of strategy and operative activities on enterprise level. Crucial point is surely different requests of stakeholders in forest policy sector in Serbia, which are in accordance with changed requests of society and business environment related to sustainable forest management. Wood production enterprises search for a higher amount of wood by favourable price, non – governmental organizations insist on environment protection, local communities are interested for employment of local population in forestry sector and government want continues forestry development in all country. Because all of these reasons, it is important that state enterprises found own role and ensure a good position on the market. Through inter – sector dialog coming up to understanding of all positions and attitudes of stakeholders. Exactly, through these process state enterprises in Serbia becoming more important factors, thanks to active participation and better understanding of all processes in forest policy.

Project for restructuring SE Srbijašume from 2005 in their final report clearly stand: “The project was successfully completed in terms of all professional and technical aspects but so far there is no consensus to implement the organizational solutions (organizational structures) as proposed” (2005).

By understanding forest policy dynamic better than others, state enterprises create and sustain atmosphere of active and constructive dialog with main actors of forest policy and on that way defining own requests and aims with aim of sustainable forest management in all country in accordance with legislation, changed environment requests and character of forest as public good.

Concrete business activities of state forestry enterprises on operative level enable not only realization of strategy even use of Balanced Scorecard concept as instrument of strategic control what was presented in this master thesis. The important dependence of SE’s sales of revenues based by wood production and sale like strategic issue, indicate on necessity of production portfolio diversification and increasing income from other sources. Many years orientation on traditional use of forest resources without efforts on promotion other forest functions indicate on development business activities: hunting, NWFP, tourism.

In the process of reform, a focus on organizational structure should be moderated by the need for clarity about their functions and how these are actually going to be delivered. An institutional reform process should clearly define financing needs related to service provision, spell out how each specific service is going to be financed and make clear provisions that financing is available and timely.

The reform of forest organizations is unlikely significantly to change outcomes if these are not accompanied by wider institutional and governance reforms. Formal institutional change in shape of new laws and organizations may have taken place, but if there is no change in the way people actually operate then it is a difficult to argue that a significant system change has been taken place.
There are a lot of issues that have influence how forest institutions operate as how reforms are implemented. One of them and the most significant in Serbia are surely dealing with corruption and political influence. The conflict between personal and public interest is intense because salaries are low, timber is valuable and accountability arrangements are often week. Other related ills, such as bureaucracy, red tape and sluggish courts also pose significant problems for the sector. Transition economies have a long history of forest management with well developed forest institutions, well-trained staff, and a tradition of land-use planning, solid forest research programs, and a strong timber industry.

6.1. RESEARCH AIMS

On the start this master thesis there are set main aims of this research:

- **Analysis of existing business mission, vision and aims** – On the start, it was important to describe main characteristics of forestry sectors in Serbia and Austria, mission, vision, aims and business activities of forest enterprises. It was important to give observation on business environment of enterprises for easier understanding of master thesis.

- **Analysis of business environment in forestry sector in Serbia** – Second step was directed on business environment of forestry sector in Serbia, stakeholders and forest policy actors in Serbia. This aim explains the way of interviewing with Ministry of AFTWM and SE’s Srbijašume and Vojvdinašume. As already said, this is the main actors today and for management and organization analysis the interviews with these actors was enough significant. There are a lot of other stakeholders in forestry sector and they are just specified and described in this master thesis.

- **Searching for new opportunities and practice that can be applied** – Forestry sector in Serbia represents one of the main public sectors in country. With transition and market oriented economy, it is expected that state forest enterprises improve their own business and search for new opportunities. That was one of the aims of this master thesis. On the example of Austrian Federal Forests, it can be seen how many of the business activities can be improved, especially from the point of profit increasing. Austrian Federal Forests representing one of the “best practices” in Europe and it is obvious that SE’s in Serbia can implement a lot of ideas from Austria.

- **Comparison between researching object (SE Srbijašume) and “best practices” (ÖBf) will be based on key forest performance indicators (KFPI)** – This aim was one of the most required in this master thesis. It was necessary to develop indicators in both enterprise, SE Srbijašume and ÖBf, in accordance with their business activities and compared them on the same criteria. On the end, six indicators were chosen – economic, social and ecological benchmarks that described situation in both countries and giving detailed description of chosen indicators.

6.2. HYPOTHESIS

On the start of this master thesis hypothesis are set in accordance with current situation and issues regarding this topic in the last ten years.

- **State Forest Enterprise “Srbijašume” is mostly focused on timber production and not using other business opportunities to increase own income. – CONFIRMED**: This hypothesis describing real situation today regarding business activities of forest state enterprise Srbijašume. State forest enterprise in Serbia the biggest part of sales revenues base on timber production and sale. All other activities do not achieve such huge profit as timber what is on some way justified in accordance with current situation in wood industry in Serbia. But, on example of Austrian Federal Forests it can be seen how is possible to increase income from all other activities and make them more important from profit side. In Serbian companies it can be especially done with hunting and fishing, non-timber forest products, tourism and real estate.
– If organization of state forest enterprise “Srbijašume” could be changed, then business performance will be improved. – **PARTLY CONFIRMED:** This hypothesis could not be totally accepted. Probably, with different organization of state forest enterprises business performance could be changed but this master thesis is not able to confirm that. Today, the main decisions are made in general directorate as main body of enterprises and with responsibility of managing board. Because of the established monopoly, state forest management enterprises are not competitive and market oriented in accordance with future EU environment.

– Because of the established monopoly, state forest management enterprises in Serbia are not competitive and market oriented in accordance with future EU environment. – **CONFIRMED:** In these market conditions in Serbia it could not be said that competitiveness exist, especially taking on mind that SE Vojvodinašume before 10 years was part of SE Srbijašume. SE Srbijašume still has the strongest position on the market. This position is characterized by monopolistic acting and SE Vojvodinašume still following SE Srbijašume.

– State forest enterprises “Srbijašume” and “Vojvodinašume” pay attention on protective forest function and on that way contribute to sustainable forestry development. – **CONFIRMED:** Through researching it is noticed that both analyzed state forest enterprises give important significance to protective forest function. By Forest Law there are many tasks regarding protective forest function and state enterprises acting in accordance with that. In accordance with business years plan of SE’s is prescribed a lot of tasks and activities regarding this forest function what saying that state enterprises trying to enforce and improve this task.

### 6.3. Recommendations

Based on the strengths, weaknesses, opportunities and threats in SWOT analysis and after determination of attitudes of main forest policy actors on different questions, next business goals were set during the project of restructuring (2005):

– Develop a company oriented to the market and the buyers, for sustainable management of forests, other wooded land, and goods.

– Increase the profitability and increase the competitiveness at the European level; preparation for the European integrations.

– Increase the value and upgrade the state of natural resources and increase the area under forests.

– Take active responsibility for rural development, the population and the society in Serbia.

All of these mentioned aims can be applicable for situation today and steps in the future. The most important issue definitely should be reorganization on state forest enterprise Srbijašume in organizational model that will achieve better results of company with respecting the aims of sustainable forest management. Based on all research results and in accordance with current position of SE Srbijašume in forest policy sector in this part will be described possible suggestions and recommendations for future steps and business improvement.

As Austrian Federal Forests have created Balanced Scorecard (appendix 1), SE Srbijašume have to create the same in accordance with strategic of aims of sustainable forest management, based on economic, social and nature benchmarks. This kind of strategic tool is really helpful in every business strategy and it should be made as soon as possible. SE Srbijašume today miss development centre that would conduct research and development of all innovations, activities and projects and that is something what would improve this research – education task in state forestry enterprise.

Important department in every state enterprise becoming part of internal auditing department (SE Vojvodina have that department) and SE Srbijašume should create and make a space for it. With internal auditing department many business activities become easier and under the control of general director.

Part that is missing today too, is strong cooperation on international level by creating new connections with foreign companies and research institution. On example, European State Forest Association gives a
lot of opportunities for members of this association, based on changing experience and implementation the “best practices”.

What is surely important and was already mentioned is following EU trends in forestry and own position on the EU market, with new or improved products that can be competitive. Behind, wood production and sale; it should be improved competitiveness in hunting, NWFP, tourism, fishing and real estate especially on local level. Some of these activities definitely can request differentiate of products and more innovative specialized production (especially NWFP). By quality control, standardization and trademarks of mass products and different kind of certification systems for specialized products this business activity can be significantly improved. Territorial marketing is one form of effective support of such products.

In next period and surely in accordance with EU trends and market requests, it will be necessary to improve cooperation in SE Srbijašume on all levels ant not only in forestry sector, as well as to improve cooperation with other sectors (environment, economy, regional development etc.) All upcoming changes will require adequate market analysis so state enterprises will be able to answer on them properly in accordance with situation.

This master thesis representing one from the first researches on this topic on Balkan region and there is a need for a further researching with aim of sector improvement and better understanding of state forestry enterprises position on the market. It is important as well to connect this type of research, benchmark analysis, with other forestry economic analysis and studies in region.
7. REFERENCES

Development, Proceedings of the 10th International Symposium on Legal Aspects of European Forest
Sustainable Development, Sarajevo, Bosnia and Herzegovina
Serbia - the growing stock of the Republic of Serbia. MAFW-DF.Planeta print, Belgrade
Cerovic, D. (2000): Economy in transition, Faculty of Economics, University of Belgrade
Management, Serbia
Dulanovic, Z., Ondrej J. (2005): Organizational structure and changes, Faculty of Organizational Sciences,
University of Belgrade
and Commercial Law, Goteborg University
Elliot C., Schlaepfer, R. (2001): The advocacy coalition framework: Application to the policy process for the
development of forest certification in Sweden, Journal of European Public Policy
Education
Hill
Business Review
Management, pp. 5 – 10
Strategic Management, part I, American Accounting Association, Accounting Horizons, Vol. 15
Krott, M., Sutter, M., Kautz, R., and SWATONEK, C. (2003): Comparative analysis of forest institutional and
financing options for European transition countries, Report prepared for the World Bank
Kuric, D. (2010): Researching characteristics of controlling function in state owned forestry companies, Faculty of
Economics, University of Zagreb
Liden, E. (2005): Benchmarks for good work organizations and successful implementation processes, The
Swedish University of Agricultural Science, Department of Forest Products and Market, Uppsala
Masic, B. (2007) Strategic management – process and concept, University Singidunum, Belgrade
Milisavljevic, M., (2003): Modern strategic management, Megatrend University, Belgrade
forest engineers of Federation of Bosnia and Herzegovina, Sarajevo
Nonic, D. (2010): Organization and management in forestry, Faculty of Forestry, University of Belgrade
State Forest Management Enterprises in Serbia: Organization and Management Analysis


Todorovic, J., Djuricin, D., Janocevic, S., (2003): Strategic Management, Faculty of Economics, University of Belgrade


Wenisch, A., (2004): Science or Fiction, Austrian Institute of Ecology
REPORTS

EU, Project: Facility for SME’s and Capacity Building, Strategic Sectors under Analysis, 2007
Forest Law (1991)
State Enterprise „Srbijašume“(2010): 2010 Year Business Plan
World Bank (2004): The Environment Millennium Development Goals (MDGs)

WEB LINKS:

http://www.balancedscorecard.org
http://www.bundesforste.at
http://www.fao.org
http://www.forestryprojectserbia.org.rs
http://www.mpt.gov.rs
http://www.srbijasume.rs/
## 8. ANNEXES

### Annex 1. Balanced Scorecard – Austrian Federal Forest

#### New Sustainability Balanced Scorecard (SBSC) of ÖBfAG from 2010

<table>
<thead>
<tr>
<th>Strategic target</th>
<th>Factor affecting profit and loss</th>
<th>Key figures</th>
<th>Actual 08</th>
<th>Actual 09</th>
<th>Actual 10</th>
<th>target 2010</th>
<th>target 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Economy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable increase in economic value</td>
<td>Total profit and loss of ÖBfAG</td>
<td>Results from ordinary business activity before tax in million €</td>
<td>23.4</td>
<td>6.0</td>
<td>23.5</td>
<td>19.0</td>
<td>27.0</td>
</tr>
<tr>
<td>Reinforce own financing power</td>
<td>Operating Cash Flow</td>
<td>Operating Cash Flow before investments and before financing in million €</td>
<td>32.5</td>
<td>32.6</td>
<td>34.1</td>
<td>16.5</td>
<td>26.6</td>
</tr>
<tr>
<td>Secure and increase earnings power</td>
<td>Return on Sales (ROS) in own business</td>
<td>ROS (EBIT-margin) (\text{ÖBfAG} = \text{EBIT}/\text{operating performance (excl. affiliates)} \times %)</td>
<td>10.5</td>
<td>8.3</td>
<td>8.3</td>
<td>7.9</td>
<td>10.8</td>
</tr>
<tr>
<td>Customer relations</td>
<td>Satisfied customers</td>
<td>Customer satisfaction (annual survey)</td>
<td>2.18</td>
<td>-</td>
<td>2.21</td>
<td>≤ 2</td>
<td>≤ 2</td>
</tr>
<tr>
<td>Promote industry development by innovation</td>
<td>Research and development</td>
<td>R&amp;D Index of ÖBfAG (external + internal costs) 2003 = 100</td>
<td>169</td>
<td>122</td>
<td>147</td>
<td>200</td>
<td>180</td>
</tr>
<tr>
<td><strong>Society</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fulfillment of protective function</td>
<td>Realisation of specific protected forest projects</td>
<td>Number of projects based on the ÖBf protected forest strategy</td>
<td>77</td>
<td>83</td>
<td>80</td>
<td>75</td>
<td>85</td>
</tr>
<tr>
<td>Fulfillment of recovery function</td>
<td>Improvement of recovery function</td>
<td>Recovery offer indoor shopping basket of mountain biking (km), riding (km), cross country skiing (km), etc. 2003=100</td>
<td>117.3</td>
<td>117.8</td>
<td>119.1</td>
<td>118</td>
<td>120.9</td>
</tr>
<tr>
<td>Fulfillment of claims of beneficiaries of forest utilisation rights</td>
<td>Securing of forest utilisation rights</td>
<td>Allowable cut in encumbered operating classes/area. Feersvolume in wood in Efm as defined in deeds swing to beneficiaries of forest utilisation rights</td>
<td>4.02</td>
<td>4.00</td>
<td>4.03</td>
<td>4.40</td>
<td>1.60</td>
</tr>
<tr>
<td>Use and development of employee potential</td>
<td>Safety in the workplace</td>
<td>Number of accidents at work per 100 employees</td>
<td>8.27</td>
<td>9.45</td>
<td>7.5</td>
<td>≤ 9</td>
<td>≤ 9</td>
</tr>
<tr>
<td>Use and development of employee potential</td>
<td>Employee satisfaction</td>
<td>Employee survey up to 2008 annually, from 2009 every 3 years Evaluation scale 1-very positive to 5-very negative</td>
<td>2.07</td>
<td>-</td>
<td>-</td>
<td>≤ 2</td>
<td>≤ 2</td>
</tr>
<tr>
<td><strong>Nature</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustained development and use of the forest</td>
<td>Quantitative sustainability (forest)</td>
<td>Quantitative real value maintenance = balanced allowable cut and use in commercial forest/felling and use in commercial forest</td>
<td>0.70</td>
<td>0.77</td>
<td>1.11</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Sustained development and use of the forest</td>
<td>Qualitative sustainability by the use of stands which are ready to harvest (end use)</td>
<td>Falling structure and use = derived average value from age, sea level, slope, quality of location and activity group</td>
<td>-0.40</td>
<td>-0.50</td>
<td>-0.10</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Sustained development and use of the forest</td>
<td>Qualitative sustainability with management actions with timber production (previous use)</td>
<td>Falling structure previous use = derived average value from age, sea level, slope, quality of location and activity group</td>
<td>-0.60</td>
<td>-0.20</td>
<td>-0.20</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Sustained development and use of the forest</td>
<td>Achieving the stocking target</td>
<td>Stocking indicator carbonate locations = Proportion of trial areas on which decisive rejuvenation to achieve the stocking target is sufficiently present, in all trial areas in %</td>
<td>78.3</td>
<td>79.7</td>
<td>80.3</td>
<td>80.0</td>
<td>80.0</td>
</tr>
<tr>
<td>Sustained development and use of the natural environment</td>
<td>Targeted activities for the protection of nature active ecosystem management</td>
<td>Number of separate activities for the protection of nature per year</td>
<td>8/9</td>
<td>7/9</td>
<td>8/5</td>
<td>9/0</td>
<td>9/5</td>
</tr>
</tbody>
</table>

1) In 2009 no customer survey was carried out.
Annex 2. Questionnaire

1. Specify the institution where you are employed:
   a) Ministry of AFTWM – Directorate for Forests,
   b) SE Srbijašume/Vojvodinašume – General Directorate,
   c) SE Srbijašume/Vojvodinašume – Forestry entities.

2. Order by value (from your point of view) aspects of sustainable forests management: (1-the most important, 2-important, 3-the least important)
   a) Economic,
   b) Social,
   c) Ecological.
   Please, explain your opinion: ______________________________________________________
   ______________________________________________________________________________

3. Do you considering that state forest management organizations in Serbia are market oriented:
   a) Yes,
   b) Partly,
   c) No.
   Please, explain your opinion: ______________________________________________________
   ______________________________________________________________________________

4. Do you considering that in Serbia exists competitiveness between state forest management organizations in Serbia?
   a) Yes,
   b) Partly,
   c) No.
   Please, explain your opinion: ______________________________________________________
   ______________________________________________________________________________

5. Do you considering that today structure of PE is good organized and is not, why?
   a) Yes,
   b) Partly,
   c) No.
   Please, explain your opinion: ______________________________________________________
   ______________________________________________________________________________

6. Do you think that is possible decreasing of fixed costs regarding different organizational structure of forestry companies?
   a) Yes,
   b) Partly,
   c) No.
   Please, explain your opinion: ______________________________________________________
   ______________________________________________________________________________
7. Do you think that is necessary that SFMO have a profit?
   a) Yes,
   b) Partly,
   c) No.
   Please, explain your opinion: ______________________________________________________

8. Order activities by importance for achieving profit from your perspective:
   a) Timber production and sale,
   b) Non timber forest products,
   c) Tourism,
   d) Hunting,
   e) Fishing,
   f) Real estate,
   g) Other activities (explain in comment)
   ____________________________________________________________________________

9. Do you think that SFMO devote enough attention to protection function of forests?
   a) Yes
   b) Partly
   c) No
   Please, explain your opinion: ______________________________________________________

10. How you will describe social security of employees in your company?
    a) Great,
    b) Good,
    c) Bad.
    Please, explain your opinion: ______________________________________________________