

Analysis in the area of management and sustainable use of forests in RNIM

Skopje, 2023



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Project

CSOs Action for Climate

Implementers

Environmental Research and Information Center "Eco-Svest" Skopje, Macedonian Young Lawyers Association and Connecting Natural Values and People Foundation – CNVP

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Skopje, 2023



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LIST OF ABBREVIATIONS

GA – Gap Analysis

SFHI – State Forestry and Hunting Inspectorate

EU – European Union

EC – European Commission

ECtHR – European Court of Human Rights

ECHR – European Convention on Human Rights

ECJ – European Court of Justice

LF – Law on Forests

PENF – Public Enterprise “National Forests”

SFC – State Forest Company

MEPP – Ministry of Environment and Physical Planning

MoI – Ministry of Interior

MAFWE – Ministry of Agriculture, Forestry and Water Economy

RNM – Republic of North Macedonia

SIDA – Swedish International Development Cooperation Agency

PFOs – Private Forest Owners

FPD – Forest Police Department

FHD – Forestry and Hunting Department

CNVP – Connecting Natural Values and People Foundation



**“LOOK DEEP INTO NATURE
AND THEN YOU WILL
UNDERSTAND EVERYTHING
BETTER”**

ALBERT EINSTEIN

1. INTRODUCTION

This analysis was made within the framework of the project “CSOs Action for Climate”, supported by the Swedish International Development Cooperation Agency - SIDA, and implemented by the Environmental Research and Information Center “Eco-Svest” Skopje, the Macedonian Young Lawyers Association and the Connecting Natural Values and People Foundation – CNVP. The general objective of the project is to strengthen the role of civil society in the process of decarbonization, transformation and renewal of society, to create a clean environment, encourage the green economy and improve the health of citizens in the country.

1.1 Analysis structure

The analysis consists of three integral parts. The first part contains a mapping and legal assessment of the national and international legislation and regulation, to ensure a clear systematization of the relevant regulation and to identify the obligations of the state institutions related to the sector of management and sustainable use of forests. At the same time, this part also refers to the principles underlying the environmental protection, which derive from the practice of the ECtHR and the European Court of Justice - ECJ.¹ The authors have made an effort to select and analyze the most relevant cases of the topic under discussion. The language used in this section is clear and simple, while retaining the legalistic precision and consistency of the reasoning of the ECtHR and the ECJ. They aim to provide insight into the mechanisms available to civil society organizations and environmental activists with a special focus on forest protection.

The second part of the analysis focuses on the institutional set-up and functioning of the forestry sector. This part provides an overview of the key institutions, their competences, correlations, but also the challenges they face in the management and sustainable use of forests. The authors also provide an overview of the forestry sector, forest resources, their functions, as well as the forest planning, protection and forest management planning in North Macedonia.

The third part focuses on presenting a Matrix for assessing whether the foreseen strategies, plans and programs have been adopted and published and whether their implementation has adequate oversight. This Matrix or “Compliance Traffic Light” is a tool that should visually show the conditions in a certain entity, or in this specific case - the forestry sector, and has the purpose of showing the conditions in three areas: strategic compliance, organizational capacities and performance of tasks in order to achieve results in the forestry sector. This part of the analysis presents also the reform steps that have been taken in order to improve the situation in the forestry sector.

Finally, Annex 1 to this document shows the Model of Competitive Forces, which is an important tool used to analyze competitiveness in the industry, that is, in its specific sector. The authors have also performed a PESTEL analysis, which identifies and analyzes critical drivers of change outside the sector and it is an evaluation in order to consider the objective, characteristic or plans to improve the situation in this sector.

¹ The European Court of Justice interprets the law of the European Union (EU) and applies it in all its member states. The court resolves dispute between national governments and EU institutions, hence the Republic of North Macedonia as a future member will be under its jurisdiction from the moment of official membership in the Union. However, the case law of the ECJ is of great importance in the evolution and functioning of the EU, and judgments passed in the field of environmental protection will be applied in our country in the future

1.2 What is the aim of this analysis?

The following analysis has two goals:

1. The analysis in the area of management and sustainable use of forests should be a guidance on the national legislation to the civil society sector, which will improve the capacities of civil society organizations for advocacy and monitoring of legal processes related to this area. This goal is closely correlated with one of the specific objectives of the project to empower the civil society organizations to take part in climate related decision-making, and take local action through improving their capacities, knowledge and skills, and providing support to civil society organizations.
2. The second goal of the analysis is to increase the awareness not only of civil society organizations and the general public, whose rights are often violated indirectly through the unstoppable destruction of the environment, but also of the judicial, executive and legislative authorities, which should have a far greater and proactive role in the improvement of the conditions in the environmental protection.

1.3 Methodological approach

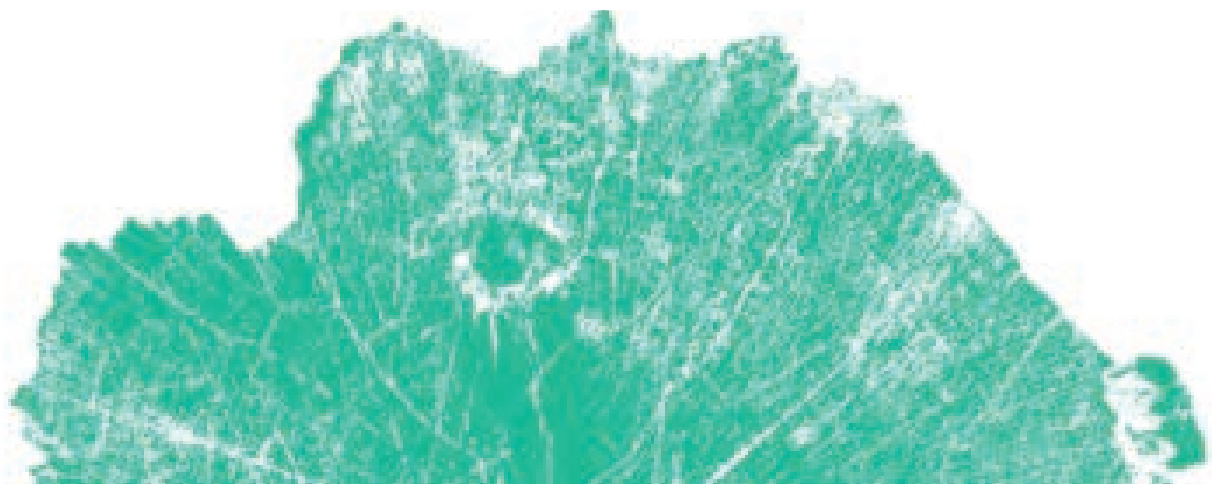
The research and preparation of the analysis were carried out in the period of July-September 2022.

The data contained in this analysis are documented by using the method of analysis and synthesis with a detailed description and pictorial representation of the research results. The comparative method was used to compare the data from the relevant documents with the data obtained from the practical functioning of the institutions of the forestry sector. A combination of comparative and descriptive method was used when comparing and describing the organizational structure of similar institutions in the country. The efficiency of the institutions was analyzed by monitoring statistical data on the operation of the institutions within the performance of their tasks in order to achieve the results for which they were founded and exist.

The data and findings presented in the analysis were obtained through the following data sources:

I. Relevant domestic and international documents

A large number of documents were analyzed, including: the Constitution of the RNM, relevant laws and by-laws in the area, strategies, plans, annual reports, work programs, as well as international sources with a special focus on the jurisprudence of the European Court of Human Rights and the European Court of justice.



II. Interview with the representatives of the forestry sector

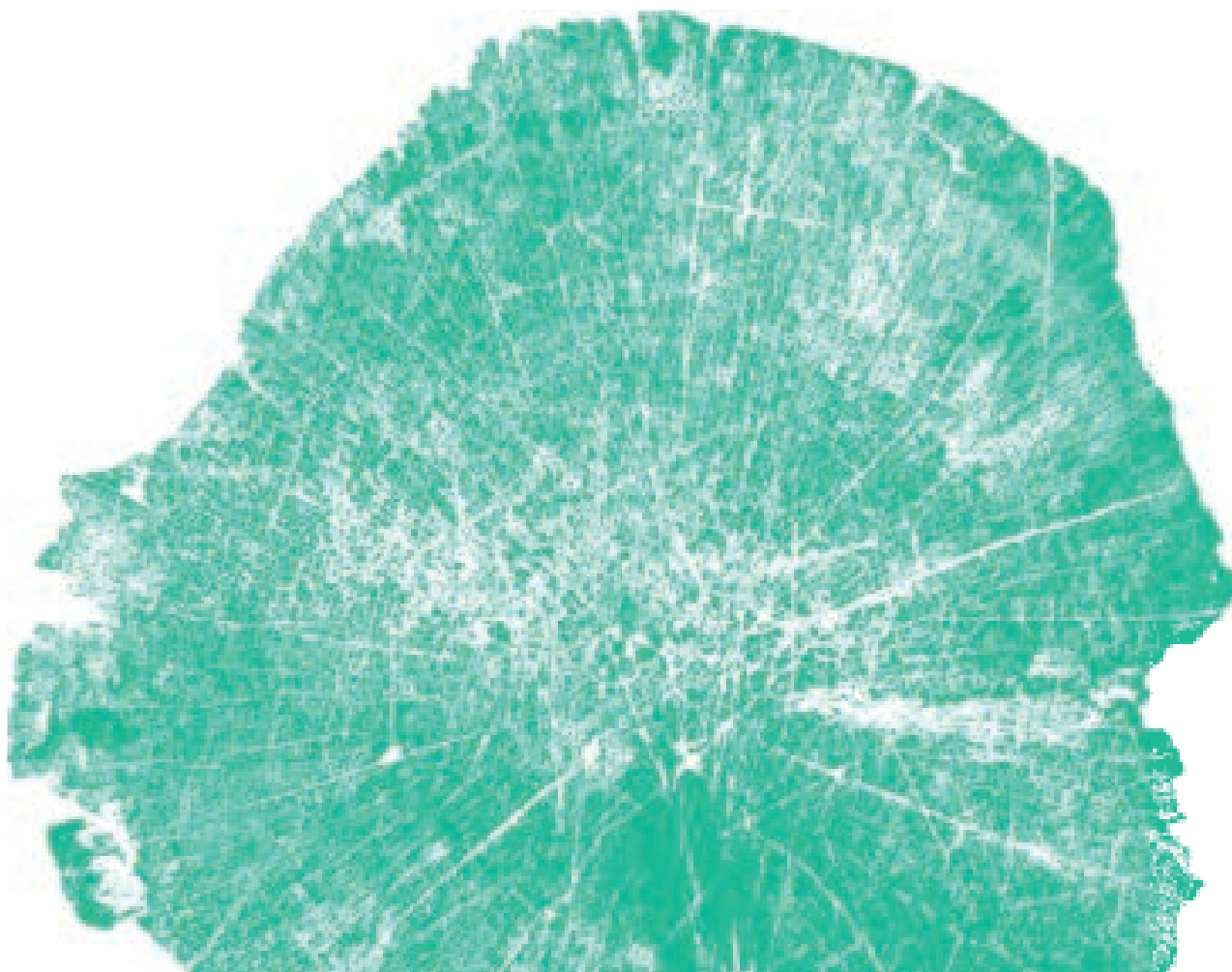
The direct interviews that were conducted have several objectives:

- A direct picture of the situation in the municipality is obtained through direct contact with the authorities and employees in the forestry sector;
- They represent a tool for synthesizing data and filling gaps that appear through other methods.

For the preparation of this Analysis, interviews were conducted with five people, actively involved in various areas related to the forestry sector: three with the title of graduated forestry engineer, one head of a local sector in the Ministry of the Interior and one doctor of forestry sciences, a long-time professor at the Faculty of Forestry Sciences, Landscape Architecture and Environmental Engineering "Hans Em" at UKIM in Skopje.

For the completion of the Analysis, the conversations with several engineers, forestry technicians, forest guards, workers and administrative workers employed in PE "National Forests" and national parks, employees in the non-governmental sector, forest police, members of the Mol, forest workers, owners and employees in private enterprises dealing with silvicultural activities and trade in wood and wood assortments, private forest owners, ecoactivists, as well as forestry engineers employed in other industries, were also important.

At the end of the research, the synthesis method was applied. By means of it, all individual findings and conclusions were summarized and a general finding was made regarding the good governance indicators. Recommendations were made on the basis of that finding.



2. RELEVANT DOMESTIC LEGAL FRAMEWORK

All the natural resources of the Republic, plant and animal life, general use goods, as well as objects and buildings of particular cultural and historical significance determined by law are goods of common interest for the Republic, thus having the benefit of special protection².

Forests as natural resources are a good of common interest for the Republic of North Macedonia, thus having the benefit of special protection. Planning, governance, management and guarding of forests and forest land are activities of public interest³.

These provisions of the **Constitution of the RSM and the Law on Forests** (OG of the RNM no. 64/09, 24/11, 53/11, 25/13, 79/13, 147/13, 43/14, 160/14, 33/2015, 44/2015, 147/2015, 7/2016 and 39/2016) clearly define that the Republic of North Macedonia views forests as a national wealth, a resource that provides material goods, but also many other benefits, as various protective functions, preservation of biological diversity, carbon dioxide absorption, oxygen production, water protection, mitigation of climate change and improvement of environmental quality. Forests fulfill productive, ecological and social functions, which are of great importance for the national economy and society, especially in rural and mountainous areas.

The **Law on Forests** and the corresponding by-laws regulate the common interest in forests, the public interest in forestry activities, the categories of forest ownership, governance, management, functions, purpose and more.

The law and accompanying by-laws are the basic framework which defines the common interest in forests, especially the planning, governance, management and guarding of forests as natural wealth and forest land, the exercising of common-benefit public forest functions, the right and obligations on forest utilization, financing, and other issues of importance to forests and forest land according to the principle of biological, economic, social and environmental acceptability.

The **Law on Forestry and Hunting Inspection**⁴ regulates the principles of inspection supervision, powers and organization of inspection supervision, position, working conditions, inspection supervision procedures and other issues related to inspection supervision. Such a special law on forestry and hunting inspection, in fact, speaks of the fact that forests and hunting are given more attention in the legislation of RNM. The law prescribes relative independence within the Ministry, as SFHI is responsible to the Government Inspection Council. As an additional exception in the RNM, is that the law allows inspectors to be authorized to carry firearms while it does not stipulate that the director of SFHI must possess a diploma of the Faculty of Forestry, which is not in accordance with the Law on Forests and the needs of the forestry profession for that position. The Law on Forestry and Hunting Inspection does not contain a provision for mandatory cooperation of the forestry inspection with the forest police, nor with the forest guarding service of the entities that manage state-owned forests, so this is one of the systemic reasons for the overall inefficiency of the joint function of forest oversight, guarding and control.

² Constitution of the Republic of North Macedonia, Article 56, paragraph 1

³ Law on Forests, Official Gazette of RNM* *no. 64/09, 24/11, 53/11, 25/13, 79/13, 147/13, 43/14, 160/14, 33/15, 44/15, 147/15, 7/16 and 39/16)

⁴ As of 2008, with the amendments until 2018

There are several regulations that are intertwined in their spheres of interest, which are also interesting for this analysis. **The Law on forest tree species reproductive material**⁵ regulates the issue of recognition of the basic material, production, sales and use of forest and decorative tree species reproductive material. This law is considered to be partially compliant with the EU Directive 105/1999 on the sales of forest reproductive material and contains the appropriate legal basis for the regulation of the reproduction of the forests and genetic resources of the country.

The **Nature Protection Law**⁶ regulates the nature protection through biological and landscape diversity protection and natural heritage protection, in protected areas and outside protected areas, as well as the protection of natural rarities, and at the same time in terms of the use of natural resources for economic purposes, in addition to the provisions of this law, the provisions of special laws also apply. The principle of biological diversity integration in the natural resource management sectors and the principle of cooperation with the sectors are not yet adequately included in the relevant provisions of the Law and the practice. The law does not contain specific provisions that refer to forests, but only provisions that refer to the Law on Forests.

The **Hunting Law**⁷ regulates the breeding and protection of game, hunting management planning, the management of hunting grounds and game therein, hunting activities and procedures and the use of game. The law is almost fully compliant with the EU Birds and Habitats Directives. The concession system for hunting management provided for in the law draws inspiration from the Montenegrin and Slovenian solutions. The main problem identified for the implementation of the Law is the commercialization of hunting concessions, which are granted mainly to private legal entities, which indirectly causes excessive pressure on game populations that are hunted with firearms. This threatens the sustainability status of populations and the conservation of species.

The **Law on the Environment** regulates the rights and duties of the Republic of North Macedonia, the municipality, the city of Skopje and the municipalities in the city of Skopje, as well as the rights and duties of legal entities and natural persons, in providing conditions for the environmental protection and improvement, for the purpose of realizing the citizens' right to a healthy environment, whereby in addition to the provisions of this law, the provisions of the laws on separate environmental media and areas are also applied (hereinafter: special laws) on protection and improvement of the quality and condition of the environmental media: soil, water, air; on the environmental areas, biological diversity and other natural resources, as well as the ozone layer protection and protection against the negative influence of man on the climate system.

The **Law on Agriculture and Rural Development** provides for investments in forestry and other forests and wood-related investments under two measures: "Forest economic value improvement" and "Agriculture, forestry and water economy development infrastructure investments".

Of the other regulations, **the Criminal Code, the Law on Public Sector Employees, the Law on Administrative Officers, the Law on Public Enterprises, the Law on Trade Companies**, etc. should be mentioned.

⁵ As of 2007, amended in 2011 and 2016

⁶ As of 2004, with the amendments from 2006 to 2013. By the adoption of the Law, the Law on National Parks (1980, with the amendments in 1990 and 1993) ceased to be valid.

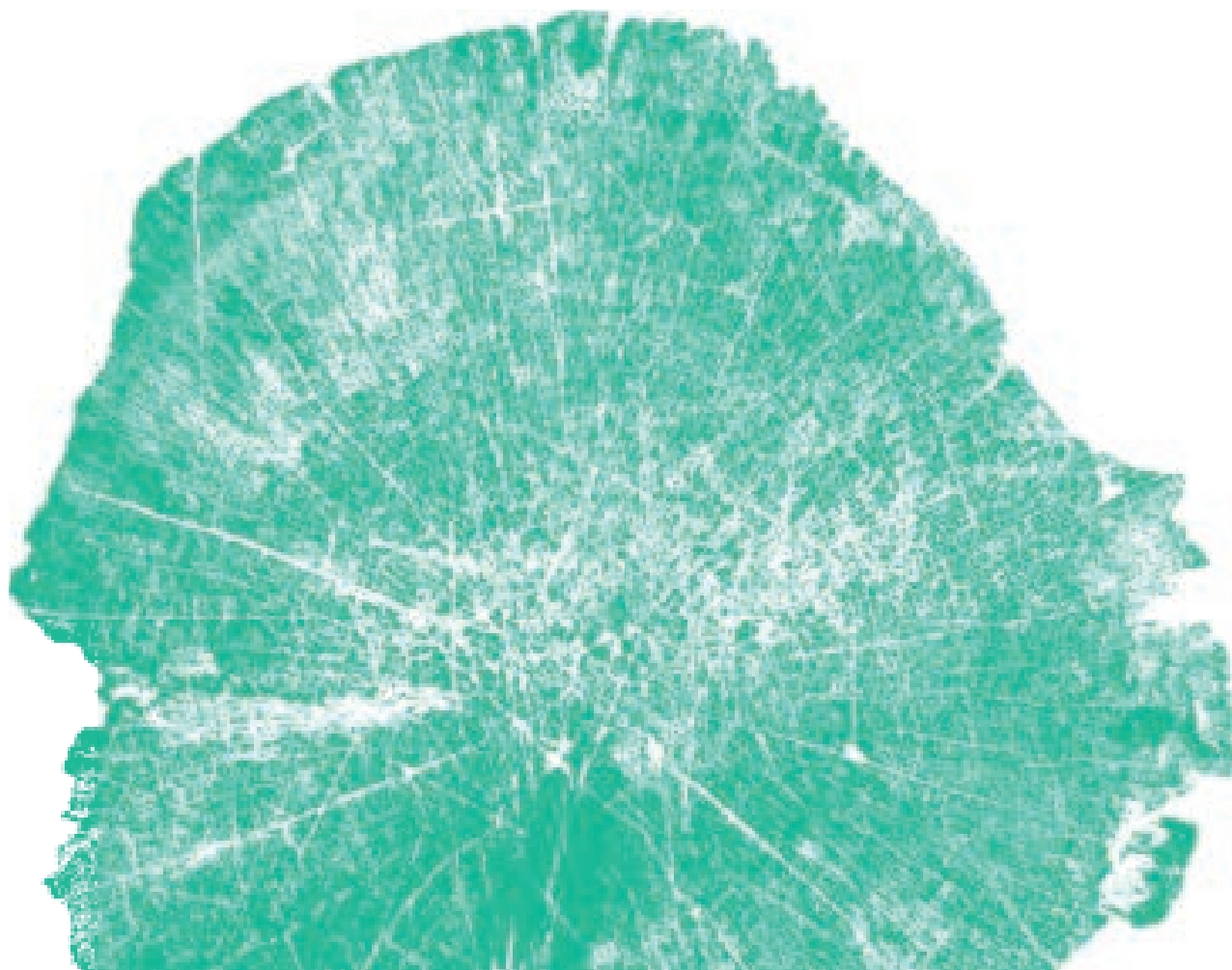
⁷ As of 2009, additionally amended in 2011, 2012, 2013 and 2015

At the moment of preparing the analysis, the following more important draft laws are in various levels and stages of preparation:

New Forest Law. The new law should summarize the results of the institutional reforms in forestry and it is a response to the requirements for implementing the relevant EU legislation. The new law on forests should respect the rights of ownership and management of forests of PFOs according to European standards (which is not the case now) and be based on democratic, market and social principles. Their legal obligations should be set in a proportionate and feasible manner, as well as to respect the appropriate balance between the advisory and sanctioning role of the state.

New Forest Agency Law. According to the legislative practice of the Republic of North Macedonia for establishing and defining the basis for certain ministerial or governmental bodies or services by special laws, such as the State Forestry and Hunting Inspectorate, the same practice can be expected for the new forest agency. This will be especially the case if the Forest Agency follows the fully integrated model, that is, if it includes the forestry and hunting inspection, the forest police and the forest guarding service. In that case, only the responsibility of the Agency will be regulated by the Law on Forests, whereas the tasks and other issues will be part of the new Forest Agency Law. Consequently, the Law on the Organization and Operation of the State Administration Bodies should be adapted accordingly.

Based on the above mentioned, it can be concluded that the legal framework in this sector abounds with a multitude of regulations, some of which are directly related to the sector, and some of which gravitate and are indirectly related to the forestry sector. Although to a certain extent there is complementarity of all these regulations, it often results in overlapping, but also in collision of legal norms between two or among more regulations governing different segments of the protection, management and sustainable use of forests.



3. INTERNATIONAL ENVIRONMENTAL PROTECTION MECHANISMS

3.1 The role of the European Court of Human Rights and the European Court of Justice in environmental protection

This part of the analysis examines the case law of the two regional courts – the European Court of Human Rights (hereinafter: ECtHR) and the European Court of Justice of the European Union (hereinafter: ECJ), which refers to the relationship between human rights and the environment.

ECtHR case law and EU law do not expressly recognize a right to a healthy environment. However, a significant body of jurisprudence and legislation has been developed to protect individuals from the risk of a hazardous environment. This is generally not about protecting the environment itself, but about protecting individuals and their interests, including their privacy, home and well-being. A healthy environment can be understood as a prerequisite for enjoying the rights protected by the European Convention on Human Rights. The EU's high environmental standards also contribute to guaranteeing a healthy environment for the enjoyment of human rights.

3.1.1 ECtHR and its importance in environmental protection

In recent years, there has been a growing trend for people and organizations also using Europe's unparalleled human rights protection system to help tackle environmental problems.

A large number of international legal standards developed by the Council of Europe - notably the European Convention on Human Rights, the European Social Charter and the Berne Convention on the Conservation of European Wildlife and Natural Habitats - have been successfully invoked to help make progress on environmental issues⁸.

The European Court of Human Rights has so far ruled in around 300 environment-related cases, applying concepts such as the right to life, freedom of speech and family life to a wide range of issues including pollution, man-made or natural disasters and access to environmental information.

⁸ <https://www.coe.int/en/web/portal/human-rights-environment>

The European Convention on Human Rights has also been used by campaigners at national level to encourage governments to take further steps to tackle climate change and the degradation of natural environment.

3.1.2 Environmental factors that can influence the individual rights of ECHR

The European Convention on Human Rights does not provide for a specific right to a healthy environment. However, the case law of the Court indicates that a wide range of factors can have influence and impact on individual Convention rights, such as airport noise, industrial pollution, air and water pollution, landfills, etc. Environmental factors may affect individual Convention rights in three different ways:

1

Human rights protected by the Convention may be directly affected by adverse environmental factors

(For example, toxic odors from a landfill, factory, etc. can have a negative impact on the health of individuals)

2

Adverse environmental factors can lead to certain procedural rights of affected individuals

3

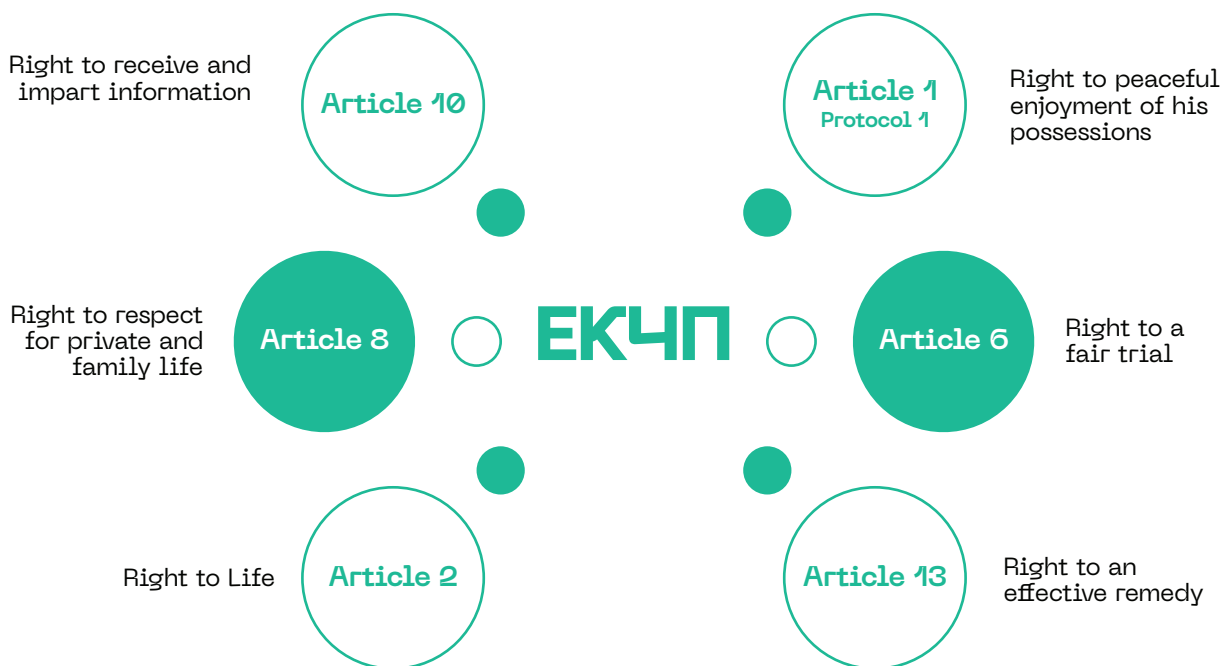
Protection of the environment may be a legitimate objective which in appropriate cases justifies the limitation of certain rights, including the right to private life and the right to property



3.1.3 The scope of application of the European Convention on Human Rights in environmental protection

The European Convention on Human Rights does not enshrine any special right to a healthy environment, however the ECtHR has accepted indirect recognition of environmental issues when protecting fundamental rights of the Convention. Over the years, the ECHR has shown great creativity in using a greater number of articles of the Convention in the direction of environmental protection. In this sense, the ECtHR finds application of the Convention in its case law and addresses issues related to the environment in the case of various sources of pollution, ranging from noise protection, to various forms of industrial pollution, nuclear activities, waste management, urban development, to natural disasters and floods, and addresses the risk of injury, and not only the application of the Convention for already materialized damages.

The ECHR Court practice refers to issues related with environment as components of the following Articles from the Convention:



The infographic shows the range of Convention articles use in cases where the ECtHR addresses environmental issues. Based on the analyzed practice, it may be concluded that out of the ECtHR interpretation of **Article 1 of Protocol No. 1** follows that the protection of the individual right to peaceful enjoyment of possessions may require public authorities to ensure certain environmental standards, which implies not only the duty of public authorities to not interfere, but positive measures may be required to protect this right, especially when there is a direct connection between the measures that the applicant may legitimately expect from the authorities and his effective enjoyment of his possessions.

The ECtHR considers **Article 2** as determinant for realization of others' rights in the Convention. The Court is restrictive, however, in considering Article 2 for environmental issues. There are only a few cases where the Court has found a violation of Article 2 in this context, namely where the applicants have been exposed to dangerous activities or natural disasters.

For the application of **Article 6** in the context of environmental protection, for the ECtHR there must be a sufficiently direct link between the disputed environmental problem and the civil right that is claimed to have been violated. Regarding the procedural right to an effective legal remedy (Article 13), this article is often used in correlation with other articles of the Convention, more specifically in situations where the right to life has been violated due to environmentally harmful activities (Article 2); the right to respect for private and family life (Article 8) or the right to property (Article 1 of Protocol No. 1), and the applicant claims that he had no effective legal remedy available to protect those rights within the framework of domestic law.

Article 8 of the Convention is the principle instrument used by the Court for the protection of environment, and considerable jurisprudence has been developed on this issue based on that Article. This Article is interpreted less restrictively than the interpretation of Article 2 of the Convention. According to the Court, the right to respect for the home does not only include the right to the actual physical area, but also to the quiet enjoyment of this area within reasonable limits, which is significant, especially in cases related to the high level of noise, which violates this very aspect of enjoyment of the right arising under this article. Therefore, the Court has accepted variety of sources of infringements of Article 8, namely it can include different types of pollution: air pollution⁹, noise¹⁰, nuclear impact¹¹, water supply pollution¹², use of pyrotechnics¹³, etc.

Article 10, which protects the right to receive and disseminate information on matters of general public interest, is most often used in situations related to the freedom of expression of persons and organizations engaged in environmental protection. Public authorities cannot restrict a person's right from receiving information on environmental risks and damages from associations or individuals that wish to disseminate it to the public, and restrictions by authorities in this section are possible as long as they are prescribed by law and follow a certain legitimate aim.

The application of **Article 3** by the ECtHR in the context of the environment is interesting. The Court has examined cases in which individuals have submitted that pollution or environmental nuisances to which they have been exposed constitute a violation of Article 3. In many such cases, the Court has ruled that the threshold of seriousness for the applicability of that provision has not been established. However, it would be useful to review the case law on conditions of detention in this context. Based on that case law, it follows that the exposure of a prisoner to pollutants, environmental nuisances or a polluted prison environment is at least a factor that should be taken into account when evaluating cases in terms of Article 3 of the Convention. In virtually all cases in question, secondhand smoke has been combined with other physical factors such as overcrowded and unsanitary conditions.¹⁴

⁹ ECtHR, *Surugiu v. Romania*, 20 April 2004, 48995/99; ECtHR, *Öneriyildiz v. Turkey*, 30 November 2004, 48939/99; ECtHR, *Brândușe v. Romania*, 7 April 2009, 6586/03; ECtHR, *Guerra and others v. Italy*, 19 February 1998, 14967/89; ECtHR, *Fadeyeva v. Russia*, 9 June 2005, 55723/00; ECtHR, *Giacomelli v. Italy*, 2 November 2006, 59909/00; ECtHR, *Bacila v. Romania*, 30 March 2010, 19234/04; ECtHR, *Dubetska and others v. Ukraine*, 10 February 2011, 30499/03.

¹⁰ ECtHR, *Deés v. Hungary*, 9 November 2010, 2345/06; ECtHR, *Moreno Gomez, v. Spain*, 16 November 2004, 4143/02; ECtHR, *Hatton and others v. United Kingdom*, 8 July 2003, 36002/97.

¹¹ ECtHR, *McGinley and Egan v. United Kingdom*, 9 June 1998, 21825/93 & 23414/94; ECtHR, *Tatar v. Romania*, 27 January 2009, 67021/01.

¹² *Dzemyuk v. Ukraine*, 4 September 2014, 42488/02.

¹³ ECtHR, *Zammit Maempel v. Malta*, 22 November 2011, 24202/10.

¹⁴ *Види (Florea v. Romania)*, 2010, § 50-65; *Pavalache v. Romania*, 2011, §§ 87-101; *Vasilescu v. Belgium*, 2014, §§ 88-107; *Sylla and Nollomont v. Belgium*, 2017, §§ 35-42)

3.1.4 The ECtHR jurisprudence with a focus on forest protection

Of the multitude of judgments through the prism of the interconnection between the right to a healthy environment and its protection, the public interest and civil rights and individual interests, it reflects its position in relation to these balances through the following sentences that have the protection of forests in their narrower focus:

Papastavrou and Others v. Greece 10 April 2003

In this case, the 25 applicants and the authorities were in dispute over the ownership of a plot of land. In 1994, the prefect of Athens decided that the area, including the disputed plot, should be reforested. The appellants challenged that decision before the State Council. Their appeal was rejected on the grounds that the prefect's decision only confirmed the previous decision made by the Minister of Agriculture in 1934 for them to be afforested. The applicants claimed that their property was effectively expropriated without any compensation being paid to them and argued that no public interest could justify such a drastic restriction of their property rights, given that any reforestation of the land was impossible due to the type and quality of the soil.

The court decided that there was a violation of Article 1 of Protocol no. 1. It particularly considered that the authorities were wrong to order the afforestation measure without first assessing how the situation had evolved since 1934. In dismissing the appellants' appeal only by an explanation that the prefect's decision merely confirmed an earlier decision, the State Council failed to adequately protect the rights of the property owners, especially since there was no possibility of obtaining compensation under Greek law.

Turgut and others v. Turkey 8 July 2008

The case concerned a plot of land of more than 100,000 square meters, which the applicants claimed has been owned by their families for more than three generations. The applicants appealed against the Turkish courts' decision to register the land in the name of the Public Treasury on the grounds that the land was a public forest, without paying them any compensation.

The court considered that there was a violation of Article 1 of Protocol no. 1 of the Convention. Especially recalling that the protection of nature and forests, and the environment in general, is a matter of considerable and constant concern for public opinion and consequently for public authorities, and that economic imperatives, and even certain fundamental rights, including the right to property, should not be placed before considerations relating to environmental protection, in particular when there was legislation on the subject. However, the court reiterated that taking property without payment of an amount reasonably related to its value normally constituted a disproportionate interference, and a total lack of compensation could be considered justifiable only in exceptional circumstances. In the present case, the appellants had not received any compensation for the transfer of their property to the Treasury. Nor had Turkish Government relied on any the exceptional circumstances in order to justify the lack of compensation. Accordingly, the Court considered that the failure to award the applicants any compensation had upset, to their detriment, the fair balance that had to be struck between the demands of the general interest of the community and the requirements of the protection of individual rights.

3.2 The European Court of Justice (ECJ) and its importance in environmental protection

Environmental protection is codified in Article 37 of the Charter of Fundamental Human Rights of the European Union and reads: “A high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development”¹⁵. By this article, environmental protection practically gained significance for human rights in the legal context of the EU.¹⁶

Although in Article 37 the Charter codifies “a high level of environmental protection” and “improvement of the quality of the environment” as part of the EU’s corpus of fundamental rights protection, it does not guarantee a specific right to a healthy environment.¹⁷ It is quite clear that this article only repeats the provisions of other instruments of EU law and that it exclusively refers to the environmental policies of the Union. More specifically, it has the status of a principle and not a subjective right, which, according to the Charter, means that it has limited judicial applicability. There are no its individual users, but only obligations to the member states. As a result, it is of limited use to individuals and non-governmental organizations seeking to encourage environmental action through the courts.

The application of Article 37 in ECJ jurisprudence in the implementation of Charter rights shows that consideration of the environment appears in two specific contexts:

 **Justifying violation**
Justification of violation of other rights from the Charter

Validation
Validation of the environment along with other rights from the Charter



¹⁵ https://ec.europa.eu/info/index_en

¹⁶ Bogojević, Sanja, EU Human Rights Law and Environmental Protection: The Beginning of a Beautiful Friendship? (May 30, 2014). S. Douglas-Scott and N. Hatzis (Eds.) EU Human Rights Law, Edward Elgar Publishing, 2014, Available at SSRN: <https://ssrn.com/abstract=2475334>, p.2.

¹⁷ Article 37 of the Charter reads: “A high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development”, Povelba.indd [europa.eu]

3.2.1 ECJ jurisprudence with a focus on forest protection

Forests and their protection, as a global good, are viewed with great attention, to such an extent that the European Union through its legislation has strict rules on how to deal with them. In several cases in the past period, attention has also been paid in view of judicial protection. One of the most striking is the case of the Białowieża, a protected forest in Poland.

Poland: C-441/17, Commission v Poland, 17 April 2018 (Białowieża)

Białowieża Forest is a protected site, a UNESCO World Heritage Site and features one of Europe's last primeval woodlands. In March 2016, the Polish authorities adopted a decision allowing for a three-fold increase in logging operations in its district, as well as for logging in areas so far excluded from any intervention. Later in the year, the European Commission launched an investigation into logging in this forest, and in July 2017 decided to refer Poland to the Court of Justice of the European Union (CJEU).

An interim measure was put in place on 27 July 2017, ordering the country to cease active forest management operations. On 20 February 2018, the Court's Advocate General issued an Opinion which considers forestry management decisions taken by Poland concerning this site to infringe EU law, as those decisions are necessarily liable to result in a deterioration of the breeding of protected species. On 17 April, the judgment of the Court of Justice confirms the previous Opinion, arguing that Poland had failed to fulfil its obligations under the "Habitats and Birds Directives".

Italy: C-304/05, Commission v. Italy, 20 September 2007 (Santa Caterina Valfurva Skiing Area)

This case concerned the expansion of the skiing area for the 2005 World Alpine Ski Championships, which included in particular the expansion of the Edelweiss run, in the SPA Parco Nazionale dello Stelvio. The park hosts a number of Annex I Birds Directive species as well as migratory birds.

In October 1999, a proposal for improvement of the Santa Caterina skiing area and its facilities was lodged to the regional authorities with a view to holding of the 2005 World Alpine Skiing Championships. It provided for the creation of a corridor in a forest area for the ski runs and the construction of a cable car, a chairlift, a departure station, a ski stadium and a car park, modification to the Edelweiss run, construction of a bridge, refuge, service routes, programmable artificial snow machines and of depot for vehicle.

In May 2000, the Region of Lombardy, on the basis of a study carried out by the project's architect, gave a favorable opinion with regard to the environmental compatibility of the project, subject to compliance with several general and specific conditions. The study concluded that the environmental impact and the resulting measures were examined only in a summary manner, but that a morphological and environmental recovery project, dealing with replanting of the area once the work was completed, was necessary.

In September 2000, the Region of Lombardy instructed the Research Institute for Applied Ecology and Economics in Alpine Regions (IREALP) to draw up a report on the environmental impact assessment of the project. The 2002 report does not contain an exhaustive list of the wild birds present in the area and refers to key areas that are in progressive development with further knowledge provided through the implementation of the project.

In February 2003, almost 2,500 trees were felled in an area 50 meters wide and 500 meters long, the effect of which was to completely fragment the habitat of the birds present on the site. In December 2003, the Commission gave Italy a formal notice, followed by a reasoned opinion in July 2004.

6(2) – (4) HD и чл. 4(1) и (2) БД. After Italy's referral to the ECJ, the Commission asked the Court to decide that, in relation to the project for the development of skiing, Italy did not fulfill its obligations under Art. 6(2) – (4) HD and Art. 4(1) and (2) BD.

The court considered both the 2000 study and the 2002 report as insufficient for a proper assessment under Art. 6(3), because they do not take into account all the necessary considerations and they point out the need for additional analysis. Therefore, “both the 2000 study and the 2002 report have gaps and lack complete, precise and definitive findings and conclusions capable of removing any reasonable scientific doubt as to the effects of the proposed papers on the SPA concerned”. Given that 2,500 trees were felled, destroying the breeding grounds of protected species, the conclusion is inevitable that:

- the works and their repercussions on SPA were incompatible with art. 6 (2) HD;
- by authorizing measures likely to have a significant impact on the Special Protection Area IT 2040044, Parco Nazionale dello Stelvio, without making them subject to an appropriate assessment of their implications in the light of the area's conservation objectives;
- by authorising such measures, without complying with the provisions that allow a project to be carried out, in spite of the negative assessment of the implications and in the absence of alternative solutions, only for imperative reasons of overriding public interest, and then only after adopting and communicating to the Commission of the European Communities all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected;
- by failing to adopt measures to avoid the deterioration of natural habitats and habitats of species and the disturbance of species for which SPA IT 2040044, Parco Nazionale dello Stelvio is designated.

Thereby, the Italian Republic has failed to fulfil its obligations under Article 6(2) to (4) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and wild fauna and flora, in conjunction with Article 7 of that directive and under Article 4(1) and (2) of Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds.



3.3 The role, approach and differences between ECHR and ECJ in environmental protection

In the national context, the analysis indicates that the application of obligations to states would seriously contribute to strengthening environmental protection. What is noticeable is that the already developed ECtHR case law is potentially applicable in many situations in which environmental pollution violates the rights of the citizens of our country. In terms of EU legislation, it will be necessary to continue harmonizing the legal order of North Macedonia with EU standards in the area of environmental protection.¹⁸ The strengths, opportunities, and challenges in applying the case law of the European Court of Human Rights versus the European Court of Justice are illustrated below.

ECHR compared to ECJ



¹⁸ Chapter 27 is one of the most complex and requires great coordination and commitment efforts of the administration at the central and local level in order to meet the clearly stipulated criteria.

4. BODIES AND INSTITUTIONAL SET-UP OF THE FORESTRY SECTOR

4.1 WHO IS WHO – Institutional set-up and functioning of the forestry sector

The state implements its forestry policy through the **Ministry of Agriculture, Forestry and Water Economy**, in which forestry is represented through three internal organizational bodies:

The Forestry and Hunting Department (FHD) as the highest authority for forestry and hunting, which functions as a dependent organizational unit, with a total of 14 employees, headed by the State Advisor for Forestry and Hunting. This department determines the medium-term and long-term policy for forestry and hunting development, participates in the drafting of laws and by-laws regarding the forest and game governance and management, monitors the work of entities that manage forests and game on the territory of the state, directly takes care of the development, utilization, protection and improvement of forests and game by approving special forest management plans and special hunting management bases. The department takes care of the legal, efficient, high-quality and timely execution of forestry and hunting activities, monitors the management of privately owned forests, establishes hunting grounds and assigns them to be managed in a special procedure, prepares proposals for the establishment of hunting grounds and proposes entities for the use of game in the hunting grounds in a special procedure, prepares and submits to the Government an annual program for the expanded forest reproduction and takes care of its implementation, prepares and submits to the Government an annual report on the implementation of the program for expanded forest reproduction in the previous year, decides in an administrative procedure on issues in the forestry and hunting area, prepares analyses and information on the situation in forestry and hunting for the needs of the Government and the Assembly of the Republic of Macedonia, maintains contacts with other domestic and foreign authorities, institutions and entities, and gives proposals and opinions on the problems of the forestry and hunting area.¹⁹ It is organized in four departments:



Department for arrangement and use of forests



Department of Forestry and Afforestation



Department of Forest Protection from Biotic and Abiotic Factors



Department for hunting.

- Arranging hunting grounds and providing game for use

- Concession

¹⁹ <http://www.mzsv.gov.mk/CMS/Upload/docs/jdi/%D0%9F%D1%80%D0%B0%D0%B2%D0%B8%D0%BB%D0%BD%D0%B8%D0%BA%20%D0%B8%20%D0%9E%D1%80%D0%B3%D0%B0%D0%BD%D0%BE%D0%B3%D1%80%D0%B0%D0%BC%20%D0%B7%D0%B0%20%20%D0%BE%D1%80%D0%B3%D0%B0%D0%BD%D0%B8%D0%B7%D0%B0%D1%86%D0%B8%D1%98%D0%B0.pdf>

By this set-up in the Ministry, the Forestry Department is not in a position to impose a stronger influence on decision-making, administration functions, control and oversight within the framework of the unified forestry policy and strategy. It is necessary to raise it to the directorate level, with greater decision-making power and influence in decision-making in the general forestry policy and strategy.

The State Forestry and Hunting Inspectorate (SFHI) as a directorate in the Ministry executes the activities related to the inspection supervision of the application of legal regulations and by-laws of the Law on Forests, the Hunting Law, the Law on forest tree species reproductive material, the Law on protection of plants from diseases and pests, and other legal regulations that are closely related to this issue. The activities within the scope of work of the State Forestry and Hunting Inspectorate are carried out through the Forestry and Hunting Department, one section for professional and administrative affairs and five regional sections. The inspectorate employs 19 inspectors, with a bachelor's degree in forestry - 17 are forestry inspectors and 2 are hunting inspectors. It is headed by a director.

SFHI operates independently, without benefiting from the synergy with the Forestry Police and Forest Guarding Service, and it is also limited in its efficiency. Weak technical and personnel preparedness and political influences make it difficult to fight against widespread systemic corruption in forestry, where it is practically powerless.

The **Forest Police Department (FPD)** functions as a subordinate unit of the Ministry and fights illegal forest and timber trade activities by police controls and patrols. According to the 2015 Rulebook on the organization of the MAFWE, it carries out study, analytical, information-documentation activities and tasks in the area of protection of state-owned and privately owned forests, participates in drafting of laws and accompanying legal acts related to forest protection, prepares analyses and information on the situation of forest protection for the needs of the Government and Assembly of the Republic of Macedonia, prepares an annual report on the operation of the forest police, organizes and establishes cooperation with other competent authorities, departments and administrations. The department is organized in a Central organizational unit, supported by a Section for professional and administrative affairs and a Section for internal control, which is located in the building of the MAFWE in Skopje and 30 forest police stations throughout the RNM.

According to the Law on Forests (Article 81), the Forest Police carries out control and patrol guarding of the state-owned and privately owned forests. The budget provides funds for financing the forest police. Members of the forest police are especially authorized to:

- **guard the forest;**
- **intervene;**
- **prevent and identify or detain persons caught committing offenses punishable under this law or criminal acts relating to forests or for which there is a reasonable doubt for their involvement in such activities;**
- **inspect all vehicles used to transport or transfer wood and other forest products, at all places where the wood and other forest products are stored;**

- carry out temporary confiscation of objects and means used to commit a crime or misdemeanor and the objects that arose or were appropriated by committing such a crime;
- monitor and report on the condition of forests in relation to illegal felling and forest theft, forest fires, plant diseases, forest pests, as well as other disasters and notify the competent authorities about the illegal appropriation of forests and forest land, and initiate proceedings against the offenders before the competent authority.

All entities managing the forests, other legal entities and citizens, who are obliged to enable members of the forest police to exercise their powers are subject to control by the forest police.

The Forest Police Department has a total of about 400 employees, of whom over 95% are in the forest police stations. Forest police officers must have at least a secondary education and do not have to come from a forestry profession, and commanders of forest police stations must have graduated from the Faculty of Forestry. There is a head of the department with a bachelor's degree in forestry. On average, it processes around 1,400 cases of illegal logging and transport per year.

The Forest Police is a special police service, which is a unique example in the Republic of North Macedonia, and there is no information that such service does exist in any other country. It deals mainly with minor illegal cases, whereas the major ones are generally not dealt with. The cooperation with the Mol, the forestry inspection and the forest guarding service is at a low level, which contributes to the limitation of its efficiency.

A senior official within the FPD, with 24 years of experience in the Forest Police, in a conversation about the situation with forest crime and the institutions' fight against it, stated that it could not be concluded that only the Forest Police is inefficient, because inefficiency is everywhere, throughout whole society. He has pointed out the weak cooperation and pronounced corruption in the Mol, the prosecution, the judiciary, PENF. Many reports against natural persons, legal entities, and even against responsible persons employed by PENF have not been processed or they have been finalized with minimal penalties. The fact is that in the first years of its establishment, the Forest Police showed great success in its operations. The Forest Police had remarkable results. In the first six months of its establishment in 1998, the Gostivar FPS alone had seized over 300 m³ of illegally logged timber and filed at least two or three reports against various offenders almost every day. A large part of the offenders who have been reported many times are still engaged in illegal wood trade, which means that the repression has not demotivated them in their illegal activities.



The motivation of members of the FP was almost justifiably low due to low salaries and poor equipment. In April 2021, after 12 years, new uniforms and shoes were purchased, and a new collective agreement was signed, by which the salaries of members of the Forest Police were increased by 30%. The basic net salary of a forest police officer today is about 20,000 denars, which also includes allowances for work on Sundays, work on holidays, work in the night shift and work in shifts, so the net amount reaches 25-30,000 denars. For the commanders of the Forest Police Stations, this amount reaches from 35 to 40,000 denars.

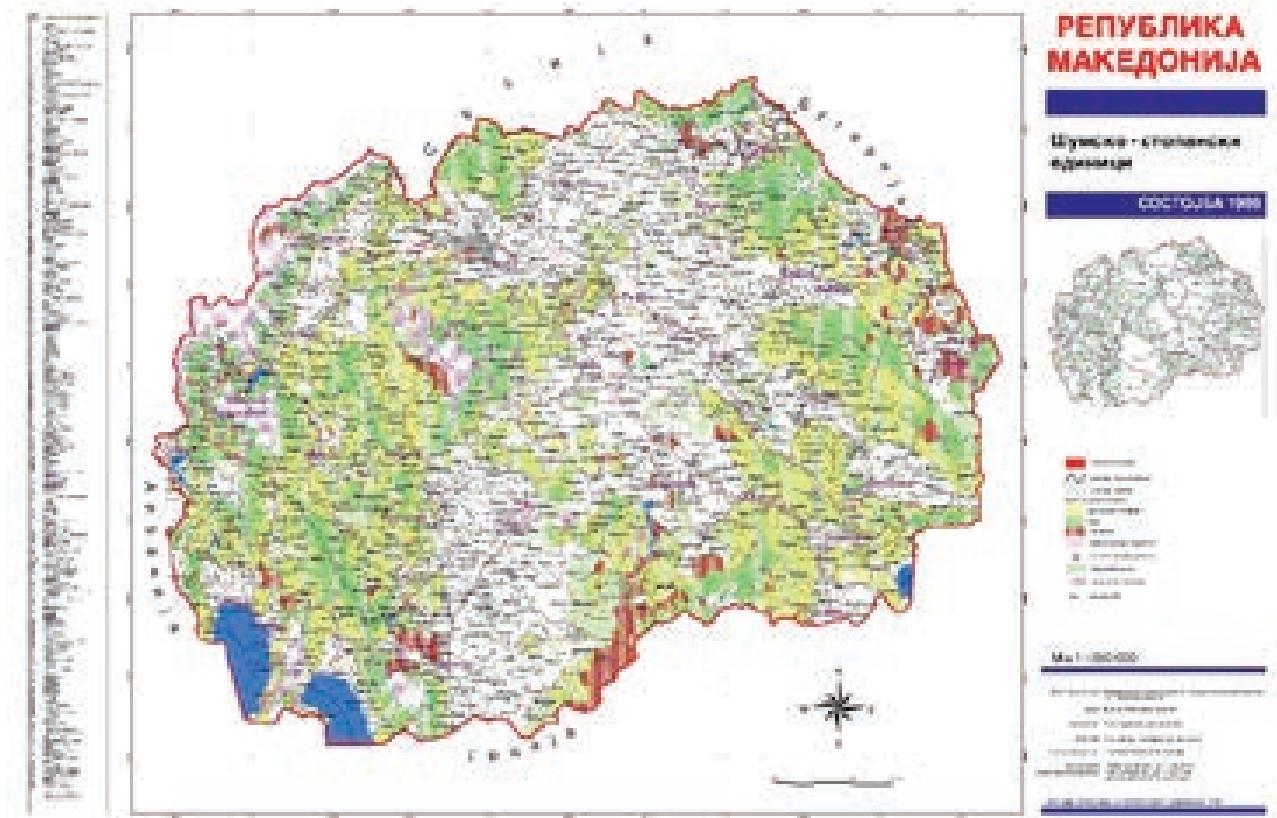
The situation with human capacities in the FPD is particularly aggravated by the lack of training for members of the forest police, the unfavorable age structure, the non-performed eligibility checks before their employment, as well as the fact that forest police officers are employed with any type of secondary education, instead of forestry profession, which was the case at its establishing. Several positions that would help the efficiency of this department, such as a specialist in forest law, forest information system and international cooperation, are also lacking.



PE “National Forests”

The Public Enterprise “National Forests” was established by the Decision of the Government of the Republic of N. Macedonia of 15.12.1997, and it started its operation on 1.7.1998, as a legal successor of several economic entities, which until then managed the state forests. The majority of these entities were independent forest economic entities, distributed in the towns of RNM, and the professional institution for designing and forest management planning, established in 1952, the Forest and Road Management Institute - Shumaproekt, was also included in the composition of the then PE.

²⁹<http://www.mzsv.gov.mk/Events.aspx?IdLanguage=1&IdRoot=1&News=1371>



Having in mind that forests are a natural good of common interest, and forest management is an activity of public interest, the Law on Forests establishes the basic activities of the enterprise, as follows:

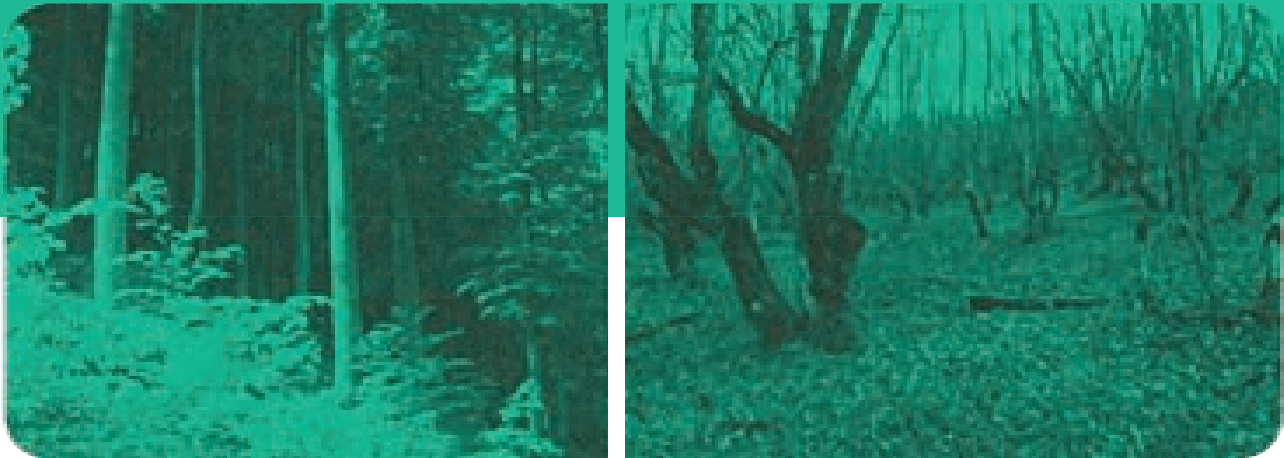
- Management of state-owned forests, which includes the silviculture, protection and utilization of forests, by the implementation of which the enterprise should ensure the permanent preservation and increase of the value of the forests, as well as the constant increase of their increment and their common-benefit functions.

- The enterprise also performs other activities, which are related to the basic activities, and contribute to a better utilization of the enterprise's capacities. Such activities are: hunting, game breeding and hunting tourism, production of seeds and seedlings, collection and further processing of other forest products, export of wood and wood products, etc.

The Law on Forests stipulates that the enterprise is financed by the production and sale of forest assortments, collection, production and sale of forest fruits, mushrooms and medicinal plants (non-wood products), snails and turtles; exploitation of stone, sand, gravel, humus, etc. and other activities provided for by law.

The enterprise is also the only entity that provides services for the performance of professional forestry activity in privately owned forests, including the entire administrative procedure for the approval for felling in private forests, except in National Parks, where that role is performed by the entities that manage with the protected areas.

PENF manages a total forest covered area of 847,256.22 ha, of which 238,410.67 ha or 28% are high forest, 547,808.96 ha or 65% are coppice forests, 18,526.65 ha or 2% are young forest plantations and 41,398.14 ha or 5% are thickets and shrublands. The annual increment is estimated at 1,597,277 m³, and the annual allowable cut is 960,804 m³, which represents 60% of the increment.



The organizational structure of PENF consists of the Headquarters located in Skopje and 30 branch offices throughout RNM. Governing bodies are the Management Board, the Board for Control of Material and Financial Operations, the Director and his Deputy. The Headquarters is organized into 9 departments, which are managed by Assistant Directors:

1. Department of Forestry
2. Department of forest protection, oversight and internal control
3. Department of silviculture, afforestation, ecology and hunting
4. Department of economic and financial operations
5. Department of management planning forests, hunting management planning and designing
6. Department of Commercial Affairs
7. Department of planning, analysis, investments and development, information and communication technologies
8. Department of legal, general affairs and human resources
9. Department of forest land management, forest infrastructure and mechanization.

In addition, there is a Public Procurement Section and an Internal Audit Section²¹.

Branch offices are managed by Managers - Directors, who have the status of employees with special powers. The branch offices are not legally and financially independent and operate on the behalf and at the expense of the enterprise. The forest covered area managed by the branch offices is different. Several of them manage a very small forest covered area (Sveti Nikole 5,877 ha, Kratovo 7,429 ha), whereas some have larger forest covered areas ("Kozhuf" - Gevgelija 54,815 ha, "Belasica" - Strumica 53,606 ha, "Bor" Kavadarci 66,158 ha, "Babuna" - Veles 58,450 ha, "Lopushnik" Kicevo 55,341 ha, "Sandanski" Makedonski Brod 59,993 ha, "Karadzica" Skopje 63,97 ha). Analogous to the area, also the distribution of the available wood for felling, as a basic resource for financing the Enterprise is different for each branch office. Thus, there are branch offices with a maximum annual allowable cut below 10,000 m³ (Sveti Nikole, "Serta" Shtip, Kratovo), and there are also branch offices with a maximum annual allowable cut of over 50,000 m³ ("Belasica" Strumica, "Bor" Kavadarci, "Galichica" Ohrid), "Lopushnik" Kichevo, "Sandanski" Makedonski Brod).

²¹ <http://www.mkdsuni.com.mk/img/Organogram.pdf>

The employees in the branch offices, that have a larger wood reserve have a developed market for wood and have a more favorable relationship between the number of employees and the total financial turnover, are not satisfied with the status in the PE, considering that they are in a subordinate position, and that they work for the Headquarters and the branch offices that accumulate losses. The employees of these branch offices openly advocate for greater independence and even independence of their branch offices. Until 2020, the enterprise had a system of determining salary ratios, by which the more productive branch offices received 100% of the expected salary, and for the less productive ones, it was reduced by 10-20%. This practice was assessed as unconstitutional, thus today the salary received by the employees in the branch offices is the same everywhere and does not depend on their liquidity.

When the enterprise was established in 1998, the number of employees was almost 4,000. In the past two and a half decades, it has been decreasing, partly due to the Government's programs for the public sector streamlining, partly due to the natural outflow by retirement of employees. According to the 2021 Report on the Enterprise's operations, at the end of last year the total number of permanent employees was 1,656, of which 20 with a master's degree, 367 with a bachelor's degree, 44 with a two-year college education, 757 with a secondary education and 468 with a primary education. In addition to the permanent employees, by the end of the calendar year, an additional 409 seasonal workers have been hired for the positions of feller, skidder, loading-unloading and forest workers, as well as 64 people on a fixed-term basis. Thus, the total number of employees in 2021 reached up to 2,129. If the recent changes with the retirement of part of the employees are taken into account, in September 2022 the total number of employees in the enterprise on all bases was slightly below 2,000. If the number of employees is analyzed according to the area and the wood managed by the enterprise, it may be concluded that this number is significantly higher than that in similar enterprises in neighboring countries and wider, which is an indicator of overemployment.

The forestry-technical staff in the enterprise is represented by about 300 forestry engineers and about 400 forestry technicians, which is not more than a third of the employees. It should be mentioned that among the forestry engineers, there are also wood industry engineers employed, whose education is not suitable for performing forestry work tasks. Among the forestry technicians, there is a large number who acquired their education additionally, while they worked on lower duties within the Enterprise.

The age structure of the employees shows that the majority of engineers and technicians are over 50 years of age, which, in general, may be said about other employees as well. This shows that it is necessary to employ young educated people, especially technical staff, who will be ready to carry out the necessary reforms in the organization of the enterprise.

Low salaries and poor technical equipment are a factor for low motivation of the employed technical staff. The net salary of the forestry engineer with all allowances ranges between 25 and 30,000 denars, and that of the forestry technician around 20,000 denars. The employees have not received field clothes and shoes for 8 years. The fleet consists of an insufficient number of mostly dilapidated off-road vehicles of an older production date, so as to get to the field where they do their work, engineers and technicians often use their own vehicles or the vehicles of service providers, which makes them rather immobile and susceptible to corruption.

4.2 Entities managing forests in protected areas

The system of protected areas includes 82 areas, which cover an area of 357,778.05 hectares or about 13.92% of the territory of the Republic of North Macedonia. National parks cover about 6.91% of the country's territory, followed by natural monuments with 3.0%, whereas all other categories of protected areas cover about 4.01% of the country's territory.

The protected landscapes of Osogovski and Maleshevski Mountains are managed by PENF, whereas the other areas under a lower level of protection are managed by other smaller entities. National parks are managed by special public institutions:

- ▾ “Pelister” National Park, with an area of 17,170ha, declared in 1948;
- ▾ “Mavrovo” National Park, with an area of 73,088ha, declared in 1949,
- ▾ “Galichitsa” National Park, with an area of 24,151ha, declared in 1958.
- ▾ “Shar Planina” National Park, with an area of 62,705ha, declared 2021,
- ▾ “Jasen” Reserve, with an area of 31.12ha, declared in 1958.

The listed areas are the total areas covered by national parks, whereas the area under forest is significantly smaller. This same area was taken into account earlier, in the analysis of the total forest covered area in RNM.

Of the National Parks, only Mavrovo shows a more serious amount of harvested timber, on average around 30,000m³ per year. In other parks, that amount is quite small, and since recently NP Galichica has stopped felling and selling timber as a basis for its financing.



FACULTY OF FORESTRY

The Faculty of Forestry Sciences, Landscape Architecture and Environmental Engineering "Hans Em", within the University of St. "Cyril and Methodius" in Skopje, was established in 1947, and it has a program for undergraduate studies in forestry, landscape design and environmental engineering and environmental management. The teaching and scientific staff consists of 17 full-time professors, two associate professors and 9 assistants.

The trend of newly enrolled students in recent years has been about 30 per year, of which at least a third or so enroll in the forestry program.

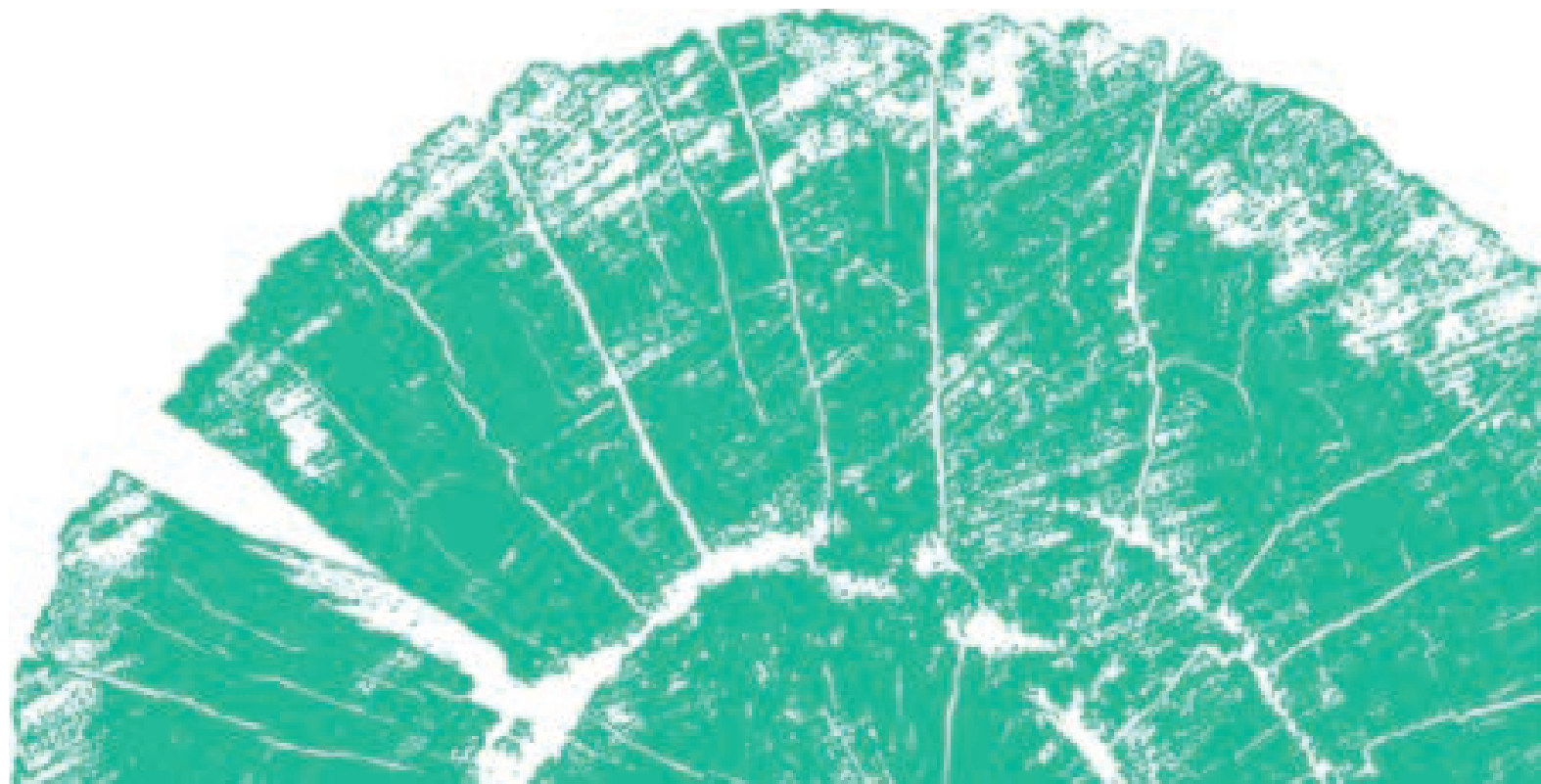
The faculty has a program for postgraduate studies, in which, an average of one or two candidates is awarded the title of Master of Forestry Sciences per year. At the moment, the Faculty does not have accreditation for doctoral studies. Through its own institute, it also carries out scientific and research work, phytosanitary supervision over forest nurseries, reporting and forecasting service, and participates in numerous local and international projects. It publishes the semi-annual international scientific journal "Forestry Review", the first issue of which was published way back in 1953.

Since the Faculty is the only higher education institution in RNM, which provides undergraduate and postgraduate studies in the field of forestry, it may be said that the number of its students is quite modest. Among the professors, but also among the general public, there is undivided opinion that the low social status of the employees in the forestry sector, the weak employment opportunity and the low earnings are the main reasons for the low interest of young people in enrolling in this profession.

Forestry secondary schools

There are three secondary technical schools in RNM, which produce forestry technicians, and they are located in Kavadarci, Demir Hisar and Skopje. These schools provide qualified personnel for the forestry sector, with special emphasis on the forestry technician program and the forest protection program.

Due to similar reasons as the Faculty, schools face a low interest among young people in studying the forestry profession.



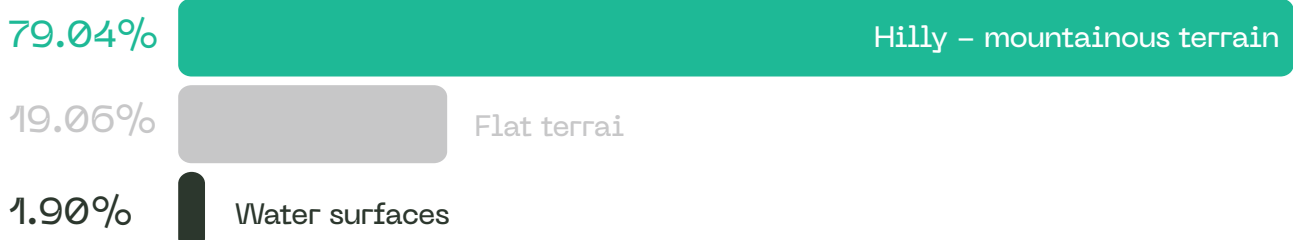
5. CONDITIONS IN THE FORESTRY SECTOR

5.1 Overview of the forestry sector, forest resource and their functions



The Republic of North Macedonia is situated in the central part of the Balkan Peninsula and covers an area of 25,713,100ha. The lowest point is at 44 meters above sea level, near the village of Bogorodica, near Gevgelija, and Golem Korab of 2,764 meters is the highest of 177 mountain peaks, with a height of over 2,000 meters. Almost 80% of the surface is covered by hilly-mountainous terrain. Although it is relatively close to the surrounding seas, the secondary climate factors (complex relief structure, altitude) have caused the presence of two main climate types: modified Mediterranean and moderate continental climate.

Relief structure of the territory of the Republic of North Macedonia

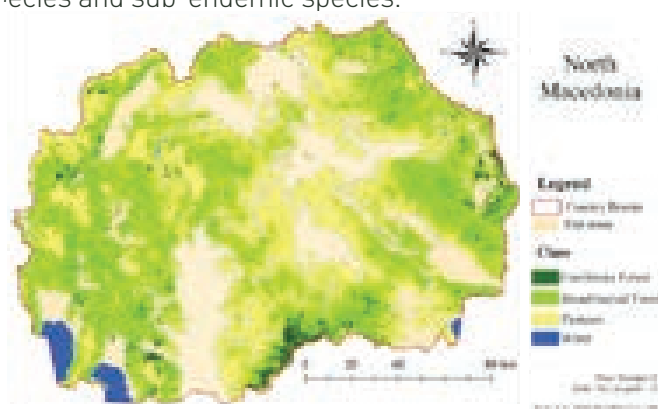


The natural conditions allowed the appearance of dense forests, which were ruthlessly exploited in the past, and the timber was transported along the Vardar valley to Thessaloniki, where it was used to meet the great shipbuilding needs of the naval superpowers of that time.

The forest covered area in the Republic of North Macedonia, according to the MAKStat database of the State Statistics Office²², in 2021, was 1,049,300 hectares, which means that over 41% of the country is forest covered area. This indicator is higher than the average of the European Union, whose forest coverage is about 38%. Apart from this, the other forest land covered area of 95,008 ha and the barren land of 15,618 ha are also considered forest covered area.

Areas under tree species in RNM	ha	%
Total forest area	1,049,300	100.00
Deciduous forests	620,874	59.17
beech forests	254,906	24.29
oak forests	293,317	27.95
chestnut forests	11,080	1.06
other hardwoods forests	58,742	5.60
other soft deciduous forests	2,829	0.27
Coniferous forests	69,327	6.61
Spruce forests	814	0.08
Fir forests	6,463	0.62
Black pine forests	43,835	4.18
Scots pine forests	8,505	0.81
Macedonian pine forests	3,358	0.32
Other coniferous forests	6,352	0.61
Mixed forests	315,758	30.09
Degraded forests	43,341	4.13

The dendroflora consists of 319 different species of trees and bushes, with more than 80 subspecies and varieties, within 119 genera and families, and 16% of the total number of species are Balkan endemic species and sub-endemic species.



Vegetation coverage of the hilly-mountainous terrains of the Republic of North Macedonia

²² https://makstat.stat.gov.mk/PXWeb/pXweb/mk/MakStat/MakStat__Zemjodelstvo__Sumarstvo/135_Sumar_Povrs_shumsko_zemjishte_god_ml.px/?rxid=b9550b51-e751-476f-9360-c41252fc5fad

Most of our forests are deciduous, 620,874 ha (59.17%), whereby beech and oak plantations dominate. Only 69,327 ha or 6.61% are pure coniferous plantations, whereas 315,758 ha or 30.09% are mixed forests of deciduous and coniferous trees. Degraded forests are 43,341 ha or 4.13%.

State-owned forests are 907,255 ha, which represents 86.46% of the total forest covered area, and privately owned forests are 142,045 ha or 13.54%, which also includes forests owned by religious communities. However, the analysis of forest quality shows something else.

While the average timber volume in EU countries is 169 m³/ha²³, in RNM, it is estimated at 86 m³/ha. The total wood reserve is about 90 billion cubic meters, and the current annual increment is estimated at almost 2 million cubic meters of timber volume, which is on average less than 2 m³/ha or 2.2% of the standing timber. The annual allowable cut in all forests is around 1,200,000 m³ in all forests, which is less than two-thirds of the estimated increment. The total registered annual allowable cut in the past years has been around 800,000 m³ and it has been constantly decreasing from year to year. This indicator indicates a possible accumulation of timber volume in our forests, but only if illegal and unrecorded logging is not taken into account.

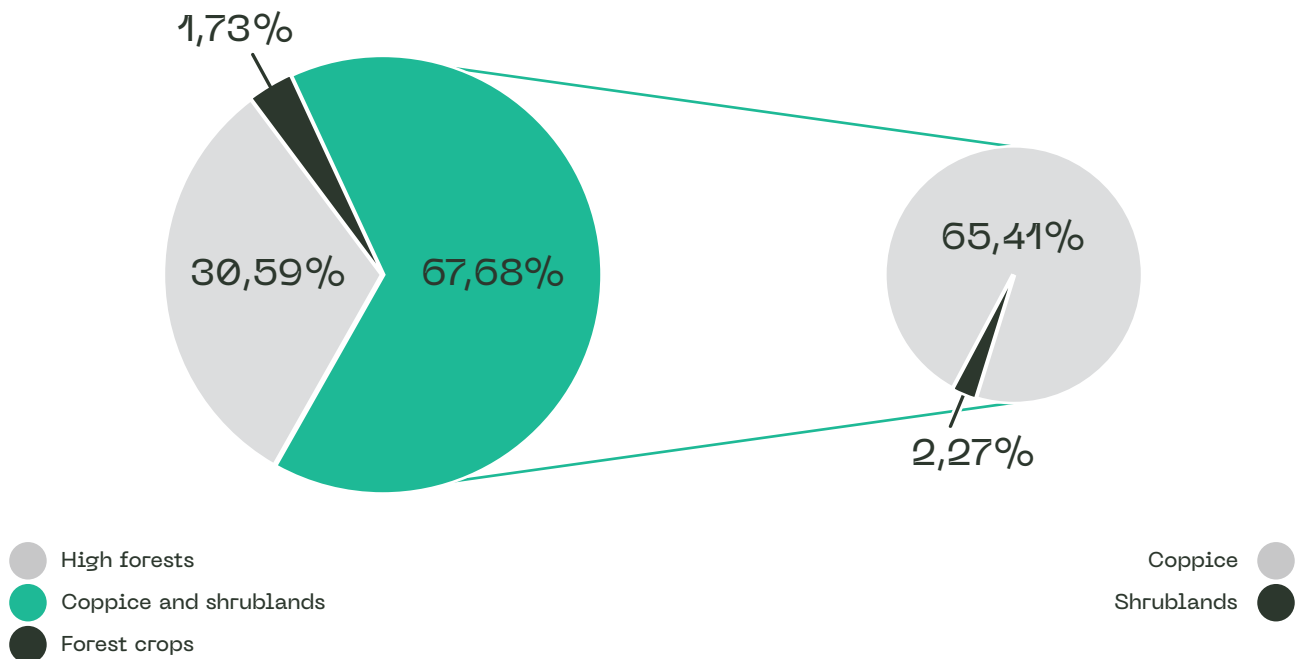
According to the 2021 Annual Report on the operations of PENF²⁴, the estimate of the illegally logged timber in the territory managed by the enterprise for 2021 was 23,513.77 m³, the value of which, according to the commercial price list, was 22,772,852.21 denars. This amount is about 6% of the total registered logging organized by the PE in 2021. According to the FAO WISDOM estimate, which, unfortunately, is not published and available to the public, the total consumption of firewood in the Republic of N. Macedonia in the 2015/2016 heating season was 2.21 million m³, which is almost three times higher than the registered logging. This figure is based on the estimate that about 360,000 households in the country use firewood to heat their homes. The determined amount of about 6 m³ or 9-10 spatial meters that a household uses on average for heating has been criticized by the expert public as being overestimated and that it is realistic for rural households, but too high for urban households. In any case, it is evident that the amount of unregistered timber that ends up on the market is large and must be taken into account to complete the picture of the conditions in the sector.

Most of the forests are coppice forests, which means they are of vegetative origin. Such forests are distinguished by a significantly lower capacity for growth in thickness and height and accumulation of timber volume in high-quality forest assortments, in contrast to high forests, which are of seed origin. The trend of modern forestry is to change the coppice forests into a higher form of management – high forests. According to the data from PE “National Forests”, which manages over 93% of state-owned forests, out of the total forest covered area of 847,256 ha, managed by this enterprise, only 238,411 ha or 28% are high forests, and the remaining 608,845 ha or 72 % are coppice, degraded forests and shrubland. Due to this quality composition of the forests, only about 15% of the production of technical wood is recorded in the total annual logging, and the rest is firewood and logging residues²⁵.

²⁴ https://foresteurope.org/wp-content/uploads/2016/08/SoEF_2020.pdf

²⁵ <http://www.mkdsumi.com.mk/pdf/%D0%98%D0%97%D0%92%D0%95%D0%A8%D0%A2%D0%90%D0%88%20%D0%97%D0%90%20%D0%A0%D0%90%D0%91%D0%9E%D0%A2%D0%95%D0%8A%D0%95%D0%A2%D0%9E%20%D0%97%D0%90%202021%20%D0%B3%D0%BE%D0%B4.pdf>

²⁶ http://www.mkdsumi.com.mk/img/Sumski_Fond_Po_Podruznici.pdf



According to MAKStat²⁶, the total length of roads in state forests is 9,112, of which 2,234 km or 24.5% are hard roads with and without a surface, and 6,878 km or 75.5% are soft roads. According to this, the openness of the forests is 10 m/ha, which represents a rather weak openness, about 50% of the optimal one. If you take into account the low share of hard roads, the situation looks even worse.

The total number of employees in forestry and wood processing is estimated at around 10,000, of which a quarter work directly in the forestry sector. It should be taken into account that the entities that manage the state forests for the operations of felling, skidding and transport of timber, apart from their own workers, also hire private licensed companies, which are 260 in the RNM. These companies perform the services by their own means and their own employees. The private forest owners hire workers from the local environment to operate in their plantations, who are often not registered as such, or this is an additional activity for them.

Forestry in the Republic of North Macedonia is an economic branch that contributes 0.4-0.5% to the gross national product, but if the common-benefit functions are valorized, the contribution is significantly higher.



²⁶ https://makstat.stat.gov.mk/PXWeb/pxweb/mk/MakStat/MakStat__Zemjodelstvo__Sumarstvo/220_Sumar_Reg_PrevSredstva_MehanPatishita_god_mLpx/table/tableViewLayout2?rxid=5032a7df-3367-42df-8422-c123a627c62c

According to the presented data, it may be concluded that the potential for the forestry development in RNM is quite low, which is partly a result of unfavorable climatic and geographical conditions, but partly a consequence of the excessive utilization of forests, as a consequence of unsustainable use in the past, which, however, still persists today, through the application of coppice management, which implies the wide application of the clear-cutting method on large areas. This results in a large share of coppice forests, as well as forests with various forms of degradation. However, the lack of systematic research, the inventory not being implemented (the last inventory was done in the distant 1980), as well as the observations of relevant experts, leave room for believing that the potential of forestry in RNM is underestimated. When interviewing eminent forestry experts, who are active in the field of forestry education, planning, forestry administration, forest protection and management, there is an undivided opinion that the forest is expanding in area, conquering ever larger areas of abandoned agricultural land, as well as high mountain pastures.

The impression that it is necessary to urgently implement a quality national inventory, which will give the true picture of our forests, still remains. Hence, it will result in the necessary relevant data which, apart from a picture of the current situation of the forest fund, will represent a basis for determining strategic commitments for the future forest governance, measures for their conservation, silviculture and protection, as well as determining the annual allowable cut, which is in direct dependence on the estimated increment.

5.2 Other forest products

Our forests and forest land are rich in medicinal plants, forest fruits and mushrooms, which are defined as non-wood forest products. Due to the lack of an inventory of the potential and value of OFP, there is no possibility to define the exact quantities and value of this activity also for the collected and sold quantities and their values. Certain species of OFP are endangered and protected wild species of plants, fungi and animals for which the method of collection is regulated by the Nature Protection Law. There are about 40 small and medium-sized enterprises in the country that are engaged in the purchase and processing of non-wood forest products and they are mainly export-oriented. For a large part of the rural population, this activity is a source of informal additional income. The utilization of OFP is a source of additional income for PENF, as well as for the entities that manage the protected areas, which issue permits for some financial compensation to the collectors on behalf of the state as the owner of forests.

5.3 Other forest functions or ecosystem services

Other forest functions are very important functions, which many times exceed the value of the so-called production functions of forests. These are, in fact, their various ecological, protective and social functions, including forest biodiversity conservation, carbon storage and climate change mitigation. The traditional term of other forest functions is sometimes being replaced by the term forest ecosystem services, a term derived from the environment sector and more recently part of the UN Millennium Ecosystem Assessment terminology.

Forest management in North Macedonia, however, is not yet based on the maintenance of forest functions, and thus it is not multifunctional yet. Although forest functions provide beneficial services to society, there is a need for application of various silvicultural measures, and society pays nothing for those ecosystem services. Indirectly, only the owners and users of forests pay through the extended forest reproduction program, while the state budget does not allocate additional funds for the necessary measures to improve other forest functions or ecosystem services.

5.4 National Council

In order to pursue sustainable governance, planning, management of forests and guarding of forests and forest land in a way and to an extent that permanently maintains and improves their productive capacity, biological diversity, capacity for renewal and vitality in the interest of economic, ecological and social functions of the forest, Art. 26 of the LF provides for the establishment of a National Council for Forestry, consisting of a president and ten members, who are appointed by the minister in charge of the state administration body responsible for forestry affairs. The council has not been established to date.

6. PLANNING IN FORESTRY

6.1 Strategy for Sustainable Development of Forestry

According to Article 23 of the LF, the national forestry policy in the Republic of North Macedonia is implemented through the Strategy for Sustainable Development of Forestry. It is a planning document that regulates the expansion of the quality and protection of the forest fund in accordance with the Spatial Plan of the Republic of North Macedonia, multifunctional management of forests and sustainable development of forestry, increasing the contribution of forests and other related goods and services to the quality of life in rural areas, increasing the public and social functions of forests and forestry through a common development strategy, with an overall valorization of its common-benefit and social functions and increasing awareness of the ecological and social values of forests. The Strategy for Sustainable Development of Forestry is adopted by the Government for a period of 20 years.

The current Strategy for Sustainable Development of Forestry was adopted in 2006 and it is valid until 2026. Its general goal is to increase the contribution of the forestry sector to the national economy and rural development through sustainable forest management, providing renewable resources and protecting the local and global environment, thus ensuring an improvement in the quality of life of all citizens. In order to maintain and improve the economic efficiency of forestry for the needs of overall national development, the Government has committed to provide a legal, institutional and economic framework for the implementation of sustainable forest management, as well as to provide a permanent financial mechanism that will improve the situation with forests and the development of forestry.

16 years after the adoption of the Strategy, it may be concluded that most of the planned activities have not been implemented or have been implemented to a small extent:

1. Regarding the enlarging the forest covered area, of the planned 2,500 hectares of poorly productive agricultural lands and bare lands, only half has been reforested;
2. Thinning in young forests, restoration, reconstruction and conversion of coppice forests into high forests have been carried out in a very small percentage;
3. An inventory of the forests has not been carried out, although it is foreseen by Art. 25 of the Law on Forests;
4. The National Council for Forestry, which is foreseen by Art. 26 of the Law on Forests has not been established;
5. Encouraging the use of other forest products, among other things, for the purpose of providing additional income for the local population, has been implemented very little. Although the Rulebook on the collection of non-wood products and other related materials have been prepared, an inventory of non-wood products in the forest, on the basis of which appropriate planning would be carried out, has not yet been prepared;
6. The capacities of state institutions responsible for policy making, oversight and management of state forests have not been significantly improved;
7. Public financing of the activities of sustainable forest management, the maintenance of protective and other public functions of forests, the protection and improvement of biodiversity is not ensured, primarily due to poor collection of funds for extended reproduction by the entities that manage state forests;
8. Cadastre of the state forests and consolidation of the fragmented properties has not been prepared;
9. The technical and financial support for the private forest owners has been partially implemented;
10. The transparency in the forest management process has been partially increased;
11. Education and research institutions in the forestry sector, as a base for supply of professional personnel and innovations in forestry, are insufficiently supported.

6.2 General forest management plan in RNM

According to Art. 24 of LF, the division/demarcation of forests by purpose, productive and protective, is determined based on the general plan. The general forest management plan presents and analyzes the state of the forest fund (forests), determines the forest functions, determines the purpose of the forests, defines the functional, spatial and ecological whole, the main goals of development, goals and measures for improvement of forests, maintenance and improvement of common-benefit functions of forests and forest protection, determines the methods and ways of forest management, as well as silvicultural and management planning measures. The general forest management plan, in particular, determines the natural conditions and opportunities for the survival, restoration and development of the forests, the conditions of the forests by species, preservation, timber, increment, openness, danger from negative influences, the general directions and goals of the future management and the measures for silviculture, protection, development, improvement and expansion of the forest fund in the Republic of North Macedonia. The general forest management plan is valid for 20 years and is adopted by the RSM Assembly.

The funds for the preparation and review of the general forest management plan are provided by the budget of the Republic of North Macedonia.

6.3 National inventory

Art. 25 of the LF provides for the implementation of a national inventory of forest resources, which will collect data on the condition of forests, for quality planning in forestry, for the needs of forestry policy and forestry operations, ecology, hunting, environmental protection, nature protection, wood processing industry, as well as for the needs of state and international organizations.

A national inventory of forest resources has not been carried out to date.

A forest management unit is a basic unit for planning in forestry. It is a natural and economic entity, determined according to the orographic and hydrographic characteristics, traffic routes and other natural and economic conditions for the governance and management of forests and forest infrastructure. It covers forests of one owner or user of an area of 100 to 10,000ha. Due to a more rational organization of forest management, as well as due to management control, the forest management unit is divided into compartments and sub-compartments. The compartment is part of the forest management unit, spatially separated by natural or artificial borders of an area of up to 100ha. The compartments on the map are marked with Arabic numerals, and their boundaries on the ground with Arabic numerals and two horizontal lines with water-resistant red color at the height of dominant trees or other suitable natural or artificial surfaces. The boundaries of the forest management unit are marked on the ground with three horizontal lines. The sub-compartment is the smallest spatial unit in the forest management unit and it represents a part of the forest that, by its characteristics, is significantly different from the rest of the compartment. If it is covered with forest, the sub-compartment on the map is marked with a small letter, and if it is not covered with forest, it is marked with an Arabic number.

All forests in RNM are divided into 175 forest management units.



For each forest management unit, based on the general forest management plan, the user adopts a special forest management plan with economic and protective purpose valid for 10 years. Its content, the method of preparation, adoption and approval are prescribed by a special regulation, adopted by the Minister of Agriculture, Forestry and Water Economy (“Official Gazette of RNM” no. 248/2019). The special plan consists of a text section, forms and forest maps and is produced as a hardbound book in A4 format. The special plan elaborates the general conditions prescribed by the general forest management plan in the Republic of N. Macedonia, analyzes the implemented management measures, determines the management plans by type and scope of activities, the time and method of implementation and determines the values of the forests. An integral part of the plan is the detailed inventory of the forests and forest land in the forest management unit aligned with the cadastral records.

Special forest management plans are adopted by the private forest owners of an area of more than 30 ha. For forest covered areas from 10 to 30 ha, a forest management program is adopted, and privately owned forests of an area of less than 10 ha are managed according to criteria for managing privately owned forests, which are prescribed by the Minister of Agriculture, Forestry and Water Economy in a separate Rulebook (“Official Gazette of RNM” No. 102/2013 of 18.7.2013).

The funds for preparation and approval of forest management plans and programs are provided by the owner, that is, the user of the forest. All the listed planning documents are subject to review before a committee established in the MAFWE, upon whose recommendation they are approved by the Ministry of Agriculture, Forestry and Water Economy.

The owners and users of the forests are obliged to implement the goals, measures, activities and provisions provided by the Strategy for Sustainable Development of Forestry, the general forest management plan, special forest management plans and programs within the time lines and in the manner determined by them. The performed activities of silviculture, protection and use of forests, regardless of ownership and purpose, must be recorded in the special plans and programs no later than March 1 of the current year for the previous year. In addition to the records in the special plans and programs for the activities performed, the entities that manage the forests, regardless of the ownership and purpose, are obliged to keep a monthly report in special forms (felling, skidding and transport) in electronic and written form, in which receipt notes for felling, receipt notes for skidding and delivery notes for each compartment/sub-compartments of a forest management unit, that is, for each cadastral plot separately, are entered.

6.4 Management of private forests

As previously stated, private forests in RNM occupy 13.54% of the total forest covered area in the country, which also includes forests owned by religious communities. Over 60,000 private forest owners have been registered. Some of them are members of the national association of private forest owners, based in Berovo²⁸, which is organized in 25 municipal branches and 5 regional offices, which promotes the sustainable use of privately owned forests, and it aims to achieve its sustainability by providing a wide range of services to its membership. According to Art. 93 of the FL, the Association informs its members about the programs, procedures and opportunities to support forestry in the private sector and rural development, represents the interests of the members of the association, and performs other activities related to forests.

²⁸ <https://naps.com.mk/za-nas/>

Based on the current legal solution, logging in a forest to which there is a right of ownership is carried out with a Logging Approval (Art. 67 and 68 of the LF). The Logging Approval is issued by the PE or the legal entities that manage the forests in the protected areas, which means that these entities provide professional services, logging marking, etc. The measures for the management of the smaller plots of privately owned forest (below 10 ha) are prescribed by a special Rulebook ("Official Gazette of the Republic of Macedonia" No. 102 of 18.7.2013), which divides the forests into 10 categories, depending on conservation, maturity, species composition and potential for recovery. This Rulebook prescribes the type of felling and silvicultural measures that will be approved by the owner for each type of forest separately.

For the services in private forests, the owner pays compensation to the PE, according to the price list determined by the Management Board of the PE, according to which the amount of the gross compensation is determined at 298 den. /m³ of approved timber. The owner is obliged to pay for the extended forest reproduction for the approved timber in the amount of 80 den. /m³ at the budget account of the RNM.

An important condition for issuing a Logging Approval, according to Art. 67 and 68 of the LF, are visibly and permanently marked boundaries of the plot. No regulation has explained in detail the meaning of the expression visible and permanent marking of the borders. Authorized surveyors, upon request and at the expense of the owners, prepare appropriate elaborates on the cadastral forest covered plots, but no regulation defines what their unified markings are, which will unequivocally confirm who was the authorized surveyor who performed the marking on the ground and remove the forest engineer's dilemmas that the owner really has taken him/her to his/her plot. This is somewhat mitigated by organizing a joint field inspection by the surveyor and the forest engineer, but often this is difficult to coordinate and the timings are difficult to match.

Due to the distance of individual private forest covered plots from the settlements and roads, it is often difficult to carry out the field inspection, and it requires special physical efforts and incurs transport costs, both for the engineer, who performs the inspection and marking for felling, and for the forestry technician, who performs control of felling and skidding, stamping and delivery of timber. This often creates a risk of reduced quality of services by PE employees, as well as the possibility of corruption.

Due to bureaucratic procedures, private forest owners are often exposed to additional efforts and costs, as shown by the example of the private forest owner in Cadastral Community Vladimirovo, near Berovo. Since the forest covered plot of land in her possession is in the FMU, which is managed by the BO "Belasica" from Strumica, she is obliged to submit an application for a logging approval to the BO "Belasica", whose engineer and technician must perform a field inspection, even though the BO Berovo is physically much closer and the costs of filing an application and field inspection would be much lower.

The Law amending the Law on Forests ("Official Gazette of RNM" No. 79/13) opened the possibility to register licensed forestry engineers who provide services in private forests. They made their own stamps for the marking and delivery of timber, obtained licenses issued by the MAFWE and took over activities in private forests. In the public, there is a perception of massive abuse by these persons and approval of logging in state forests, while it is recorded as if it is done in private forests. This activity came under the scrutiny of a series of investigations, followed by numerous criminal charges of abuse against the majority of the licensed entities. After this, by a new amendment to the Law on Forests ("Official Gazette of RNM" No. 160/2014), the provision of services in private forests was once again returned to PENF and the entities that manage forests in protected areas.

Police investigations, criminal charges against responsible persons employed in PENF, as well as the experiences of some private forest owners show that it is not rare for this entity to approve logging in state forests, and to record it in private properties. The total registered logging in private forests of 186,485 m³ in 2021, a trend which is even decreasing compared to the past years, shows that annual logging is registered at 1.31 m³/ha²⁹, which is almost three times more than the registered logging in state forests. These indicators are only a confirmation of the above conclusion.

6.5 Reproduction of forests

Entities that manage state-owned forests allocate funds in the amount of 10% of the value of the harvested timber on the position of the forest road, to a separate account. These funds are intended for **simple forest reproduction**, and they are used for silviculture, protection of existing forests, construction of forest roads, technical equipment for the purpose of carrying out activities for forest protection and development of forest management plans, which is regulated by Art. 94 of the LF.

In addition, according to Art. 95 of the LF, funds are also allocated for the extended forest reproduction, which are provided by the entities that manage state-owned forests and the private forest owners in the amount of 3% of the value of harvested timber on the position of the forest road, as well as legal entities that sell wood in the amount of 3% of the value of the sold wood. These funds are paid into the budget of RNM and are used by entities that manage state-owned forests and the owners of privately owned forest in proportion to the funds paid, according to an annual program adopted by the Government of RNM for the following purposes: afforestation of barelands and erosive lands, amelioration of degraded forests and thickets, removal of the consequences of forest fires on an area of more than 50 ha within a forest management unit through artificial recovery, care of forest plantations and converted naturally forested areas, preventive protection of forests and forest plantations, publication and printing of instructions, protocols, plans, training materials, guidelines and other materials in the field of open space fire management, as well as for technical maintenance and hosting of the website of the Ministry of Agriculture, Forestry and Water Economy for raising public awareness for the protection of forests against fires, suppression of plant diseases, and pests in forests and forest plantations and in areas where melioration of degraded forests and thickets has been carried out, and provision of forest seeds and planting material.

In practice, the entities that manage the state forests calculate the simple reproduction funds, but do not accumulate them on a separate account at all, and they partially compensate for them by activities such as silvicultural measures, forest protection, construction of forest roads and preparation of forest management plans. The extended reproduction funds are paid only by the private forest owners and one of the national parks, and they are spent mainly by entities that manage state forests.

6.6 Use of forests – Organization of forest production and sale of timber in PENF

According to Art. 61 and 62 of the LF, the use of forests is carried out according to the purpose and in a way that ensures permanent preservation and increase of the value of forests, increase of their increment and yield and preservation and improvement of their common-benefit functions.

²⁹ https://makstat.stat.gov.mk/PXWeb/pxweb/mk/MakStat/MakStat__Zemjodelstvo__Sumarstvo/180_Sumar_Reg_Isech_Brutmasa_Sort_god_ml.px/table/tableViewLayout2/?rxid=7531d4dc-cd0b-47ec-9a88-7710b0923220

Only the forests, for which a special plan or program has been adopted, can be used.

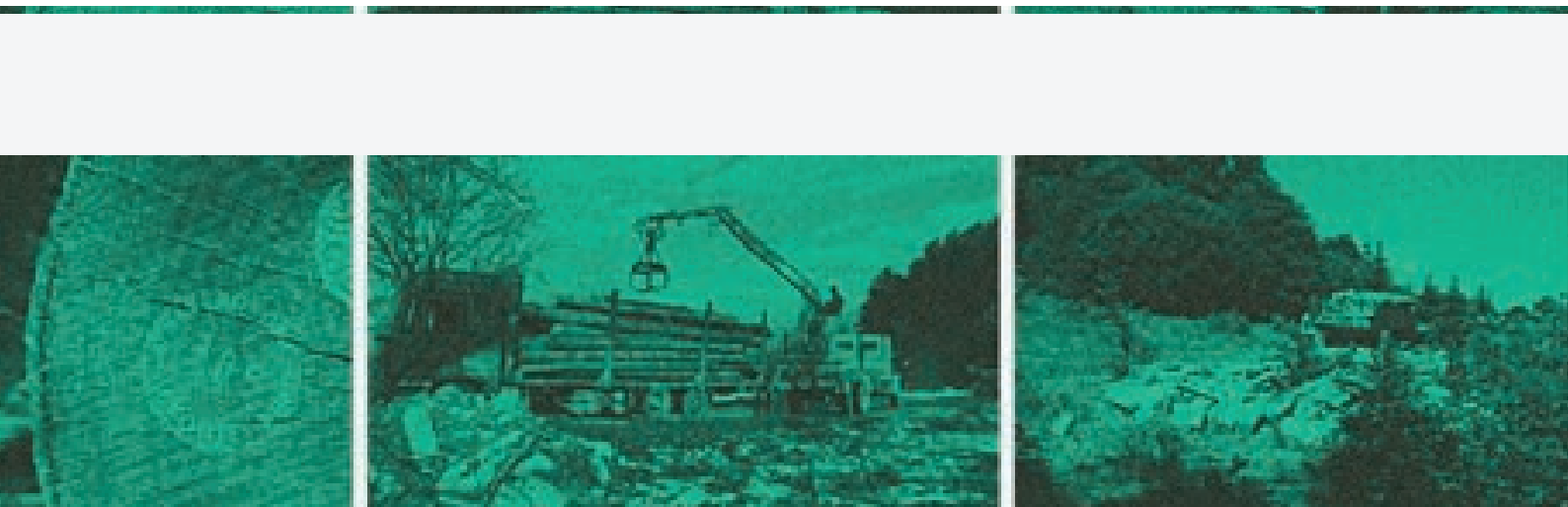
Logging in the forest is carried out only after a previously performed logging marking by imprinting a clearly visible forest stamp- marker, by use of appropriate water-resistant paint, in accordance with the appropriate Rulebook, prescribed by the Minister of Agriculture, Forestry and Water Economy. In the case of selective and shelter wood cutting, apart from the forest stamp, an ordinal number is stamped on the surface roots of the trees selected for logging.



Entities that manage state forests perform the logging marking no later than the end of September in the current year for the following year. It is performed in the appropriate compartments and sub-compartments, for the timber volume and type of logging in accordance with the forecasts of the special forest management plan. They record the data on the marked trees in a logging marking book. Based on the performed marking, they prepare an execution plan. They inform the forestry inspector about the performed marking, who performs an inspection of the performed marking and their orderliness, as well as ascertains the specified documents with an appropriate report. There may be stem and surface marking. Stem marking is when each individual

stem to be felled is selected, in the case of selective and shelter wood cutting in high forests or thinnings in high forests and coppice forests. Such marking can only be done by an expert - a forestry engineer with at least two years of experience in the profession. A surface marking is a clear-cut marking where the edge stems are marked on the surface where all the stems are felled. This marking is performed by forestry engineers with or without work experience, as well as forestry technicians with at least two years of experience in the profession.

The receipt and delivery of the received forest assortments are carried out by forestry technicians – felling, skidding and transport officers, under the supervision of a responsible forestry engineer. The receipt is carried out at the place of logging and production, during which it is controlled whether the logging has been carried out in accordance with the performed marking, as well as whether a forest order has been established in the logging area. Firewood is stamped with a waterproof forest stamp, blue or green, in state forests and, black or red, in private forests, that is 80% of all assortments in state and 100% of assortments in private forests. In the case of timber, in addition to the stamp on both faces, there must also be an embossed plastic plate with a serial number, in the appropriate color, depending on the timber class.



PENF can organize felling, skidding and transport of the marked timber with its own employees or request services from legal entities licensed to perform silvicultural activities. This logging is organized by the enterprise. The engagement of licensed legal entities is carried out through a public and transparent procedure, which, due to the high total value of the procurement, requires an announcement of an international tender. Apart from logging organized by the enterprise, PENF sells root timber, under special conditions, prescribed by the Law on Forests and by-laws, whereby the logging is carried out by the very residents of rural areas, for their own needs, or by the legal entities that purchase root timber, in special cases, during sanitary logging, extraordinary logging or logging of unpreserved coppice of timber below 50m³/ha.

In 2021, the enterprise logged a total of 356,485.81 m³ of timber. Of that, 168,339.11 m³ or 47.22% were logged by permanent and seasonal own employees, and 188,146.70 m³ or 52.78% of the total logging organized by the enterprise were logged by external contractors. This indicates that despite the large number of employees, the enterprise does not have a sufficient number of field workers to carry out field operations and must hire external labor to implement more than half of the logging organized by the enterprise. This often complicates things due to complex tendering procedures, which often cause delays in the start of activities, so it is not uncommon to lose a good part of the season until all legal obstacles are overcome and contracts for the performance of services are signed. There is an unwritten rule that the legal entity that performs the activities of logging, skidding and transport will also buy the timber for resale. Because of this, it often happens that for those plantations that are closer to the roads and where there are more favorable conditions for exploitation, there is significantly more interest, and for the more distant and inaccessible compartments, no interested contractor appears at all. For such more favorable compartments, minimum prices are offered for carrying out the activities of logging and skidding, often below the minimum economic profitability, so that the difference in price is compensated by various corrupt and illegal activities. PENF can sell main forest products on the domestic market, as well as export, with the consent of the MAFWE, which rarely happens in practice. The prices of wood and forest services are set as maximum prices and they are approved by the Government of RNM. These prices were not updated for years, and thus they were far below market prices, often below the level of profitability for the enterprise, which was one of the reasons for the poor financial results. This situation has recently changed, because after receiving consent from the Government of RNM, of 1.9.2022, the prices of forest products in PENF finally increased linearly by 20%. The sale of the main products takes place according to the appropriate Rulebook, which defines the types of trees, the type of assortments and their dimensions, unit measures, prices, the method of payment and invoicing, the method of concluding and terminating purchase and sale agreements, etc.

Technical wood is sold to legal entities that carry out wood processing activities by framework and annual contracts, under the condition that they do not resell the timber. Due to the high demand and the small amount of technical wood production, the demands of all interested customers are rarely met.

In addition to legal entities registered for wood trade, the enterprise concludes purchase and sale agreements for firewood with trade unions, pensioners' associations and individual natural persons for the delivery of firewood to the buyer, by payment in up to 6 installments. For socially vulnerable categories of citizens, it approves a discount of 10% and 8 installments. Due to the high demand for firewood on the market and the unrealistically low value according to the price list of PENF, manipulations often occur during delivery to such buyers, so that, although they have paid at the very beginning of the year, they receive the wood before the beginning of the heating season, or only after it begins, which creates great misunderstandings and ripples in the public.

The logging and production of forest assortments is done with chainsaws, and the skidding is mechanized or by animals. The work in the forest is quite demanding and requires great physical strength and sacrifices. Workers are exposed to atmospheric influences, spend the night in improvised shelters at the logging site, and they are constantly exposed to the risk of injury at work. Given that the majority of workers are not registered at all, the number of injuries during timber felling and skidding is unknown, but it is certainly not small if one considers the poor, even no use of protective equipment, the lack of trainings and professional development of workers. Considering the recent price increases, the real value of performing felling and skidding activities is not small and far exceeds the amounts that PENF foresees for the payment of its employees.



The low coefficient of openness of the forest, as well as the high percentage of share of soft seasonal roads, make it difficult to transport wood assortments, which is directly dependent on the weather conditions. The construction of new and maintenance of existing roads has been carried out exclusively with own machinery for a long time. In 2021, 162.53 km of soft roads were built, which is 65% of the planned 250.27 km. Reconstruction of 224.75 km was carried out, and 1,392.75 km of forest roads were cleared.

The small number of freight vehicles and the dilapidation of most of them represent an additional problem in the transport of the produced timber from the forest to the storages. Tenders for the transport of timber by external contractors rarely succeed due to the low maximum prices and the lack of interest of economic operators in performing this type of service. Because of this, the enterprise often sees the way out in the ever-increasing sale of root timber on the position of the forest road.



7. FOREST PROTECTION

Forest protection is a system of measures and activities that are implemented in order to ensure the survival of forests, preservation of the health condition and vitality of forests from illegal appropriation and use, fires, plant diseases and pests, illegal logging, illegal collection of other forest products and other damages.

7.1 Forest fires

During 2021, PENF registered 204 forest fires, with a total burned area of 12,315.14 ha and burned wood of 490,023.48 m³, causing damage of 2,373,137,539 denars. The total costs for extinguishing the fires amount to 6,608,155 denars. 6,627 firefighters participated in the extinguishing, of which 1,998 are employees of PENF, and 4,629 are firefighters from other entities.

According to the analysis of the place of occurrence, almost two thirds of the fires started in the forest, burned 11,007ha, which is almost 90% of the total affected area and caused damage of 2,284,117,803 denars, which is almost 96% of the total registered damage of all fires.

Analyzing the period of the year in which they occurred, it is evident that 81 fires or 40% of all registered fires during the year occurred in the month of August. They burned an area of 9,581.44 ha, which is 78% of the total burned area, caused damage to 465,627 m³ or 95% of the total burnt wood and caused damage of 2,179,170,844 denars, which is over 95% of the total recorded damage during the year.

Compared with the data of the previous year, it may be concluded that the number of registered fires in 2021 is twice as higher, but the burned area is ten times larger, while the amount of wood burned is **sixty times larger!**

The law and by-laws on forests, as well as other laws that regulate this matter, provide for a whole range of forest fire preventive measures. Art. 54 of the LF defines that it is forbidden to light an open fire in the forest and on land in the immediate vicinity of the forest, at a distance of at least 200 meters from the edge of the forest, except in places that will be determined, visibly marked and entered in the forest fire protection plan by the entity that manages the forest. The degree of forest fire threat to the forest for each compartment and sub-compartment is determined by the special forest management plan. Art. 56 of the Law on Forests prescribes the obligations of the entities that manage forests and the forest owners, depending on the degree of danger for the forest, to take special fire protection measures (making paths in the forest, raising belts of deciduous species in coniferous forests, setting up observatories, organizing observation, reporting, fire service, etc.). The legal entities and natural persons who cause forest fires through their activities are obliged to compensate the entities that manage the forests, as well as the forest owners.

According to Article 57 para. 4 of the Law on Forests, in view of the increased danger of forest fires occurrence, at the request of PENF, the MAFWE issued a partial ban on movement in the forest and on forest land, with arch. no. 49-6012/2 of 30.6.2021, and of 3.8.2021 with arch. no. 49-6739/2 it also introduced a complete ban on movement in the forest throughout the day. This ban was revoked on 8/26/2021, due to an assessment that the risk of forest fires has decreased, and in accordance with the conclusions of the Government of RNM adopted at the 101st session held on 8/24/2021 to lift the ban on movement in the forest. Despite the preventive measures taken, unfavorable weather conditions and possibly human negligence or intent caused a real disaster. The 2021 damage data shows the risk of forest fires in the hot and dry summer months, when air humidity is low, and day and night temperatures are high. The summer of 2021 was the hottest since temperature measurements began in Europe. According to the annual report of the European Union Earth Observation Programme, Copernicus³⁰, the average temperature in the summer of 2021 was almost one degree higher than the 1991-2020 average.



³⁰ <https://www.dw.com/mk/2021-%D0%BD%D0%B0%D1%98%D1%82%D0%BE%D0%BF%D0%BB%D0%BE%D1%82%D0%BE-%D0%BB%D0%B5%D1%82%D0%BE-%D0%B2%D0%BE-%D0%B5%D0%B2%D1%80%D0%BE%D0%BF%D0%B0/a-61563799>

7.2 Forest guarding ranges – Forest Guarding Service in PENF

Forest guarding ranges, according to Art. 81 paragraph 3 of the Law on Forests, is an obligation of PENF and other entities that manage and govern protected areas, regardless of their purpose. In order to perform this function, a Forest Guarding Service was established within the Department of Forest Protection, Oversight and Internal Control, and it guards the forests in a total of 331 forest guarding ranges, which means that the average size of the range is slightly more than 3,000 ha. The total number of 212 engaged forest guards indicates that a third of the ranges are not covered or one forest guard is in charge of several ranges, that is, that on average one forest guard should guard a range of 4,800 ha. The Forestry Guarding Service has also engaged 69 ramp controllers, responsible for controlling entry and exit from the forest at checkpoints.

According to the 2021 Annual Report on the Operation of the Enterprise³¹, the estimate of the illegally logged timber in the territory managed by PENF for 2021 is 23,513.77 m³, the value of which, according to the commercial price list, is 22,772,852.21 denars. This amount is about 6% of the total registered logging organized by the PE in 2021, but it is still significantly lower than the estimated illegal logging in the territory of the RNM. During 2021, the forestry guarding service filed 29 criminal and 186 misdemeanor charges against the caught offenders. Thus, a total of 1,077.90 m³ of timber was seized.

According to Art. 81-b of the Law on Forests, the member of the forestry guarding service must be physically and mentally capable of performing the tasks of the forestry guarding service, to have at least a secondary education in the field of forestry - forestry technician, forestry and landscape architecture technician, specialist in forestry activities or with at least two years of work experience as a forest guard in the previous forest guarding service and to be eligible to carry firearms in accordance with the regulations for owning and carrying firearms. In practice, an eligibility check for carrying a firearm is almost never performed before employment, so entrusting forest guards with firearms is often impossible.

In addition, according to the several conversations held with members of the forest guarding service, their low motivation to perform their work tasks is also due to the low salaries, because at the moment the basic salary of the forest guard is at the legal minimum of 18,000 denars, the poor equipment (they have not been entrusted new uniforms for already 8 years), not being entrusted with firearms and law enforcement gear, the lack of appropriate trainings, the lack of organized transport to the range, as well as the distrust towards colleagues and superiors, as well as members of the forest police and the Mol. The responsibility of the forest guard is great, because by being entrusted with the range, he/she assumes responsibility for all illegal actions that occur in that range. He/she is in charge of a fairly large range, which he has to secure 24 hours a day, and the offenders are well equipped and organized, they follow the movement of the forest guards and carry out illegal activities when they go on day rest.

PENF has adopted a Rulebook on operation, as well as a Code of Conduct for members of the forest guarding service, to which they are obliged to adhere. The guard is obliged to keep a log book of events in which he/she enters all observed illegal actions in the range. He/she is obliged to prepare an appropriate criminal or misdemeanor report against the caught offenders, which can be directed exclusively against a known offender. This is because in the past, in order to cover themselves in terms of responsibility, reports against an unknown offender were a regular occurrence, and there were almost no reports against a known offender.

³¹ <http://www.mkdsumi.com.mk/pdf/%D0%98%D0%97%D0%92%D0%95%D0%A8%D0%A2%D0%90%D0%88%20%D0%97%D0%90%20%D0%A0%D0%90%D0%91%D0%9E%D0%A2%D0%95%D0%8A%D0%95%D0%A2%D0%9E%20%D0%97%D0%90%202021%20%D0%B3%D0%BE%D0%B4.pdf>

However, with eight-hour working hours, the guard is not able to protect the range completely, due to the occurrence of illegal activities in different parts of the day and night, by well-organized groups that monitor the movement of the guards, they place people at strategic places to observe the roads and promptly notify the offenders if they notice the movement of forest guards or other law enforcement services.

Joint actions with the Mol and the Forestry Police rarely bear fruit, which leaves a doubt about the leakage of information, that is, the involvement of members of the law enforcement services with the offenders.

According to Art. 80-a of the LF, **members of the Ministry of Interior (Mol)** are authorized to inspect all the means used to transport or transfer wood and other forest products, in all places where wood and other forest products are stored, to prevent and identify or detain persons caught committing offenses punishable under this law or criminal acts relating to forests or for which there is reasonable doubt that they have committed such acts and carry out temporary confiscation of objects and means used to commit a crime or misdemeanor and the objects that arose or were appropriated by committing such a crime and to hand them over to the forest police.

Members of the Mol are a very important actor in the fight against corruption in the forestry sector itself, as well as against the perpetrators of illegal activities. Their authority is often decisive in cutting the channels of such activities. However, during the conversation with a high-ranking head of a local department in the Mol, who is considered to be an uncompromising fighter against crime in his environment, and has many years of experience in dealing with crime in the forest, it was pointed out that only a few police officers from his service enjoy his trust and because of that when organizing actions directed against forest crime, it is necessary to carefully choose which people will be engaged.



8. FOREST MANAGEMENT PLANNING

8.1 Development of special FMU management plans

The development of the special forest management plans for the needs of PENF is carried out by the Department of forest management planning, hunting management planning and designing, in cooperation with the branch offices. Prior to the establishment of PENF, this department existed as an independent self-financing social enterprise -Forestry Institute or "Shumaproekt", and it was engaged in the preparation of plans for the then forest economic entities, charging them for its services. Even today, the department is in a separate location from the Headquarters of PENF. There are a total of 25 employees, 16 of whom are forest management planners. Annually, they develop twenty separate forest management plans for a total area of about 90,000 ha. In practice, this is the only state institution that deals with the development of this type of plans. Hence, the private forest owners of an area of 10 to 30 hectares, and even more than 30 hectares, are referred to this department for the development of a program and a special plan.

The department is technically well equipped with modern means necessary for data collection in the field. Although the seat of the Department of Forest Management Planning is in Skopje, the planners carry out their work in the field, throughout the entire territory managed by PENF. This means that during the season when the field data is collected, they stay far from their homes, at the branch offices of PENF, where their stay is also provided. The net salaries of the planners are not higher than the responsible engineers in the branch offices, but they get an allowance for field work in the amount of about 800 denars per day spent in the field, with a stay. This causes their dissatisfaction and low motivation for work, which finally reflects on the effect of their work, that is, the quality of the developed plans. The planners also express dissatisfaction with the poor logistical support in the field, which is why there are several examples of young and promising forestry engineers leaving this job and seeking their future prospective elsewhere, even requalifying for other industries.

Based on what has been presented about PENF, it may be concluded that it is a centralized enterprise, where the complete financial and personnel management is concentrated in the Headquarters. Regarding the internal arrangement, there is an overlap of responsibilities between the Headquarters and the branch offices. The prices of the products are set as maximum prices and they are unrealistic, far lower than the market prices. As of September 1, 2022, a new price list was finally adopted, by which the wood products of the enterprise are sold for a 20% higher price. Time will tell how much this change will contribute to the financial consolidation of the enterprise. Great animosity with the Headquarters is also evident due to the different liquidity and productivity of the branch offices. The enterprise is financially burdened with a large number of unproductive employees, and, on the other hand, with a lack of professional staff and workers for the basic operations in the forest that bring the biggest income. The age structure of the employees is also unfavorable. The motivation of employees is at a low level, due to low salaries, poor technical equipment and inadequate remuneration for the work invested. The enterprise continuously records losses in its operations, but still survives based on the forest book value increase and by some direct assistance from the state budget.

9. COMPLIANCE

TRAFFIC LIGHT

Compliance traffic light is a tool that should visually present the conditions in a certain entity, or in this specific case - a sector and has the purpose of showing the conditions in three areas. This compliance traffic light has the purpose of showing what the conditions are from a formal and functional point of view. If major discrepancies are detected, they are listed in the notes.

I. Strategic compliance

	Criterion	Traffic Light						Main notes
		Formal			Functional			
		x	+/-	√	x	+/-	√	
1	Adopted strategic document							To revise the system of monitoring the realization of strategic guidelines
2	The legal framework (from laws to internal rules and procedures) is aligned with the strategic document.							To revise the system of monitoring the realization of strategic guidelines
3	The basic functions within the institutions in the sector are aligned with the strategic document and legal competences.							To revise the system of monitoring the realization of strategic guidelines
4	The management within the sector clearly communicates reform plans, strategic objectives and improvement measures to employees.							To revise the system of monitoring the realization of strategic guidelines

II. Organizational capacities

	Criterion	Traffic Light						Main notes
		Formal			Functional			
		x	+/-	√	x	+/-	√	
1	There is a clear distinction, that is, there is no overlap in the scope of work tasks among different entities within the sector.							In certain entities, there is an overlap of competences
2	The employees within the sector understand the basic functions and organizational set-up of the institution.							
3	Key jobs (those through which the main goals within the sector are achieved) are filled with appropriate staff.							Forestry engineers should be placed in high positions in the forestry sector/system, which is actually a matter of general and special laws
4	Management clearly communicates reform plans, strategic goals and improvement measures to employees.							
5	All planned activities/tasks in the institution are carried out.							Work tasks are performed on the basis of available resources and are largely determined by them.
6	Each employee performs tasks arising from his/her job description.							A functional analysis of the entities within the system is required in order to answer this question.
7	There are no systematized jobs within the sector that are unnecessary.							A functional analysis of the entities within the system is required in order to answer this question.
8	Employees within the sector generally possess competencies for carrying out activities and achieving strategic goals.							A functional analysis of the entities within the system is required in order to answer this question.
9	Employees within the sector have opportunities for professional development and training.							A functional analysis of the entities within the system is required in order to answer this question.
10	Employees within the sector have opportunities for promotion.							A functional analysis of the entities within the system is required in order to answer this question.

III. Performance of taska in order to achive results

	Criterion	Traffic Light						Main notes
		Formal			Functional			
		x	+/-	√	x	+/-	√	
1	Во рамките на секторот има соодветна организација, приоритизација на целите							A functional analysis of the entities within the system is required in order to answer this question.
2	Decision-making within the sector takes place through established protocols.							A functional analysis of the entities within the system is required in order to answer this question.
3	Clear written procedures for work processes are established.							A functional analysis of the entities within the system is required in order to answer this question.
4	There is good and regular communication among entities within the sector.							A functional analysis of the entities within the system is required in order to answer this question.
5	At the sector level, there is an established public relations system.							A functional analysis of the entities within the system is required in order to answer this question.

9.1 Recommendations and improvement plant

STRATEGIC COMPLIANCE

- To establish a body within the sector or appoint an officer to monitor the implementation of the Strategic Document. To set periodic goals and to monitor the fulfillment of benchmarks given in this document and to appoint the persons responsible for the fulfillment of the goals.
- Changes in the legislation to be continuously monitored and periodically at the sector level to review the compliance with the regulations in order to ensure that the basic functions and the internal organization of the institutions within the sector are harmonized as much as possible with the strategic document and the legal competences.

ORGANIZATIONAL CAPACITIES

- To make a functional analysis of the individual entities in order to detect the conditions in the existing acts for their internal organization and systematization.
- The key job positions, especially the managerial positions, should be filled with persons with appropriate professional qualifications and work experience.
- To work on continuous education and development of the working skills of the employees.

PERFORMANCE OF WORK TASKS IN ORDER TO ACHIEVE RESULTS

- If such have not already been established, to develop action and decision-making handling algorithms, that is, clear written procedures for communication among the entities within the sector.
- If such have not already been established, to develop public relations handling algorithms at the sector level.
- To make a more detailed analysis of the situation and needs with IT technology, software and other work tools, as well as adequate staff.
- To take advantage of the opportunities provided by the programs of the EU and other countries and organizations to apply for projects, and especially to develop staff that will monitor these projects and will be properly trained to use them.

10. NEED FOR REFORMS

In order to improve the conditions in the forestry sector, in 2019 and 2020, “Review of Forestry Sector in North Macedonia and Preparation of 2019 IPA Project for Forestry” a project funded by the European Union was implemented. The project was implemented by a foreign expert and resulted in two documents:

- ↘ Analysis of forestry sector developments and institutional set-up in RNM with recommendations for improvement and identification of the needs for future assistance;
- ↘ Analysis of current strategic and legal framework of forestry sector in RNM with concrete recommendations for improvement.

These documents presented the conditions of our forestry and provided concrete recommendations for its improvement.

This research was followed up by the next project: Supporting the Reforms in Policy and Legislation in Forestry in North Macedonia, which in the summer of 2022 resulted in the delivery of a new draft law on forests, a draft revised forestry strategy and a draft national forestry program.

These documents propose changes in the institutional set-up in forestry:

1. Upgrading of the Forestry and Hunting Department at the MAFWE in a directorate, based on the experiences of several EU member states. The Directorate should be responsible for formulating forestry policies, strategies, programs and regulations and for monitoring and reporting on their implementation, for the highest level of forestry administrative tasks, including administrative oversight of subordinate state bodies, institutions and services, as well as governance of the forestry sector, including control of the implementation of the contract(s) for the management of state forests on behalf of the state as the owner of the forests, in accordance with the Law.

2. Establishment of a Forest Agency as an independent public institution with the status of a legal entity, under the administrative oversight of the MAFWE, in accordance with the Law on Forests and on the basis of a special law on a forest agency. The Agency should take over an appropriate number of employees from PENF, who are engaged in special activities that are in the domain of state forest administration, planning and services in private forests, including the appropriate equipment in the Forest Agency, as well as the transfer of employees and the appropriate equipment from the Forest Police Department of the MAFWE to the forest agency.

The new forest agency should perform all the administrative work previously carried out by PENF and entities that manage forests in protected areas and perform these duties, tasks and services:

- ↘ administrative procedures and tasks related to all forests, forest land and other land;
- ↘ management of a special account for collecting sources for financing in forestry;
- ↘ operational control of the implementation of the contract of the future state forest company at the expense of the state as the owner of the forest;
- ↘ provision of professional-technical services to private forest owners;
- ↘ national inventory of forests and tasks for systematic monitoring of all forests;
- ↘ forest development planning, including the elaboration of a national forest development plan;
- ↘ forest management planning for forest users and owners (including hunting management planning);
- ↘ establishment and maintenance of an integrated forest information system, including electronic wood tracking module and other modules;
- ↘ implementation of professional-technical tasks related to afforestation, silviculture, forest protection, forest utilization, forest infrastructure and maintenance of forest functions;
- ↘ granting the right to collect non-wood forest products on behalf of the state;
- ↘ provision of advisory services for forest owners, users and other stakeholders;
- ↘ regional control of the management of private and state-owned forests that are not managed by entities for the management of state forests;
- ↘ transfer of state financial support to forest owners and users from the special account and other state budget sources according to the procedures prescribed by law;
- ↘ other tasks established by law.

The agency should have 540 employees, of which 140 for forest administration or service and 400 for the forest police function.

At the central level, there should be 65 employees, of which 50 assigned to forest administration and service tasks. At the local level, there should be 475 employees, of which 90 of the forest service and 385 of the forest police.

After the transfer of the planned personnel from the FHD of the MAFWE (about 5) and the Forest Police Department (FP) (about 400) and from the PENF (about 120), the agency should receive almost all of its staff (at least 97%).

3. Transformation of the current Public Enterprise “National Forests” into a state forest company, in accordance with a special law. The company should perform the following activities:

- ↘ professional-technical activities as part of the public service for state forests that they have the right to manage;
- ↘ economic management of state-owned forests for productive, protective and special purposes, including forests in protected areas, except for forests that have already been given to be managed by other entities;
- ↘ guarding of state-owned forests within the forest ranges in which it manages and protection of the company's property;
- ↘ sale of wood and wood assortments;
- ↘ guarding ranges of the state forests with which it manages and of the property owned by the SFC; production and sale of seed and planting material;
- ↘ management of hunting grounds in accordance with the law;
- ↘ processing and sale of non-wood forest products;
- ↘ management of protected areas dominated by forests, in accordance with the law.

The form and vertical structure of the company should be defined by the new law on SFC, based on a previous feasibility study and strategic plan, and with an appropriate social program to resolve the redeployment and requalification of a certain number of employees in PENF, who are redundant, to basis of provided funds for its implementation by the PENF and the state budget.

4. Establishment of a new forestry institute, which will carry out research and development work in forestry as a public institution of national interest.

5. Strengthening the capacities of forestry institutions/organizations by providing (international) expert support for the preparation of the plan on establishing and functioning of the new forest agency, establishing and strengthening the human and technical capacities of the new forest agency (including the Forest Police), providing (international) expert support to PENF for the preparation of a strategic plan for its streamlining and reorganization into a state forest company, providing technical support for efficient management and use of the integrated forest information system (which will be managed by a forest agency and used by entities that manage state forests and wood traders) and its modules, especially the wood tracking module, strengthening the human and technical capacities of the State Forestry and Hunting Inspectorate, supporting the establishment of forestry associations.

Regarding financing in forestry, it is recommended to open a special account that will be managed by the agency and to which all funds from forest reproduction, services in private forests, development of special forest management plan, collection for the conversion of forest land, compensation for damage in state forests, payment for the right to collect non-timber forest products, payment for maintaining ecosystem services by forests, will be directed.

The time frame which plans these changes to be implemented is until the end of 2024, so that at the beginning of 2025 the new and reformed institutions will start operating.

The adoption of these solutions was preceded by a long debate in a strategic and technical working group in which, apart from the experts hired by the project, relevant representatives of several entities from the forestry sector participated. The experience of the experts and the broad debate that preceded the adoption of these strategic documents should guarantee the improvement of the conditions in the forestry sector after their implementation. It is of particular importance to welcome the solutions to strengthen the sector by obtaining a forestry directorate, the prohibition of clear-cutting management on large areas, the collection of ecosystem services in the amount of 0.05% of the total annual income of the entities, the introduction of an electronic wood tracking system from the marking to the end consumer, enabling the sale of wood by the company for management of state forests on tree stump, thus avoiding a monopoly position in the market, taking control of the marking in state forests by the forest agency.

However, doubts about certain issues still remain:

- 1.** Will the new forest agency, with limited professional staff and technical resources, be able to respond to the needs of private forest owners throughout the country for the smooth execution of advisory and technical services, or should this activity be left to private licensed contractors, who are going to be regularly supervised in order not to repeat the mistakes of the past, but a modern and quick approach to solving this problem will be provided and the opportunity for self-employment will be opened to a large number of unemployed forestry engineers and technicians;
- 2.** Will the forest police department be more successful in its work to deal with crime in the forest if it is just mechanically transferred from the MAFWE to the new forest agency, instead of being transferred to the Mol, to be well reformed, perhaps to be integrated with the forest guarding service, and even to extend its competences to fight crime in the overall sphere of the environment, such as competences for protection against pollution of land, air, water, wild animals, dumping waste and causing fires in open space;
- 3.** Will the forest agency succeed in motivating the engineers - planners to produce quality forest management plans, will it succeed in charging the new Forestry Company for its services, or is it better to leave this activity to licensed private entities, that will have to fight for the market by quality and competitiveness?

ANNEX 1

I. MODEL OF COMPETITIVE FORCES

For the purposes of this sectoral analysis, a Model of competitive forces was created. This so-called principle of the six competitive forces is an important tool used in the analysis to analyze the competitiveness in the industry, that is, in its specific sector.

The model is more commonly called Porter's five forces model, which includes the following five forces, or factors:

I. Rivalry intensity

II. Threat of new entrants

III. Bargaining power of customers

IV. Bargaining power of suppliers

V. Threat of substitute goods and/or services

In our model of competitive forces, we include a sixth force, or sixth factor:

VI. Power of complementars

Model of competitive forces



1. Intensity of rivalry



2. Threat from potential of new participants



3. Negotiation power of buyers



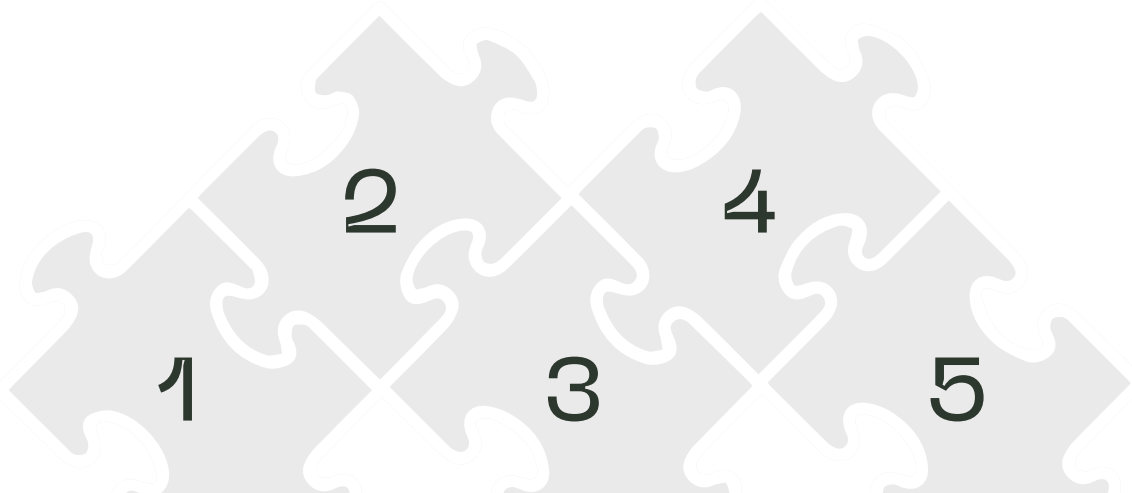
4. Negotiation power of suppliers



5. Threat from replaceable goods and/or services



6. Power of providers of additional goods



This model should help the sector to understand the risks in which it operates and to decide how it wants to implement its strategies in response to threats or competition.

It should be noted that the forestry sector is not a classic industrial entity, which operates in pure market conditions of management, that is, according to the principle of supply and demand in the open market. It is predominantly due to the fact that forests are a national wealth and their use and disposal is under a special regime, even for those that are privately owned, so there are a number of legal, regulatory and economic measures that predetermine the market.

Based on the available documents that have been created at the sectoral level, the following provisional conclusions can be reached in this analysis.

I. Rivalry intensity

a. Within the sector, we are talking about a solidly regulated market, where the interests of society are elevated to a higher level, so there is no great rivalry intensity. The products generated in the sector are fairly homogeneous.

II. Threat of new entrants

a. In a relatively regulated market, such as this sector, the threat of potential new entrants does not play a major role, because everyone must accept the rules that are already in place. This represents a higher barrier for any new entrant in any segment;

b. The specialized skills required within the sector, together with the regulated way of operating within it, also represents a greater barrier to entry for potential new entrants.

III. Bargaining power of customers

a. Within the sector, the bargaining power of customers is relatively low, because the exploitation of the products provided by the sector, especially in the area of wood industry and firewood, is determined by regulated exploitation rules;

b. Within the sector, the customers are sensitive to price and it has a direct impact on them. It applies to both natural persons and legal entities.

IV. Bargaining power of suppliers

a. Within the sector, certain suppliers have a significant impact on the performance of the energy and energy products. The price of energy and energy products directly determines other results within the sector.

V. Threat of substitute goods and/or services

- a. Considering the fact that a huge part of the sector is dedicated to providing firewood and timber, the costs of switching to other products are relatively high for customers;
- b. Substitutes for these two products are not priced superior to the current products;
- c. As to whether their substitutes have better attributes or features, that is a case-by-case individual assessment.

VI. Power of complementars

- a. There are more suppliers of complementary goods or services within the sector. According to the analysis of the available materials and documents, a certain consolidation of power has been noted among the suppliers who receive tenders for logging, skidding and transport, because the public enterprises do not have the material, technical and human resources to independently implement the activities in the field. This finding also applies to energy and energy product suppliers.

However, this analysis does not provide all aspects within the sector. In order to get a more complex picture of the situation, it is necessary to take into account the factors that exist, but not always the entities in one system or sector have an influence on them.

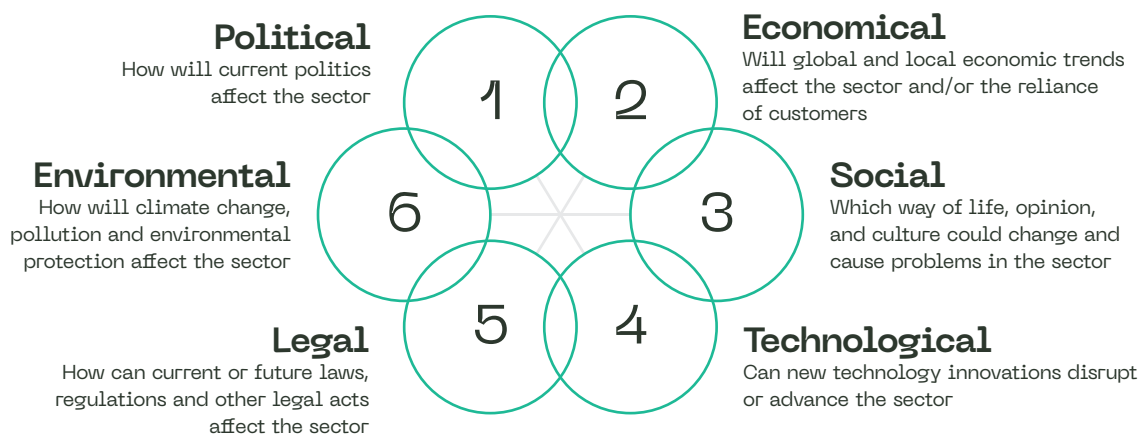
II. PESTLE ANALYSIS

For the purposes of this document, another analysis, which should show and anticipate certain factors that have an impact on a certain entity, project, industry or market, was made.

PESTLE identifies and analyzes critical drivers of change outside the sector and presents an evaluation to review the objective, feature or plans. It can be used to initiate a strategy formulation or to revise such a strategy periodically by revisiting the indicators. It is also a serious strategic tool not only for the entire sector, but also for the individual entities of which it is composed.

PESTLE analysis is applied to six areas, which are mostly, if not always, beyond our control.

PESTLE Analysis



In more detail within this analysis, these are the questions and answers in all areas:

POLITICAL

• What government policies help or hinder?

o Policies to cushion the energy crisis are policies that help. No policies are detected that directly hinder the development of the sector.

• Are there funding grants, tax credits or initiatives in place that the sector or entities within it could apply for?

o There are opportunities that the sector can use, especially the IPA and IPARD programs.

• Is there political instability that could affect the sector as a whole?

o No instability that could affect the sector as a whole has been noted.

• Will the current foreign trade policy positively affect the sector?

o Due to global economic and political developments, a positive reflection on the sector is not expected.

ECONOMIC

• What is the economic forecast?

o The current degree of economic uncertainty, especially energy, is unfavorable, and that as a global trend.

• Is the exchange rate volatile to dramatic changes, which may affect the sector?

o The exchange rate is stable.

• Can consumers afford the products provided by the sector (raw materials, services)?

o Due to the global energy crisis, there is a greater demand for products, especially firewood products, which are of increased cost, and their availability is lower.



SOCIAL

- **Is there a growth or decline in the population at the state level?**

- o At the state level, there is statistically a decline in the population.

- **What are the current cultural/societal trends and are they reflected on the sector?**

- o Emigration is one of the biggest threats, as well as rural-urban internal migration is a trend that should be noted.

- **Do consumers trust the sector and its products and services?**

- o In general, distrust is not noted.

TECHNOLOGICAL

- **What is the state of technology within the sector?**

- o The sector has IT within the usual capacities.

- **How frequently new technologies are implemented at the sector level?**

- o New technologies at the sector level are not being implemented at the frequency at which they are becoming available.

LEGAL

- **Are the laws adapted to the EU directives?**

- o Yes, to a large extent the laws in the sector are adapted to the EU directives.

- **Which laws directly affect the sector and have not been adopted?**

- o There are laws that are under consideration and have not yet been adopted, but they mostly refer to amendments to existing laws, not new laws per se.

- **Are there sector-related laws that are not harmonized?**

- o No inconsistencies have been detected within the laws that gravitate towards the sector.



ENVIRONMENT

- **Do some products and services, that are created and provided within the sector, have a negative impact on the environment?**

- o Yes, firewood, as well as other wood derivatives, can negatively impact the environment.

- **Will climate change impact the sector?**

- o Absolutely, climate change has an impact on the sector.

According to this analysis, the following arises:

Political – current policies are determined by economic and political developments at the global level and certainly the sector will be affected by it. Policies to cushion the energy crisis are policies that help. There are opportunities that the sector can use, especially the IPA and IPARD programs.

Economic – global trends in the economy are reflected directly on local ones. Thus, financial issues impact the sector and consumer trust. The current degree of economic uncertainty, especially energy, is unfavorable, and as a global trend, and due to the global energy crisis, there is a greater demand for products, especially firewood products, which have an increased price and their availability is lower.

Social – In terms of social issues, there is a decline in the population noted, which demographically has implications in all sectors, including this one. Emigration is one of the biggest threats, and internal rural-urban migration is also a visible trend.

Technology – the situation with IT is at a standard level, taking into account the possibilities of society and the state as a whole. New technological innovations, including IT can only advance the sector as a whole. Legal –current and future laws and regulations applied in the sector are adapted to EU directives. However, there are laws under consideration that have not yet been adopted, but they mostly concern amendments to existing laws and not new regulations per se. No inconsistencies were detected within the laws that gravitate towards the sector.

Environment – issues of climate change, pollution, environmental protection, significantly impact the sector. Firewood, and to some extent pellets, can have a negative impact on the environment as products, that is, derivatives that are related to the sector, and undoubtedly climate change has an impact on the sector.



