Babeș-Bolyai University Cluj-Napoca

Institute for Doctoral Studies

Doctoral School of Environmental Science

Environmental approaches using voluntary and regulated instruments in promoting sustainable forestry

Doctoral Thesis Summary

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Cluj-Napoca

2023

1. Introduction to the studied topic

1.1. Study objectives

The research carried out within the doctoral thesis started from the following objectives:

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- Highlighting the results obtained by state agencies' control over the forestry sector in Romania and other European countries from the perspective of European legislation (EUTR)
- Highlighting the results obtained by applying the FSC certification system in Romania and in another 10 European countries
- Highlighting the results obtained by applying the FSC certification system in Romania and in another 9 European countries

The doctoral thesis broadly addresses these objectives in order to draw pertinent conclusions that are scientifically valid. In the chapter reserved for conclusions, each objective is addressed specifically based on the data obtained and presented in the previous chapters.

2. Concerns about the quality of forests and the environment

With the growth of the population and industrialization, concerns about the quality of forests have become increasingly important, questioning the status quo (Joffe et al., 1990; McCormick & Mitchell, 1989; Shabecoff, 1993). A sharp increase in concerns about the quality of forests took place in the 1980s, with the main focus being land use change (essentially deforestation) and the rights of forest-dependent populations (example: indigenous, local communities that maintain themselves solely from forest use). These actions began in the tropical area and were supported by non-governmental organizations and the indigenous population (Humphreys, 2004; Kill, 2001). In the 1990s, international negotiations were launched to establish a Global Forest Treaty. These negotiations never reached a consensus, so the international definition of sustainable forest management and the enforcement mechanism was never achieved. Two years later, a UN event helped relaunch the concept of sustainable development for the media and the public. This event, attended by representatives from 178 countries, produced a declaration, known as Agenda 21 (Khor, 2012). This declaration established the principles of sustainable development in several fields.

The Brundtland Commission suggested the idea that although the "environment" was previously perceived as separate from human action, and "development" was a term commonly used to describe political objectives or economic progress, it is more important to link these two terms: "we can better understand the environment in relation to development, and we can better understand development in relation to the environment, because they cannot and should not be distinguished as separate entities." The argument being "...the environment is where we live and development is what

we all do in trying to improve our place within that dwelling, the two are inseparable" (Harlem Brundtland, 1987). It also highlights the fact that development represents what the whole world can do, including developed countries, to improve the global situation (Harlem Brundtland, 1987). At present, sustainable development is increasingly present as a method to achieve everything that is good and desired by society and is not necessarily a concept related to environmental protection and improvement.

There is still no political or scientific agreement on a definition of "sustainable development", being an ideal political concept, similar to democracy, justice, and freedom (Meadowcroft, 2007). Another famous remark is that "sustainable development is now like democracy, universally desired, diversely understood, extremely difficult to achieve - but it will not disappear" (Lafferty, 2004).

Near-natural forestry emphasizes mixtures of species and irregular age structures in response to even-aged plantations, which had become predominant in some parts of Europe. Even three decades ago, these single-species, even-aged plantations were considered more sensitive to disturbances, being considered "far from nature" (Diaci, 2006).

Deforestation is the change of land use from forest to another use. From this perspective, deforestation can be done for the construction of a road or for the creation of agricultural land (Daniel W. Bromley & Eustaquio J. Reis, 1999). There are numerous studies indicating the existence of this phenomenon in the area of tropical forests (S. Carter et al., 2018), most often the causes being the expansion of agricultural land.

In the case of Romania, we cannot talk about large-scale deforestation. Most often, this term is used to highlight a lower consistency or illegal tree logging. In all these cases, the land use remained the same, and the forest area did not suffer severe changes.

3. Classification and description of the most well-known environmental approaches used for maintaining and improving forest management

There are many approaches developed by different organizations. An initial classification was made by Bemelmans-Videc, who indicates the existence of approaches that impose constraints in case of non-compliance - the stick approach (Bemelmans-Videc et al., 2010; Zimmermann et al., 2018). On the other hand, there are approaches that offer a reward in case of implementing a measure - the carrot approach (Bemelmans-Videc et al., 2010; Zimmermann et al., 2018).

Another type of classification is according to the entity developing the requirements. Taking this into account, we can say that we have a regulated system and a voluntary one.

The regulated system represents all actions and regulations by governmental institutions. These are usually mandatory. In case of non-compliance, penalties and coercive measures are provided (example: withdrawal of the right to operate; sales ban). This type of instrument is characterized by the implementation of a constraint - the stick approach (Bemelmans-Videc et al., 2010; Zimmermann et al., 2018), to ensure that organizations meet the requirements. Even though in the 1980s, some countries had a fairly efficient regulated system in terms of environmental protection, each country sought additional measures. With the establishment of the European Union, a unified approach is being attempted to ensure environmental protection. The center of the regulated system is represented by forestry legislation that imposes the minimum set of regulations.

The voluntary system is most often developed by non-profit organizations that want to define a level in order to make statements about the level of involvement of the organization in sustainable development or in the application of responsible management. This type of instrument is characterized by the implementation of a reward - the carrot approach (Bemelmans-Videc et al., 2010; Zimmermann et al., 2018), to ensure compliance with principles and standards.

Each country has implemented forestry legislation with the role of regulating the operation of the domain as well as specific rules. In this process, countries can regulate sustainable development, near-natural forestry or responsible management at different levels. The level of each country takes into account the political history, as well as the historical involvement of a country in environmental protection concerns. At the same time, each country can define and regulate terms such as illegal logging or deforestation in different ways.

At the international level, several indicators are defined that classify countries. One of the most well-known is the Corruption Perceptions Index (CPI). It is maintained by Transparency International and updated annually. It can be said that countries with an index above 60 have a strong legislative system that ensures rigorous implementation (Transparency International, 2021). Another index developed at the international level is the one created by the World Bank (WB), which shows the level of governance efficiency (World Bank, 2021). Another indicator is the Fragile States Index (FSI) developed by the Fund for Peace. This index aims to highlight countries where the legislative system does not operate at the highest level and countries where there is a risk of instability (The Fund For Peace, 2023).

Considering the first three classifications, we can say that the basis is represented by forestry legislation. This often applies constraints in case of non-compliance, but the application of rewards is also observed (e.g. tax exemption for owners who choose to certify themselves).

Forestry legislation can be defined as the totality of laws, orders, and regulations that define the functioning of the forestry sector. Based on this definition, the following sub-chapters aim to create a profile for each country included in this study and describe forestry legislation.

Forestry in post-socialist countries, such as Bulgaria, Estonia, Latvia, Poland, and Romania, underwent significant changes after the collapse of communist regimes. These countries had to transition from a centralized and collectivist forest management system to one based on market principles and private management (Albulescu et al., 2022).

In Bulgaria, after the change of the communist regime, the country moved to the privatization of forests and encouraged private owners to manage their forests. However, the process of privatization and restitution of forest property was difficult and faced multiple problems and disputes (Preferred By Nature, 2017a).

Estonia has a large area of forests and is the post-socialist country where changes in forestry legislation are most impressive, a country that managed to improve the forest resource management system in a short period. It is recognized for using advanced technologies and for implementing international forest management standards (Preferred By Nature, 2017c).

Latvia, being a country with a rich forestry tradition, had a relatively smooth transition to private forest management. Forest property is largely private, and many of the Latvian forests are certified according to sustainable management standards (Preferred By Nature, 2019b).

In Poland, the privatization of forests was a complex and prolonged process. Forest property is divided between the state, local administrations, and private owners. Poland has implemented FSC forest certification, but at present, the state has begun to renounce this type of certification (Preferred By Nature, 2017f).

In Romania, the transition process to private forest management was difficult and uncertain. A large part of the forests are state-owned, and privatization was partial and accompanied by controversies and lawsuits (Preferred By Nature, 2017g).

In general, post-socialist countries in Eastern Europe have faced challenges in the transition process to private forest management. These include difficulties in privatization and restitution of forest property, inadequate regulations, outdated infrastructure, and the need for administrative capacity development and expertise in forestry. However, these countries have made significant

progress in adopting sustainable forest management practices and implementing international standards.

Forestry in Western countries, such as Denmark, Finland, Italy, Ireland, Norway, and Sweden, is characterized by a long tradition and sustainable forest management. These countries enjoy rich forest resources and have developed policies and practices to promote sustainable management and biodiversity conservation. In general, the forestry of these countries is much less regulated, giving owners the right to exploit the forest anytime. In cases where the owner decides to protect the forest, various types of incentives are introduced.

Denmark, although it does not have a large forest area, focuses on sustainable forest management and the ecosystem services provided by these, such as biodiversity conservation and soil protection (Preferred By Nature, 2017b).

Finland has a long tradition in forestry and is one of the main producers of forest products in Europe. Forest management practices are rigorous and focus on sustainability, biodiversity conservation, and addressing climate change (Preferred By Nature, 2017d).

Italy has a diverse mix of forests and promotes an integrated approach to forest resource management. However, forestry legislation varies greatly from one region to another, which can generate different levels of development of forestry practices (Preferred By Nature, 2018).

Ireland, although it has a smaller area of forests, focuses on conserving and developing existing forests. Projects have been implemented to protect biodiversity and fragile forest ecosystems (Preferred By Nature, 2019a).

Norway has sustainable forest management and pays special attention to biodiversity conservation and ecological forest management. Additionally, Norway has developed international partnerships to address global issues related to forests and climate change (Preferred By Nature, 2017e).

Sweden is recognized as a leader in sustainable forest management. It has a considerable forest area and emphasizes biodiversity conservation and sustainable use of forest resources (Preferred by Nature, 2017).

In general, Nordic and Western countries are committed to responsible forest management, biodiversity protection, and combating climate change through more relaxed policies and practices compared to post-socialist countries.

Internationally, there is a variety of environmental approaches that can improve the operation of the forestry sector and facilitate the implementation of various concepts. These approaches are not automatically part of forestry legislation, with each country having the latitude to decide what is implemented. An increasingly important aspect promoted at the European and international level is ensuring that products entering the market are legally obtained in the country of origin. Due to significant differences in forestry legislation, this goal is not uniformly implemented in terms of the concept of sustainable development (European Commission, 2021).

In the dynamics of discussions and decisions related to the forestry sector, not only governmental authorities play an essential role. The voices of other stakeholders such as consumers of wood products and various non-governmental organizations focused on environmental protection and human rights advocacy are also increasing. They have significantly contributed to shaping a non-governmental approach, reflecting the diversified involvement of society in the protection and responsible management of forest resources (Kiker & Putz, 1997).

In the context of globalization, we have witnessed the formation of complex and transnational supply chains. An example might be a book that can currently be printed in China, with pulp sourced from three different countries in South America. This fact underscores the deep interconnections that form in the timber industry and its products, impacting the environment in different corners of the world.

The existence of these long and complex supply chains has generated the need for increased accountability and transparency measures in the industry. Therefore, some actors in the field have opted to adhere to voluntary systems that demonstrate that their products do not have a negative impact on the environment or local communities. Essentially, these approaches, based on a voluntary system, function as marketing tools, offering environmentally conscious consumers the opportunity to support sustainable practices. These consumers can explicitly choose products that are associated with voluntary certification systems.

Forest certification is a process in which written proof is obtained from an independent third-party organization, attesting to the location and management of the forest according to the standards issued by the certification scheme holder (Kiker & Putz, 1997). This process involves assessing the quality of forest management against a predefined set of principles and criteria known in advance. In addition, forest certification provides consumers with a credible guarantee that the product comes from management in accordance with developed standards, which in some cases can be considered equivalent to sustainable development, responsible management, or the concept of close-to-nature forestry (Forest Stewardship Council, n.d.).

Each certification scheme defines how its requirements are created and improved. This process is most often carried out through standards. In practice, we can say that standards are the equivalent of a law within the regulated system. They play a fundamental role in forest certification. They constitute the criteria and norms that forest operators must respect to ensure responsible and sustainable management of forests (van der Ven & Cashore, 2018).

4. Rezultatele aplicări diverselor abordări de mediu

The role of the state in ensuring the transparency of information about companies is particularly important, as this information is vital for a fair and equitable business environment. Through its institutions, such as the Trade Register and other regulatory organizations, the state can guarantee that company information is easily accessible and that it is updated and accurate. This helps to prevent fraud and protect consumers and other parties interested in business.

One of the important aspects of providing public information in all countries is the activity carried out by each organization. The rules and requirements associated with each activity are defined differently in each country. In the case of activities with significant impact, the state usually involves a consultation process with interested parties. This process ensures that regulations and standards are developed considering the diversity of stakeholders and the specific needs of each activity.

Each certificate system is different. In the case of FSC, the available public information includes:

- Chain of Custody management policy - this is an internal company policy that describes how it will manage the supply of forestry materials and ensure that they come from responsible sources.
- FSC COC certificate - this is an official document issued by the FSC, which certifies that the company meets the certification criteria and can use the FSC logo on its products.

In addition, for FSC FM certification, the audit report carried out by the certification body is publicly available together with the consultation process and information about the implementation of the management and high-value forests identified within the forestry range.

Non-compliance Analysis

A total of 468 NCRs and 261 Preventive Actions (PAs) were issued for Romania in audit reports based on the applicable FSC FM standard in the period 2008-2017. These correspond to information recorded in 108 audits, of which 30 (28%) are main certification audits, 4 are recertification audits and 74 (69%) are annual audits. In a 5-year certification cycle, the ratio of main evaluations to annual supervision audits is 1:4, while for the period we evaluated the ratio is 1:2.3.

This difference is due to the fact that 15 evaluations and main reassessments out of a total of 27 valid certificates were carried out in 2016 and 2017.

Fifty-two percent of the NCRs were identified in the main and reassessments due to the differences in the type of audit. Of the total number of NCRs, 12% represent major non-compliances, the highest number of major NCRs being recorded in 2017. Seventy percent of major NCRs were identified in supervision audits; however, the average number of major NCRs per report is similar for main evaluations (0.49) and supervision audits (0.52). For minor NCRs, the average number per report differs from 6.1 in main evaluations to 2.5 in supervision audits. No differences are identified between state-managed and private forests; in both cases, the average number of NCRs per report is 4.3. With the increase in the number of certified management units since 2013, the number of NCRs issued each year has increased; however, the average number of NCRs per audit has decreased from 26 NCRs issued in a single audit in 2008 to an average of four NCRs issued per audit in 2017.

Stakeholder Involvement in the Implementation Process

One of the key components of certification is the involvement of stakeholders, who can participate in several ways within the certification process. One of the ways in which they can get involved is through active participation in the audit process and by providing feedback (positive or negative) to the audit team..

Based on this information, the audit team prepares a public report, which can contain various information, depending on each certification body.

From the graph below, there is a large variety in terms of feedback received from stakeholders. Some certification bodies include information about complaints, while others do not. Also, the description of the input and the measures taken are not available in all reports..

Public consultation can be done through public meetings, websites, opinion polls, and briefing sessions about the certification process and FSC standards. This allows the organization that is about to be certified to receive feedback and consider the opinions of stakeholders to improve forest management practices.

Consultation with local communities and forest workers is important to ensure that their perspectives and needs are taken into account in the certification process. This may involve encouraging their participation in the consultation process, identifying their issues and needs, and working with them in developing suitable solutions.

Identification of Environmental Approaches Applied in Other 10 European Countries

Each country has its own legal system, and these systems sometimes differ significantly from one country to another. Each country defines its own laws and legal procedures through its national legislation or other sources of law, such as jurisprudence, traditions, and customs.

For example, in one country, the law may be predominantly based on the civil code, while in another country the law may be based on jurisprudence or on local traditions and customs. In addition, there are significant differences between the legal systems in common law countries and civil law countries.

In general, a country's legal system reflects the values, culture, and history of that country, as well as its current needs and concerns. Therefore, understanding how each country defines its laws is important for anyone wanting to understand a country's legal system and navigate through it. On the other hand, the voluntary system requests the implementation of the same set of principles regardless of the country, property type, and type of forest..

Respecting the guideline for describing a non-compliance, as well as the method of evaluating the indicators of a standard, it is important to identify and clarify the occurrence of a problem (NCR) from three different perspectives: documentation, interview, and field observations.

Bulgaria has the highest total number of non-conformities (401) among the three countries discussed here. Most non-conformities were identified in the "Social Issues" category (158), followed by "Administration and Other General Issues" (65) and "Forest Management Issues" (36). The smallest category is "Environmental Protection Issues" with 29 non-conformities. In most cases, non-conformities were described from a single perspective, but there are also cases where they were addressed from two perspectives.

Denmark has the lowest total number of non-conformities (24) among the three countries. Most non-conformities were identified in the "Administration and Other General Issues" category (10), followed by "Forest Management Issues" (5) and "Social Issues" (4). No non-conformities were identified in the "Environmental Protection Issues" category. As in Bulgaria, most non-conformities were described from a single perspective.

Estonia has a total of 53 non-conformities. Most non-conformities were identified in the "Forest Management Issues" category (27), followed by "Social Issues" (15) and "Administration and Other General Issues" (7). No non-conformities were identified in the "Environmental Protection Issues" category. Most non-conformities were described from a single perspective.

Finland has a total of 97 non-conformities. Most non-conformities were identified in the "Administration and Other General Issues" category (52), followed by "Forest Management Issues" (12) and "Environmental Protection Issues" (12). The "Social Issues" category has the lowest number of non-conformities (12). In most cases, non-conformities were described from a single perspective.

Ireland has a total of 24 non-conformities, with the highest number identified in the "Social Issues" category (11), followed by "Administration and Other General Issues" (7) and "Forest Management Issues" (2). No non-conformities were identified in the "Environmental Protection Issues" category. All non-conformities were described either from a single perspective or from two perspectives.

Italy has a total of 96 non-conformities. Most non-conformities were identified in the "Administration and Other General Issues" category (37), followed by "Social Issues" (27) and "Forest Management Issues" (17). The "Environmental Protection Issues" category has the fewest non-conformities (15). Most non-conformities were described from a single perspective, but there were also cases where they were approached from two perspectives.

Latvia has a total of 134 non-conformities. Most non-conformities were identified in the "Forest Management Issues" category (59), followed by "Administration and Other General Issues" (17) and "Social Issues" (27). The "Environmental Protection Issues" category has the fewest non-conformities (31). In most cases, non-conformities were described from a single perspective, but there were also cases where they were approached from two perspectives.

Norway has a total of 84 non-conformities, with the highest number identified in the "Administration and Other General Issues" category (41), followed by "Environmental Protection Issues" (25) and "Forest Management Issues" (5). The "Social Issues" category has the fewest non-conformities (5). All non-conformities were described either from a single perspective or from two perspectives.

Poland has a total of 169 non-conformities. Most non-conformities were identified in the "Forest Management Issues" category (73), followed by "Administration and Other General Issues" (32) and "Social Issues" (44). The "Environmental Protection Issues" category has the fewest non-conformities (20). Most non-conformities were described from a single perspective, but there were also cases where they were approached from two or three perspectives.

Romania has a total of 327 non-conformities. Most non-conformities were identified in the "Social Issues" category (118), followed by "Administration and Other General Issues" (29) and "Forest Management Issues" (36). The "Environmental Protection Issues" category has the highest

number of non-conformities (144). In most cases, non-conformities were described from a single perspective, but there were also cases where they were approached from two perspectives.

Sweden has a total of 766 non-conformities, the highest number among all the listed countries. Most non-conformities were identified in the "Forest Management Issues" category (171), followed by "Administration and Other General Issues" (190) and "Environmental Protection Issues" (104). The "Social Issues" category has the highest number of non-conformities (301). Most non-conformities were described from a single perspective, but there were also cases where they were approached from two or three perspectives.

We analyzed the extent to which the FSC FM standard in Romania overlaps with forestry legislation in Romania. The analysis is based on providing evidence that legal requirements are or are not overlapping with FSC requirements.

The Woodmark standard applied for FSC FM certification in Romania during 2017-2031 is 69.2% overlapped with forestry legislation. Considering the average assessment made for the 212 indicators of the standard, almost half fully reproduce the legal requirements, while only 10% of the indicators do not overlap at all with the legal framework (table 6). Subsequently, 71% of the criteria are entirely or largely covered by national legislation, while only eight criteria are not addressed at all by legislation. There are differences in the way the nine principles are based on Romanian legislation.

The basic idea of Principle 1 (Compliance with laws and FSC principles) is that national and international legislation must be implemented. As the name suggests, the main interest is ensuring that legislation and basic principles of certification are respected. Among these, an indicator clearly specifies the requirement to comply with legislation. Some indicators refer to specific FSC FM requirements (e.g., long-term commitment to FSC principles and criteria) and non-legally binding agreements and guidelines. Consequently, the legal overlap of Principle 1 is 72%, determined by the average values assigned to the 17 indicators characterizing this principle.

Principle 2 (Property and use rights and responsibilities) has the highest degree of overlap with legal provisions, with 11 out of 12 indicators entirely or largely provided by law. Only the prerequisite to ensure local community access to forest resources is only partially addressed by law. This principle demands that land use rights be clear and documented and that there be no disputes about property to be certified. Other indicators demand the creation of a consensus with the local community and ensuring their rights and interests are respected.

Principle 4 (Community relations and workers' rights) has 21 indicators, eight of which are fully covered and nine largely covered by national legislation. Legal requirements refer to workers'

rights, health and safety regulations, and procedures for resolving complaints received by Forestry Districts. Four indicators are only partially addressed by national legislation: pre-harvest social impact assessment, stakeholder consultation, local community consultations, and compensation procedures for neighbors affected by forestry operations.

Principle 5 (Benefits from the forest) is largely covered by legal requirements, with 11 of the 21 indicators fully covered by legislation and six largely covered. Four indicators are only partially addressed by legislation, namely those referring to the assessment and use of non-timber forest products. The standard also provides for managers to collect information about other economic activities that may be affected by forestry operations, an aspect not addressed in legislation.

Principle 6 (Environmental Impact) has 43 out of 61 indicators entirely or largely covered by law. Thus, on average, the principle is 68% conditioned by legislative provisions. Many environmental issues of interest, such as forest road construction, stream protection, chemical use, silvicultural techniques, exotic species control, and forest transformation, are largely addressed from a legal standpoint. This principle also has the largest number of indicators that are not addressed or are only partially addressed by the legislative system.

Principle 7 (Management Plan) contains 78% of indicators that reproduce legal requirements. This is mainly due to the requirement in the Forest Code, which mandates forestry planning for all forests larger than 10 hectares. Forestry planning must be designed by a specialized company and approved by government agencies. Thus, only five of the 28 indicators of this principle specify additional requirements, such as the need to integrate socio-economic needs, identified high conservation value forests (HCVFs), and current research findings into planning procedures.

Principle 8 (Monitoring and Evaluation) has a below-average legal coverage. However, half of the indicators are covered by legal obligations imposing the superior valorization of forest products, the health status of forests, and the monitoring/reporting of sales evidence. The indicators that do not rely on legal norms refer to the need for monitoring i) conservation areas and representative ecosystems, ii) data on the social and environmental impact of forestry operations on local communities, and iii) the effects of forestry operations on plants and animal species.

Principle 9 refers to the identification, management, and monitoring of HCVFs and is considered entirely uncovered by legislation because the concept is not specifically described in national legislation. However, the guide for identifying HCVFs is fundamentally based on the technical provisions for forestry planning. The standard's requirements for monitoring and reporting conservation values have no connection to legal requirements.

Principle 10 (Plantations) is generally legally addressed by the fact that the conversion of natural forests into plantations is not legally permitted, at least to the extent that the species composition for artificial regeneration must be determined according to the natural type of forest. However, technical norms permit some exotic species (e.g., acacia or red oak) to be used to a certain extent in combination with native species.

Based on the data presented in the NCR analysis in Romania, we further analyzed the level of legality. More than half of the identified non-compliances (54%) are legal NCRs, meaning they represent a problem that actually violates a legal requirement. Sixty-four percent of major non-compliances and 52% of minor non-compliances represent non-compliance with legal requirements. No significant differences can be observed regarding the type of audit. Legal NCRs represent 53% of non-compliances identified in the main evaluations and 55% of non-compliances identified in surveillance audits (supplementary material table S2). More legal non-compliances are identified in privately managed forests where 58% of non-compliances are legal NCRs, with an average of 2.5 and 1.8 legal and voluntary NCRs per report. In state forests, legal NCRs represent 39% of identified NCRs, with an average of 1.7 and 2.6 legal and voluntary NCRs per report. Temporally, it can be seen that until 2013, voluntary NCRs comprised the largest share of the total (60-75%). In the last 5 years of analysis, Legal NCRs predominate, with a peak recorded in 2016 and 2017, when more than 66% of non-compliances represented violations of legal provisions.

Discussions and Conclusions

As of 2017, a multitude of environmental approaches are observed promoting sustainable forestry. An initial classification can be made based on the entities that develop the requirements. On the one hand, we have the regulated system, which plays a role in creating a minimum level of requirements, and on the other hand, the voluntary system can add more or fewer additional requirements.

Forestry legislation forms the basis of the regulated system. This system has been developed over several decades and various ways of defining the minimum level of requirements can be observed. Each country has its own legal system, and these systems sometimes differ significantly from one country to another. Every country defines its own laws and legal procedures through its national legislation or other sources of law, such as jurisprudence, traditions, and customs. For example, in one country, the law may be predominantly based on the civil code, while in another country, the law may be based on jurisprudence or local traditions and customs. Furthermore, there are significant differences between the legal systems of common law countries and civil law countries. In general, a country's legal system reflects the values, culture, and history of that country,

as well as its current needs and concerns. Therefore, understanding how each country defines its laws is important for anyone wishing to understand a country's legal system and navigate through it. For a private owner in Romania, it is normal for exploitation to be carried out based on a detailed plan and following sustainability principles over a long period, while for a private owner in Denmark, this would be unthinkable. At the same time, for countries with restrictive forestry legislation, there are fears that if the restrictions were lifted, forests would no longer be managed properly. Overall, at present, it cannot be considered that one legislative approach is more correct than another. Connected legislation brings additional requirements, but these tend to be closer in the analyzed countries.

On the other hand, voluntary systems have created viable tools that manage to turn final consumers into an active component of sustainable development. Voluntary systems for sustainable forest management are represented by certification systems. Due to the existence of a large number of certification systems, it is currently not enough to use only the phrase "certified". In addition to this, the name of the certification system must be specified, because different systems can define the rules differently. For example, one system may introduce the need for certificate holders to sign a policy of association with the values promoted by certification, although many other systems have not introduced such a system. Also, regarding the use of uncertified wood in certified products, there are totally different approaches. All of these result in the implementation of different requirements and the assurance of different levels of sustainable forest development. The voluntary system requires the implementation of the same set of principles regardless of the country, type of property, and type of forest. This can include standards and requirements for the management, protection, and administration of forests, with the aim of promoting sustainability and ensuring their good condition. The existence of a different legislative framework makes certification understood differently by a forest owner in the Nordic countries and a forest owner in Romania, Bulgaria, or Poland. In theory, for post-socialist countries, it should be much easier to implement certification, but the high number of non-compliances indicates a different reality.

We have discussed the various entities involved in the certification process, such as landowners, certification and accreditation bodies, as well as certificate holders. We have highlighted the common characteristics of certification schemes, such as the voluntary nature, conditioned access, and financial involvement of certificate holders. Also, we have analyzed different certification schemes, such as FSC, and highlighted the importance of consultation and stakeholder participation in the certification process. We have observed that the feedback and findings received from stakeholders during audits are largely positive, with a small percentage of negative feedback. Although there are negative perceptions regarding the state of forests, certification has brought positive results in terms of transparency and accountability in forest management. In addition, we have highlighted the

importance of identifying and clarifying non-compliances in the certification process and the use of different perspectives for evaluating them.

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