

**THE IMPORTANCE OF FORESTRY AT MACROECONOMIC AND MICROECONOMIC LEVEL**

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**Abstract**

*The products and services provided by the forest to the population have a great economic and social value, the place of the forestry economy in the national economy being illustrated by the demand for these products and services on the internal and international market. Forests play an important role, not only in the intake of carbon dioxide, but also in the production of biomass and through their potential they have in the renewable energies field. These are important also from a social and cultural point of view, being attractive for the rural and urban population, allowing recreational or healthy activities to take place and they represent an important cultural patrimony. They produce a multitude of goods (wood, berries, edible mushrooms) and protective and recreational activities (hydrological, soil and biodiversity protection). Thus, more and more entrepreneurs tend to develop a business in the field of forestry and forestry exploitation. The purpose of this paper is to determine whether a business in the field is truly cost-effective and whether it can meet both the expectations of the managers and the needs of the clients.*

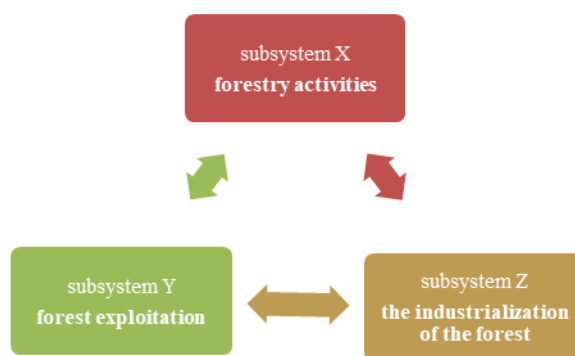
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**JEL Classification:** M41

**I. THE FORESTRY ECONOMY. CONCEPTUAL DELIMITATIONS**

The construction of the forestry industry includes forestry activities, forest exploitation and the wood industrialization, including forest products trading. These activities have a technical and economical character, being differentiated by the nature of the production processes and of the finite products.

The forestry economy, in its entirety, is considered a unified system of durable administration of the forests, consisting of three subsystems: forestry, forestry exploitation and the wood industrialization as it is shown in Figure 1.



**Figure 1 - Forestry economy as a system**

Source: Elaborated by the authors

In one of his works, Milescu (2002) presents forestry as "the branch of national economy producing goods and bio-protective services which includes activities of development and growing of the forests; protecting and guarding them; improvement by afforestation of degraded lands and correction of torrents; making use of the wood; harvesting and valuation of forest products; hunting and sportive fishing in the mountain water". As an

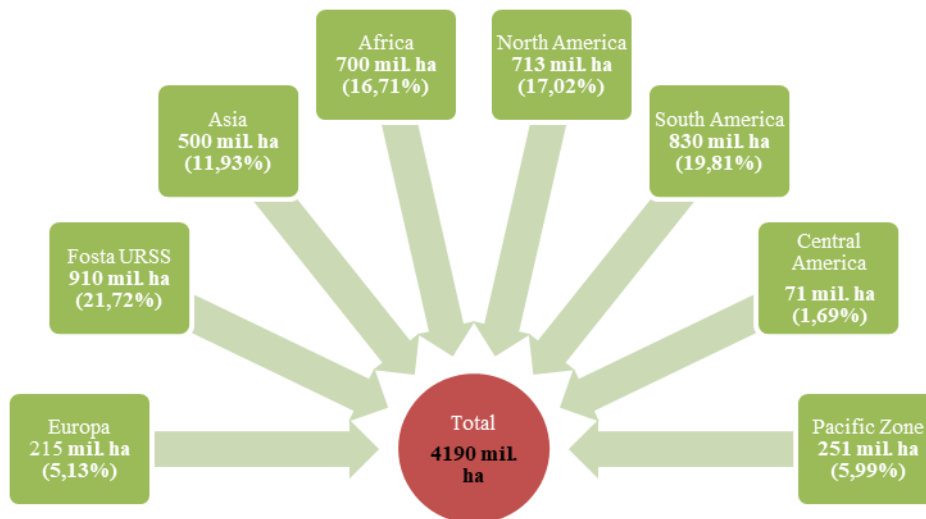
economy branch, forestry differs from agriculture by the content and duration of the production process, as well as by the location and importance of forests in the economic and social life of the population.

Forestry has as a main objective the production of wood by foot, its basic product being the exploitable wood, which is purchased by the economic agents with a forest exploitation profile and turned into assortments of industrial wood: logs, wood for cellulose and paper, construction wood, firewood etc. The wood processing industry is a branch of the industry which processes the exploited wood to obtain: timber, plywood, wood chips or wood fibers, furniture, elements of industrial or dwelling construction, products intended to be used as means of production, means of work or work objects.

Forests play an important role, not only in the intake of carbon dioxide, but also in the production of biomass and through their potential they have in the renewable energies field. These are important also from a social and cultural point of view, being attractive for the rural and urban population, allowing recreational or healthy activities to take place and they represent an important cultural patrimony. They produce a multitude of goods (wood, berries, edible mushrooms) and protective and recreational activities (hydrological, soil and biodiversity protection).

By their destination, the forests contribute to the development of important economic sectors such as the wood processing industry, the paper and cellulose industry, the extractive industry, the construction materials industry, agriculture, as well as the manufacture of food products, pharmaceuticals, etc.

The forests occupy a third of the dry land. By analyzing Figure 2, we can see the distribution of forests on Terra.



**Figure 2 - The distribution of forests by geographic regions**

Source: Own elaboration

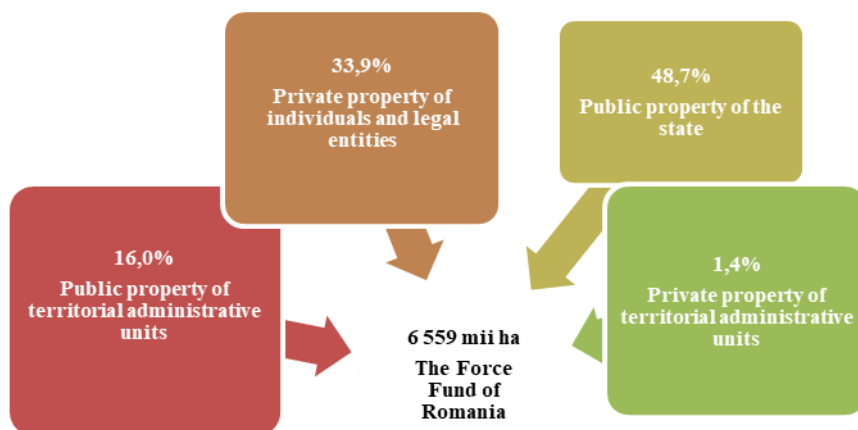
Although European forests (excluding the Russian Federation) account for only 5.13% of the world's forests, respectively 215 million ha, they are a major supplier of wood worldwide, providing about 23% of the world's total industrial wood.

## II. DEVELOPMENT OF FORESTRY ACTIVITY AT MACROECONOMIC LEVEL

In 1943, Emil Pop stated that "in the Carpathian-Danubian area, there have always been forests, spread over mountains, hills and most of the plains, in a proportion that represented 60-70% of the size of the territory."

Due to historical, political and social considerations, the total area of Romania's national forest fund is currently of only 6559 thousand ha and represents 27.5% of the country's surface area.

As it can be seen in Figure 3, almost half of Romania's forest fund is public property of the state (48.7%), 33.9% belonging to physical and legal persons and the remaining 17.4% being owned by territorial administrative units.



**Figure 3 - The Structure of the Forest Fund in Romania**

Taking into consideration the physical-geographical conditions and the economic and social development of Romania, the distribution of the national forestry fund by development regions and counties is uneven. According to data provided by the National Institute of Statistics, the forestry fund is concentrated on development regions, as follows:

- the Center development region (19.3% of the forestry fund);
- the North-East development region (18.3% of the forestry fund);
- the West development region (16.1% of the forestry fund);
- the North-West development region (15.1% of the forestry fund);
- the South-West development region, Oltenia (12.4% of the forestry fund);
- the Southern development region, Munténia (10% of the forestry fund);
- the South East Est development region (8.4% of the forestry fund) and
- Bucharest-Ilfov (0.4% of the forestry fund).

In Romania, the rural development is a priority, and the contribution of the forest to this development is extremely important by providing jobs, their number rising from 148,439 in 2015 to 154,232 in 2017.

A more detailed approach to the economic evolution of the forest sector and of the wood processing industry is presented in Table 1.

**Table 1 - The share of the forestry sector and of the wood processing industry in the national economy**

No.	Activity	Indicator	2015	2016	2017	Evolution 2016/2015	Evolution 2017/2016
1.	Total forestry sector together with the wood processing industry and the furniture industry (number of companies in 2017 - 35,017)	Turnover	24.761.622.487	26.697.748.230	27.386.860.067	7,82	2,58
		Number of employees	148.439	150.899	154.232	1,66	2,21
2.	Total achieved at national level (number of enterprises in 2017 - 750,460)	Turnover	996.218.066.147	1.058.338.601.904	1.140.668.419.471	6,24	7,78
		Number of employees	3.530.436	3.655.202	3.871.008	3,53	5,90
3.	Total forestry sector together with the wood processing industry and the furniture industry reported at national level	Share of the turnover	2,48	2,52	2,40	1,61	-4,76
		Share of the number of employees	4,2	4,12	3,98	-1,90	-3,40

Source: INS, 2017

Analyzing the table, we can see that, reported to the national economy, the forestry sector, together with the wood processing industry and the furniture industry, achieved in the 2015-2017 period, between 2.4% and 2.51% of the turnover achieved at national level, holding between 3.98% and 4.2% of the number of employees, which leads to the conclusion that the productivity of the respective sector was lower than the average recorded at national level.

Although the turnover registered in the forest sector has increased substantially, by 7.82% in 2016 compared to 2015 and by 2.58% in 2017 compared to 2016, their share in the total turnover (at national level) registered an increase only in 2015 compared to 2014 (by 1.61%) in 2017 decreasing by 4.76% compared to 2016.

According to a study by PWC<sup>21</sup> on the direct contribution of the wood industry to GDP formation in Romania, it has been relatively constant over the last decade (ranging from 1.1% to 1.5%). According to the study, Romania, in 2014, ranked 9th in the European Union (1.1% compared to the European Union average of 0.4%). The forestry and wood processing sector in Romania accounted for 3.5% of the GDP formation. It should be mentioned that the European funds are also of particular importance in protecting the forestry fund in our country. The EU allocates significant amounts to this area, which is why they should not be ignored (Cosmulese and Ciubotariu, 2017; Bostan et al., 2010).

### III. DEVELOPMENT OF FORESTRY ACTIVITY AT MICROECONOMIC LEVEL

As mentioned in paragraph 1.1, forestry is a branch of the national economy which has as a main purpose wood production on foot, its basic product being exploitable wood.

Wood is a good and also a particularly demanded commodity in all internal and international markets, the production of wood-based assortments as well as their consumption recording significant increases in recent decades. Thus, quite large values also record potential growth (Figure 4). According to the data provided by NIS, in 2015 there was a potential increase of 45 million m<sup>3</sup> distributed to 5,420 exploiting companies. Through this analysis, we can say that the potential demand of the competitors on the market is very high compared to the legal offer that is between 17 and 20 million m<sup>3</sup>.

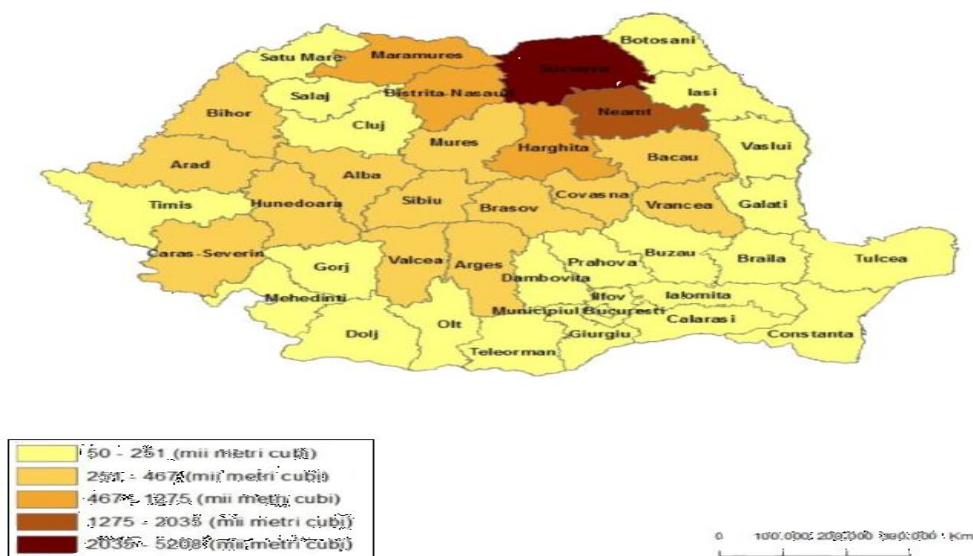


Figure 1 - Potential growth of wood demand

Source: Processed from Nechiforel L. (2015), Forestry Economics. Course support, Suceava

By analyzing Figure 4, we can see that the first place is Suceava with a potential request of 5208 thousand m<sup>3</sup>, followed by counties such as Neamt, with a total of 3444 thousand m<sup>3</sup>, Harghita, with 2870 thousand m<sup>3</sup>, Maramures and Bistrița-Năsăud, together with a demand of 5332 thousand m<sup>3</sup>. There are also counties with very low potential demand, such as: Teleorman (50 thousand m<sup>3</sup>), Ilfov (68 thousand m<sup>3</sup>), Galați, Constanța and Giurgiu that totals the value of 424 thousand m<sup>3</sup>.

Regarding the number of firms which have the main domain of forestry and forest exploitation, Suceava also occupies the first place, with a value of 450, with 165 more than Maramures, which is second and 212 more

<sup>21</sup> PricewaterhouseCoopers is the world's largest professional, consulting and audit service and one of the largest private companies, with a turnover of \$ 22 billion in 2006.

than Harghita, which is in the third place. At the opposite pole is Telorman, with a number of 10 firms, Ilfov, Galați, Braila and Constanța, which have a total of 96 firms. Suceava ranked 1<sup>st</sup> in both charts due to the fact that about 52% of the county's surface is afforested, resulting in a large potential demand and therefore a large number of specialized firms.

It is important to underline that in EU countries, the challenge resides in encouraging businesses to look at social responsibility as being something beyond a simple marketing strategy designed to improve their image, i.e., seeing it as an important element in achieving long-term success, ensuring sustainability and implementing social and environmental performance concepts for the community and society in general (Socoliuc et al., 2018), but in order to protect the environment, especially the forest that in Romania suffered the most deforestation in the last years of this country's history. However, in opinion of others authors (Bostan et al., 2015), things could get better if new investments are made in the area. At the same time, it must be taken into account that in EU, characterized by a unique market, it is very important that in matter of fiscal policy, the member countries to work and collaborate together and not to follow opposite interests. In the future, the fiscal policy of EU will be able to fix on new priorities, but in the essence it will be the same (Bostan et al., 2008), which encourages foreign investors, but unfortunately to defuse and not to protect the forest. We consider that for Romania such a rich and diversified forest fund should become a country brand (Cosmulese, 2017), to give more importance both from the Romanian and EU governments and from every citizen.

#### IV. CONCLUSIONS

This paper presents the importance of forestry as a branch of the national economy, it is worth remembering that the forestry economy is considered as a unitary system made up of other subsystems: forestry, forest exploitation and wood processing. Each of the three subsystems has a significant impact on the development of the national economy. The forestry and wood processing sector contributes to a 3.5% share to the GDP of Romania. This sector has grown because of the fact that Romania has a Forestry Fund of 6,559 thousand hectares, about 28% of the country's surface, and because of the existence of a very large demand for wood. Between 2015 and 2017 there was a potential demand of 45 million m<sup>3</sup>, while the legal offer of wood is between 17 and 20 m<sup>3</sup>.

The largest number of specialized companies in the field were registered in Suceava County, with 450 companies registered in 2017, as the county is 52% afforested, being an important source of lemon mass.

#### REFERENCES

1. Bostan, I., Mates, D., Grosu, V., Socoliuc, M. (2008) Implications of fiscality over accounting in agriculture. Bulletin of the University of Agricultural Sciences & Veterinary Medicine Cluj-Napoca. Horticulture, Vol. 6, Issue 2, p.432.
2. Bostan, I., Mates, D., Hlaciuc, E., Grosu, V., Socoliuc, M., Andronic, B., Ciubotariu, M., Apetri A., Morosan G., Mihalciuc C. (2015) Exploitation of fishing resources in Suceava county: Profitability analysis (Rb/T) of specialized farms in a mountainous region, Archives of Biological Sciences. OnLine-First Issue 00, Pages: 52-52, doi:10.2298/ABS140307052B, <http://www.doiserbia.nb.rs/img/doi/0354-4664/2015%20OnLine-First/0354-46641500052B.pdf>
3. Burciu, A., Bostan, I., Condrea, P., Grosu, V. (2010) Financing the environmental policies in the communitarian space", Environmental Engineering And Management Journal/ Eemj, Issn: 1582-9596, September Vol. 9, No. 9, pp. 1179-1185.
4. Cosmulese, G.C. (2017) Countries with the most valuable brands that makes them the most intangible countries. European Journal of Accounting, Finance & Business, Issue (XII)/ February 2017, Volume V, pp. 35-45, link: <http://accounting-management.ro/index.php?pag=showcontent&issue=12&year=2017>.
5. Cosmulese, G.C., Ciubotariu, M. (2017) An Overall Analysis on the Implementation of European Funds in Romania, International Business Information Management Conference 30th IBIMA, Madrid, Spain 8-9 November 2017, Section: Accounting and Banking, Vol: Proceedings of the 30th International Business Information Management Association Conference, ISBN:978-0-9860419-9-0, pp. 5732-5742, <https://drive.google.com/file/d/1zA5nB3mkV-An6NIVx6NrlN8grLiUdKQJ/view?ts=5a5f6ea2>
6. Drăgoi M. (2008) Economie și management forestier, Universității din Suceava Publishing house, p.69
7. <https://membri.listafirme.ro/pagini/pl.htm> (accessed on 28 September 2017)
8. [https://www.rubinian.com/dictionar\\_detalii.php?id=321](https://www.rubinian.com/dictionar_detalii.php?id=321) (accessed on 28 September 2017)
9. [INS, 2017, retrieved from http://www.insse.ro/cms/en/content/forestry-statistics-2017](http://www.insse.ro/cms/en/content/forestry-statistics-2017)(accesed at. 2 September 2017)
10. Milescu, I. (2002), Economie forestieră, Grupul editorial Crai nou, Mușatinii, Bucovina viitoare, Suceava, p.v165
11. Nechiforel, L. (2015) Economie forestieră. Course suppor, Stefan cel Mare University of Suceava, p. 42
12. Pop, E. (1943) Pădurile și destinul nostru național, Sibiu, p.32
13. Socoliuc, M., Grosu, V., Hlaciuc, E., Stanciuc, S. (2018). Analysis of Social Responsibility and Reporting Methods of Romanian Companies in the Countries of the European Union, Sustainability, 10(12), 4662; doi:10.3390/su10124662, <https://www.mdpi.com/2071-1050/10/12/4662/htm>