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## **FORESTRY AND WOOD INDUSTRY IN SLAVONIA FROM THE 19<sup>TH</sup> CENTURY ONWARDS**

### **ŠUMARSTVO I DRVNA INDUSTRIJA SLAVONIJE OD 19. STOLJEĆA DO DANAS**

#### **ABSTRACT**

*Forests covered around 70% of Slavonian surface at the beginning of the 18<sup>th</sup> century. In the mid-19<sup>th</sup> century, they will become the most important natural resource that will affect the growth of industrial plants in Slavonia at the end of the 19<sup>th</sup> and beginning of the 20<sup>th</sup> century. World and European demand for Slavonian oak resulted in the development of wood-processing industry, so that the region would dominate it at the end of the 19<sup>th</sup> century in comparison to other parts of Kingdom of Croatia, Slavonia and Dalmatia. Intensive industrial exploitation of forests led to the decrease of forest surfaces in Slavonia, but also to the increase of arable areas, which gave a push to agricultural development. The S.H.Gutmann Company from Belišće posed itself as the most important wood-processing company to become one of the biggest ones on the territory the Austro-Hungarian Monarchy. Although forest surfaces in Slavonia were decreased due to the sustainable management, their total area and the annual growth increases, so that those forest continue to be a valuable resource potential for the development of Slavonia and Baranja to date. Although the contemporary wood industry in Croatia has good quality raw materials and long tradition, the crucial precondition for its development is in the need for investment in technology and clustering which would lead to higher efficiency and competition of the products.*

**Key words:** woods, Slavonia, wood industry, Gutmann, slavonian oak

#### **SAŽETAK**

*Šume su početkom 18. stoljeća zauzimale oko 70% prostora Slavonije. Polovicom 19. stoljeća pokazat će se kao najvažniji slavonski prirodni resurs koji će utjecati na razvoj drvne industrije u Slavoniji krajem 19. i početkom 20. stoljeća. Europska i svjetska glad za slavonskom hrastovinom rezultirala je razvojem drvoprerađivačke industrije tako da će krajem 19. stoljeća Slavonija prednjačiti u toj industriji u odnosu na ostale dijelove Kraljevine Hrvatske, Slavonije i Dalmacije. Intenzivna industrijska eksploatacija slavonskih šuma rezultirala je smanjenjem ukupnih šumskih površina u Slavoniji ali i povećanjem obradivih područja čime se dao poticaj razvoju poljoprivrede. Kao najvažnije poduzeće za preradu i obradu drveta nametnulo se poduzeće „S. H. Gutmann“ iz Belišća koje je izraslo u jednu od najvećih tvornica tog tipa na području Austro-Ugarske Monarhije. Iako su šumske površine u Slavoniji smanjene zahvaljujući održivom gospodarenju njihova se ukupna površina kao i godišnji prirast povećava tako da šume i danas predstavljaju vrijedan potencijal za razvoj Slavonije i Baranje. Iako danas drvna industrija u hrvatskoj raspolaže s kvalitetnom sirovinom i dugom tradicijom, kao ključan preduvjet za njen daljnji napredak i razvoj nameće se potreba ulaganja u tehnologiju i udruživanje u klastere čime bi se povećala učinkovitost i konkurentnost proizvoda.*

## **1. Introduction**

The economic growth and prosperity of any place is closely related to its natural resources and human potential. For centuries, the main natural resources of Slavonia had been forests and its fertile soil. Until the beginning of the 18<sup>th</sup> century, Slavonia had been predominantly covered in vast forests, encompassing 70% of its total area (Klepac: 1980, 36). Regardless of its vastness, Slavonian forests were known for their age and the quality of their wood, so that their crude materials were widely recognized and thus became the inevitable catalyst of development of the Slavonian area. Still, the intense exploitation of wood resources would not start until the mid-19<sup>th</sup> century. Considering the severe demographic and economic damage of the region that was the result of the Ottoman wars (1683-1699, 1716-1718, and 1738-1740), it was crucial to recover demographic losses and through administrative-political reforms create the preconditions for Slavonian integration into the European economic and political processes. The age of Ottoman rule halted the growth of Slavonian towns, which manifested itself in their undeveloped craftsmanship, namely in the manufacture production capacity. Therefore, there were no economic preconditions for a more intensive exploitation of woods until the aforementioned period (Moačanin: 1999, 142; Lang: 1985, 246)

## **2. Wood industry in slavonia in the second half of the 19<sup>th</sup> century**

With the onset of the industrial revolution at the beginning of the 19th century, and the strengthening of capitalism in Western Europe, areas of Kingdom of Croatia, Slavonia and Dalmatia under the rule of the Habsburg Monarchy were exposed to social changes. The most important of them was the abolishment of feudalism in 1848. That change paved the way to a series of changes of the overall social and economic relations, so that the noble families of Slavonia, who had up to that point been enjoying numerous social privileges, were forced to find new ways to fund their estates.

As the agricultural production on the big holdings proved insufficient for the sustainable functioning of the estate in the context of new economic relations, a substantial number of landowners found their way out of financial hardships either by selling the woods on their properties or in their exploitation. Mass and industrial exploitation of wood called for the building of factory facilities, roads, as well as the acquisition of necessary equipment, etc. As the nobility and local industrialists held insufficient capital for such endeavors, foreign capital took advantage of the situation, which led to the establishment of the first modern machinery for wood processing in the province of Slavonia (Lang: 85, 262). Forest areas were mostly preserved in comparison to the beginning of the 18th century, which facilitated their exploitation. It was estimated that in 1850 approximately 60% of Slavonia was still covered in forests (Klepac: 1980, 36.). The development of the wood industry in Slavonia was somewhat predetermined due to the position of the Croatian lands in the given period. As the Check sugar was the main capital asset of the Habsburg Monarchy, while Hungary's was dominated by the mill industry, there was no profitability in investing in equivalent industries in Slavonia. The trends of turning to wood industry are also obvious from the reports of Petar Posner, the secretary of the Chambers of Crafts and Trade in Osijek, where he documents the most successful development of the wood products in the 1850s (mostly barrels and railway sleepers). That suggests that Slavonian craftsmen and manufacturers had recognized the potential and the prospect of capitalizing the wood industry, but they did not own enough capital for any serious attempts (Karaman: 1996, 147).

In the area of the Slavonian Podravina, dominated by the private estates, private capital found the most suitable business conditions. Dukes Pejačević, Hillebrand von Prandau (later Norman), Shaumburg – Lippe, Majlath, Drašković i Janković sold their forests to foreign industrialists due to difficulties in running businesses (Benić: 1980, 128; Salaić: 2012, 29, 34; Frajtag: 2013, 19;

Volner: 2012(b), 181). The Chamber of Crafts and Trade's data from 1890 show that there were 50 enterprises of various services, which employed 4419 workers. 14 out of 50 were from the wood industry, and those employed 1594 workers. The prominent entrepreneurs were S. Gutmann, J. Jäger, Marchetti, C. Heaven, Kraft, Tükory and co., Neuschloss, who established modern facilities with steam-powered sawmills (Lang: 1980, 263; Volner: 2014(b), 181). But the most prominent figures of the Slavonian woodwork and lumber industry were Salomon Heinrich Gutmann and his heirs, whose company will grow into one of the biggest woodwork systems of Austro-Hungarian Monarchy.

## **2.1. S. H. Gutmann's Wood Company in Belišće**

The Gutmann family's entrepreneurial progress in Velika Kaniža in Hungary (Western Hungary, on the Kaniža River, adjacent to the confluence of the Sava and Drava rivers). The key person in the family's economic rise was Salamun Heinrich Gutmann (b. 1806), who became the most influential businessmen in town due to trade and successful business relations. In his business affirmation, he made use of the decision to deposit 2000 forints of the state loan after the failed revolution in Hungary in 1849, which gave him the sympathy of the court in Vienna (Kerecsény: 1980, 195). In addition trading, Salamun Heinrich Gutmann established a plant for barrel and stave production where he manufactured a 1000hl barrel that would become a sensation at the World Fair in Paris, in 1878. That success earned Gutmann a Grand Cross of the Legion of Honors.<sup>1</sup> Still, he was engaged in financial endeavors which ensured additional income. As the family was large, his sons would help him out with the work progressively, each in his own affiliation.<sup>2</sup>

In 1884, expanding his business endeavors, Salamun Heinrich Gutmann rented a forest lot west of Valpovo from baron Gustav von Hillebrand von Prandau, and started building mills on it together with his sons. In a contract made on the 19th of February that year, it was specifically stated that for the price of 4.011,752 Austrian gulden, he bought off the right to exploit 5.39887 acres of forest in the span of 10 years (Salaic: 2012, 13). As Gutmann was an older man when the company was founded and production started in Belišće, his eldest son, Edmund Gutmann (1841-1918; V. Kaniža-Belišće), took over running the newly established Belišće based company. Immediately after the establishment of the factory in Belišće, 500 workers were employed and their sawmill would soon become one of the biggest in Slavonia, with the production capacity of about 50,000 m<sup>3</sup> of wood per year. According to some sources, in 1893, the sawmill was the biggest European producer of processed oak (Bađun 1980, 133-134).

Having in mind the long-term development of their company, the Gutmanns would buy forests, ponds and mines in Slavonia, thus enabling the company to grow in the following decades. Increasing their estates, the Gutmanns became the owners of the biggest estate in the area of Pakrac and Virovitica in the West, all the way to Zemun and Petrovaradin in the East. The total area of their estate in 1901 was 54,364 acres. Forests of great importance were acquired in Voćin (121,081.52988 acres) and Orahovica (56,834.18749 acres) (Salaic:2012, 34; Frajtag: 2001, 28).

At the beginning of the 20th century, Gutmann's company employed approximately 500 workers, whereas in the summer, the number would rise up to 3000. The company owned a total of 180 wood-processing steam-machines, maximum of 1600hp, run by 20 steam boilers. It also operated with nine locomotives, 800 wagons and 200 km (124 miles) of industrial railways (Salaic: 2012, 36; Frajtag: 2001, 27-28). The plant put in operation the factory of tannin and barrels in 1899. Four years later, Bela von Lukcs, the Hungarian-Croatia Minister of Agriculture, Trade and

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<sup>1</sup> In 1869 S. H. Gutmann was together with his heirs and spouse honored with the noble title of 'De Gellse', after a family property in Hungary

<sup>2</sup> He and his wife Anna Strasser had five sons and four daughters: Edmunda (b. 1841) Isidora (b. 1845), Wilim (b. 1846), Ladislav (b. 1855), Alfred (b. 1857), Hedwig, Emma (b. 1848), Berta and Ida. (Frajtag: 2001, 29; Volner 2012(a), 464; Volner-Yewish lexicon – in print).

Commerce, paid a visit to the plant and was impressed by what he saw. The industrial railway, stretching from the company to the woods of Harkanovci and Koška, was extended all the way to Pandaouovac (the railway station between Korška and Normanac). The railway was redesigned for public transportation when it was connected to the newly built broad gauge railway between Osijek and Virovitica. A year later a dry wood distillery was put into operation, while a parquet factory followed in 1902. The company expanded its business, and alongside the established practice of wood processing, in 1906 it started an intensive exploitation of the acquired quarries in Radlovac, near Orahovica (Salačić: 2009, 31-38). According to the *Pallas Lexicon*, the company was the biggest producer of cut materials in the country, while by 1901 it became the biggest supplier of railway sleepers in Slavonia. Conclusively, the company had a very all-encompassing production and wood processing system, so it operated a sawmill, a corresponding burning chamber, repair shop, tannin factory, dry wood distillation factory, parquet factory, cooper's workshop, laboratory, water pump station on Drava, water-tower, warehouses, factory railway station, cargo station, train sleeping room, passengers' railway station with a warehouse, paneling workshop, sentry box and a canteen (Štok: 1980, 268; Volner 2012(a), 470). Beliše owed its success to a combination of factors. Firstly, it was the constant investment in the development of the company and the improvement of production. Therefore, in time the productivity of wood processing had increased several times, and the percentage of usability multiplied. Secondly, investing in crude materials in terms of acquisition of forest lots and investing in the expansion of production. In that manner, the Gutmanns enabled a stable and permanent source of raw materials for their production, which helped them ensure a balanced quality of the product and stable prices, which their competition could not offer. Finally, thanks to their business connections and reputation, which the Gutmann family had been cultivation for generations, the company had a guaranteed market for their products in European and transatlantic countries, which gave them security in further development (Volner: 2012(a), 470).

## 2. 2. Wood industry in Slavonia from the turn of the 19<sup>th</sup> century onwards

Gutmann's company in Beliše became the leading name in the Slavonian wood processing industry rather quickly, but its development and growth were not steady. The trends that were surfacing in mid-19th century reached their peak at the end of the century. If we take into account the area of Kingdom of Croatia, Slavonia and Dalmatia, the number of Slavonian companies in 1890 made up 53.6% of their total number and they employed 60.9% of the total number of industrial workers. The indicators are even more pronounced should we take a closer look at the wood industry. 66.7% of the total number of Croatian companies was situated in Slavonia as they would employ 78.3% of the total number of workers in the wood industry. Until 1910 those trends had changed, so that the ratio of the Slavonian wood industry in the overall industry of Kingdom of Croatia, Slavonia and Dalmatia was reduced to 62.4%, and the number of workers went down to 72.9%. But the absolute numbers of 1890 show that there were 40 wood-producing companies in Slavonia, while those from 1910 show an increased number of 63 total. If we consider the ratio of the wood industry in the overall industrial production of Kingdom of Croatia, Slavonia and Dalmatia in the period in question, we see visible stagnation and reduction. Namely, in 1890 the wood industry made up 54.5% of the whole industrial production, and only 37.3% in 1910. The number of workers was reduced from 60% to 36.5%. Those trends imply, on the one hand, the growth of other industries in other parts of Kingdom of Croatia, Slavonia and Dalmatia, but also the effect of a global economic crisis at the beginning of the 20th century, had on the growth of the wood industry in the observed time period (Karaman: 1980, 83-84; Volner 2012(a), 460-462). Immediately before the wood processing industry lost steam, the 1898 data show that the total gain of the Hungarian lands from the wood industry was 69.270,289 crones, while the Kingdom of Croatia, Slavonia and Dalmatia participated in that with 17.757.801 crones or, rather, 25.7%. Thanks to the top-quality oak, which was in high demand in Europe and which made the main export product of the Croatian lands, the average value of a sawmill in Kingdom of Croatia,

Slavonia and Dalmatia was 650.000 crones, while the Hungarian equivalent was just 250.000 crones (Karaman: 1980, 91-92; Volner: 2012(a), 463).

Slavonian wood industry had a significant growth during the Austro-Hungarian rule. Yet, the exploitation of forest affected the total surface covered in forests. In 1914, 35% of the surface was covered in forests, which means that over 41% had been cut down in 65 year (Klepac 1980, 36). Evidently, they were not adequately treated, and the demand for top quality wood actually affected the dynamics of it. Alongside private interests of the plant owners from the wood industry, the demand for new arable areas and surfaces was in favor of cutting down forests. Yet, there will not be such radical decreases in forest surfaces in Slavonia, so the data from 1953 show that 28% of Slavonian area was covered in forests, while in 1961 that number insignificantly decreased to 27.5% (Klepac 1980, 36.). Less intensive exploitation would not negatively affect the wood industry in the period of the Second Yugoslavia, but they would continue to develop on sustainable foundations. In 1964 the wood industry will thus employ 9873 people, 11950 in 1973, and 13507 in 1983. 1449 million dinars was invested in the wood and paper industries, together with the forestry on the area of teh ZOO in 1980 (Lang 1985; 258, 269). The most prominent company was the Belišće complex, which ranked 121st on the list of 140 biggest ones in the sector of mining, agriculture, forestry and agriculture in Yugoslavia, according to the total gain 4433 workers were employed in the same year (Ivanović, 2015; 12). The wood industry has continued to be a substantial factor of the economical development of Slavonia and Croatia. Yet, there is the constant need for new investments in technology and clustering, in order to achieve a higher degree of competitiveness of the whole sector (Lovrinčević 2014; 552, 560).

**Table 1** Those employed in the Croatian wood industry – January 2015

Name of the sector	Employed in 2014	
	Total	Women
A02 Forestry and Felling	7 798	1 413
C16 Wood processing and cork products, except furniture	11 093	3 117
C17 Paper production and paper products	3 066	892
C31 Furniture production	8 291	2 492

Source: [http://www.dzs.hr/Hrv\\_Eng/publication/2014/09-02-01\\_01\\_2014.htm](http://www.dzs.hr/Hrv_Eng/publication/2014/09-02-01_01_2014.htm) (accessed 15 April 2015)

### 3. Slavonian forests – values and potentials

The 1983 data refer to the former ZOO (The Osijek Municipalities' Association) existing in the period of the Socialist Federative Republic of Yugoslavia (SFRY). There are deviations in statistics of Slavonia and Baranja in comparison to other territories, but considering that the area of the ZOO covered 2,740,396.25784 acres and that the area of Slavonia and Baranja was 3,386,082.0488 acres, the total deviation is rather small, that of 8% (Lang: 1985, 252).<sup>3</sup> Due to different manners of present collecting data, there are varieties of them in terms of the Slavonian forests' conditions, so that some of them actually represent five Slavonian counties (Vukovar-Srijem County, Osijek-Baranja County, Požega-Slavonija County, Brod-Posavina County and Virovitica-Posavina County), while other data refer to the Forestry Administrations which cover five centers of Slavonia and Baranja (Vinkovci, Osijek, Našice, Požega and Nova Gradiška). As it was the case with the ZOO, they deviate from the present borders of the region, but as they cover the major part of it, they can be used as the relevant data source.

<sup>3</sup> [https://www.google.hr/?gws\\_rd=ssl#q=kolika+je+povr%C5%A1ina+slavonije+](https://www.google.hr/?gws_rd=ssl#q=kolika+je+povr%C5%A1ina+slavonije+)

**Figure 1** Map of the Osijek Municipalities' Association



Source: www.wikipedia.org

**Figure 2** Map of the Forestry Administrations in Slavonia



Source: Kuric, Danko (2014.) Godišnje izvješće 2013. (Annual report of 2014) Zagreb: Croatian Forests Ltd. (Hrvatske šume d.o.o.)

Forests covered 816.909 acres of the ZOO, or rather 29.81% of its entire surface. On the state level, it comprised 17% of all forested areas. According to the current Forest management plan, for the period 2006-2015, forest cover 925.51015 acres of the five Slavonian counties, which makes a little over 27% of the territory of Slavonia and Baranja. On the state level, that makes 14%. It is seen from these numbers that, although the area of Slavonia and Baranja covered in forests has increased within the observed period, it happened as well on the national level. Therefore, the reason for the general reduction of the area in Slavonia and Baranja covered in forests is the overall increase in the area of national forests (Lang: 1985, 252).

The data about the forest coverage provide approximate information about forested areas, but wood stock data are more revealing, as they illustrate their economic value and potential, gain and annual yield. In 1983, the annual wood stock of the ZOO area was 59 748 803 m<sup>3</sup>, which was 30.5% of the total wood stock of the Socialist Republic of Croatia. The forest expansion or the overall annual increase in wood stock were calculated on the area of 2.137, 495 m<sup>3</sup>, which was 49.8% of the state statistics, and the yield, or the predicted wood stock for felling in 1983 was 1 540 459 m<sup>3</sup> (72% of the annual gain). Although the ZOO contributed with 17% of the state area covered in forests, the annual wood stock made up almost half of the Croatian capacity within the given period. As the stocks would be increased for 450 000 m<sup>3</sup> annually, the equivalent was anticipated for the future annual yield. The increase of wood mass increases the economic usability of forests without decreases in forest areas.

**Table 2** Growing stock, increase and yield on the territory of the Osijek Municipalities' Association in 1983

Category	In m <sup>3</sup>	Percentage in the SR Croatia
<b>Wood stock</b>	59 748 803	30.5%
<b>Forest gain</b>	2 137 495	49.8%
<b>Yield</b>	1 540 459	

Source: Lang, Antun, ed. (1985.) Slavonija '85. Osijek: Privredna komora Slavonije i Baranje, IC „Revija“ Radničkog sveučilišta „Božidar Maslarić“ Osijek

The current data for the five observed counties confirm the indices from 1983. According to them, the wood stock amounts to 95 915 615 m<sup>3</sup> or a little over 24% of the overall stock of the Republic of Croatia. The annual gain was calculated on the basis of 2.846,574 m<sup>3</sup>, which entails a little over

27% of the whole country. The annual yield is 2 237 809 m<sup>3</sup>, which is around 78% of annual gain in Slavonia forests. In average, the wood stock increases for 608 000 m<sup>3</sup> annually. The stated shows that the sustainable treatment of forests boosts the ratio of wood mass in forests and ensures then stability in development of this valuable Slavonian resource.

**Table 3** *Growing stock, increment and yield on the territory of five Slavonian Counties today*

<b>Five Slavonian Counties</b>		
<b>Category</b>	<b>In m<sup>3</sup></b>	<b>Percentage in the Republic of Croatia</b>
<b>Wood stock</b>	95 915 615	24%
<b>Forest gain</b>	2 846 574	27%
<b>Yield</b>	2 237 809	40%

*Source: Forest management plan 2006-2015*

On the state level, there are five wood sorts that make up 75% of the wood stock: beech (36%), Slavonian oak (12%), sessile oak (10%), common hornbeam (9%) and silver fir (9%). All of the most common sorts, the latter is to be found in smaller amounts than the other four in Slavonian forests. The oak tree has not significantly lost the popularity it had in the 19th and 20th centuries. Slavonian forests are still famous for the most valuable samples of the sorts, and to illustrate this claim, one can observe the prices of a particular wood material from the year 2013. For example, oak timber cost 1044 HRK per cubic meter, sessile cost 604 HRK and beech cost 327 HRK. Croatian forests Ltd. (Hrvatske šume d.o.o.) earned 479,274,300 HRK for oak timbers, 115,214,812 HRK for sessile oak timbers, and 270,610, 812 HRK for beech timbers (Kuric: 2014, 32).

#### **4. Conclusion**

Since mid-19<sup>th</sup> century and the beginning of modernization, the wood industry has been the engine of economic growth in Slavonia. Natural resources, particularly the famous Slavonian oak, attracted foreign investment and many businesses were started in the area. In 1910, there were 63 such business, but the most prominent one in terms of the number of workers and the woods in its possession was the H. Gutmann Company from Belišće. The company held a major share in the wood industry of Slavonia and managed to survive the social and economic turmoil of the 20<sup>th</sup> century thanks to the vision of its owners.

The period between 1850 and 1914 represented the peak of exploitation of forests in Slavonia. In that period, the total number of forested areas of Slavonia was reduced from 60 to 35%. At the same time, however, Slavonia experienced both industrial development and a rise in the total number of agricultural areas, so it would be wrong to judge that period solely through the prism of deforestation. In the following decades, forests were sustainably managed, and current data concerning the increase in wood stock, as well as annual gain, compared to 1983, imply that the forests of Slavonia will continue to be a valuable natural resource and play a major part in the future economic development of Slavonia and Baranja.

According to the Croatian Statistical Office, the forestry and wood industry sector employed 30 248 workers. Most of them were employed in wood processing and the production of furniture. Today, economists recommend increased investment in wood processing technology and the creation of clusters as the means for increasing competitiveness and specialization in production. Improving those two conditions would make wood industry one of the chief engines of economic growth in Croatia and Slavonia, as defined by the government's industrial strategy for 2014.

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