

# Klasikten Moderne Osmanlı Ekonomisi

## Osmanlı İktisat Tarihine Bir Katkı

Geçmişin en uzun ömürlü devletlerinden birini kurarak onu, Orta Zaman sonlarından Yakın Çağ başlarına dek taşımayı başaran Osmanlıların hikâyesi, benzerine az rastlanan bir serüvendir. Köklü değişimlerin ve buhranların yaşandığı çağları büyük bir dirayetle aşarak, şaşılacak derecede uzun süre var olmayı başaran bu Akdeniz imparatorluğunun emsalsiz bir tecrübeyi miras bıraktığı muhakkaktır.

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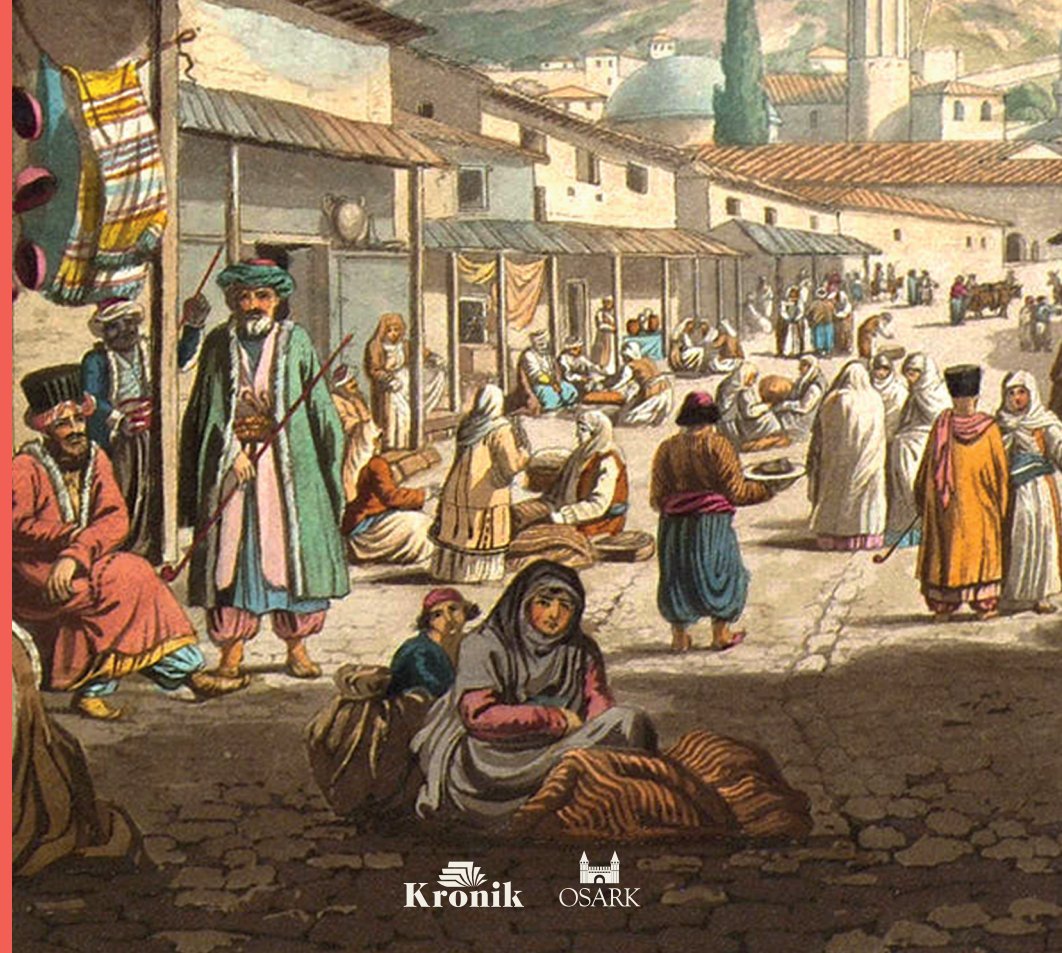
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Osmanlı Ekonomisi

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**Kronik**

**OSARK**

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# İÇİNDEKİLER

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GİRİŞ	7
<b>I. MALİ DÜZENLEMELER VE UYGULAMALAR</b>	
KANUNNAMELERE GÖRE ERKEN DÖNEM OSMANLI GÜMRÜK SİSTEMİ <i>Kerim İlker Bulunur</i>	23
17. YÜZYILIN SON ÇEYREĞİNDE RODOSÇUK GÜMRÜĞÜ <i>Ümit Ekin</i>	33
TANZİMAT DÖNEMİNDE VERGİ ADALETİNİ SAĞLAMA ÇALIŞMALARI: UYGULAMA ÖRNEKLERİ <i>Ayla Efe</i>	49
OSMANLI MÂLİYESİNDE İMDÂDİYYE VERGİLERİNİN ORTAYA ÇIKIŞI <i>Tayfun Ulaş</i>	57
XVII ve XVIII. YÜZYILLARDA OSMANLI DEVLETİNDE MUHASSILLIK UYGULAMASI <i>Tanju Demir – Bülent Çelik</i>	73
BİR TANZİMAT KURUMU: ES'AR MECLİSİ <i>Zafer Çınar</i>	83
<b>II. PARA VE MAL TİCARETİ, KREDİ ARZI VE REKABETÇİ DAYANIŞMA</b>	
THE REASONS AND THE MECHANISM OF COIN TRADE BETWEEN EUROPE AND THE OTTOMAN EMPIRE <i>Numan Elibol – Abdullah Mesud Küçükcalay</i>	95
SIR HENRY MIDDLETON ve EAST INDIA COMPANY'NİN KIZILDENİZ'DE TİCARET ARAYIŞI (1610-1612) <i>Abdulgennan M. Altıntaş</i>	107
DOĞU AKDENİZ'DE İNGİLİZ TİCARETİ: İSKENDERUN-LONDRA HATTINDA İNGİLİZ TİCARET FİLOSU (1704-1706) <i>M. Sait Türkhan</i>	117

NATIONAL ECONOMY AND BUSINESS INTEREST GROUPS IN THE OTTOMAN EMPIRE: A COMPARATIVE STUDY OF BURSA AND KONYA <i>Semih Gökatalay</i>	145
BİRİNCİ DÜNYA SAVAŞI YILLARINDA İZMİR'DEN İSTANBUL'A KURU ÜZÜM VE İNCİR SEVKİYATI <i>Safiye Kıranlar</i>	157
<b>III. YERİN HEM ALTINDAN HEM ÜSTÜNDEN NEMALANMAK: MADENLER VE ORMANLAR</b>	
CHANGES IN THE SIZE AND USE OF FORESTS OF SLAVONIA DURING OTTOMAN RULE <i>Andelko Vlašić</i>	199
OSMANLI EKONOMİSİNDE ORMANCILIĞIN YERİ: XIX. YÜZYILDA AYDIN VİLAYETİ'NDE ORMANLAR VE ORMANCILIK FAALİYETLERİ <i>Aysun Sarıbey Haykıran</i>	209
KÜRESEL ÇAĞDA AVRUPA'YA MADEN SATMAK: ERGANİ'DEN İNGİLTERE'YE BAKIR İHRACATI (1866-1914) <i>Alaaddin Tok</i>	223
OSMANLI DEVLETİ'NDE KROMUN KEŞFİ VE HARMANCIK KROM MADENLERİNİN İŞLETİLMESİ (1848-1922) <i>Celil Bozkurt</i>	235
XIX. YÜZYILDA GÜMÜŞHANE'DE MADENCİLİK VE MADENCİLER HAKKINDA BAZI TESPİTLER <i>Şennur Şenel</i>	249
<b>IV. ZANAATKARLARDAN SATICILARA: ÜRETİM, DAĞITIM VE PAZARLAMA</b>	
XVI. ASIRDA BATI ANADOLU BÖLGESİNDE ÇELTİK ÜRETİMİNE DAİR BAZI NOTLAR <i>Ahmet Yiğit</i>	269
OSMANLI DEVLETİ'NDE CEBEL-İ LÜBNAN İPEK ENDÜSTRİSİNİ YENİDEN İNŞAA ÇABALARI (1860-1865) <i>Kazım Baycar</i>	287
XIX. YÜZYIL ORTASINDA BÜYÜKADA'DA MEVCUT ESNAF VE ZANAATKÂR GRUPLARINA DAİR BİR İNCELEME <i>Duygu Saygın</i>	299
18. YÜZYILIN SONLARINDAN TANZİMAT'A KADAR OSMANLI İSTANBUL'UNDA BAKKALLAR <i>Fatih Bozkurt, Yasemin Gündoğdu ve Ahsen Şahin</i>	311
DÜNYA FUARLARI VE OSMANLI MODERNLEŞMESİ <i>İbrahim Şirin</i>	335
1881 TARİHLİ OSMANLI POSTA NİZAMNAMESİ <i>Taner Aslan</i>	363
DİZİN	377

# CHANGES IN THE SIZE AND USE OF FORESTS OF SLAVONIA DURING OTTOMAN RULE

—  
Anđelko Vlašić\*

## Introduction\*\*

The term Slavonia used in the title of this work and in all further mentions designates the area between the Ilova, Drava, Sava and Danube rivers, i.e. the eastern part of the present Republic of Croatia. It excludes Syrmia, which is a region situated further downstream both Danube and Sava and in its current borders constitutes a part of the Republic of Serbia. During Ottoman rule in Slavonia, i.e. from 1526 to 1691, it was part of several administrative provinces. Its most eastern section was part of the Sancak of Srijem (*Sirem*); its central and biggest section was part of the Sancak of Požega (*Pojega*); and its southwestern section was part of the Sancak of Pakrac (*Pakrač*, *Bakrič*, *Začasna*, or *Cernik*). Ottoman Slavonia was a sparsely populated region abounding in large areas of virgin forests. The Ottoman traveler Evliya Çelebi wrote that the trees felled in one forest situated in western Slavonia were so huge that one could make three boats from a single tree.<sup>1</sup> Forests populated with such gigantic trees were probably present throughout the entire region. Proximity of three large rivers and the occurrence of regular floods caused by said rivers created numerous marshes in the region. The general situation concerning forests of Ottoman Slavonia was that they were vast and not easy to clear, or in other words, “*if we combine the data from Ottoman surveys with Habsburg*

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1 Evliya Çelebi, *Putopis. Odlomci o jugoslovenskim zemljama*, (Sarajevo: Sarajevo-Publishing, 1996), p. 243-244; Nenad Močanin, *Town and Country on the Middle Danube 1526-1690*, (Leiden; Boston: Brill Publishing, 2006), p. 150.

records that inform us about the size of farms belonging to the inhabitants of villages, a picture emerges of islands of cultivated land surrounding settlements scattered among a vast expanse of woods.<sup>2</sup> The forests of Slavonia were utilized for military needs such as war industry and the construction of fortifications during Ottoman-Habsburg wars, as well as for the individual needs of civilians. The aim of this paper is to describe the geographical location and spatial extent of Slavonian forests, the means for which they were used, and the possible changes in the size and use of forests during and after Ottoman rule in Slavonia.

The Ottoman sources relevant for answering these questions are scarce due to the nature of these sources; for example, Ottoman tax registers offer numerous data on the taxable resources of Ottoman lands. However, forests are rarely mentioned in the registers and the data on forests often has to be obtained indirectly through the data on lumber cutting and taxes on livestock, fruit, vegetables, etc. The situation is even worse with another important source for the Ottomanist historiography, the Mühimme registers, which are thus of little use for this topic. As for the narratives, Evliya Çelebi did pass through Slavonia and he has left us several accounts in which he mentioned the state of Slavonian forests. Also, the Slavonian censuses conducted in 1698 and 1702 by the new Habsburg authorities after the Ottoman withdrawal give us valuable information on the state of Slavonian forests.

### **The Use of Forests for Military Needs and the Connection Between War Industry and Deforestation**

In the bibliography on the situation on the Ottoman-Habsburg frontier during the 16th and 17th centuries one can find assertions that the aggressive deforestation was man-made and caused by both warring sides. As explained by Gábor Ágoston, the Hungarian territories north of Slavonia have indeed experienced deforestation during the 16th and 17th centuries. However, the responsibility for these changes cannot be assigned to the Ottoman authorities and their actions, simply because there is no proof for these claims.<sup>3</sup> It is true that certain parts of the Ottoman Empire, especially its Anatolian parts, experienced Ottoman-made deforestation.<sup>4</sup> Nevertheless,

2 Moaçanin, *Town and Country on the Middle Danube*, p. 10-11, 26.

3 Gábor Ágoston, "Where environmental and frontier studies meet: rivers, forests and fortifications along the Ottoman-Habsburg frontier in Hungary," *The Frontiers of the Ottoman World*, ed.: A.C.S. Peacock, (Oxford: Oxford University Press, 2009), p. 72.

4 Tülay Aygören et al., "XVI. Yüzyıl Anadoluşunda Orman Tahribi: Hüdavendigâr (Bursa) Sancağı Örneği," *Belleten*, 78.281 (2014), p. 167-200.

geological studies which were done in certain parts of Anatolia could not find a link between the changes which occurred in nature with specific historical events.<sup>5</sup> As regards the European part of the Ottoman Empire, the conclusion could be that the deforestation started and evolved unrelated to the Ottoman rule in the Pannonian plain (here including its Slavonian part, which geologically doesn't differ much from the areas to the north).

The damage was surely done to the forest fund of the Pannonian plain by numerous military campaigns during the 16th and 17th centuries, when wars were a common thing on the Ottoman-Habsburg frontier. The periods in between wars were characterized by a state of constant preparations for war, here including maintenance and upgrade of fortifications. Numerous fortresses, bridges and similar constructions needed a lot of wood for their building and upkeep – and forests certainly had to pay the price. Furthermore, “*fortresses consumed substantially more firewood than average villagers or city dwellers, for they employed an array of wood-burning trades.*” Moreover, “*for many of these trades they needed charcoal rather than firewood, which considerably increased their firewood needs, for contemporaries used five to ten kilograms of wood to make one kilogram of charcoal.*”<sup>6</sup> If the amount of forest that had to be cut down in order to supply the needs of fortresses along both sides of the frontier in Hungary was as high as Ágoston suggests (7,012 km<sup>2</sup> of pine and 12,000 km<sup>2</sup> of oak forests annually), then it is indeed a catastrophic assumption for the forest fund of that time.<sup>7</sup> Nevertheless, this process had a much smaller influence on the Slavonian forests, which were generally away from the main Ottoman path along the Danube into Central Europe.<sup>8</sup> In addition, Ottoman Slavonia was characterized by an abundance of forest areas surrounding fortresses. The inhabitants of fortresses could thus easily obtain firewood that they needed as fuel for heating and cooking, as well as lumber needed for the construction of fortifications, and at the same not leave a visible mark on the outlook of the forests. The vastness of Slavonian forests suggests that the mentioned consumption of lumber was not that great and not that harmful for the Slavonian forest fund. As for

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5 Sam White, *The Climate of Rebellion in the Early Modern Ottoman Empire*, (New York: Cambridge University Press, 2011), p. 290.

6 Ágoston, “Where environmental and frontier studies meet,” p. 75; John R. McNeill, *The Mountains of the Mediterranean World. An Environmental History*. (New York: Cambridge University Press, 1992), p. 137.

7 Ágoston, “Where environmental and frontier studies meet,” p. 75.

8 Dino Mujadžević, “The other Ottoman *serhat* in Europe: Ottoman territorial expansion in Bosnia and Croatia in the first half of the 16th century,” *Gamer*, 1.1 (2012), p. 107-108.



the Ottoman and Habsburg sources (Ottoman tax surveys and Habsburg censuses of Slavonia in 1698 and 1702), there are no hints, no clues implying that the Ottoman military caused any deforestation.<sup>9</sup>

It is highly probable that the amount of forests only slightly changed during and immediately after the Ottoman rule in Slavonia. There were no Ottoman plans of clearing of forest areas for cultivation or other needs.<sup>10</sup> There was certainly a small increase in the distribution of forests immediately before and during the Ottoman conquest because of the neglect and/or abandonment of land caused by war operations in the region; the same phenomenon occurred during and after the Ottoman withdrawal from Slavonia.

### The Use of Forests for Civilian and/or Peacetime Needs

The number of inhabitants of Slavonia in the Middle Ages and the amount of migration to the area was relatively small. Leaving aside the migrations caused by the wars at the beginning and at the end of Ottoman rule, the population numbers in Ottoman Slavonia changed only slightly: Ottoman tax registers tell us that Slavonian settlements grew steadily and progressively throughout the Ottoman period. Slavonia was a rural and agrarian region, and this feature remained unchanged long after the withdrawal of the Ottomans. There were numerous market towns throughout Ottoman Slavonia; however, this shouldn't imply that the forest areas of Slavonia were interrupted by roads and settlements. In the late Middle Ages, larger numbers of settlers lived only in the market towns of Eastern Slavonia and Western Syrmia and their number reached only 25% of the total population in these eastern areas. During Ottoman rule, only 10% of the population of the area around the town of Požega and 30% of the population around the town of Osijek (Ösek) and in Syrmia lived in urban settlements.<sup>11</sup>

9 Türkiye Cumhuriyeti Başbakanlık Devlet Arşivleri Genel Müdürlüğü, Osmanlı Arşivi Daire Başkanlığı (BOA.), Tapu Tahrir (TT), Tapu Tahrir Defterleri (TTD), 355; Nenad Moačanin, *Požega i Požeština u sklopu Osmanlijskog carstva (1537-1691)*, (Jastrebarsko: Naklada Slap, 2003), p. 117-504; Stjepan Sršan (ed.), *Popis Sandžaka Požega 1579. godine*, (Osijek: Državni arhiv u Osijeku, 2001), p. 19-393; Ive Mažuran, *Popis naselja i stanovništva u Slavoniji 1698. godine*, (Osijek: Radovi Zavoda za znanstveni rad u Osijeku JAZU-a, 1988), p. 45-555; Tadija Smičiklas, *Dvjestogodišnjica oslobođenja Slavonije*, Vol. II, (Zagreb: Jugoslavenska akademija znanosti i umjetnosti, 1891), p. 1-386.

10 BOA., TT, TTD, 355; Moačanin, *Town and Country on the Middle Danube*, p. 26.

11 Moačanin, *Town and Country on the Middle Danube*, p. 11, 23-24; Moačanin, *Požega i Požeština u sklopu Osmanlijskog carstva*, p. 91-92.

How did these inhabitants of Slavonia use the Slavonian forest fund? Generally speaking, forest areas in Slavonia and throughout the Ottoman Empire were used very freely during the 16th and 17th centuries. Most of the Ottoman forests were owned by villages in their surroundings or by wealthy officials of the state. The forests which belonged directly to the state, i.e. the Sultan, were usually located in mountainous areas and could still be used by villagers.<sup>12</sup> The Ottoman authorities didn't tax the forest goods which weren't subsequently sold in the market. In other words, peasants could collect everything from the woods without paying tax if they kept them for their own household needs. Thus they used forests resources for food, fuel and hunting. Moreover, there were no Ottoman laws in the 16th and 17th centuries concerning the administration of the forest fund and there is probably no *kanunname* of any Ottoman province which would mention the issue of forest preservation.<sup>13</sup> This is certainly true for Ottoman Slavonia; if a *kanunname* does mention forests and their exploitation, it states that tree cutting was not prohibited.<sup>14</sup> There was probably no other legal limitation on the use of wood from Slavonian forests.<sup>15</sup> In some parts of the Balkans, the Sultan's forests were partially protected from excessive local exploitation by forest guards (*korucular*) and nominally by all local authorities – partially, because the extent of their duties and the vastness of forests limited their efficiency.<sup>16</sup>

This all implies that there was a rather huge consumption of Ottoman forest resources and the danger of rapid reduction of the forest fund.<sup>17</sup> However, the mentioned steady increase of Slavonian population didn't have an opposite effect on the size of Slavonian forests, partly because the

12 Stanford J. Shaw and Ezel Kural Shaw, *History of the Ottoman Empire and Modern Turkey: Volume II, Reform, Revolution, and Republic: the Rise of Modern Turkey*, (Cambridge: Cambridge University Press, 2002), p. 235.

13 Selçuk Dursun, "Forest and the State: History of Forestry and Forest Administration in the Ottoman Empire" (PhD diss.), Sabancı University, 2007, p. 63-64, 75.

14 BOA., TT, TTD, 355; Branislav Đurđev, "Požeška kanun-nama iz 1545. godine," *Glasnik Državnog muzeja u Sarajevu*, 1 (1946), p. 129-138; Branislav Đurđev, "Sremska kanun-nama iz 1588/89. godine," *Glasnik Zemaljskog muzeja u Sarajevu*, 4-5 (1950), p. 269-283; Branislav Đurđev et al., *Kanuni i kanun-name za Bosanski, Hercegovački, Zvornički, Kliški, Crnogorski i Skadarski Sandžak*, (Sarajevo: Orijentalni institut, 1957), p. 70-92; Bruce McGowan, *Sirem Sancağı mufassal tahrir defteri*, (Ankara: Türk Tarih Kurumu Basımevi, 1983), p. 1-6; Sršan, *Popis Sandžaka Požeга 1579. godine*, p. 19-24; Selçuk Ural, *Osmanlı Hakimiyetinde Pakrac (XVI. Yüzyıl)*, (Saarbrücken: Türkiye Alim Kitapları, 2014), p. 82.

15 Močanin, *Town and Country on the Middle Danube*, p. 51.

16 Dursun, "Forest and the State," p. 63-64, 75.

17 Shaw and Shaw, p. 235.

civilian population didn't have excessive needs for timber. Peasants used to cut down only in small areas surrounding their settlements in order to create more farming land and would cut down only smaller trees due to difficulties with transporting timber from deeper forests. Nevertheless, one of the most common ways in which Slavonian peasants did impede natural reforestation was through livestock breeding, more specifically, pig farming. It included grazing and feeding of swine on acorns in the oak and beech forests, and this process is what caused the interruption of the natural renewal of forests. However, this process was slow and had only a marginal effect.<sup>18</sup>

There were several civilian activities which were connected with the military and war. In some Slavonian areas, inhabitants of villages surrounding fortifications were employed in cutting lumber for their supply and maintenance in exchange for certain tax exemptions (*müsellem*).<sup>19</sup> One other use of forest areas was observed during insecure times: the local population of Slavonia used forests areas for hiding in the time of wars, which were often in Slavonia, especially in the proximity of the Habsburg-Ottoman border. And in peacetime, forests could have been a good place to hide if you were a bandit or were hiding from the Ottoman authorities for any other reason. Dense forests, especially those in mountainous areas, were often impassable and uncontrollable territories. This is why the territory of Slavonia was populated by a more than average number of pass keepers (Ottoman Turkish: *derbentçiler*) and bridge keepers and repairers (*köprücüler*), who were assigned by the Ottoman authorities to guard and repair bridges situated in dense forest areas and marshlands, in exchange for a certain amount of tax exemption. Sometimes these people had to clear large strips of forest in order to secure the surroundings of roads and bridges. The number of pass and bridge keepers increased heavily during Ottoman rule, especially in the initial period, that is, from 1530s to 1570s. *Derbentçi* settlements were highest in number in central and eastern Slavonia. Rapid increase in the number of bridge keepers and repairers in the aforementioned period and their overall abundance confirms the picture of Slavonia as a region of vast and virgin forests. They usually lived in settlements around impervious forests and, among other duties, had to drive away bandits who used to reside in those forests, which were a perfect

18 Emil Klimo, "History, Condition and Management of Floodplain Forest Ecosystems in Europe", *Environmental Forest Science: Proceedings of the IUFRO Division 8 Conference Environmental Forest Science, held 19-23 October 1998, Kyoto University, Japan*, ed.: Kyoji Sassa (Dordrecht: Kluwer Academic Publishers, 1998), p. 175; Dursun, "Forest and the State," p. 36.

19 Moačanin, *Požega i Požeština u sklopu Osmanlijskog carstva*, p. 124-125, 160-161, 258-259; Sršan, *Popis Sandžaka Požega 1579. godine*, p. 151, 364.

place for raids and hideout, so much that bandits organized large and dangerous gangs. Suitability of the central and western Slavonian terrain for such activities becomes even more distinctive when it is taken into account that the eastern Slavonian plains and the lowland strips along the rivers Drava and Danube with rarer forests contained only smaller gangs. On the other hand, a trade route leading through central Slavonia and cities Požega, Orahovica and Valpovo was surrounded with thick forests, so it was not surprising that those woods were full of bandits.<sup>20</sup>

If we take into account the size of Slavonian forests areas, we must conclude that the clearing of forests with the aim of sale and export of lumber was probably very developed during Ottoman rule. There are indications that this assumption is not very farfetched. For example, the *sancakbeyis* of the Sancak of Pakrac were significantly exporting lumber from the forests on Mount Psunj, which they owned, and which is situated in southwestern Slavonia.<sup>21</sup> But there are no other sources about the export of lumber from Slavonian forests in the Ottoman times. This leads to the conclusion that the forest fund of Slavonia wasn't significantly reduced through clearing of forests with the aim of sale of lumber.

### Forests of Slavonia as Natural Borders

Dense Slavonian forests in some areas represented strong natural obstacles to transport and communication, and political borders were shaped according to the spatial distribution of woodlands. An interesting example of a forest area used as a border, or better as a no man's land, was located in the western Slavonia, between the rivers Drava and Sava. There, mainly along a smaller river called Ilova, which flows from north to south, was the border between the Habsburg and Ottoman Empires in the second half of the 16th and throughout the 17th centuries. This no man's land was during almost a century and a half transformed from a well populated area into a deserted land in which, consequently, forests started to grow without the impeding effects of wood cutting, etc. With time, the Ottoman authorities in the area decided to systematically clear these forests in large quantities with the aim of sale of lumber. Evliya Çelebi described this region in his travelogue and recorded that its name was *kırıntılık*. According to Çelebi, one of the local forest areas extended over a distance of three days of travel

20 Moačanin, *Town and Country on the Middle Danube*, p. 127, 172; Nenad Moačanin, "Pristup ekohistoriji Podravine prema osmanskim izvorima", *Ekonomska i ekohistorija*, 1.1 (2005), p. 142-143.

21 Moačanin, *Town and Country on the Middle Danube*, p. 85, 149-150; Mažuran, *Popis naselja i stanovništva u Slavoniji*, p. 533-534.

between its two ends. The road that was leading through the woodland, from the one end of the forest to the other, had to be renewed by cutting every year. Çelebi described those woods as “virgin forests” which were so high that they seemed they were “reaching the sky”. Çelebi also describes the huge number of woodcutters who were cutting “thousands of trees every year” and that the trees were, as mentioned before, so huge that one could make three boats from a single tree. Furthermore, the lumber from these forests was heavily exported, as the *sancakbeyis* of the Sancak of Pakrac had the lumber transported downstream by the river Sava.<sup>22</sup> Thus the only visible change in the appearance of Slavonian forests occurred on this Habsburg-Ottoman border in Western Slavonia. Contrary to the expectations, here the situation changed significantly in favor of the forest fund and to the detriment of a hitherto well populated area.

### **The Connection Between Pig Farming and the Spatial Distribution of the Forest Fund of Slavonia**

Pig farming in Christian settlements in Slavonia and other regions can be tied to the proximity of forests because pigs need to be reared by letting them graze during winter in oak and beech forests and eat fallen acorns. Thus the spatial distribution and size of the pig farming population of Ottoman Slavonia can be linked to the spatial distribution and size of Slavonian forests. One has to have in mind that the Christian population had a prevalent majority in Ottoman Slavonia. For example, the Christian settlements with the biggest production of pig meat per capita were eastern Slavonian settlements Gorjani and Sveti Đurađ. Accordingly, the tax on the acorns pigs ate in these settlements was extremely high.<sup>23</sup> Naturally, the surroundings of these settlements were covered with oak and beech forests. This gives us the possibility to determine the approximate distribution of forests throughout Ottoman Slavonia, and this will be one of the focuses of our future research.

### **The Changes in the Size of the Slavonian Forest Fund After the End of Ottoman Rule**

If we take a look at the wider picture of the Ottoman Empire’s forest fund in the 16th and 17th centuries, there seems to be no evidence for the claims of excessive clearance nowhere in the surroundings of Slavonia. There are

22 Moačanin, *Town and Country on the Middle Danube*, p. 150; Çelebi, *Putopis*, p. 235, 243-244; Mažuran, *Popis naselja i stanovništva u Slavoniji*, p. 534; Smičiklas, *Dvjestogodišnjica oslobođenja Slavonije*, p. 257-262.

23 Moačanin, *Town and Country on the Middle Danube*, p. 24-25, 61-64.

numerous indications of widespread felling of trees for the need of the Ottoman navy and for commercial purposes throughout the Empire.<sup>24</sup> The commercial use of woodlands was developed in Slavonia, too. However, this did not cause any serious long-term consequences for the forest fund. Moreover, woods in the Ottoman Empire may have even expanded during the Little Ice Age of the 17th century and the resultant weakening of agriculture.<sup>25</sup>

The situation changed significantly only after the Ottoman withdrawal from Slavonia at the end of the 17th century and with and the establishment of the Slavonian Military Border along the river Sava, on the border with Ottoman Bosnia. The first sources on the forest fund on which we can rely originate from the middle of the 18th century and demonstrate that approximately 70% of the total area of Slavonia was under forest. The Habsburg authorities initiated agricultural expansion and resettlement of newcomers, and this all led to the intensified clearing of forests. Thus in 1850 some 60% of Slavonia remained under forest.<sup>26</sup> The Ottoman authorities also had conducted resettlement of newcomers but there was no intensified felling of forests during Ottoman rule. If we take into account that the mentioned military needs in the 16th and 17th centuries affected only the forests surrounding the settlements and that other forest areas still remained intact, we can assume that the Slavonian forest fund was of the same size in Ottoman times as it was in the middle of the 18th century (70%) or even bigger.

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24 Dursun, "Forest and the State," p. 52-55.

25 White, *The Climate of Rebellion*, p. 289-290.

26 Joso Vukelić and Đuro Rauš, "The Lowland Forests of Croatia", *The Floodplain Forests in Europe: Current Situation and Perspectives*, ed.: Emil Klimo and Herbert Hager, (Leiden; Boston; Köln: Brill, 2000), p. 104.

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