This paper shows an interrelation between man and his environment, on the Habsburg-Ottoman imperial borders in early modern period. As an example, we researched borderline areas alongside Drava River on the Habsburg Monarchy side of the border. This region is primarily the river Drava valley, the term ‘Podravina’, ‘Podravina multiborder area’ (region alongside Drava) was chosen. The center of this region is area surrounding the free royal town of Koprivnica, being the Military Border stronghold and administrative seat at the same time. This »case study« is an example of a man and his environment in border territory in early modern period. Chronology data focus on 16th and 17th century, when this area was a frontier to both the Ottoman and Habsburg Empires. The paper focuses on borderline character, which influenced both man and his environment.

Key words: river of Drava, environmental history, Drava river Region (Podravina), 16th and 17th century, Koprivnica

This paper deals with interrelations between man and his environment on the border between the Habsburg and the Ottoman Empires in early modern period. This borderline region was called Podravina multiple borders, as it had - beside the imperial borders - a number of “internal” frontiers as well. For a “case study”, Koprivnica multiple borders, I took the town of Koprivnica. 
area. This territory covers the northern part of what was left from medieval Križevci County (part of Croato-Slavonian kingdom included in the Habsburg Monarchy), and northern part of Slavonian Military Border (Varaždin Border Generalate). This territory spreads out to a part of Hungarian county Zala (alongside the rivers Mura and Drava), as well as the county Somogy. This research should also cover the borderline territories of the Ottoman Empire and the Holy Roman Empire, alongside the river Drava. In today’s modern era, the territory being researched is currently inside 4 different European states: Austria, Slovenia, Hungary and Croatia. We need to emphasize that the wider environment of Drava River in the 16th and 17th century used to belong to 3 imperial systems - Habsburg, Ottoman and Venetian, and it would be advisable to take this regional context into the overall picture. This research is based on both publicized and unpublicized sources. However, the results of historiography were accepted and included in this paper. During the 16th and 17th century, this region witnessed many events and was influenced by them as well. This paper does not focus on all possible questions a researcher might come up with, but rather on those issues, which influenced the changes in environment in territory surrounding the town of Koprivnica, today being located in northwestern part of Croatia, right next to the state border with Hungary.

The river Drava influenced this territory in many different ways. Today, it rises from the spring in Dobbiaco, Italy (elevation 1192m above sea level), in eastern Croatia empties into the Danube River nearby Aljmaš (elevation 79m above sea level). The entire flux of Drava is streamed in the east-southeast direction, its today’s length being 749 km.\(^1\)

For centuries the river Drava has been flooding the areas it flowed through.\(^2\) Even though it’s still the borderline river, its borderline position has been clearly visible ever since the late 16th century, when it became the border, which separated the Habsburg and the Ottoman Empires. This importance held up to the end of 17th century. This is when it became an administrative border between the Hungarian counties on one bank, and Croato-Slavonian regions on the other bank. In the Middle Ages too Drava primarily served as a natural border between Hungarian and Croato-Slavonian counties. For Koprivnica, Drava became important in the 17th century, when it provided a natural obstacle to Ottoman breaking in, but at the same time an imperial borderline, which would provide strong influence on the town and the stronghold in several ways.

The Habsburg-Ottoman conflicts helped create 2 separate traffic systems of crossing Drava. One was installed on Drava upper flow in Koruška (Carinthia) and Štajerska (Styria), while the other one was on its lower course (The Ottoman Empire). Koprivnica area was in between the two.

In the 17th century, rivers Drava and Mura played the most important role in the river traffic of Styria. For Croatian regions nearby Koprivnica, it was becoming really important only from Varaždin onwards. Mura was navigable by pontoon-like ferry called »šajka«,\(^3\) Drava only by rafts. Since there was a Mura confluence into Drava, just outside Koprivnica, this helped that river Mura, navigable upstream all the way to Graz, be used in communication purposes too. This

\(^{1}\) V. Blašković, Characteristics of Drava and our borders in Podravina (Osobitosti Drave i naše graniče u Podravini), Podravski zbornik, 2, Koprivnica 1976, 141; I. Bertić, Drava, Encyclopaedia of Yugoslavia (Drava, Enciklopedija Jugoslavije) 3, Zagreb 1984, 569-571; A. M. Grünfelder, Drava (Drava), Podravski zbornik 22, Koprivnica 1996, 57-54.

\(^{2}\) B. Vujasinović, Water pathways works in Croatia in the 17th century (Radovi na uređenju voda u Hrvatskoj u 17. stoljeću), Hrvatska vodoprivreda, br. 96, Zagreb 2000., str. 63.

\(^{3}\) Šajka were the pontoon-like ferries. They were 10,5m long and 5m wide in size, with draught of approx. 1,3m (depth). They could ferry the weight of 5-10 ton, and it took 4-5 persons to steer it.
was particularly important, as Graz in early 17th century was the seat of Interior Austrian lands, as well as the seat of the Imperial War Council throughout the entire 17th century (which had command and authority over Slavonian Military Border).

In Koprivnica’s part of Podravina region, Drava became additionally important in the period 1684 -1687, when it served to ferry large volumes and quantities of goods, wheat, gunpowder, arms, ammunition and military equipment to battlefield areas east of Virovitica. Othmar Pickl believed that military transit over Mura and Drava served not only the army, but helped the growth and development of free trade, too.⁴

In order to stop flooding, areas alongside Drava were subjected to flow regulation works. Data from 1609 witness possible piling of stones and rocks nearby the settlement Drnje to regulate Drava.⁵ There is a possibility that the stones were in fact ammunition, ferried across Drava from Varaždin. This could indicate that Drava in Koprivnica area (up to Drnje) was navigable. If, on the other hand, the stones were used to regulate Drava, then it represents important evidence to research of hydro regulation in Koprivnica area.⁶

Koprivnica River had a direct impact on the town of Koprivnica and its stronghold, as its water was used to fill the protective water trenches. By the late 16th (early 17th century) the river was flowing west from the town, close to the stronghold’s western rim. After that point, it followed the northern direction, providing a south-north flow on Koprivnica territory. Regulation works in the late 16th / early 17th century helped the physical change of the flow direction, so from that period onward, its flow followed a west-east direction. Just north from the town, its stream was most probably used as a drainage canal from Koprivnica stronghold’s water trenches. It’s possible that Koprivnica ‘river’ (a stream, in fact) changed its course due to the defense/protection needs, as this water course from the south could protect Koprivnica’s stronghold and the streets and the square that were formed later. However, this hypothesis should be probed in some future research.

From north to south, from Drava River to Kalnik and Bilogora foothills there are several characteristic relief-pedology zones, which influenced climate and flora, particularly density and spatial disposition of population.⁷ Although it seems, that relief of Koprivnica area has a low level of energy, with continuous overall decrease from south to north, and/or west to east - hypsography differences in Drava lowland has great importance. In general, Koprivnica region has 3 characteristic relief areas, zones shaped facing east-west direction: 1. North is lowlands, in 17th century swamped Drava river polloi; 2. Most fertile and vital part is made of Holocene and Würm terraces - in fact, a contact area between Drava polloi in the north, and Quartar - Tertiar hilly area in the south; 3. South is hilly area, mostly quartar- Tertiar age, which toward south continues as a relatively high Mesosioic Karst of Kalnik.⁸

⁵ Državni arhiv Varaždin (DAV), Arhiv grada Varaždina, Radikalni arhiv, II, br. 958; M. Androić, Varaždinski trgovac Vinko Perger, Kaj, br. 10, Zagreb 1968., str. 63.
⁷ D. Feletar, Podravina population, geography, geomorphology-pedology basis until the late Middle Ages (Geografski položaj i geomorfološko-pedološka osnovica naseljenosti Podravine do kraja srednjeg vijeka), Archeology research in Podravina and Kalnik-bilogora foothills (Arheološka istraživanja u Podravini i kalničko-bilogorskoj regiji), Izdanja Hrvatskog arheološkog društva, sv. 14, Zagreb 1980., str. 11-18; isti, Podravina, Koprivnica 1973.; P. Kurtel, Ludbreška Podravina, Ludbreg (monografija), Ludbreg 1984., str. 9.
In the 17th century, Koprivnica with its suburbs was on contact area of most fertile Holocene and older/younger Würms terrace. Those terraces in Koprivnica area meet the zone of mild watershed divide, Kalnik foothills toward west, and Bilogora toward south. It’s important to point out that the town itself was developed at the mouth of Koprivnica stream or rather on its alluvium.9

It’s difficult, based on current knowledge, to establish what changes on the soil have been occurring in Koprivnica area from 17th century until the present day. However, it is possible that these occurrences happened. Probability lays in the fact, that since 17th century climate has changed, natural cover and farm crops have changed, and soil change could have been influenced by other factors too. These are speculations only, but in order to establish exactly what happened with the soil, we need to wait for some future multi-disciplinary research.

In the past, a more immediate area of Koprivnica had witnessed several epicenters of major earthquakes. In the 17th century, at least 2 of them were a 6 - degree Mercalli-Cancani-Sieberg (MCS) quakes.10 Unfortunately, documented sources left no more specific data on heavy earthquakes from 1694, which must have had devastating effects on the environment.

Climate characteristics reflect the geographic position in the southwest of Pannonia Valley, while the local differences depended on relief and hydrology characteristics of Koprivnica’s Podravina area. Climate characteristics of Koprivnica environment cannot be viewed outside the context of a wider region. This is why this review will cover a greater area. Today we have, according to Köpen, the climate that is characterized as a moderate warm and rainy, without particularly dry periods, yet with fewer precipitation/rain in winter than summer period; summers are not very hot, poised with more rain in the beginning, and less in the end of season. By name, it’s a beech-tree climate, particularly favorable for growing corn. As per classification, based on forest vegetation, the climate here is a moist, continental, low elm-tree forest with alder-trees, willows, poplars and ash-trees.11 We notice big temperature amplitudes between summers and winters, especially in comparison with extremes (annual temperature amplitude can be exceeding 60° C). Middle periods are relatively favorable, as average temperature in January is around -2°C, while in July is +18°C. Precipitation declines from west to east, as being blown by westerly winds. The main maximum is in autumn, and the second in spring/early summer. Features and characteristics of local climate are also great oscillations in precipitation volume, in temperature height, in snow, frosts etc. Farm crops, orchards and vineyards have been adapted to these climate characteristics (but also to most westerly, northwesterly and south winds).12

A greater Koprivnica region, from west to east, has more solar radiation and insolation period increases, while precipitation goes down. The two most important reasons for that are: 1.mountains, (the Alps in this case), forcing the air to lift, which helps to form clouds and rains in the very mountain area and vicinity; 2. Aerial mass, coming over from Atlantic Ocean, in the

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9 D. Feletar, Geography and geomorphology -pedology basis of Podravina population density (Geografski položaj i geomorfološko-pedološka osnovica naseljenosti Podravine), karta na str. 12.
first line - front - cause weather disturbance and rain, traveling over land toward east, becoming more similar to the air it pushes, thus causing the front to weaken.\(^1\)

Throughout the early modern period, the climate in these regions was a lot more different from today. »A minor glacial period« lasted approximately from 1400 until 1850, with coldest periods around 1550 and 1700-1850, when Europe faced a number of cold winters.\(^2\)

Cold spells in early modern period in many ways affected Koprivnica region. First, frequent Drava River freezing over enabled almost undisturbed river crossings of the Ottoman armies into Koprivnica’s Podravina region. Second, lowered temperatures probably could affect changes in flora and fauna, which in turn affected feeding habits of the population and its numbers. Third, it may have been possible - at least up to a point- to link migrations of Vlach and Predavci population with global warming. These possible influences should be investigated further in a separate research. For the time being, there is no research of climate data for Koprivnica area, in early modern period. I’ll take the liberty of involving the greater area in this research, fully aware of possible weaknesses in this approach.

To illustrate weather conditions, we bring some details. According to these data, the first half of 17\(^{th}\) century was probably a bit warmer than the previous and the period that followed.\(^3\) Although I’m fully aware of the risks, I’m opening up some questions I don’t have answers at the moment. Can we, by any chance, link the lowest weather temperatures around the year 1600 with the »long Turkish war from 1593 to 1606«? Could the Vlach resettlement to this region be due to climate chilling, among other reasons? Was the climate warm up in mid 17\(^{th}\) century linked to faster development of Koprivnica and demographic growth of Podravina?

The builder’s report of Franz Marbl (Francesco Marmoro) from 1590 shows the effects of low temperatures on the stronghold, which weakened defensive strength of Koprivnica. He wrote, that bastions were lowered, or rather, they sank into the stronghold’s ditches. He believed the cause was in too high level of water in protective ditches. Water flooded, undermined and hollowed out the foundations, while the frozen ground in downward slopes crumbled away, due to heavy frosts.\(^4\)

Low temperatures around the year 1600 were connected to Koprivnica defense in so-called Long-lasting war. In 1601 attack, Koprivnica was saved by extremely cold winter. Koprivnica stronghold’s commander Alban Graswein described the attack: »Large Ottoman armies reached the stronghold, which was chained in ice. Water ditches were completely frozen over. Access to the stronghold was easy. The Ottomans hid from biting frost into the stables and barns outside the stronghold, but the winter was so cold that they, after a short while, dropped the siege and finally gave up.«\(^5\)

Another fact illustrates the weather conditions in early 17\(^{th}\) century. In 1604, Leopold Grafenauer from Radgona complained to the gentry that there was no tool shed to keep the building tools from decay in snow and rain outside. Ottaviano Zanolli, the chief builder of

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\(^{1}\) I. i B. Penzar, Geophysics meteorology, phenology situation (Geofizičko-meteorološke i fenološke prilike), str. 255-259.


\(^{4}\) Styria military archive (Štajerski zemaljski arhiv Graz) (STLA), Militaria, Sch. 119; M. Kruhek, History of building up Koprivnica stronghold (Povijest izgradnje koprivničke tvrđave), Koprivnica - grad i spomenici, Koprivnica 1986., str. 201.

\(^{5}\) STLA, Militaria, Sch. 125; M. Kruhek, History of building Koprivnica stronghold (Povijest izgradnje koprivničke tvrđave), str. 203.
Croat-Slavonian order, had to wait in Radgona during wintertime, for snows and rains to cease and weather to improve, so he could go back to work in Slavonia and Koprivnica.  

Koprivnica area in early modern period was relatively rich in woods and forests, however, the same century witnessed lots of exploitation and clearing up of woods too. It looks as if medieval Podravina was a lot more afforested region than today. It’s possible to assume, that during the second half of 16th century afforested area got larger, reversally proportional with overall population here.

By analysing the maps from the second half of 16th century, we can establish that the natural environment and landscape of medieval Podravina was a lot more afforested and damp than today. Specific features and characteristics of this region were rich forests alongside Drava River and frequent flooding, which caused erosion of ground and buildings. After the Ottomans took over most of Križevci county, its border parts (on the Habsburg-Ottoman frontier) became more afforested. This can be illustrated from Lepavina Orthodox monastery records, indicating that around 1587 the region between Virovitica and Križevci was heavily afforested, but unpopulated area.

As material, wood was of great importance, used in everyday life. It served for fire and heating, construction material, tools, furniture, home appliances etc. Clearing woods, thickets and brushes helped create new land for crops. Oak and beech-tree forests were, among other things, used for feeding pigs with acorn. Woods were full of game, which enabled hunting. Pierre Chaunu wrote, that people went to woods to cut grass under trees,, and this practice lasted until artificially cultivated meadows appeared. He wrote of woods, as source of fruits, i.e. quince, chestnut, walnut, wild berries and planting material (fruit trees) for orchards.

Before regulation of streams and depressions (from the second half of 18th century), this area used to have a lot more swamps and low meadows, while most of woods were cleared most probably as early as 17th century in the process of new resettlement of population. Numerous toponyms with tree names witness the existence of forests that used to be here. A greater Koprivnica area has toponim and names like »laz« i »krč«, meaning ‘wood clearance’ on numerous maps, land registry records in particular.

In the vicinity of Koprivnica, there were plowing lands and pastures next to large forests. To the local population, they served for protection. When in early April, 1603 Koprivnica’s Captain Grasswein crossed Đurđevac to attack the Ottomans in Slavonia’s Podravina, he fought against the Tartars in the region between Brezovica and Virovitica. After that, the Tartars broke in Podravina, torching the villages and taking people into slavery all the way from Koprivnica to Vinica. The local population fled and sought refuge in the woods.

The records for 1630 show, that somewhere between Koprivnica and Križevci, there was a large forest, three miles wide. The forest had no border patrols, so the Ottomans could sneak and pass through uninterrupted. In order to stop them, Trautmansdorf suggested that the woods in

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18 STLA, Militaria, Sch. 132; M. Kruhek, History of building Koprivnica stronghold (Povijest izgradnje koprivničke tvrđave), str. 204-205.
22 P. Chaunu, Classical Europe civilization (Civilizacija klasične Evrope), Beograd 1977., str. 265.
23 Croatian state archive keeps land registry maps and charts, with mid 19th century toponyms for all settlements in greater Koprivnica area.
future should have two guard units, with 30 men each.\textsuperscript{25} The maps of mid 17th century (probably drawn by Martin Stier) show no large afforested complexes at all. The closest one was mapped somewhere on the foothills of Kalnik and Bilogora, and right next to Drava River nearby Legrad, as well as due east from Sigetec. It’s interesting to notice, that nowhere around Koprivnica captaincy or Đurđevac strongholds, any of woods or forests were shown on the maps. They were probably cleared for security reasons, which indirectly shows that clearing of woods had started earlier.\textsuperscript{26}

It looks as if at the end of 16th century there was a process of afforestation nearby Križevci.\textsuperscript{27} In Koprivnica, the opposite process was underway, as woods were cleared out.\textsuperscript{28} It’s unclear why the 2 close areas were subjected to totally different processes linked to forests and woods.

In 1597, thick forests surrounded Koprivnica from all directions, which in fact helped the Ottomans and the Vlach forces to sneak all the way to the town itself without being spotted. The same year, 1597, Ottomans and the Vlach forces captured some 70 people near Koprivnica. This is why Croato-Slavonian Assembly approved serfs and other inhabitants to clear out the woods around Koprivnica, in order to increase security in the town’s vicinity.\textsuperscript{29}

In the 17th century in greater Koprivnica area, the already started clearance of woods continued. It looks as if clearance started closer to Drava. Those who performed woods clearance usually were granted the use of cleared land. According to a lawsuit by the viceroy Sigismund Erdődy from 1628, it’s obvious that professional army units, stationed at Drnje, cleared the woods in nearby Delekovec without the viceroy’s approval. The rent paid for the use of cleared land was only one-tenth of the crops. After 1628, Drnje inhabitants were given the right to use the land they themselves cleared.\textsuperscript{30}

Koprivnica captain, according to a lawsuit from 1634, took by force from Koprivnica citizens the land and pastures that they had cleared and defended with arms.\textsuperscript{31} This fact speaks of the times, when citizens did wood clearance in Koprivnica vicinity themselves. The fact is, that these new plowing lands were defended with arms, most probably speaks of defense against the Ottomans.

As an example of extensive woods clearance in Koprivnica area in the second half of 17th century, we can use the fact, recorded in nearby Delekovec. In 1689, they had almost two-thirds of entire cultivated lands that were originally cleared up woods.\textsuperscript{32}

On 18 October, 1698 Slavonian Order commander-in-chief Aenea Caprara confirmed to Koprivnica citizens the right to cut wood in a forest, claimed and usurped by citizens from the next village of Borovljani. Koprivnica citizens were given the right to collect acorn as well.\textsuperscript{33}

\textsuperscript{24} R. Horvat, History of Koprivnica, with a charter of a free royal borough (Poviest slob. i kr. grada Koprivnice), Zagreb 1943., str. 9.
\textsuperscript{25} A. Ivić, Serb migrations during 16,17,18 century (Migracije Srba u Slavoniju tokom 16., 17. i 18. stoljeća), Settlements and origins of the population from archives (Naselja i poreklo stanovništva po arhivskim dokumentima), knj. 21, Srpski etnografski zbornik, knj. 36, Subotica 1926., str. 51.
\textsuperscript{26} Lj. Krmpotić, Reports on determination of Croatian Kingdom borders in 16-18 century (Izvještaji o utvrđivanju granica Hrvatskog Kraljevstva od 16. do 18. stoljeća), Hannover-Karlobag-Čakovec 1997., str. 43. Karte se čuvaju u Nacionalnoj knjižnici u Beču pod signaturom ÖNB, Codex 8608, fol. 32.; ÖNB, Codex 9225, fol. 36.
\textsuperscript{27} R. Milosavljević, Križevci na Vojnoj krajini, Križevci 1988., str. 16.
\textsuperscript{28} D. Feletar, Podravina- Contributions to acknowledging economic growth of northwestern Croatia (Podravina - prinos poznavanju gospodarskog razvoja sjeverozapadne Hrvatske), Koprivnica 1973., str. 66. Dragutin Feletar piše: “At the end of 16th century all woods were cleared up and all buildings removed around the stronghold walls for the sake of efficient defense.”
\textsuperscript{29} Croatian Assembly Enactments (Hrvatski saborski spisi, HSS), knj. 4, str. 362-363.
\textsuperscript{30} HSS, knj. 5, str. 433.
\textsuperscript{31} Croatian Assembly Resolutions (Zaključci hrvatskog sabora, ZHS), knj. 1, str. 46.
\textsuperscript{32} Hrvatski državni arhiv (HDA), Rasinja Estate (Vlastelinstvo Rasinja), kut. 7.
\textsuperscript{33} HDA, GK, kut. 7, br. 10.
 Probably the agrarian crisis at the dawn of early modern period stimulated intensified deforestation and wood cutting, that not only brought a visual change in the landscape, but more frequent and lasting flooding of the greater Drava area helped too, additionally causing erosion of land as well. The range of flooding was well documented and charted in maps and their sources. Frequent flooding influenced the changes with Drava itself, but with the river affluents, too.

Wood from forests was used as timber material for housing. For example, in 1645 Koprivnica town records show, houses were covered with shingles, wooden slivers. Shingles were also used for roofing of Koprivnica chapels, made of wicker plastered with mud, wooden foundations, made of local wood. The wood was regularly used as basic building material for houses, furniture, but as farm buildings as well.

Although 1766 Koprivnica map shows no toponyms, indicating where wood clearance had occurred, the map still shows relation between afforested sections and the remaining land. All forests and woods were relatively distant from the town and Koprivnica had plowing fields nearby. In 1766, this situation showed that was some clearing of woods close to the town. It probably had started in 17th century, when Koprivnica increased its territory and its population several times.

Beside forests, the area had orchards with fruit trees, particularly apple and pear, sorb, cherry (as dry fruits, for brandy and liqueur), walnut, chestnut, peach, currant etc. Vineyards were planted close to afforested areas. It needed relatively simple tending, hoeing, fertilizing, weeding. Koprivnica townspeople pressed grapes in their vineyards using homemade presses, inside vineyard sheds called ‘kleti’.

Forests with common oak, dark and white poplars, different kinds of willow, white alder were more present in vicinity of Drava River. Land there was of lesser quality, as the river brings alluvial material, gravel and pebbles and the soil is soft and as shallow as ten-centimeter layers only. Forests protected Drava banks from water erosion, so wood clearing up quickened change of stream and helped more frequent flooding. This is why Drava had many backwater channels. Some of them were always damp, thick with reed and bull-rush turf of sharp grass and weed, unsuitable for pasture. Up, on higher elevation of Bilogora and Kalnik hills, dominant were beech-trees with some common oaks and hornbeam.

36 L. Dobrnonić, Koprivnica townhall minutes (Koprivnički gradski zapisnici, KGZ), Podravski zbornik, sv. 14, Koprivnica 1988., str. 146.
37 Nadbiskupski arhiv Zagreb, Canononic visitations (Kanonske vizitacije, NAZ, KV), Prot. 4/IV, 89/I, 89/II i 90/III.
38 L. Brozović, Contributions to Koprivnica History (Grada za povijest Koprivnice), Koprivnica 1978., str. 97-102.
39 I.e. in 1645. there’s a mention of a barn (škedenj), but also of a vineyard shed, KGZ, str. 145-146.
40 HDA, Collection of maps (Kartografska zbirka); the maps was reproduced in: M. Slukan-Altić, History of charting maps in town of Koprivnica (Povijest kartografskih radova na području grada Koprivnice), Podravski zbornik, sv. 26-27, Koprivnica 2001., str. 68.
41 Research of P. Chaunua, Civilization of classical Europe, page 266, we notice that apple orchards start to spread in northwest of France and Europe in 16th and 17th century. together with “apple victory over pear”, which “retreated” toward west.
42 L. Brozović, Contributions to Koprivnica history (Grada za povijest Koprivnice), str. 140-144.
43 KGZ, str. 146. e., in 1645 a vineyard is mentioned as “zpressum y kletium”.
In mid 16th century the first recorded outbreak of plague happened on the territory alongside Drava. The plague spread from the Ottoman Empire into the Habsburg Monarchy (Koprivnica area). In October 1553 it was recorded in Zagreb area; in June 1554 in Križevci and territory alongside the river Mura (Međimurje region, southern part of Zala county). According to a report from September 1599, the Vlachs that migrated from Slavonnia helped the spread of plague. On its session held on 21st October 1599, the Sabor assembly concluded that »the plague was raging and shutting down many serf homes«. At the same time, people suffered from lack of food and animal feed, as that year was also “plagued” with terrible draught. Since the capital Zagreb was suffering from plague, the viceroy Ivan Drašković called for Sabor Assembly in Varaždin on 1 February, 1600 to discuss draught and plague disasters. The plague ruled the regions alongside Drava in autumn of 1600, when it killed many people.

Citizens of Koprivnica fought microorganisms in their own unique way, but it’s hard to tell how closely they followed the trends in their environment (Croato-Slavonnian Kingdom and a wider region). At a Croato-Slavonnian assembly session held in 1598, the official resolution was that the entire Croatia and Slavonnia is endangered by the plague, as there was no single doctor in the whole country. This is why in 1603 Croato-Slavonniann Kingdom welcomed the arrival of dr Daniel Théri de Rosenberger, entitled »doctor, medicus Regni Slavoniae«, or, medical doctor of Slavonian Kingdom.

At first, village barbers did simple »surgical« procedures, like it was the case in 1645. However, Koprivnica got its own medical doctor soon enough. The fact, that Koprivnica stronghold had the military forces stationed here, and because of frequent armed conflicts they needed to have regular medical care. As per current documents available, the earliest mention of a medical doctor in Koprivnica is the notice on a surgeon Wolfgang from 1659.

In autumn of 1647, another epidemic of plague broke in border areas of Habsburg Monarchy, in regions alongside the river Drava. There is a record of January 1678, speaking of the Ottoman Empire borderline places suffering from the plague. However, the disease did not cross the border into the Habsburg Monarchy. Several years later, the plague appeared in Podravina too. The region of Styria particularly suffered from the plague (a large number of people died in Graz and Ptuj). From Styria, it crossed into Hrvatsko zagorje (today: northwest Croatia), and then to Podravina. Croato-Slavonniann assembly in November 1682 passed legislation, ordering guard
posts to watch over possible plague dispersion by the sick in Koprivnica and some parts of Križevci area.56

During 16th and 17th century, certain changes in borderline population in Habsburg Empire, alongside Drava, occurred,57 as the general trend was a decrease of the total population. Numerous sources verify that depopulation was big: some inhabitants fell victims in the conflicts, some captured by the Ottomans and taken to slavery, others moved out to safer, more secure areas (western Croatia, Hungary, Hrvatsko zagorje etc.). However, I assume that part of population remained in this borderline area, confirming that the defense system here was never seriously questioned. Numbers and spatial disposition of the remaining population in further research will probably provide more accurate data in the future. The same applies to important research on continuity/discontinuity in borderline areas by the river Drava, which I believe will soon provide results.

It looks as if the turn of the century, from 16th to 17th century the majority of population was living outside Koprivnica stronghold’s protective walls, in its vicinity. During 17th century, Koprivnica began a more intensive life outside the stronghold, which in fact was a certain separation from the town’s nucleus that had been created in 16th century. By the end of 17th century, most trades and businesses moved to the new nucleus that was formed next to the northern rim of the stronghold. It’s understandable, that this new town nucleus was formed in a more secured and better protected part. However, other factors influenced this too, such as traffic directions, terrain configuration, soil composition etc.

Koprivnica military stronghold was modernized in mid 17th century.58 Inside the stronghold, its residents were soldiers with some civilian population, formally entitled to privileges of a free royal borough. This privilege was obviously questionable, or in danger, so the sovereigns were often called to formally recognize these privileges, in late 16th and early 17th century (1590, 1609 and 1630).59 It’s important to stress out, however, that after 1630 there were no more charters, confirming this status any longer. This could probably mean, that the privileges were no more in serious danger.

Military was dominant in life of Koprivnica of those times. For a greater area, it served as the seat of Koprivnica landlords, who owned the remaining several villages in the north: Peteranec, Kunovec, Ivanec and Pustakovec; in the east, those were Drnje, Sigetec and most probably - Virje. In 18th century records, those villages were referred to as “kitchen villages”.60 But, more artisans and trades and rebuilding of Roman Catholic parish and a school, helped Koprivnica to further develop central functions for its neighboring villages. Additionally, as Koprivnica was at the crossroads of trading routes, it had a transit character too. This is why Koprivnica had clear functions for its population, who resided, worked, got their provisions and supplies here, as well as necessary education. The town had a functional - spatial structure, as a product of many different professions, flourishing in the town.61 As a role model, Koprivnica shows categories of

56 ZHS, sv. 1, str. 427.
58 A. Žmegač, Bastions of continental Croatia (Bastioni kontintalne Hrvatske), str. 121-122.
59 HDA, GK, kut. 1, br. 14; kut. 2, br. 2 i 3. some town suburbs at the end of 16th and in early 17th century (1590, 1609 and 1630). In this context we need to understand the struggle for privileges - not as a symbolic fight but with a practical purpose too, as loss of privileges had to bring long-term consequences for Koprivnica and its population.
60 K. Kaser, Free farmer and a soldier (Slobodan seljak i vojnij, knj. 1, Zagreb 1997., str. 104.
61 M. Vresk, Urban geography (Osnove urbane geografije), Zagreb 1990., str. 38.
different use of the town area: a) residence b) manufacture (guilds shops); c) organization (military, civil, church school); d) circulation (trade, shop, fair, traffic infrastructure). In early 17th century, the town had three streets, two of them for residence, while the third (the main street) had - beside residence - manufacture, organization and circulation functions as well. At the end of 17th century, the functional-spatial structure of the town changed with expansion of residence zone, manufacture and circulation outside the stronghold. The space inside the stronghold, however, kept the two mentioned zones at relatively low level. The only zone that remained important was the organization.

The town of Križevci was very similar to Koprivnica, as it also had a dual function: military function as the seat of the captaincy and a free royal town, just like Koprivnica. In Križevci, this duality was pretty much the same as in Koprivnica. The town that differed from Križevci was Varaždin. It had somewhat different growth. Even though it was the seat of generals and Slavonian Order (later proclaimed Varaždin generaleate), in 17th century its military role did not dominate over its civil one. In Koprivnica and Križevci, however, the military was extremely dominant on the turn and the first years of 17th century. Only later did it develop civil functions. It’s interesting to compare these two towns with the neighboring Legrad, originally started at the place where two rivers, Drava and Mura, met. Legrad at that time served as the seat of Legrad (Medimurje) captaincy. During 17th century, it began to develop civil functions next to the military ones. The sources mention Legrad as a trading place. Civil functions, similarly to Koprivnica and Križevci, began to grow in importance only in the second half of 17th century. Koprivnica depended on its borderline position, where the further growth started in 17th century.

Its relative stability on the divide between the Ottoman and Habsburg Empires enabled Koprivnica with almost continuous growth and development for 100 years. Similar situation was with neighboring Križevci.

The most important central function Koprivnica had in 17th century, was the military one. As guilds and trades developed throughout 17th century, craftsmen from Koprivnica began supplying the neighboring population with their products. Trade fairs were another sign of central function. For the year 1638, Koprivnica received the right to hold 2 annual trading fairs. In 1652, it was granted the third annual fair as well. Ever since the Middle Ages Koprivnica holds a weekly fair on Monday. In 1651 the town was granted the right to collect entrance tax, the toll (mitnica). Koprivnica was, as mentioned earlier, the seat of the gentry, while the captains effected the function of landlords, even though the right belonged to the Hungarian court chamber from 1547.

67 HDA, Town of Koprivnica (Grad Koprivnica, GK), kut. 6, br. 7; kut. 7, br. 2.
68 HDA, GK, kut. 7, br. 1.
Podravina

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the so-called Provincial and Slavonska (Vindiška) border, or Varaždin generale. However, it slowly formed the area, which would later fall into the Military Border.

In time, the western borders of Slavonian order, or Varaždin generale in Podravina, according to feudal estates, consisted of the following settlements: Ivanec (Ludbreški), Duga Rijeka, Černoglavec, Pkos, Rasinja, Subotica, Kunovec, Pustakovec, Ivanec (Koprivnički), Koprivnica, Cenkovec, Torčec and Botovo; northern and eastern borders of Varaždin generale were under the rule of the Ottoman Empire; the southern borders of the region we deal with was the foothills of Bilogora; the western rim of the so-called provincial part was in fact the western order of Križevci county.

The paper covers a part of Zala County, primarily Legrad area, as this borderline region (bordering with the Ottoman Empire, next to the rivers Mura and Drava, on the other side of the border facing larger Ottoman strongholds and the town of Kanyizsa) extends to Varaždin generale. The actual borderline between the Ottoman and Habsburg Empires was made of the demarcation zone (so-called no man’s land) between Virovitica and Đurđevac, following Drava stream all the way to the mouth of Mura river; following Mura further almost to today’s Croatian-Slovenian-Hungarian tristate boundary.

The most intensive raids of border areas alongside Drava were around 1550s. New settlers were arriving on emptied lands of Koprivnica-Đurđevac in the second half of 16th century. Croato-Slavonian assembly established that Koprivnica captains had many serfs. Yet, Stjepan Patačić in his report to the Hungarian chamber on 22 April, 1614 claims, that Koprivnica is more of a military stronghold, than a town. Townspeople had only twenty or so houses altogether.\(^79\) Additionally, throughout 16th century Koprivnica citizens had to pay “one-tenth” annual tax of 40 forint.\(^80\)

In 1540s, serfs from certain settlements in Koprivnica and Đurđevac estates were resettled to various parts of Hungary and Moravska.\(^81\) There are some records that indicate, that villagers from Koprivnica area were resettled to south Gradišće, north Gradišće, to Šopron and Požun counties, as well as in eastern Styria, and most probably Slovakia.\(^82\) The written records do not show which Koprivnica this refers to. However, there is a theory that this refers to Koprivnica near Požega.\(^83\)

The areas north of Kalnik foothills and west of lower Bednja stream were mostly “spared” from population movement. Although the same areas saw some Ottoman raids, majority of population permanently remained here. It’s easy to verify that, if we compare medieval with today’s toponymy. Some of the natural obstacles in environment played defensive role here. Yet, it’s more obvious in Kalnik foothill area, as swamps in lower Bednja stream were just a minor glitch to the Ottomans in their invasions. In this context, we should review the fact, that the most

\(^79\) HDA, Neoregratata acta, 632/7; J. Adamček, Agrarian relations in Croatia from mid 15th to the end of 17thcentury (Agrarni odnosi u Hrvatskoj od sredine XV do kraja XVII stoljeća), Zagreb 1980., str. 244, 402.

\(^80\) Nadbiskupski arhiv u Zagrebu, Acta decimalia, br. 806.

\(^81\) Nadbiskupski arhiv u Zagrebu, Acta decimalia, br. 606.


\(^83\) M. Lončarić, Kaj-dialect yesterday and today; Essays on dialectology and Croatian kaj-dialect (Kaj - jučer i danas; ogledi o dijalektologiji i hrvatskoj kajkavštini), Čakovec 1990., str. 149.
western fortification of Koprivnica captancy was in fact in Ludbreg, the town which rose in the road crossings over Bednja, lying on the most northern foothills of Kalnik, meeting Drava lowland.

East of Kalnik and lower Bednja stream, there was a partially deserted area we could split into two zones. One was between Koprivnica and Ludbreg, and the other between Koprivnica and Đurđevac. The territory between Koprivnica and Ludbreg represented a transit region of mostly spared area and »the right« party deserted area between Koprivnica and Đurđevac. Between Koprivnica and Ludbreg the only estates which remained in its continuity, were Rasinja (Kuzminec) and Ludbreg estates, and several smaller ones, north of these two. Beside this, most villages in the then Koprivnica and Đurđevac estates, which later served as »kitchen villages« of Koprivnica captain, were located in this sliver between Koprivnica and Ludbreg. We can establish the area between Koprivnica and Ludbreg was partially devastated, as there was a partial discontinuity in toponyms, which existed since the medieval times. Additionally, it was 17th century that witnessed a larger concentration of freemen settlements in the area between Koprivnica and Ludbreg. Earlier, so-called “private Vlach” formed settlements, which, too, enjoyed privileges almost identical to those of the free men. In other words, thanks to the existing circumstances, the area between Koprivnica and Ludbreg had relatively large number of villagers with different privileges (freemen and Vlach) who differed from serfs and “inkvišna” (those who paid their tribute per household) living in their neighborhood.

It’s interesting to point out, that west of Ludbreg (toward Varaždinu) there were no freemen or private Vlach villages. This speaks clear enough that this dynamic region nevertheless suffered a partial devastation. When mentioning the area between Koprivnica and Ludbreg, perhaps it would be wise to speak of disturbed balance in population, rather than of total discontinuity. The sources we have verify that some of the population with serf status in 17th century, changed its status and became freemen. Such cases were happening in immediate contact area of the Provincial and Slavonnian Border, for sure in Delekovce and probably in Torčec.

»Real«, partially devastated, space was located between Koprivnica and Đurđevac. This continuity of scarce population was upheld in several settlements by natives from vicinity and some refugees from east Slavonia. A kind of population continuity in this »real«, partially deserted space could be found in Drnje, Sigetec and Virje. Drnje and Sigetec were the villages most probably started over on Drava River islets by refugees, while Virje was established where the medieval marketplace Prodavić once had been. It’s interesting that all 3 settlements had organized strongholds with professional soldiers, which in late 16th and early 17th century was the only hope to keep permanent population there.

In late 16th century, neighboring Đurđevac had organized captaincy with professional army of German and native soldiers. After the Ottomans in 1552 torched down Gorbonok, a small castle between Đurđevac and Virovitica, Đurđevac was let out as the most western Habsburg stronghold between Drava and the Adriatic Sea. From mid 16th century to 1640s, the are between Đurđevac and Virovitica is a no man’s land. It’s interesting to notice, that from 1640s, this area of no man’s land between Đurđevac and Virovitica, saw new settlements gradually rising on both sides of the border.

Growth and development of Koprivnica’s Podravina in 17th century will spur a new socio-economic and cultural space, that will be the basis for later on, and in part today’s too, spatial organization in population. The western parts of Podravina, including Koprivnica township, witnessed intensive growth of overall population as early as the first half of 17th century. On the
other hand, eastern parts, closer to the Ottoman Empire, will witness a more significant growth of population only in the second half of 17th century.84

Podravina multi-border region was, since the second half of 16th and during 17th century a meeting place for several confessions. Roman Catholic church at the turn (16th to 17th) century was experiencing its most profound crisis in the early modern period, which made way to rise of protestant reformation, not only in Koprivnica but a wider region of Croato-Slavonian Military Border, and the Provincial too. After in mid 16th century an Orthodox monastery Lepavina emerged,85 in the vicinity of Koprivnica, Serb Orthodox Church set its foundations as an organization. This monastery probably was no coincidence, as its building coincided with the first private Vlach communities in greater Koprivnica’s Podravina.86 Although lacking continuity in confessional work, Lepavina monastery represents one of the most western organizations of Serb Orthodox Church between the Adriatic Sea and Drava River. Later on, some Orthodox priests would be, with more or less success, uniting with Roman Catholic Church, which resulted in Uniate, East-Catholicism in these regions.

Additionally, we need to point out that Moslems lived in Slavonia and Hungarian region on the other side of Drava. Moslems lived in strongholds just a few kilometers outside Koprivnica. Some of them moved out to Koprivnica and were baptized for reasons unclear to us. Their presence speaks of limited penetration if Islam into greater Koprivnica area. Podravina border region on the Ottoman-Habsburg frontier during 17th century, with Koprivnica as the seat and a central gravitational nucleus, could be considered, up to a point, a multiconfessional, multiethnic and multicultural region, where individual confessions, as »bulwark« walls against invaders significantly diminished the tolerance toward “Others”.87

SAŽETAK

U ovom je radu prikazan međuodnos čovjeka i okoliša na granici habsburškog i osmanskog imperijalnog sustava u ranom novom vijeku. Za primjer je uzet pogranični prostor uz rijeku Dravu s habsburške strane. Kako taj prostor obuhvaća prije svega dolinu rijeke Drave, kao termin za obradivano regiju uzet je Podravina, odnosno Podravsko višegraničje. Središte područja koje je obradeno u članku je prostor oko slobodnog i kraljevskog grada te vojnokrajiške utvrde Koprivnice. U ovoj “case study” može se vidjeti primjer odnosa čovjeka i okoliša na pograničnom području u ranome novom vijeku. Kronološko težište je na razdoblju 16. i 17. stoljeća, kada je taj prostor bio pogranični i s habsburške i s osmanske strane. Osim toga, moguće je uočiti kako je pograničnost utjecala na ljude i okoliš.

85 Dušan Kašić wrote: “Only after 1635, when archimandrite Visarion came from Turkey, the building of monastery began in true sense of the word.” D. Kašić, Serb monasteries in Croatia and Slavonija (Srpski manastiri u Hrvatskoj i Slavoniji), Beograd 1996., str. 100-102.
86 A. Ivić, Serb newcomers and settlers in Slavonia around mid 16th century (Srpski doseljenici u Slavoniji oko sredine XVI veka), Zbornik radova posvećen Jovanu Cvijiću, Beograd 1924., str. 438-440.
87 D. Roksandić, Ethnic groups, confessions, tolerance (Etnos, konfesija, tolerancija), Zagreb 2004., str. 55.