

# FAMINE OR STARVATION? FOOD CRISIS IN TRANSYLVANIA, BANAT AND PARTIUM FROM 1813 TO 1818, AS REFLECTED IN CONTEMPORARY SOURCES

## GLAD ILI IZGLADNJIVANJE? PREHRAMBENA KRIZA U TRANSILVANIJI, BANATU I PARTIUMU OD 1813. DO 1818., KAKO JE PRIKAZANO U SUVREMENIM IZVORIMA

**Dorin-Ioan RUS**

Universitätsarchiv Graz

Universitätsplatz 3 /TG, 8010 Graz

dorin.rus@uni-graz.at

Received/Primljeno: 22. 6. 2023.

Accepted/Prihvaćeno: 21. 12. 2023.

Original scientific paper/Izvorni znanstveni rad

UDK / UDC: 338.439.053.23(436+439)“1813/1818“(091)  
[338.124.4+612.391] (436+439)“181”

### Summary

*The Habsburg territories of Transylvania, Banat and Partium were 1813-1818 adversely affected by severe weather events which caused the decrease of agricultural production and the increase of food prices, which in turn led to underfeeding and hunger. The period under examination begins in the summer of 1813, when very low winter temperatures and a cool summer were recorded in these provinces. It continues with the summer of 1815, when these parts of Europe witnessed extensive climatic anomalies, and ends in 1818 when the administrative measures introduced to combat the food crisis proved effective. The authorities took organizational and instructive measures to make land cultivation, animal husbandry, gardening, fruit-growing, and forestry more efficient, and also advised on household economy and family hygiene. The sources consist of hand-written notes made in liturgical books, local chronicles and miscellaneous others. The causes of starvation were: wars, weather anomalies and a financial crisis.*

**Key words:** Transylvania, famine, starvation, Food Crises, emigration

**Ključne riječi:** Transilvanija, glad, izgladnjivanje, prehrambene krize, emigracija

### INTRODUCTION

After the Sremski Karlovci/Karlowitz (1699) and Požarevac/Passarowitz (1718) Peace Treaties, Transylvania, including Partium and Banat, respectively, came under Austrian rule. This also breathed new life into the economic, social, and political life of these provinces. This study focuses on the way in which contemporary documents from the Habsburg provinces of Transylvania, Banat, and Partium reflect the food crises generated by climatic anomalies from 1813-1817. The topic of natural disasters belongs to the field of environmental history and has not yet been approached with regard to these geographical areas, either in the European historiography or in that of Austria and Romania.

The period under examination begins in the 1813, when very low winter temperatures and a cool summer were recorded in these provinces. It continues with the summer of 1815, when these parts of Europe witnessed extensive climatic anomalies, and ends in 1818 when the administrative measures introduced to combat the food crisis proved effective. In order to better understand the evolution of prices during the period mentioned, I have chosen some examples from the years before 1813.

Tambora's eruption on 10 April 1815 triggered a sudden and serious change in global weather. The ensuing drop in temperature caused a massive decrease in agricultural production which, in turn, led to a food crisis in the following years. Many chronicles, travel books, and official documents in Central and Western Europe mention low temperatures, price hikes, poverty, and food crisis. The year 1815 was characterized by massive rainfall that caused many floods in several parts of Europe, and the winter of 1815/16

was abnormally harsh. 1816 is known as ‘the year without a summer’ in Europe and America, while 1817 became known as ‘the year of famine’ in many areas. In the following years, the terrible effects of famine and improper hygiene – such as epidemics, mass migration, and social tensions – were acutely felt all over the world. Luterbacher & Pfister<sup>1</sup>, Brönnimann & Krämer, and Pfister & White have demonstrated that the impacts of the Tambora eruption were not uniform.<sup>2</sup>

Mount Tambora’s eruption had a profound impact on many societies which were suddenly faced with severe weather anomalies, like extreme drought, blizzards, and prolonged rain and snowfall, which posed serious challenges in securing adequate food supplies. In April 2015, the University of Bern marked the 200<sup>th</sup> anniversary of Tambora’s eruption with the conference, ‘Volcanoes, Climate, and Society’. Participants discussed the manifold impacts of this eruption, but no mention of the aforementioned provinces was made. Other important contributions to the literature about the eruption of Tambora include those of Post,<sup>3</sup> Oppenheimer,<sup>4</sup> Klingaman,<sup>5</sup> D’Arcy Wood,<sup>6</sup> Behringer,<sup>7</sup> and Krämer.<sup>8</sup>

One of the main consequences of climatic catastrophes, of epidemics, of epizootics and wars was famine. We should differentiate between famine as a situation of acute lack of basic food for the majority of the population from a certain area, on the one hand, and chronic poor nutrition, on the other. In the Early Modern Era, famine, war and plague were regarded as a triad (*bellum, fames, pestis*) of divine punishments. According to this logic, the causes of famine should have been sought in people’s sins. The manifestation of divine punishment was the acute lack of basic food, namely famine. In the sources, famine was discussed more seldom under the aspect of distribution. Therefore, the decrease in the supply of basic food items is found in most sources of the era under the term “crop below expectations”.

Regarding food distribution, the political management of the crisis played a key role. The different political systems decisively marked social vulnerability. There were many bad harvests in this period (1803, 1808, 1815 and 1816)<sup>9</sup>, but they were less caused by soil quality than by floods.

The main objective of this study is to see whether there is hunger or starvation in the provinces of Transylvania, Banat and Partium during this period. This contributions answers the following questions:

<sup>1</sup> J. Luterbacher and Ch. Pfister, The year without a summer. In: Nature geoscience, vol. 8, 2015, pp. 246-248.

<sup>2</sup> Pfister & White: “A year without a summer, 1816”. In: The Palgrave Handbook of Climate History. London, Palgrave Macmillan, 2018, pp. 551-561.

<sup>3</sup> John D. Post, in The Last Great Subsistence Crisis in the Western World (Baltimore/London: John Hopkins University Press, 1977) argues that in the aftermath of Mount Tambora’s eruption there were grain price hikes, a higher mortality rate and social-political turmoil. He analyses policies on public health and on keeping prices under control in various locations across Europe. Furthermore, he assesses the period 1816–19 from a meteorological, agricultural, political, and epidemiological perspective.

<sup>4</sup> Clive Oppenheimer, Eruptions that Shook the World (Cambridge: University Press, 2011). The volcanologist Clive Oppenheimer’s book deals with the relationship between the cause and effect of volcanic eruptions. He also argues that even events which occurred at the beginnings of human existence on Earth can prove helpful to future disaster risk management.

<sup>5</sup> Nicholas Klingaman and William Klingaman, The Year Without Summer: 1816 and the Volcano That Darkened the World and Changed History (New York: 2013). William K. and Nicholas P. Klingaman’s book examines – by using rich source material – not only the climate change caused by Mount Tambora’s eruption in 1815, but also its political, economic, social and cultural impact.

<sup>6</sup> Gillen D’Arcy Wood, Tambora: The eruption that changed the world (Oxford: Princeton University Press, 2014). Gillen D’Arcy Wood’s book deals with man’s strong dependence on the climate. The author investigates some of the major consequences of Tambora’s eruption around the world, such as the first worldwide cholera pandemic, the expansion of the opium market in China, and the first economic depression that affected the United States of America.

<sup>7</sup> Wolfgang Behringer’s book, Tambora und das Jahr ohne Sommer: Wie ein Vulkan die Welt in die Krise stürzte (München: Beck, 2015), was published on the 200<sup>th</sup> anniversary of this catastrophic event, and is addressed to the general public. It is based on many regional studies as well as specialized works from the field of natural sciences. The book attempts to find out how past societies reacted to environmental challenges, and provides specialists with an excellent monograph on this topic. It also includes many connections between this event and subsequent historical-political developments.

<sup>8</sup> Daniel Krämer, Menschen grasten nun mit dem Vieh: Die grosse letzte Hungerkrise der Schweiz 1816/17, (Basel Schwabe Verlag, 2015). The study examines the history of hunger at the beginning of the 19th century from an interdisciplinary perspective. The model developed by D. Krämer on the conceptual structures of hunger allows for a space and time spanning investigation of the long-term causes, short-term triggers, immediate effects and applied adaptation strategies at different social levels. The problem of the measurability of hunger is investigated with different approaches. In addition to classical indicators from price and population history, data on the rising incidence of petty crime in everyday life and on the development of mean height as a characteristic of the biological standard of living are used. Specially prepared malnutrition maps for the years 1817 and 1818 reveal for the first time the considerable differences in socio-economic vulnerability at district level throughout Switzerland.

<sup>9</sup> Dorin-Ioan Rus, Weather anomalies in Transylvania, the Banat and Partium from 1813 to 1818, as reflected in contemporary sources. In: Hrvoje Petric and Ziga Zwitter: *Historical Climatology in the Context of Human and Environmental History of the South-Eastern Europe, the Carpathian Basin and the Eastern Alps*. (Special Issue of the journal *Economic- and Ecohistory*, Zagreb, 2020, pp. 146-166.

1. How did the central authorities in Vienna manage the consequences of catastrophes and epidemics? 2. How did the populations living in Transylvania, Banat and Partium react to these problems, how did they interpret and solve them? 3. How were natural resources used in the resolution of these problems? 4. How do the effects of XY differ when compared to similar occurrences in other central European regions?

## STATE-OF-THE-ART

This study pursues current trends and issues in European history – more precisely in environmental history, and cultural, social, and demographic history. Some have never been approached, and others only partially. For instance, the interdependence between society, the (resource) economy, the environment, religion, disaster management, and culture has only been sparingly approached within European interdisciplinary research, with some notable exceptions. Rohr,<sup>10</sup> Schenk,<sup>11</sup> Krämer,<sup>12</sup> Juneja & Mauelshagen,<sup>13</sup> Herkle, Holtz & Kollmer-von Oheimb-Loup,<sup>14</sup> and Trommelt & Hitz<sup>15</sup> have published or edited relevant works in this regard. Abel,<sup>16</sup> Newmann,<sup>17</sup> Hofmann & Smith,<sup>18</sup> Montanari,<sup>19</sup> Vernon,<sup>20</sup> Ó Gráda,<sup>21</sup> Alfani & Ó Gráda,<sup>22</sup> Collet, Lassen & Schambacher,<sup>23</sup> and Collet<sup>24</sup> also published relevant contributions. Fundamental works of European historiography dealing specifically with the Tambora crisis were cited in the introduction to this paper.

<sup>10</sup> Christian Rohr, *Extreme Naturereignisse im Ostalpenraum. Naturerfahrung im Spätmittelalter und am Beginn der Neuzeit*, Köln, Weimar, Wien, 2007.

<sup>11</sup> Gerrit Jasper Schenk, and Jens-Ivo Engels (Eds.): "Historische Katastrophenforschung. Begriffe, Konzepte und Fallbeispiele". *Historical disaster research. Concepts, methods and case studies. Historical Social Research* 32, 3, Special Issue, Köln, 2007.

<sup>12</sup> Daniel Krämer, *Menschen grasten nun mit dem Vieh: Die grosse letzte Hungerkrise der Schweiz 1816/17*, Basel Schwabe Verlag, 2015.

<sup>13</sup> Monica Juneja, and Franz Mauelshagen, "Disasters and Pre-Industrial Societies: Historiographic Trends and Comparative Perspectives". *The Medieval History Journal*, 10, No. 1&2, 2007, pp. 1-31.

<sup>14</sup> Senta Herkle / Sabine Holtz / Gert Kollmer-von Oheimb-Loup (eds.): *1816 - Das Jahr ohne Sommer. Krisenwahrnehmung und Krisenbewältigung im deutschen Südwesten (Veröffentlichungen der Kommission für geschichtliche Landeskunde in Baden-Württemberg, Reihe B: Forschungen)*, Stuttgart, 2019.

<sup>15</sup> Fabian Trommelt and Florian Hitz: *Das Jahr ohne Sommer: Die Hungerkrise 1816/17 im mittleren Alpenraum*, Innsbruck, Wagner Verlag, 2017.

<sup>16</sup> Wilhelm Abel, *Massenarmut und Hungerkrisen im vorindustriellen Europa* (Hamburg: Parey, 1974). This book connects the phenomenon of poverty, which plagued large segments of the population, with that of famine caused by extreme food shortages.

<sup>17</sup> Lucile F. Newmann (ed.): *Hunger in History: Food Shortage, Poverty, and Deprivation* (Blackwell, 1990) deals with the problem of hunger from the beginning of human society, defining the problem in the old society and again in the early modern and then in the present society.

<sup>18</sup> Hoffmann, Susanna/Smith, Oliver Anthony (Eds.): *Catastrophe and Culture. The Anthropology of Disaster* (Santa Fe/Oxford, 2002)

<sup>19</sup> Massimo Montanari's book "Der Hunger und der Überfluss: Kulturgeschichte der Ernährung in Europa (München: Beck 1993), focuses on nutrition in times of crisis, but does not lay great emphasis on the impact of Tambora's eruption. From a methodological point of view, there are important works on other German-language geographical areas which can serve as models for this analysis.

<sup>20</sup> James Vernon: *Hunger: A Modern History* (Harvard University Press, 2007), shows clearly and vividly how the discussion about famine, which originated in nineteenth-century India, was at the centre of the debate about food in twentieth-century Britain. At the beginning of the 19<sup>th</sup> century, hunger was seen as an inevitable natural phenomenon or as the responsibility of its addicted and morally flawed victims.

<sup>21</sup> Cormac Ó Gráda: *Famine: A Short History* (University Press Group Ltd, 2009), covers the entire history of famine from the earliest records to the present day. The book emphasizes the relationship between famine and a variety of other social ills, including crime, slavery, infanticide and prostitution.

<sup>22</sup> Alfani, Guido and Ó Gráda, Cormac Ó (eds.): *Famine in European History* (Cambridge: Cambridge University Press, 2017). This volume presents a series of quantitatively rich historical studies that together offer a broad picture of famine in Europe—scale, context, and cause and effect—from medieval times onward. The chapters cover specific countries or regions of Western Europe and the European areas of the former Soviet Union. The north–south segment of the continent from Poland to the Balkans is not dealt with in any detail. The main period is from the late Middle Ages (earlier for the Nordic countries) to the nineteenth century. The editors present, in their introductory overview, "the first truly comparative chronology of European famines". (<https://onlinelibrary.wiley.com/doi/full/10.1111/padr.12139>)

<sup>23</sup> Dominik Collet, Thore Lassen, Ansgar Schanbacher (eds.): *Handeln in Hungerkrisen. Neue Perspektiven auf soziale und klimatische Vulnerabilität* (Göttingen, Universitätsverlag, 2012). The aim of the volume is to present the vulnerability approach as a possible "bridge concept" for multidisciplinary organised hunger research.

<sup>24</sup> Dominik Collet: *Die doppelte Katastrophe. Klima und Kultur in der europäischen Hungerkrise 1770-1772 (= Umwelt und Gesellschaft; Bd. 18)*, (Göttingen: Vandenhoeck & Ruprecht 2019). The presentation of the famine crisis of the years 1770-72 shows that the persistent humidity brought a total of three weak harvests, mainly in the south and east of the Empire. The study by D. Collet, with an integrative approach of climate and culture, aims at a change of perspective, because most of historiography has only cursorily dealt with pre-modern famines. His analysis focuses on authorities, subjects and experts.

The first historian dealing with historical geography of Transylvania who presented the issue of climate change and its consequences on food was the nineteenth-century author George Barițiu; in his work on the history of Transylvania, he briefly presented the situation of the Wallachian border guards in the year 1817, their food provisioning, and their emigration tendencies. He pointed out that the lack of roads or the poor maintenance of the existing ones prevented the distribution of cereals offered by the government to the border families.<sup>25</sup> Later, the historian Virgil Șotropa dedicated several pages to the consequences of the food crisis of 1816–17 in an article about the 2<sup>nd</sup> Wallachian Regiment from Năsăud.<sup>26</sup> In the second half of the twentieth century only a few scholarly articles (Neamțu;<sup>27</sup> Pop<sup>28</sup>) dealt with the 1816–17 food crisis in Romanian historiography. Moreover, they approach the topic in the economic context of the Napoleonic Wars and not in relation to the impact of Tambora's eruption. In 2017, Ioan Ciorba published a book on the hunger in Transylvania,<sup>29</sup> using the methods of the Annales school to analyse the collective mentalities under the spectre of the hunger of 1817. The 2018 volume coordinated by Angela Jianu and Violeta Barbu does not deal with the 1816–17 food crisis and the efforts of administrations in Transylvania and elsewhere in Southeast Europe to combat the starvation, although it discusses nutrition in the early modern and late modern periods.<sup>30</sup>

Regarding the agriculture of these territories between 1813 and 1818, the works of Liviu Botezan,<sup>31</sup> Ladislau Gyémánt,<sup>32</sup> Csetri Elek,<sup>33</sup> Imreh István,<sup>34</sup> Szabó Nicolae,<sup>35</sup> and Fabian Iosif are of interest.<sup>36</sup> A number of articles have examined emigration from these provinces to Wallachia<sup>37</sup> or Bukovina<sup>38</sup> – provinces that were apparently less affected by these crises – or technical modernization within agriculture.<sup>39</sup> However, before 1989, these works did not analyse the climatic context but rather the social perspective according to Marxist historiography.

For the Saxon historiography of Transylvania, various editions of documents referring to the history of natural disasters and epidemics throughout Transylvania are important in this regard. These include those published by Hain in 1854,<sup>40</sup> and Bielz in 1862,<sup>41</sup> and the chronicles from Burzenland, edited by Julius

<sup>25</sup> George Barițiu, *Părți alese din istoria Transilvaniei pe doua sute de ani din urma* (Sibiu: W. Krafft, 1889), I., pp. 559-560.

<sup>26</sup> Virgil Șotropa, "Un act memorabil". *Arhiva Someșană. Revistă istorică-culturală*, No. 12, 1930, pp. 153-155.

<sup>27</sup> Alexandru Neamțu, "Date noi despre foametea din anii 1814-1816 pe domeniul Zlatnei". *Anuarul Institutului de Istorie Cluj*, No. XIX (1976), 315-42; Eodem, "Un proiect din anul 1817 privind măsuri de îmbunătățire a situației țărănimii din Transilvania". *Anuarul Institutului de Istorie și Arheologie Cluj-Napoca*, No. II, 1980, pp. 487-495.

<sup>28</sup> Ioan Pop, "Calendarul muncilor agricole gospodărești la grănicerii năsăudeni". *File de istorie*, No. IV (1976), 313-26; Ioan Pop, "Situația și activitatea regimentului II românesc de graniță în perioada 1816-1847". *Marisia*, No. IX, 1979, pp. 247-261.

<sup>29</sup> Ioan Ciorba, *Marea Foamete din Transilvania dintre anii 1813-1817*, (Cluj-Napoca: Centrul de Studii Transilvănene, 2017).

<sup>30</sup> Angela Jianu and Violeta Barbu, *Earthly Delights. Economies and Cultures of Food in Ottoman and Danubian Europe, c. 1500-1900* (Balkan Studies Library, Leiden; Boston: Brill, 2018).

<sup>31</sup> Liviu Botezan, "Posesiunile obștești ale țăranilor de pe teritoriul actualului județ Mureș în perioada anilor 1785-1820". *Marisia*, No. IX, 1979, pp. 175-08.

<sup>32</sup> Ladislau Gyémánt, "Contribuții statistice privind agricultura Transilvaniei, Banatului și Bucovinei în perioada 1720-1871". *Anuarul Institutului de Istorie și Arheologie Cluj-Napoca*, No. 27 (1985-1986): 161-184.

<sup>33</sup> Csetri Elek, Imreh István: *Erdély váltózó társadalma 1767-1821 (Történelmi tanulmány)* (București: Kriterion, 1980). The study is based on historical statistical methods, with sources based on taxation tables between 1767 and 1821.

<sup>34</sup> Imreh István: *Viața cotidiană la secui 1750-1850*. (Studii). (București: Kriterion, 1982). This volume analyses the collective property in the Arieș chair, the senior administration in the Szekler regions, the use of the subjects' workforce in the domain of the Taldalagi family, the owners of large forests. The peasants were logging.

<sup>35</sup> Nicolae Szabó, "Dezvoltarea agriculturii țărănești din scaunul Mureș în secolul al XVIII-lea și primele decenii ale secolului al XIX-lea". *Cercetări de Științe Sociale*, No. 12, 1982, pp. 225-252.

<sup>36</sup> Iosif Fabian, "Considerații cu privire la obligațiile în muncă ale locuitorilor din Gurbediu (comitatul Bihor) între anii 1722-1834". *Crisia*, No. XIII (1983), 509-515.

<sup>37</sup> Liviu Moldovan, and Viorel Grama, "Situația oierilor români transilvăneni în Țara Românească pe timpul domniei lui Ioan Caragea (1812-1818)". *Marisia*, No. IX, 1979, pp. 237-245.

<sup>38</sup> Ecaterina Negruți, "Informații noi privind imigrările din Bucovina în prima jumătate a secolului al XIX-lea", *Anuarul muzeului județean Suceava*, No. VIII, 1981, pp. 257-263.

<sup>39</sup> Barbu Ștefănescu, "Începuturile introducerii tehnicii moderne în agricultura Bihorului". *Biharea*, Nr. 1 (1981): 7-38; Liviu Botezan, "Tendențe ale gospodăriilor nobiliare din Transilvania de a introduce plante tehnice și de a ameliora soiurile de pomi fructiferi și de viță de vie în perioada 1785-1820". In: Ștefan Mețeș la 85 de ani, ed. Constantin Daicoviciu (Cluj-Napoca: s.n.1977), pp. 311-314.

<sup>40</sup> Dietmar Hain, "Beiträge zur Witterungskunde Siebenbürgens", In: *Programm des evangelischen Gymnasiums in Schässburg und der damit verbundenen Lehranstalten zum Schluss des Schuljahres 1853/4*, ed. Gymnasialdirektion Kronstadt, Kronstadt, 1854, pp. 1-35.

<sup>41</sup> Eduard Albert Bielz, "Beitrag zur Geschichte merkwürdiger Naturbegebenheiten in Siebenbürgen". *Verhandlungen und Mitteilungen des siebenbürgischen Vereins für Naturwissenschaften*, No. 4, 1862, pp. 1-74.

Gross,<sup>42</sup> which include urban or family narratives from different localities. These contain contemporary reports on weather variability, but they have never been studied from this perspective.

## SOURCES

The Romanian sources consist of hand-written notes made in Orthodox liturgical books,<sup>43</sup> such as Horologions,<sup>44</sup> Pentecostarions,<sup>45</sup> Triodions,<sup>46</sup> Anastasimatarions,<sup>47</sup> Euchologions,<sup>48</sup> the books of Akathists,<sup>49</sup> Antologhions,<sup>50</sup> Chiriadromions,<sup>51</sup> Menaions,<sup>52</sup> Octoechos,<sup>53</sup> and miscellaneous others.<sup>54</sup> The historian Florian Dudaş published a series of inscriptions by Romanian priests in liturgical books which refer to weather events and the effects generated by them, without interpreting them or putting them in context.<sup>55</sup> The dating of the Romanian information is according to the Julian calendar of the old Orthodox rite which was then in use, but these sources must be correlated with the official data or that from other types of sources, in order to have a clear image of their dating.

There are no known existing diaries and memoirs from the study area in this period.

There are both advantages and disadvantages to using this type of narratives. First of all, they are first-hand sources and as such they sometimes provide more information than the official reports. They mainly include information from the local village or surrounding villages, but they do not accurately refer to more distant areas; words like “land” are used in a very general way in this case, and mostly concern small regions. A second drawback is the dates to which they refer. Apart from the calendar, which is edited in the old style in these sources, we are dealing here with inaccurate provisions. Normally the priests did not describe these natural events on the same day but days or weeks later; in such cases, it is understandable that there may be gaps in an author’s memory, resulting in inaccurate reports regarding the amount of damage, for example. It is also possible that some of these narratives are exaggerated. Some descriptions of extraordinary natural events which occurred in distant areas were made by priests who only knew second-hand reports from other people, such as merchants, travellers, etc., so this kind of media is not entirely reliable. Another disadvantage of such notes in ancient liturgical books is the language used: the parish priests used regionalisms, in addition to many general, incomprehensible expressions that are hard

<sup>42</sup> Julius Gross (ed.): *Quellen zur Geschichte der Stadt Brassó*, Vol. IV/1 (Brassó, 1904); IV/2, Brassó, 1909.

<sup>43</sup> The English titles of these religious books come from the Greek, which is why I have indicated these in parentheses along with their original titles. Because the liturgical language of the territories was, at that time, Slavic, I have also indicated their titles in this language. To explain the titles of these books, I used the English version of Wikipedia.

<sup>44</sup> Ceaslov [English: Horologion; Greek: Ὡρολόγιον; Slavonic: Часословъ] or the Book of Hours provides the fixed portions of the liturgy or the daily cycle of services. Into this fixed service framework, numerous parts are inserted, which change daily.

<sup>45</sup> Pentecostar [English: Pentecostarion] (also known as the Flowery Triodion or Festal Triodion) is the service book of the Orthodox Church that provides the texts for the moveable portions of the divine services from Pascha through the feast of All Saints (the Sunday following Pentecost).

<sup>46</sup> Triod [English: Triodion; Greek: Τριώδιον; Slavonic: Постнаа] comes from the Greek “triadion”, consisting of the words “trio” (three) and “odi” (ode), and means singing, or hymn, in three verses. It is also called the Lenten Triodion, and is the liturgical book used by the Eastern Orthodox Church. It contains the chants and prayers for the fasting period preceding Easter and for the weeks leading up to the fast.

<sup>47</sup> Catavasier [English: Anastasimatarion] is a service book of the Orthodox Church that contains the Anastasima (Resurrectional) hymns of vespers, Sunday matins, and certain other hymns, which are divided according to the eight tones of the eight-week cycle. It is a book for chanting that encompasses all the chants of the vespers and matins of Saturday and Sunday addressing the resurrection of Christ.

<sup>48</sup> Molitfelnic, or Molitvelnic, or Euhologiu [English: Euchologion; Greek: εὐχολόγιον; Slavonic: Молитвословъ] is one of the chief liturgical books of the Eastern Orthodox churches, containing the portions of the services which are said by the bishop, priest, or deacon.

<sup>49</sup> Acatistier [English: Book of Akathists]. An Akathist hymn (Greek: Ἀκάθιστος Ὕμνος, “unseated hymn”), is a type of hymn usually recited by Orthodox Christians, dedicated to a saint, holy event, or one of the persons of the Holy Trinity.

<sup>50</sup> Antologhion [English: Antologion; Greek: ἀνθολόγιον]. A religious book of the Orthodox Church, containing the services of the feasts and saints of the year.

<sup>51</sup> Chiriadromion [Greek: χηριαχοδρομιον]. A book of the Orthodox Church containing the Sunday Gospels.

<sup>52</sup> Minei [English: Menaion; Greek: Μηναῖον; Slavonic: Минеа]. A liturgical book containing the proper for fixed dates of the calendar year, and prayers, hymns and readings for each month).

<sup>53</sup> Octoih [English: Octoechos; Greek: Ὀκτώηχος; Slavonic: Осмигласникъ] is a liturgical book containing hymns for each day of the week.

<sup>54</sup> Miscelaneu [English: miscellaneous, from Latin: miscellanea, French: miscellanées], a publication with varied content, written by several authors.

<sup>55</sup> Florian Dudaş, *Catastrofe naturale în Transilvania în lumina însemnărilor scrise pe cărți românești vechi, între anii 1500 și 1900*, Oradea: Lumina, 1999.

to understand today. Another problem is that the terminology of the sources was not comparably accurate; e.g., a large number of adjectives and adverbs appear in different forms (rainy, very rainy, extremely rainy), which do not necessarily reflect a regional difference but (sometimes) rather the rapporteur's point of view – and we deal with notes taken by many authors. Furthermore, the word “*foamete*” has only one form in Romanian, and it covers all three English forms meaning *famine*, *starvation* and *hunger*. People died of famine in the context of starvation. Hunger is a craving for food, while famine is the severe lack of food in a certain geographical area and over a period of time.

Another important source for this study is contemporary newspapers. In general, the newspapers provide better quality information than the hand-written sources. They were edited by intellectuals, with some of the reports coming from scientists who made direct observations. The information provided by eyewitness reporters was verified by newspaper editors and journalists.

An important source for this period, one which presents the situation of the peasantry affected by the crisis, is the Czirákyan conscription drive.<sup>56</sup>

## DEMOGRAPHY

In the second half of the 18<sup>th</sup> century, the provinces of Transylvania, Banat, and Partium registered a real demographic increase. According to Hungarian statistical data,<sup>57</sup> within 71 years the population of the provinces discussed here doubled. I have chosen to present the final years of the 18<sup>th</sup> century, along with the tumultuous year 1844 characterized by natural disasters. These events led to a decline in agricultural and food production, specifically during the years when demographic declines took place. This encompasses the overall population during that period.: the total population in 1773: 1,066,017; 1786: 1,664,545; 1794: 1,458,559; 1844: 2,143,310.

According to the data of the historian Ioan Ciorba, who cites the calculations of Jacques Dupaquier – a French historian who specialized in historical demography –, the percentage increase in the population of the three provinces was 120% in the interval 1700-1800, from 2.5 million to 5.5 million.<sup>58</sup> According to Karl Bernhard Hietzinger's<sup>59</sup> statistics from 1823, the Banat military border had 182,200 inhabitants in 1817, and the Transylvanian one 135,500; per square mile, 961 soldiers lived within the Banat military border, approximately 536 in the Transylvanian one; the principality of Transylvania occupied a total area of 1,797,000 square miles, with a density of 1,620 inhabitants per square mile.<sup>60</sup> Table 1 in annex shows that there was significant regional diversity in the demographic developments: the demographic growth of the population on the territory of the Transylvanian border was insignificant.

During this period, the main economic branch was agriculture, in which about 90% of the population was engaged. Given that, at the beginning of the 19<sup>th</sup> century, the arable land did not exceed one-fifth of the total surface of Transylvania,<sup>61</sup> and biennial crop rotation was mostly practiced, one arable hectare was needed to feed one person for a whole year.<sup>62</sup>

The general demographic growth, however, increased the demand for food consumption, which contradicted the low agricultural productivity, namely the reduced availability of agrarian lands and food resources. During the same period, the number of serfs in Transylvania doubled due to the greatly reduced number, if not downright lack, of land and movable and immovable agricultural goods.<sup>63</sup> Unlike peasants, who owned small areas of land, serfs were completely deprived of property. Due to the agricultural

<sup>56</sup> The name comes from Antal Cziráky, an imperial adviser who made a conscription of peasant households in Transylvania in the years 1819–20.

<sup>57</sup> Presented in the work coordinated by Köpeczi Béla: *Kurze Geschichte Siebenbürgens*, Budapest, Akadémiai Kiadó, 1990, 411.

<sup>58</sup> Ioan Ciorba, *Marea Foamete*, pp. 70.

<sup>59</sup> Karl Bernhard Hietzinger (1786-1864) was an Austrian administrative official (Constantin von Wurzbach: *Hietzinger, Karl Bernhard Freiherr von*. In: *Biographisches Lexikon des Kaiserthums Oesterreich*. 9. Theil. Kaiserlich-königliche Hof- und Staatsdruckerei, Wien 1863, pp. 7–10).

<sup>60</sup> Hietzinger, *Statistik de Militärgrenze*, I, pp. 182-186.

<sup>61</sup> Trócsányi, *Az erdélyi parasztság*, pp. 12.

<sup>62</sup> Ciorbă, *Marea Foamete*, 74.

<sup>63</sup> David Prodan: *Problema iobăgiei în Transilvania 1700-1848*, București, 1989, pp. 58.

catastrophe during this period, the number of those without and increased<sup>64</sup>. They became the first victims of starvation. The number of peasant family members also increased, the conscriptions in the Bihor (Partium) area from 1814 and 1816 showing that most of them had nothing to eat in those years.<sup>65</sup> In his study “famine” in Transylvania, Historian Ioan Ciorbă notes a decline in the birth rate from 42.7 between 1801-1810 to 38.5 between 1811-1820. However, there was an increase again between 1821-1830, rising to 41.8<sup>66</sup>.

So, one of the primary causes of the food scarcity in general was the lack of land which did not sustain the growing population. The solutions to this problem were the expansion of agricultural land through deforestation, the employment of peasants in fields other than agriculture, and the sale or exchange of land, generally at a disadvantage to the peasants. Forest clearing resulted in the expansion of agricultural land, which enabled peasants or serfs to generate temporary income through grazing or other practices. This income served as a source for their food needs.

## WARS

At the beginning of the nineteenth century, there was a ban to stock grains in order to avoid speculation in times of shortage<sup>67</sup>. Even if Transylvania, Banat, and Crișana were not a theatre of battles during the wars against France, they contributed, as territories belonging to the Habsburg Empire, material and human resources. These lands suffered as a result of the economic consequences of the wars. Thus, first of all, trade was terribly hit by the continental blockade imposed by Napoleon, but also as a result of the difficulties with transporting the grain on the Danube, which was the main transport route to Central and South-Eastern Europe. Another consequence of Napoleonic wars was the loss of agricultural labour due to forced conscription and the participation of the military in armed confrontations. It is estimated that from all three mentioned territories, between 12,000–15,000 people participated, and, in addition, two regiments of border guards, one of cavalry, and three of the infantry.<sup>68</sup> Between 1793 and 1815, soldiers from Transylvania, Banat and Partium participated in the military campaigns in Italy (Piedmont), France (Besançon), and Saxony (Leipzig).<sup>69</sup>

The losses of the regiments from Transylvania and Banat in conflicts during the Napoleonic Wars were terrible. Between 1793–1815, the First Wallach Border Regiment lost 4,354 people.<sup>70</sup> In 1815, 66,679 soldiers from the Transylvanian border and 89,023 from that of Banat were presented under weapons; of these 8,523 troops, 5,530 invalids returned alive, respectively.<sup>71</sup> An eyewitness, Count Weissbach, estimated the number of widows in Banat at 40,000, these being, along with the elderly, invalids, and children, the main victims of the food crisis which followed.<sup>72</sup>

The population also suffered greatly during this period, due to the obligation to provide grain, animals, and money necessary for supporting the army. Hence, in 1798 additional taxes were introduced through the circulars addressed to the priests of all confessions. Each village parish and noble domain was obliged to provide varying quantities of cereals, money and/or manpower to support the Front. These contributors were determined based on the specific factors such as social and environmental conditions as well as the surface and the quality of the land. The authorities took no heed of personal or collective complaints in relation to the inability to deliver the amounts of money or the quantities of cereals.<sup>73</sup> In 1813, Vienna

<sup>64</sup> Prodan: Problema iobăgiei, pp. 59.

<sup>65</sup> Ciorbă, Marea Foamete, pp. 72-73.

<sup>66</sup> Ciorbă, Marea Foamete, pp. 261.

<sup>67</sup> Karl Vocelka, Österreichische Geschichte, Habsburgs angewandte Aufklärung: Repräsentation, Reform und Reaktion im habsburgischen Vielvölkerstaat 1699 – 1815 (Wien: Ueberreuter, 2004), pp. 339.

<sup>68</sup> Nicolae Szabó, “Frământări țărănești în Transilvania în timpul războaielor napoleoniene (1809)”. Studii și Articole de Istorie, XVI, București, 1970, pp. 115.

<sup>69</sup> Maria Muțiu “La participation des régiments de garde-frontières roumains de Transylvanie et de Banat aux campagnes contre Napoléon”. Revue roumaine d'histoire, 1970, Nr. 2, pp. 291-304.

<sup>70</sup> Carl Göllner, Die Siebenbürgische Militärgrenze, Oldenbourg Verlag, München, 1974, pp. 89.

<sup>71</sup> Hietzinger, Statistik, I, pp. 174, 197.

<sup>72</sup> Ciorbă, Marea Foamete, pp. 84-85.

<sup>73</sup> Ciorbă, Marea Foamete, pp. 92-95.

demanded from Transylvania a quantity of 35,000 Bratislava quart (so - 2,188,550 - “litres”)<sup>74</sup> of wheat, 64,000 Bratislava quarts of rye, 164,000 of oats, 320 horses, and 3,000 cattle to be slaughtered.<sup>75</sup> As a result of the climatic anomalies that occurred that year (see below), these quantities could not be delivered, remaining outstanding for the following years. In this following year, however, deliveries of hay and salt, necessary for the army’s horses, were also requested, then of money, but these too could not be realized due to the decline in economic activities.<sup>76</sup>

Namely, one of the consequences of Napoleon’s continental blockade was the financial crisis in the Habsburg Empire, which also manifested itself harshly in the territories presented here. The devaluation of the Florins (Fl.) by up to 20%, the introduction of paper banknotes, the financial policy practiced by Vienna (stopping the export of foreign currencies, restrictions on imports and exports, the increase of customs duties) led to the increase in prices, to speculation in the grain market, to the decrease of commercial and craft activities. Consequently, the purchasing power of the disadvantaged social strata – the peasantry and the urban proletariat – was affected.<sup>77</sup> The devaluation of money is also reflected in notes within church books. Achim Moroșan, a priest from Oșorhel (Cluj Country), writes that “*with the appearance of banknotes, which circulated in Transylvania between 1799 and 1811, everything became more expensive, a bucket of wheat was 8 zlotys, a bucket of corn 6 zlotys...*”<sup>78</sup> The chronicler Nicolae Stoica de Hațeg says that the proliferation of banknotes led to an increase in grain prices in Banat, and the price of beef rose from a minimum of 5 husoș<sup>79</sup> to 30.<sup>80</sup> In the region of Maramureș (northern Transylvania), the increase in the price of wheat (which was 8 Fl. on 28 October, 1811, the trend increasing) led to the impoverishment and starvation of the population, so that by 1817 deaths caused by lack of food began to be recorded.<sup>81</sup> A priest, summarizing the period between the reigns of Joseph II and Francis I, concluded that things had taken an ominous turn: “... *after Franz won, and paper money came out, and everything became expensive,*” both in meat and in grain.<sup>82</sup>

Finally, another cause of starvation among the population, caused by the increase in prices, was grain speculation, performed by merchants from the south and east of the Carpathians: grain from the reserves at the disposal of the Austrian authorities was sold at a premium by intermediate merchants in Transylvania.<sup>83</sup>

## WEATHER ANOMALIES

In the first half of the 19<sup>th</sup> century, the northern and eastern parts of Transylvania, i.e., the coldest parts of the province, belonged to the parts of the Habsburg Empire with coldest winter climate. Therefore, the environment was less suitable for arable farming. Summers were very hot indeed, winters severely cold,<sup>84</sup> and sudden weather changes, as well as hot days and cold nights, were not a rarity. The other parts of Transylvania, Banat and Partium belonged to temperate climate zones. However, temperature changes were very frequent in Banat – an area that was more exposed to the winds than the other provinces – so in this area the winters were longer during this period, with unseasonably low temperatures beginning in the autumn and lasting until the spring.<sup>85</sup>

<sup>74</sup> one Bratislava quart is 54,53 litres. The worth “Mierță” comes from the Hungarian word mérce, which is the equivalent of the German Maß and the English litre. = 14.4 L.

<sup>75</sup> N. Szabo, “Frământări țărănești”, pp. 116.

<sup>76</sup> Petru Bona, Nicolae Bocșan, Mihai Duma, Franța și Banatul 1789-1815 (Reșița, Muzeul Banatului, 1994)pp. 77.

<sup>77</sup> Hemit Rumpel: Eine Chance für Mitteleuropa. Bürgerliche Emanzipation und Staatsverfall in der Habsburgermonarchie (= Österreichische Geschichte, 1804-1914), Wien, 2005, pp. 147-152.

<sup>78</sup> In original, “s-au ivit banii de hârtie în țara Ardealului în anul 1799 și au umblat până în anul 1811 și așa s-au scumpit toate, încât [...] mierța de grâu era 8 zloti, și de mălai cu 6 zloti” (Dudaș, Memoria, pp. 286).

<sup>79</sup> Paper money, banknotes.

<sup>80</sup> Ciorba, Marea Foamete, pp.100.

<sup>81</sup> Nicolae Iorga, Despre cronici și cronicari, București, 1988, pp. 235.

<sup>82</sup> In original: “după ce au biruit Franța, și au ieșit bani de hârtie, și a ieșit scumpete de tot felul” (Iorga, Despre cronici, pp. 224).

<sup>83</sup> Virgil Șotropa, Un act memorabil. In Arhiva Someșană. Revistă istorică-culturală, Năsăud, 1930, pp. 153-155.

<sup>84</sup> The statement, according to which the weather was “unbearably cold” in winter, seems to come from a local reporter, such as Demian, whom Hietzinger cited. Winter temperatures were lowest in the southeast of Transylvania, on the former territories of the Second Szekler Regiment, namely in the village of Întorsătura Buzăului, where, for example, a temperature of -35.8° C was registered in 2005. Systematic meteorological measurements began in Transylvania after 1860.

<sup>85</sup> Hietzinger, Statistik, I, 117, quoted “Vaterländische Blätter”, 1812, 42, 72, and Demian, Statistische Beschreibung der Militärgränze,



During the period 1750–1820, which formed a part of the Little Ice Age, a total of 17 severe winters occurred, the most significant being in 1784/85 (probably as an effect of weather changes caused by the eruptions of the Icelandic volcano Laki), 1795, 1808, and then those of 1813–1817, which were extremely long, with early snow and late snowmelt. The heavy rains that fell in Transylvania and Banat between 1815 and 1817, as well as the icy cold summers, delayed or interrupted the growth of cereals and consequently led to a decrease in agricultural production.<sup>86</sup>

## STARVATION

The definition of famine used by Cormac Ó Gráda's is: "...a shortage of food or purchasing power that leads directly to excess mortality from starvation or hunger-induced diseases".<sup>87</sup> This formulation combines human and environmental dimension of famines, and is inspired by Amartya Sen's (and Adam Smith's) views. Sen emphasizes the complexity of the phenomenon of famine. Famines are related to excess mortality and not just to a drastic food storage. The time scale (duration of the crisis) is crucial, too.<sup>88</sup>

According to a note from **1811**, in the region of Sătmar, a bucket of wheat cost 50 Fl. and one of corn 40.<sup>89</sup>

In Brețcu [Bereck/Bretz], in Transylvania, the bucket of wheat was between 30 and 100 Fl., the corn 21–70 Fl., the oats between 10–28 Fl.<sup>90</sup>

At Gherla [Szamosújvár/Armenierstadt/Hayakaghak] in Transylvania, a bucket of wheat (62.53 "Liter") cost in August **1812** 36.30 Fl.; in March, the price was between 2 and 6.30 Fl.; rye, barley, and oats 3 Fl.; corn 4,36; a pair of oxen between 80 and 150 Fl.; a pair of cows between 35 and 55 Fl.; a pound of beef 4 Fl.<sup>91</sup>

**Between 1813 and 1817**, there was general starvation throughout Transylvania. Besides the precarious economic situation caused by the province's participation in the Napoleonic wars, the food crisis was caused by the climatic changes which occurred during those years. After a drought that affected Transylvania for several years, there were several prolonged winters which lasted until May, followed by large spring floods, sometimes accompanied by severe storms<sup>92</sup>.

The year **1813** was extremely poor for agriculture, and most of the region's crops were compromised.<sup>93</sup> In Maramureș County, on 13 December, one "ferdela"<sup>94</sup> corn flour cost 5 Fl., oats 2 Fl., and "ferdela" wheat 7 Fl.<sup>95</sup> This was due to the cold summer of 1812.

Month	Wheat	Corn	Oats
January	32.48	24.48	15
February	38.48	36	20
March	44.48	40.36	22
April	100	84	28
Mai	80	68	24
June	80	70	24
July	72	70	20.36
August	64	64	14
September	64	34	10.36
October	60	32	10
November	30	21	10
December	30	22	11

(Wien, 1806–1807), II, pp. 301, 302.

<sup>86</sup> Dorin-Ioan Rus: Climate Anomalies in Transylvania, Banat and Crișana from 1813 to 1818 as Reflected in Contemporary Sources. In: Historical Climatology in the Context of Human and Environmental History of the South-Eastern Europe, the Carpathian Basin and the Eastern Alps. (Special Issue of the journal Economic- and Ecohistory, Zagreb, 2020, pp. 146-166.

<sup>87</sup> Cormac Ó Gráda, *Famine: A Short History* (Princeton University Press, 2009), pp. 4.

<sup>88</sup> Amartya Sen, "Poverty and Famines. An Essay on Entitlement and Deprivation", 1983, pp. 39-44.

<sup>89</sup> Elena Bărnuțiu, *Carte românească veche în colecțiile sătmărene*. Satu Mare, 1998, pp. 192-193.

<sup>90</sup> Stefan Imreh, *Viața cotidiană la secui*, pp. 202-203.

<sup>91</sup> Ciorba, *Marea Foamete*, pp. 142-143.

<sup>92</sup> Rus, *Weather anomalies in Transylvania*, pp. 152.

<sup>93</sup> Triod [Triodion], Iași, 1747, a copy was in the year 1909 in Breb (Maramureș County), published by I. Bârlea, *Însemnări din bisericile Maramureșului*, București, Atelierele grafice, 1909, pp. 43; Catavasier, [Anastasimatarion] Blaj, 1762, a copy was in the year 1909 in Oncești (Maramureș County), published by Bârlea: pp. 124.

<sup>94</sup> "Ferdela" was a unit of measure equivalent to 22 kg, 32 kg in north of Transylvania, 30 kg in Walachia; "Ferdela" comes from the Transylvanian-Saxon word "fyrdel" which is the equivalent of 22 litres.

<sup>95</sup> Catavasier from 1762, in Dudaș, *Memoria*, pp. 288.

A drastic food storage began in the spring of 1814, preceded by an alarming rise in prices. In Maramureş, the price increases had already begun in 1813.<sup>96</sup> The inhabitants of the villages were so impoverished that they had no money to buy grain. One “ferdela” of wheat was sold for 7 Zlots, and the same measure of corn for 5 Zlots, and 2 Zlots for oats.<sup>97</sup> In his work about the Czirákyan Conscription, the historian Liviu Botezan<sup>98</sup> provides the monetary equivalents of the time. According to his data, a Zlot is equivalent to a Rhine Florin, so the above information works out as 7 Fl. for 22 kg of wheat, 7 Fl. for 22 kg of corn, and 2 Fl. for 22 kg of oats.

In Transylvania in 1814, the prices increase was caused by the rainy summer of 1813 and the cold and snow of April 1814: In Densuş (Hunedoara Country) in April 1814, a “ferdela” of corn was 3.30 Fl.; of wheat, 4 Fl.; of rye, 3.30 Fl. Imports from Banat were possible; because of hunger, the people took refuge in Wallachia and Banat. In some places, good production of apples, plums, cherries, and sour cherries were registered, but a poor corn harvest.<sup>99</sup>

In Sfântu Gheorghe and Braşov, a bucket of wheat was 11 Fl. in June 1814, and a pair of oxen cost 159.30 Fl.; by the end of the same year, the bucket of wheat reached 17 Fl.<sup>100</sup>

In the city of Cluj, the a Bratislava quart (54.53 litre) of clean wheat was sold at the beginning of 1814 for 7.13 Fl., of lesser quality wheat for 6.17 Fl., of corn for 6 Fl., and oats for 2 Fl.<sup>101</sup> In Sibiu, a Bratislava quart of clean wheat was sold at the beginning of 1814 for 7 Fl., a bucket of weaker wheat for 6 Fl., of rye for 5 Fl., oats for 1.13 Fl., corn for 6 Fl., lentils for 4 Fl., potatoes for 2 Fl., beef for 5 pounds-mass, a “maja”<sup>102</sup> (56 kg) of bacon for 60 Fl., and fresh lard for 65 Fl.<sup>103</sup>

In the villages of the Apuseni mountains, tens and hundreds of inhabitants lay with their bellies swollen from eating weeds, exhausted from trying to survive, almost dead. In order to prove the desperate situation of the population of Zlatna’s fiscal domain and to convince the authorities to send cereals, the judge Alexandru Farkas sent to the country’s governors four boxes with samples of the food that the population had been consuming, showing that:

*...in the first it is bread made only from weeds, in the second bread from beech bark, the food of the poorest, in the third it is bread made from bran and sawdust, in the fourth a few grains of wheat and corn, some more oats, but most of it is beech bark. This is the food of the wealthier households, which they grind in the mill, as this sample was taken as miller’s fee.*<sup>104</sup>

This diet resulted in an illness called ascites.

At Zlatna [Zalatna / Kleinschlatten] (Alba County), in April 1814, a “ferdela” of corn cost 4 Fl., wheat 6 Fl., a cup of wine 5 Fl., a cup of brandy 1 Fl.<sup>105</sup> The large amounts of snow caused inflation in April 1814. In the spring of 1814, in Zlatna, 22 kg of wheat cost 6 Fl. and the same measure of corn, 4 Fl.<sup>106</sup> In Subcetate [Váralja] and Densuş [Demsus / Demsdorf] in Hunedoara County, 22 kg of wheat was sold for 4 Fl., and 22 kg of rye or maize for 3 Fl. and 30 Kreuzers.<sup>107</sup> According to the testimony of a local priest, Sofronie, the visible difference in price was due to the fact that the food supplies came from Banat; however, he stated that “many, many people have fled from here to the Romanian Country<sup>108</sup> and to Banat, from hunger”.<sup>109</sup>

<sup>96</sup> Triod, Iaşi, 1747, a copy was in the year 1909 in Breb (Maramureş Country), (Bârlea, Însemnări, pp. 53).

<sup>97</sup> Catavasier, Blaj, 1762, a copy was in the year 1909 in Onceşti, Maramureş Country, (Bârlea, Însemnări, 53).

<sup>98</sup> Liviu Botezan, “Importanţa conscripţiei czirákyene pentru studiarea sesiilor iobăgeşti şi a obligaţiilor ţăranilor aserviţi din Transilvania între 1820-1848”. Anuarul Institutului de Istorie Cluj-Napoca, No. 41, 2002, pp.84.

<sup>99</sup> Noul Testament from 1648, kept in Densuş, in Dudaş, Memoria, pp. 288-289.

<sup>100</sup> Ciorba, Marea Foamete, pp. 144.

<sup>101</sup> Ciorba, Marea Foamete, pp. 142-143.

<sup>102</sup> “Maja” (hung. Mása) was an old unit for measuring weight in Transylvania. In 1690, a Maja weighed approximately 56 kg in Transylvania. This value was kept in Transylvania until the introduction of the new international system, after 1874 (Bogdán István, Regi magyar mértékek, Budapest. Budapest, 1987, Gondolat Zsebkönyvek, pp. 30).

<sup>103</sup> Ciorba, Marea Foamete, pp. 143.

<sup>104</sup> Toth Zoltan, Mişcările ţărăneşti din Munţii Apuseni până la 1848, Bucureşti: Academiei, 1955, pp. 190.

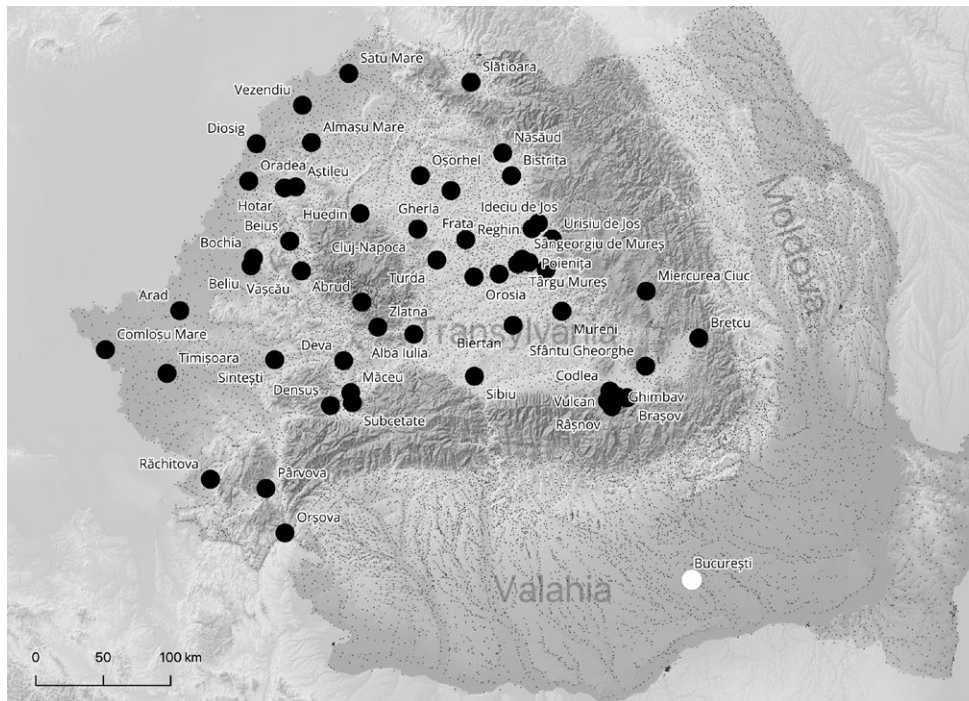
<sup>105</sup> Biblia of Blaj from 1795, copy from Metes, in Dudaş, Memoria, pp. 289.

<sup>106</sup> Biblia [The Bible], Blaj, 1795, copy from Metes (Alba County), published by Lucia Haţeganu, “Cartea veche românească în Biblioteca Muzeului Unirii din Alba-Iulia. III”. Apulum, No. XIV, 1976, pp. 232.

<sup>107</sup> Teologie morală [Moral theology], Blaj, 1766, a copy was in the year 1909 in Subcetate (Hunedoara Country), published by Iacob Radu, Istoria vicariatului greco-catolic al Haţegului, Lugoj, 1913, pp. 429.

<sup>108</sup> Wallachia and Moldavia.

<sup>109</sup> Noul Testament, Alba Iulia, 1649, copy from Densuş (Hunedoara Country), published by Radu, Istoria, pp. 405.



**Map 1:**  
Starvation

Due to starvation, many residents of the Apuseni Mountains resorted to acts of violence, becoming highwaymen in order to obtain grain and food. Violence was, therefore, one of the reactions to the phenomena generated by the lack of food. A testimony from those months reveals that in the Bistra [Bisztra / Bistrau] mountains, the hungry people killed 30 bulls. This reveals a decline in the use of draught animals which, because of the lack of feed, could no longer be fed, thus becoming unfit for work.

At that time, in other parts of Transylvania, hunger and famine caused migration to Banat, where there was still some surplus of cereals, and also to Wallachia.<sup>110</sup> In the village of Măceu [Matzo] in the district of Hațeg, many inhabitants were forced to eat oat or corn stalks because of hunger.<sup>111</sup> In the Hunedoara region, according to the priest Pătru from the village of Răchitova [Reketyefalva / Weidendorf], many inhabitants emigrated to Banat because of extreme starvation, and many others died of hunger; as food, they prepared a mixture of nettles and ferns, or of corn and elm bark. A “litre” (14.4 L) of corn had reached 14 Fl., according to the priest.<sup>112</sup>

In Banat, the price of “ferdela” wheat increased from 2.53 Fl. in 1796 to 16 Fl. in 1814; of barley, to 5 Fl.; of oats, to 4 Fl.; of corn, to 16 Fl.; and of beef, to 16 Kreuzer.<sup>113</sup> In Orșova 1814 (Caraș-Severin-Country, region of Banat), one percent of a bucket of corn cost 20 Kreuzer; many people starved to death. The state distributed bread.<sup>114</sup> In Timișoara (Temesvár/Temeswar), Banat, one “ferdela” of the clean wheat was sold for 6 Fl., the medium wheat for 5.10 Fl., barley and oats for 2.10 Fl., the corn for 3 Fl., and one ox for 160 Fl.<sup>115</sup>

Those in Bihor (Crișana region) lived and starved in the same way. Here, the locals ate ground corn cobs.<sup>116</sup> The price of a bucket of wheat was 100 Fl. in those parts.<sup>117</sup> In Bihor County in 1814, a bucket of

<sup>110</sup> Neamțu, *Date noi*, pp. 320.

<sup>111</sup> Molitvelnic, *Târgoviște, 1713*, copy from Măceu, (Hunedoara Country) published by Elena Rodica Colta, “Însemnări de pe cărțile românești vechi din județul Arad”. *Ziridava*, No. XI, 1979, pp. 1071.

<sup>112</sup> *Teologie morală, Blaj, 1786*, copy from Densuș (Hunedoara Country), published by Radu, *Istoria*, pp. 425.

<sup>113</sup> Nicolae Bocșan, *Contribuții la istoria iluminismului românesc, Timșoara, 1986*, pp.72-73.

<sup>114</sup> *Apostol of Blaj from 1808*, in Dudaș, *Memoria*, pp. 290.

<sup>115</sup> Ciorba, *Marea Foamete*, pp. 143.

<sup>116</sup> *Triod, Blaj, 1800*, copy from Cotiglet, (Bihor Country), kept in the “Old Romanian Book” Fund Oradea, Inventory 89, apud Dudaș, *Catastrofe*, pp. 65.

<sup>117</sup> *Acatist [Book of Akathists], Sibiu, 1792*, copy from Căbești (Bihor Country), kept at the Library of Museum “Țara Crișurilor”, Oradea, Inventory 521, apud Dudaș, *Catastrofe*, pp. 65.

wheat cost 120 Fl.; of corn, 112 Fl.; of barley, 93 Fl.<sup>118</sup> In Vașcău [Vaskoh] (Bihor County), in July 1814, a pair of oxen cost 600 Fl., a cow between 140 and 160 Fl., an “iția” (0.84 L) of wine 18 Kreuzer, two “iția” of hard liquor 6 Fl. Starving people were registered.<sup>119</sup> At Oradea, on 9 March 1814, a “litre” of wheat went for between 12.1–14 Fl., of corn between 10–12 Fl.; on 16 March, one “ferdela” of wheat cost between 12–14 Fl., and corn between 10–12 Fl.; on 23 March, wheat fetched between 13–14 Fl., corn 12 Fl. Prices continued to increase at the beginning of April, with one “ferdela” of wheat selling for between 14–15 Fl., but then its price decreased to 11 Fl. on 20 April. By October 1814, its value was set at 12 Fl. On 19 October, 1814, it was again 13 Fl., then increased to 14–18 Fl., while a “litre” of corn decreased to 6.30–9 Fl.<sup>120</sup>

In the spring of the same year, one “ferdela” of rye was selling for between 10–12 Fl., barley between 9–10 Fl., oats between 4–4.30 Fl., corn between 10–12 Fl., and a bushel<sup>121</sup> of peas cost 6 Fl.<sup>122</sup> At Aștileu (Bihor County), on 20 January 1814, deaths due to starvation were recorded.<sup>123</sup> By January 1814, hungry people were already dying in Bihor.<sup>124</sup> While in April in the Transylvanian markets a “ferdela” of wheat was sold, on average, for 4 Fl., by June 1814, before the harvest, in the county of Beiuș [Belényes], the price of a “câbla”<sup>125</sup> (92.5 L) of wheat reached 120 Fl., while the same measure of corn cost 112 Fl., and barley, 93 Fl. In the market of Vașcău [Vaskoh], a pair of oxen was sold for 600 Fl., a cow for 140–160 Fl., 3 “litres” of plum brandy for 6 Fl., and 3 “litres” of wine for 18 Kreuzers. In the absence of grain, the poor people ate ground corn cobs. In many villages of Bihor there are records of people who died of hunger.<sup>126</sup> In the towns Beliu [Bél / Bell] and Bochia [Boklya / Bokkia], near Arad [Arad / Arad], in July 1814, one bucket of wheat was sold for 124 banknotes and the same amount of maize for 120. Forest clearing resulted in the expansion of agricultural land, which enabled peasants or serfs to earn temporary income in or practice grazing. This provided them with a source of income for food.<sup>127</sup>; the starvation was so severe that “no oats had the people to eat, only grass and weeds and lettuce”.<sup>128</sup>

The heavy rains that fell on Transylvania between 1815–17, as well as the icy cold summers, delayed or interrupted the maturation of cereals which led to a decrease in agricultural production. In the area of Zlatna, in 1815, the crops were compromised in the middle of September by fog and snow and low temperatures.<sup>129</sup> Ioan Ungur, a priest from near Huedin [Bánffyhungyad / Heynod] (Cluj County), wrote that a drastic food shortage began due to the rainy weather: “since 1815 a great famine began, it rained during the day, the night did not stop, the soil was very saturated with water”.<sup>130</sup> The author also says that due to the abundant water, there were landslides and changes in terrain, crops were completely destroyed, and animals fell ill due to the poor quality of the feed, with most of them dying, including all of the sheep.<sup>131</sup> In Cluj, in January 1815, the price of a pound of beef was 14 Kreuzer,<sup>132</sup> for a bucket of wheat 28–30 Fl., of medium wheat 24–26 Fl., a bucket of rye between 20–21 Fl., of barley between 14–16., of oats 4–5 Fl., of corn 14–16 Fl., a pair of cattle 350–390 Fl., a cow 120–150 Fl., and a pound of beef 10–12 Kreuzer.<sup>133</sup> In

<sup>118</sup> On a Slavonic book, found in 1909 in Beiuș, inscription published by Dudaș, in *Memoria*, pp. 290.

<sup>119</sup> Penticostar of Blaj from 1808, in Dudaș, *Memoria*, pp. 290.

<sup>120</sup> Ciorba, Marea Foamete, pp. 143.

<sup>121</sup> The “Baniță” (engl. bushel) comes from the Bulgarian “Banica” and was a unity of measure between 21 and 34 kg.

<sup>122</sup> Ciorba, Marea Foamete, pp. 144.

<sup>123</sup> Triod from the year 1800 from Blaj, copy from Aștileu (BH), in: Dudaș, *Memoria*, pp. 289.

<sup>124</sup> Triod, Blaj, 1800, copy from Aștileu (Bihor Country), kept in the “Old Romanian Book” Fund Oradea, Inventory 69, apud Dudaș, *Catastrofe*, pp. 62.

<sup>125</sup> “Câbla” was a unit of measure equivalent to 92,5 kg. (Christian Noback, Friedrich Eduard Noback: *Vollständiges Taschenbuch der Münz-, Maß- und Gewichtsverhältnisse* .... Band 1, F. A. Brockhaus, Leipzig 1851, pp. 889). The name comes from the German Kübel (eng. Bucket).

<sup>126</sup> Penticostar, Blaj, 1808, copy from Lunca (Bihor Country), kept in the “Old Romanian Book” Fund Oradea, Inventory 548, apud Dudaș, *Catastrofe*, pp. 63.

<sup>127</sup> The Gulden in banknotes was used at that time there; the values were 5, 10, 25, 50, 100, 500, 1.000 Gulden (Johann Kodnar, Norbert Künstner: *Katalog der österreichischen Banknoten ab 1759*, Eigenverlag, 2018, pp. 334–348).

<sup>128</sup> Varlaam, *Carte românească de învățătură*, Iași, 1643, copy from Bocsiș (Arad Country), apud Dudaș, *Catastrofe*, pp. 64.

<sup>129</sup> Neamțu, *Date noi*, pp. 319.

<sup>130</sup> Nicolae Edroiu: “Despre situația din Munții Apuseni în prima jumătate a secolului al XIX-lea. Protocolul parohiei din Mărgău (Huedin), AIIA, XXIV, 1981, pp. 358.

<sup>131</sup> Edroiu: “Despre situația”, pp. 358.

<sup>132</sup> Ciorba, Marea Foamete, pp. 145.

<sup>133</sup> Ciorba, Marea Foamete, pp. 146.

Gherla, one bucket of clean wheat was 29 Fl., of medium wheat 24 Fl., the lower quality went for 17 Fl., one bucket of wheat for 15.36 Fl., of barley 11.30 Fl., of oats 9.30 Fl., of corn 12 Fl., a pair of oxen cost 222 Fl., a pound of meat 6 Kreuzer.<sup>134</sup> In Braşov, grains were imported from Wallachia and Moldova, the sale price reaching 45–46 Fl. for a bucket of corn, and 50 Fl. for one of wheat, a “ferdela” of rye being 15 Fl.<sup>135</sup> In the region of Maramureş, one “ferdela” of corn in 1815 cost 7 Fl., wheat 9 Fl.<sup>136</sup>

The storm of 1816, which caused damage to many settlements in Partium,<sup>137</sup> as well as floods to arise from most large rivers, caused not only stagnation but also the decline of agricultural production. Food shortages and high prices appeared and spread to all areas of the country. In May 1816, in Bihor County, a bucket of wheat cost 75 Fl., “famine” was recorded.<sup>138</sup>

The calamity, thus, encompassed the whole of Transylvania and in a short time, the population was falling into frightening poverty. Thousands of people were starving, while thousands more sold their possessions and emigrated in order to save themselves.<sup>139</sup> Most of the cattle, which largely provided food for the pastoral settlements, were abandoned or massively sold at a very low price due to the lack of feed. The church records reflected these misfortunes, highlighting the shortage and rising prices of cereals, the general panic, and the deaths of hungry people. In Mureş County, on 8 April 1816, one “ferdela” of wheat cost 8 Fl., corn 5–6 Fl., a cup of wine 2 Fl., a quarter of bacon 3 Fl.<sup>140</sup> In Sibiu: one “ferdela” of wheat was 17 Fl., of corn 13 Fl., of oats 12 Fl.<sup>141</sup> In April 1816, in the eastern region of the present county of Mureş, one “ferdela” of wheat cost 8 Fl., of corn 5–6 Fl., one cup of wine 2 Fl., and one quarter of bacon 3 Fl. So, because of this increase in prices, people had to consume flour consisting of a mixture of corn-cobs and acorns.<sup>142</sup> In the county of Sibiu, one “ferdela” of wheat was sold for 17 Fl., while the price of the same measure of corn was 13 Fl., and of oats, 12 Fl.<sup>143</sup> According to a note written on a New Testament from the village of Poieniţa [Marosagárd] (Mureş County) in April 1816, one “ferdela” of wheat was 8 Fl., one “ferdela” of corn cost 5 or 6, a cup of wine 2 Fl., and a quarter of bacon 3 Fl.; as a result of these price increases, people were forced to boil acorns to bake bread. The note continues with the information that in the same year, the peace between “ours” and “the opposing Kings” was concluded, referring here to the Paris Peace Treaty of 1815, which denotes that the record was written later, from memory.<sup>144</sup>

On the territory of the Năsăud military border, a “litre” of corn was 15 Fl.<sup>145</sup>

An inscription from Banat by the priest Ilie Călţun from 1816 in a book from the village of Pârvova [Perova] from Caraş Severin County shows – against the general background of the financial crisis, the level of inflation, and the devaluation of the currency (by the introduction of banknotes) – that the population had been severely affected by the crisis<sup>146</sup>.

In the Crişana region in Beiuş (Bihor County) at the beginning of the year, there were deaths caused by hunger and the disease called “păzita” (“the guarded”)<sup>147</sup>. In May 1816, in Bihor, one bucket of wheat was sold for 75 Fl. and the starvation was so extreme that “*people ate corn with corn-cobs altogether*”.<sup>148</sup> The

<sup>134</sup> Ciorba, Marea Foamete, pp. 143.

<sup>135</sup> Ion Muşlea: “Însemnările preoţilor de la biserica de pe Tocile (1815-1861)”. Ţara Bârsei, Nr. 2, Braşov, 1933, pp. 312-313.

<sup>136</sup> Strastnic of Blaj from 1773, kept in Berbeşti (MM) in Dudaş, Memoria, pp. 292.

<sup>137</sup> Noul Testament, Bucureşti, 1703, copy from Banat, published by Roşu, Însemnări, pp. 49; Ceaslov, sec. XVIII, copy from Nerău (Timiş County), published by Cotoşman, Din trecutul, pp. 552.

<sup>138</sup> Dudaş, Memoria, p. 294.

<sup>139</sup> Ioan Bolovan, “Realităţi demografice în Regimentul II românesc de graniţă (secolul al XIX-lea)”, in D. Prodan. Puterea modelului, ed. Nicolae Bocşan, Nicolae Droiu, Liviu Maior, Aurel Răduţiu, Pompiliu Teodor Cluj-Napoca: Centrul de Studii Transilvane, 1995, pp. 144; Cservény, Cronica, pp. 21.

<sup>140</sup> Noul Testament of Alba-Iulia, from 1648, kept in Poieniţa (MS), in Dudaş, Memoria, pp. 294.

<sup>141</sup> Triod of Bucureşti from 1726, kept in Alba-Iulia, in Dudaş, Memoria, pp. 294.

<sup>142</sup> Noul Testament, Alba Iulia, 1648, copy from Poieniţa (Mureş County), kept in the “Old Romanian Book” Fund Mureş, Tg.-Mureş, Inventory 781.

<sup>143</sup> Triod, Bucureşti, 1726, published by Doina Lupan and Lucia Haţeganu, “Cartea veche românească în biblioteca Muzeului Unirii din Alba Iulia. I”. Apulum, No. XII, 1974, pp. 383.

<sup>144</sup> Noul Testament de la Bălgrad [New Testament from Alba Iulia], 1648, copy from Poieniţa (Mureş County), kept in the “Old Romanian Book” Fund of the Parish church Tg.-Mureş, information from Elena Mihu.

<sup>145</sup> “Ziarul grănicerului Vasile Crăciun”. Arhiva Someşană, nr. 20. 1936, pp. 235.

<sup>146</sup> *Antologhion* [Antologion], Râmnic, 1737, copy from Pârvova (Caraş-Severin County), in Dudaş, *Catastrofe*, pp. 65.

<sup>147</sup> Penticostar of Blaj from 1808, copy from Sitani-Brăteşti (MM), in: Dudaş, Memoria, pp. 293.

<sup>148</sup> Roşu: Însemnări, pp. 47.

price list made in the south of Bihor in 1816 is conclusive: a pair of oxen, 1,000 Fl.; a horse, 500 Fl.; a cow, 150 Fl.; a pig, 100 Fl.; a piglet, 1 Florin; a hen, 1 Florin; a goose, 2 Fl.; a turkey, 7 Fl.; cheese, 3 Fl.; bacon, 4 Fl.; lard, 7 Fl.; honey, 4 Fl.; half a “litre” of wine, 1 Fl.<sup>149</sup>

At the beginning of 1817, in Transylvania, in the city of Cluj, one bucket of wheat cost between 25–32 and 40–44 Fl.; of oats, between 9–12 Fl.; of corn, between 26–28; of barley, between 16–22 Fl.; potatoes between 8–10 Fl.; a pair of oxen, between 560–650 Fl.; a cow, between 70–85 and 160–180 Fl.; beef, between 12–14 Fl. a pound. In June 1817, a bucket of wheat reached 60–80 Fl.; of rye, 40–48 Fl.; of barley, between 30–44 Fl.; of oats, between 16–22 Fl.; of potatoes, 20 Fl.; one pair of oxen, 150–480 Fl.; cows between 50–60 and 125–145 Fl.; and a pound of beef, 14 Kreuzer.<sup>150</sup>

On August 15, when Emperor Francis visited the country, one “ferdela” of wheat cost 13 Fl.; of corn, 12 Fl.<sup>151</sup> In Sibiu, corn cost 2 Fl., wheat 18–19 Fl.<sup>152</sup> In Cluj County, a “ferdela” of corn cost 20 Fl., and deaths of starvation are registered. The emperor personally investigated the situation in Cluj, where he stayed for 12 days.<sup>153</sup>

The price of one “ferdela” of good wheat rose to 32 Fl., and of the medium sort to 27 Fl.; in December, the higher quality wheat reached 42 Fl., in May and June it decreased to 35, and by 30 September and in October the price had sunk to 24 Fl. One “ferdela” of Rye was 25 Fl. on 28 October and 25 Fl. in May; the values of one “ferdela” of barley ranged from 14 Fl. in January to 22 Fl. in April; oats ranged from 5 Fl. in October to 10 Fl. in December one “ferdela”; for maize, prices rose from 16 Fl. in January to 25 Fl. in December; oxen cost between 433 and 562 Fl., but in January, due to lack of fodder, they cost between 200 and 390 Fl., reaching 700 Fl. in April; cows had an average price of 134–154 Fl., with a maximum in April–May of 240–260 Fl., and a minimum price of 90–100 in October–November 1817.<sup>154</sup> In Cluj, a “litre” of corn cost 12 Fl. and of wheat 16 Fl.,<sup>155</sup> while in the area of Hunedoara, a “litre” of wheat was 20 Fl.<sup>156</sup>

In the village of Frata [Magyarfráta] in Cluj County, where a “litre” of wheat was sold for 16 Fl. and the same amount of corn for 12 Fl., the people who died of starvation were taken to the cemetery with a “leasa”<sup>157</sup> and buried 5–6 to a grave.<sup>158</sup> In the land of Sibiu, 1817, a “litre” of corn cost 2 Fl. and of wheat 18–19 Fl.<sup>159</sup>

In Sfântu Gheorghe (south-eastern Transylvania), after December 1815, a pair of oxen was sold for 370 Fl., the price reaching as high as 500 Fl. in June 1817, before falling to 380 Fl. by December 1817. In September 1815, meat cost only 8 Kreuzer; in October–December 1817, a pound of meat cost between 16–24 Kreuzer, descending to 12 Kreuzer at the end of December 1817.<sup>160</sup>

According to a note written by the Orthodox priest Aaron in a Pentecost from Urisiul de Jos [Alsóoroszi] (Mureş County), in 1817 the lack of food caused the inhabitants of this village to consume corn-cobs, kernels, and stalks mixed together, as well as flour extracted from the bark of elm and mulberry trees, which led to the deaths of many; the survivors emigrated to Moldova. A “litre” of corn was 15 Fl.; wheat, 16; spelt, 8 Fl.; and oats, 5 Fl., but they were also difficult to obtain. The inscription also states that the starvation lasted between “Easter and the time of the harvest of wheat and corn”, which indicates that in the summer of 1817, there was a (relatively) sufficient harvest.<sup>161</sup>

Samuel Elsen, the author of a family chronicle from Reghin [Sászrégen / Sächsisch-Regen] also records the general starvation throughout Transylvania. This was so extreme, he said, that people in the villages near the city of Reghin, especially Ideciu de Jos [Alsóidecs / Niedereidisch], were crushing corncobs and

<sup>149</sup> Antologhion [Antologion], Râmnic, 1737, copy from Pârvova (Caraş-Severin Country), apud Dudaş, Catastrofe, pp. 65.

<sup>150</sup> Ciorba, Marea Foamete, pp.151.

<sup>151</sup> Molitelnic de la Râmnic, from 1730, In: Dudaş, Memoria, pp. 295.

<sup>152</sup> Ceaslov, of Târgovişte from 1715, In: Dudaş, Memoria, pp. 295.

<sup>153</sup> Penticostar of Blaj from 1808, copy from Vânători (Cluj-country), in Dudaş, Memoria, pp. 297.

<sup>154</sup> Ciorba, Marea Foamete, pp. 148.

<sup>155</sup> Ciorba, Marea Foamete, pp. 150.

<sup>156</sup> Teologie morală, Blaj, 1796, copy kept in 1906 in Sălaşu de jos (HD), In: Dudaş, Memoria, pp. 298.

<sup>157</sup> The “leasa”, or “leaţa”, was here an improvised wooden frame, tied to a horse, with which one or more corpses were transported to the pit.

<sup>158</sup> Psaltire [Psalter], Râmnic, 1779, copy from Frata (Cluj Country), apud Dudaş, Catastrofe, pp. 64.

<sup>159</sup> Ciorba, Marea Foamete, pp. 150.

<sup>160</sup> Stefan Imreh, Viaţa cotidiană la secui, pp. 203.

<sup>161</sup> Penticostar, Blaj, 1768, copy from Urisiul de Jos (Mureş Country), information from Elena Mihu.

mixing them with a small amount of oats or corn flour to make their own kind of bread. Countless beggars came here from all over the area, and every day there were some dead near the shops of the craftsmen in the city centre.<sup>162</sup>

According to the Saxon priest Dück from Codlea, the increase in cereal prices was due to the poor harvest. “*Because the winter wheat crops were so weak, and because they were nowhere to be found, the price increased so much, that a bucket of wheat seed reached 50 Florins, one of barley at 30–40, one from corn to 32–36*”.<sup>163</sup>

Several Hungarian sources mention the starvation, too.<sup>164</sup> Due to the lack of food, a good part of the peasantry had to prepare their food from a mixture of tree bark, herbs and other similar materials.<sup>165</sup> The diseases resulting from this diet or fostered by the weakened immunity as a result of starvation and inappropriate diet claimed lives. In Crasna County, according to a report by the Count Bánffy Pál on 7 May 1817...

*...the death of scurvy and malaria, acted as from two murderous angels so loud and sudden that even the plague could not cause greater devastation; so much so that in the central locations [of the Crasna County] daily 6, even 12 dead were not put in the coffin, nor carried by hand, they were put on carts, and so they were thrown into a pit.*<sup>166</sup>

More information about the hunger in Transylvania is provided by the Hungarian lawyer Újfalvi Sándor, who says that the “famine” of 1817 started after four years of inclement weather. He mentions the work of Count Wesselényi Miklós, who called for the redistribution of the surplus of food from the rich to the poor.<sup>167</sup>

In the Apuseni mountains, in Abrud [Abrudbánya / Großschlatten], 1817 a quarter of wheat was sold for 24 Fl., the same amount of maize for 20–21 Fl., a poundage (6 kg) of beef for 12 Kreuzers, and pork for 30 Kreuzers, but this was very difficult to get because no animal feed was available.<sup>168</sup> In the Hațeg region, a note mentions the “famine” in Transylvania for the period 1812–1817. In the same year, a “litre” of corn cost 15 Fl., of wheat 18 Fl., with tendencies to increase.<sup>169</sup> In Locuri [Boros], a village in Hunedoara County, there were 50 starving families in 1817. Often the farmers were so exhausted from hunger that they could no longer work.<sup>170</sup>

In Bihor County (Crișana), a pair of oxen cost 1,000 Fl.; a horse, 500 Fl.; a cow, 150 Fl.; a pig, 100 Fl. in 1817.<sup>171</sup> In Almașu Mare (Bihor County), on 4 April 1817, deaths caused by famine were noted; a “ferdela” of corn cost 10 Fl.<sup>172</sup> In March 1817, in the village of Diosig [Bihardiószeg] in Bihor, one “ferdela” of pickled cucumbers cost 20 Fl.,<sup>173</sup> and in the village of Almașu Mare [Nagyalmás / Groß-Obstdorf], although the price of cucumbers was lower (10 Fl. one “ferdela”), two thirds of the inhabitants died of hunger in 1817.<sup>174</sup> In 1817, in the village of Hotar [Izsóallaga Határ] near Beiuș [Belényes], where the price of a bucket of wheat had reached 100 Fl., more than 100 people starved, with 4–5 buried in a single grave.<sup>175</sup> In another note from Maramures, we find that due to the great hunger 1817 “*nobody comes to the Hungarian country*” (in the territory of today Hungary n. D. Rus), and that some quantities of cereals were brought from Moscow, through Poland.<sup>176</sup>

<sup>162</sup> Joseph Haltrich, “Zur Geschichte von Sächsisch-Regen seit letzten hundert Jahren”. Archiv des Vereins für siebenbürgische Landeskunde, No. 3, 1858, pp. 295.

<sup>163</sup> Dück, “Auszug”, pp. 330.

<sup>164</sup> I thank my colleague Laszlo Marton from the National Archives of Romania, the Mureș County Service, for their translation.

<sup>165</sup> Trócsányi Zsolt, *Az erdélyi parasztság története 1790-1849*, Budapest: Akadémiai Kiadó, 1956, pp. 187.

<sup>166</sup> Trócsányi, *Az erdélyi parasztság*, pp. 187.

<sup>167</sup> Újfalvi Sándor, *Emlékiratok*, Budapest: Szépirodalmi Könyvkiadó, 1990, pp. 101.

<sup>168</sup> Triod, Râmnic, 1761, copy from 1905 in Abrud, Alba County. N. Iorga, *Scrisori și inscripții ardelenne și maramureșene. II. Inscriptii și însemnări*, București: Atelierele grafice Socec & co, 1906: pp. 29.

<sup>169</sup> Note from a Matriculation of Hațeg (Hunedoara-country), in Dudaș, *Memoria*, pp. 296.

<sup>170</sup> Trócsányi, *Az erdélyi parasztság*, pp. 187.

<sup>171</sup> Ciorba, *Marea Foamete*, 148.

<sup>172</sup> *Evanghelie [Gospel] of București from 1732*, copy from Almașu Mare, in Dudaș, *Memoria*, pp. 295.

<sup>173</sup> *Chiriadromion*, București, 1732, copy from Râmneți (Bihor Country), in Dudaș, *Catastrofe*, pp. 65.

<sup>174</sup> *Evanghelie*, București, 1723, copy from Almașul Mare (Bihor Country), in Dudaș, *Catastrofe*, pp. 65.

<sup>175</sup> *Miscelaneu*, Romanian manuscript from the 18<sup>th</sup> century published by Ioan Corfus, *Însemnări de demult*, Iași: Junimea, 1975, pp. 135.

<sup>176</sup> Minei [Menaion], Blaj, 1781, and *Biblia*, Blaj, 1795, from 1909 in the church of Slatina (Maramureș Country), published by Bârlea, *Însemnări*, pp. 192–193.

In Banat, 1817, at Sintești [Bégaszentés] (Timiș-County, Banat region), a “litre” of wheat cost 16 Fl.; of corn, 16 Fl.; of barley, 5 Fl.; of oats, 4 Fl.; of bran, 3 Fl.; numerous deaths due to starvation are registered.<sup>177</sup> In May 1817, in the Banat village of Comloș [Komlós/Komlosch/ Велики Комлош], one “câblă” of wheat was sold for 60 Fl. and the same amount of corn for 52 Fl. Ilie Călțun from Banat kept detailed records of the prices during the food crisis, in the period between 1810 and 1817. He says that the years 1811–17 were characterized by “famine”. Here, one “oka”<sup>178</sup> of corn was 1.30 Fl., and the same measure of wheat was 1.36 Fl., so people had to consume corn-cobs, nettle, lettuce, beech leaf, elm bark, potatoes, and other things.<sup>179</sup>

At Slătioara, in the region of Maramureș, in 1817 a “ferdela” of corn cost 20 Fl.; of oats, 6 Fl. In the same region, a “ferdela” of corn reached 70 Fl.; oats, 6 Fl. Due to the impoverishment of the free peasants, they sold their properties cheaply. Corn was imported from Russia. Deaths caused by hunger were registered.<sup>180</sup> This is due to the extended winter in Maramureș, up to St. George’s Day (23 April). In the Sătmar area, “the poor people were dying on the roadside”; they ate bread made from corn-cobs, while others who ate bread made from goat manure then “swelled”<sup>181</sup> – that is, they had the same above-mentioned symptoms of ascites. In the village of Vezendiu [Vezend / Wesend], as one eyewitness says, “this was a great famine when people died on roads and streets, often those who came from Ardeal and Sălaj”. The help from the locals was minimal in 1817 because here the price of a bucket of wheat reached 80 Fl.<sup>182</sup> The calamity also took numerous victims in Banat, where the poor people were forced to eat lard, linden, fennel, or nettles instead of corn.<sup>183</sup> A severe drought was attested in 1816 and 1817 in Satu Mare (in Partium) which generated a food crisis, perceived as unprecedented by contemporaries.<sup>184</sup>

The situation was also dramatic in the border territories, where the State and the army provided aid in the form of cereals, but because this proved insufficient, the population was forced to feed on bread made from corn and the bark of trees, as reported in the notes of the gardener Vasile Crăciun from the village of Nepos (territory of the Second Wallachian Regiment).<sup>185</sup> The price of corn increased a lot, reaching 15 Fl. for one “litre”, which was why many border guards-farmers<sup>186</sup> were forced to sell their working animals to procure grain, which had serious consequences for the economy.<sup>187</sup>

Historian George Barițiu shows that the families of the military guards were fed with corn husks, which they cut into small pieces for polenta. The poor families gathered weeds from the fields or from the forests between Pentecost and the Feast of St. Peter (29 June), boiled them and thickened them with sour (unripe) apples, and were thus fed. They also consumed elm bark. The consequence of bad nutrition was the emergence of diseases, which could no longer be cured due to the lack of adequate medication and the

Year	Month	Wheat	Oxen
1814	June	11	159.30
	December	17	158.30
1815	June	24	330
	December	20	370
1816	June	18	500
	December	25	380
1817	June	44	300
	December	23	200
1818	June	20	200
	December	7	108

<sup>177</sup> Ceaslov from 18<sup>th</sup> Century from Sintești (Timiș-County), in Farca, “Însemnare”. Muzeul Banatului, Nr. 7-8 (1984), pp. 518.

<sup>178</sup> Triod, sec. XVIII, it was in year 1934 in Comloș, Banat, published by Cotoșman, Din trecutul Banatului, vol. III, Timișoara: s.n. 1934, pp. 338.

<sup>179</sup> Oka (rom. Oca) unit of measure, equivalent in Transylvania and Banat to 1260 g.

<sup>180</sup> Bocșan, Duma, Bona: Franța și Banatul, pp. 96.

<sup>181</sup> Biblia of Blaj from 1795, was kept in 1909 in Slatina (Maramureș-County), in Dudaș, Memoria, pp. 297.

<sup>182</sup> Penticostar, Blaj 1768, copy from 1938 in Botiz (Maramureș Country). Dariu Pop, Mărturii strămoșești. Satu Mare: Athenaeum, 1938, pp. 29.

<sup>183</sup> Psaltire, Râmnic, 1751, copy from Vezendiu (Satu Mare Country), kept at the Episcopal Orthodox Church of Oradea, Inventory 353.

<sup>184</sup> Ceaslov, eighteenth century, copy from Sintești, (Timiș County), published by Ioan Farca, “Însemnare”. Mitropolia Banatului, No. 7–8, 1984, pp. 517–518.

<sup>185</sup> Csérveni, Cronica: pp. 21.

<sup>186</sup> “Ziarul grănicerului Vasile Crăciun din Nepos”. Arhiva Someșană, 20, 1936, pp. 235.

<sup>187</sup> Along the Ottoman borders, the Austrian governments opted for militarized, free peasant communities under special imperial jurisdiction. Such populations could be relied upon to guard their own properties against border raids, accustomed as they were to bearing arms in irregular warfare. They enjoyed personal freedom in return for obligatory military service in special regiments (William McNeill, The Rise of the West. A History of the Human Community, Chicago, 1963, pp. 663.



lack of healthy nutrition; consequently, this led to an increase in the number of deaths among the border guards. The crisis passed with the good harvest of 1817.<sup>188</sup>

The crisis ceased in the summer of **1818**. In this year, the value of money drastically decreased so that, due to the lack of money but also the surplus of grain, one “câblă” of wheat cost 8–10 Fl.; the same measure of barley, 4 Fl.; and rye, 3–4 Fl. In the summer, with the normalization of temperature and precipitation, according to the chronicler Dück from Codlea, “*it went badly for bees, but the fruit bore very well, and the harvest was extended until mid-October*”.<sup>189</sup> Despite the lack of money, the butchers in the locality sold a meat loaf for ten Kreuzers.<sup>190</sup> In the spring of 1818, a pair of oxen could be sold for 2,000 Fl., a cup of wine for 12 Fl., and one pound of bacon for 2 Fl.<sup>191</sup>

In Cluj, a bucket of wheat cost 30.40 Fl. in January 1818, reaching 6 Fl. in December; of rye, 14.40 in January, reaching an average price of 6.2 Fl. during the year; a bucket of barley decreased from 3.40 in January to an average of 2.22 Fl.; oats from 5.20 in January to 2.22 Fl. during the year; corn decreased from 14 Fl. in January to 4.51 Fl.; potatoes from 4 Fl. to 1.16 Fl.; the price of oxen decreased from 458 Fl. in January to 349 Fl. in December.<sup>192</sup> This evolution towards normality was due to the normalization of temperatures in the summer and autumn of 1817.

Between 1814 and 1818, the prices for one bucket of wheat and a pair of oxen, respectively, thus evolved in Sfântu Gheorghe and Braşov.

## EMIGRATION

The starvation was a push factor fostering emigration of poor people from Deva [Déva / Diemrich], Alba-Iulia [Gyulafehérvár / Karlsburg], Turda [Torda / Thorenburg] and from the surrounding areas through Bârsa/Burzenland County to Wallachia and Moldova. The phenomenon of people begging during their passage was so widespread in Bârsa County that 30–40 beggars per day came to the door of some inhabitants themselves in distress and there were numerous robberies, which caused the inhabitants of the area to barricade themselves in their houses.<sup>193</sup>

Driven away from their homes by the hunger, many Transylvanian residents died “*walking on the roads, there was no one to bury them*”.<sup>194</sup> Thousands of people migrated over the mountains.<sup>195</sup> In a prescription from 1817, the vicar Ioan Nemeş asked the priests to record the number of emigrants from each village, and the number of those who died of hunger.<sup>196</sup>

In addition, historian Ioan Pop found that the poor harvests of the years 1813–16 aggravated the economic situation of the border guards, causing widespread starvation. This claimed more victims, especially from the poorer population, and many inhabitants were forced to emigrate to Moldova.<sup>197</sup> So, also in the territories along the Military Frontier, some families sold their property and emigrated. Some of them returned in 1818, while others remained in their new countries. Those who received state aid (see section *State measures* in this paper) were less affected.<sup>198</sup> The number of people in the territory of Second Wallachian Regiment was in the order of thousands, with many leaving for the two Romanian countries and/or Banat, where the harvests were better.<sup>199</sup> Environmental impacts of starvation-driven emigration and military participation of Military Frontier peasants-border guards in the Napoleonic Wars (1792–1815)

<sup>188</sup> “Ziarul grănicerului Vasile Crăciun din Nepos”, pp. 235.

<sup>189</sup> Bariţiu, *Părţi alese*, I, pp. 525; Şotropa, “Un act memorabil”, pp.154.

<sup>190</sup> Dück, “Auszug”, pp. 330–331.

<sup>191</sup> Dück, “Auszug”, pp. 331.

<sup>192</sup> Doina Braicu, Victor Bunea, *Cartea veche românească din secolele XVI-XVII în colecțiile arhiepiscopiei Sibiului, Sibiu, Centrul mitropolitan*, 1980, pp. 64.

<sup>193</sup> Dück, “Auszug”, pp. 329.

<sup>194</sup> Note from on an old book of the village of Bălnaca (Bihar Country).

<sup>195</sup> Bariţiu, “Părţi alese”, pp. 560; Ştefan Meteş, *Emigrări româneşti din Transilvania în secolele XIII-XX Bucureşti: Academiei*, 1971, pp. 261.

<sup>196</sup> Ştefan Buzilă, “Documente bisericesti”. *Arhiva Someşană*, 15, 1931, pp. 26.

<sup>197</sup> Pop, “Situatia”, pp. 247. Pop did not the weather anomaly causing the starvation.

<sup>198</sup> Şotropa, “Un act memorabil”, pp. 155.

<sup>199</sup> Bariţiu, “Părţi alese”, I., pp. 525.

caused abandonment of some agricultural land in the territories of the border regiments of Transylvania and Banat. Some of them were colonized by bushes as the ecological succession progressed.<sup>200</sup>

The German Baltic press also reports on the emigration from Transylvania. *Rigasche Zeitung*, one of the main journals of the Germans from the Baltic Sea, took over the Austrian press and reported that “many people migrated because of hunger, and because of it many died, especially Wallachian people. It is believed that the emperor will improve the condition of these people”.<sup>201</sup>

Data on emigration of the peasants are also found in Hungarian records. The peasants, partially or totally deprived of the means of production, begged in the towns of Transylvania or in Hungary, or emigrated to the neighbouring countries (Wallachia, Moldavia, and also to Hungary). In 1817, the records from Bihor County in Partium mention these beggars migrating from Transylvania in groups through the county, especially to Oradea, and often towards the borders. Only unnoticed or by force did they succeed in getting into Hungary.<sup>202</sup>

Apart from emigration of humans, the crisis dealt with in this paper also had an impact on traditional transhumant sheep grazing that involved regular livestock migrations. Namely, Climate change and starvation in Transylvania led to the extension of the grazing season for the transhumant sheep from Transylvania in the seasonal pastures in southern Carpathian territories – in Wallachia and Moldova. There, however, the climate anomaly was not so drastic,<sup>203</sup> and sheep from Transylvania were subject to abuses by the Greek and Wallachian administrations.<sup>204</sup> In the course of these transhumant moves, Transylvanian sheep grazed in Wallachia in winter. The causes of chicanery are not mentioned in the documents of the time. The analysed sources reveal only mismanagement, corruption and abuses of the Phanariot administration. During 1815, Transylvanian sheepmen lodged complaints with Prince Caragea of Wallachia through the Austrian embassy in Bucharest. In an 18-point act issued by the ruler in January 1816, the Transylvanian sheepmen were compensated and reinstated in their rights because they contributed income to the Wallachian state through taxes on grazing. However, point 8 of the act draws attention to point 8 of the act, where it is specified that the Transylvanian sheep did not respect the designated grazing places, but entered the forbidden domains of the boyars<sup>205</sup>.

## STATE MEASURES

The authorities took organizational and instructive measures to make land cultivation, animal husbandry, gardening, fruit-growing, and forestry more efficient, and also advised on household economy and family hygiene.<sup>206</sup>

<sup>200</sup> Ioan Pop, “Situația”, 247; Șotropa, “Un act memorabil”, pp. 155; Csetri, Erdélyi ezredek a francia forradalom és a napóleoni idők háborúiban (1792–1815), (Kolozsvár: Múvelődés, 2005); Maria Muțiu, “La participation des régiments de garde-frontières roumains de Transylvanie et de Banat au campagnes contre Napoléon”. *Revue roumaine d’histoire*, No. 2, 1970, pp. 291–304.

<sup>201</sup> “Vermischte Nachrichten”. *Rigasche Zeitung*, Nr. 53 (4.07.1817).

<sup>202</sup> Trócsányi, *Az erdélyi parasztság*, pp. 187.

<sup>203</sup> 1814 was a fruitful year in Wallachia, but there was still a shortage of food until the new harvest; in Oltenia there were floods; 1815 brought a dry summer, poor maize yield and lack of hay in Moldova. Large quantities of grain were delivered to the Sublime Porte. 1815/16 brought a heavy winter, which was prolonged until April, and poverty and hunger. The lack of fodder caused livestock and cattle numbers to fall; there were increased tax burdens; in 1816, the fruit harvest in Wallachia was poor. In 1817, there was a drought, and a poor grain harvest, although there was a rich fruit harvest in the vineyards in Wallachia. Cereals were exported from Wallachia to Transylvania, where there was starvation – massive grain deliveries were provided to the city of Ada-Kaleh; there was massive export of cattle from Moldova to Austria; the price of cereals increased; agriculture was expanding in Wallachia, encouraged by the export to Transylvania. In 1817/18, there was a mild winter, without snow, but at the end of May, in the north of Moldova, the abundant snow and the hoar-frosts caused great damage to the seeds and orchards; there was a lack of food in Moldova; corn was expensive. 1818 was an especially fruitful year in Wallachia. In Moldova measures were taken to quantitatively raise the millet and potato yields (Ioana Constantinescu, “Climă, agricultură și societate în Țara Românească și Moldova sub fanarioți”, *Revista de istorie*, Tom 42, No. 3 [1989], pp. 269).

<sup>204</sup> Liviu Moldovan and Viorel Grama, “Situația oierilor români transilvăneni în Țara Românească pe timpul domniei lui Ioan Caragea (1812–1818)”. *Marisia*, No. IX, 1979, pp. 237–245.

<sup>205</sup> Moldovan, Grama, “Situația oierilor români”, pp. 241.

<sup>206</sup> For example, Arhivele Naționale ale României – Direcția Județeană Bistrița-Năsăud [Romanian National Archives, Bistrița-Năsăud County] Fund: Regiment II românesc de graniță Nr.17, package I, Folder 1, 1764–1819, 12. Grenz-Compagnie: Kalender oder Anzeiger über die mannigfaltigen in jeden Wirtschaftszweig vorkommenden Verrichtungen nach den Monaten auch Polizei Verfügungen und einzurichtende Eingaben Für die 12. Grenzkompanie. No. 3638.

These measures and the general realities throughout the Military Frontier are mentioned in numerous documents of the time. From a report on the population and economy of the territories of the five Military Frontier regiments in Transylvania given on 4 September 1817 by the General Command in Sibiu, the Aulic War Council in Vienna shows, among other statistics, that in the district of the Second Wallachian Regiment there were, at that time, 2,371 invalids.<sup>207</sup> To these are added a significant number of partial invalids, which had serious consequences for the working population of the district. The same report shows that in the years of starvation, 1,750 men and 1,636 women received permits to travel to other regions to obtain cereals, and 711 men and 744 women travelled to Moldova for the same purpose.<sup>208</sup> It is also mentioned that the General Command from Sibiu granted material and financial aid to the guards of Năsăud (the Second Regiment). Thus, in the form of a loan, a total of 283,400.54 Fl. were granted for the purchase of cereals and potatoes as food and seeds, as well as for the purchase of animals for agricultural works.<sup>209</sup> Between 1814 and 1817, the border guards of Năsăud received cereals and flour worth 172,996.49 Fl. in the form of a loan from the military reserve deposits.<sup>210</sup>

The report also contains important data on agriculture, and records concerning sowing and breeding animals. According to the report, in 1816, the area sown in the territory of the Second Wallachian Regiment was 24,972 yokes (14,234 Ha), and that of the land left unsown, approximately 13,857 yokes (7,89 ha)<sup>211</sup>. It follows from these facts that only about half of the soil was sown. Among the plants that were sown in the autumn were wheat, spelt, and rye, and among those sown in spring were wheat, spelt, rye, barley, oats, corn, millet, buckwheat, potatoes, beans, peas, flax, and hemp. It follows from the above, therefore, that yields of the plants that were sown in spring were higher compared to those that were sown in the autumn, which can be explained by the fact that the land was mostly hilly and mountainous in the territory of this district.

With regard to livestock, in 1816 there is a record of 2,250 horses, 7,379 beef cattle, 6,624 dairy cattle, and 27,690 sheep and goats.<sup>212</sup> Analysing these data, it can be said that the livestock herd was quite small, and that it was also affected by the lack of feed.

The military authorities rethought the organization of agriculture, as well as the other branches of the economy, in order to provide food for the Military Frontier population. This was also a result of the instructions sent by Colonel Anton Zatetzky, Commander of the Second Wallachian Regiment, to the district companies in 1818. These instructions indicated how the agricultural and domestic work should be organized, and the conditions for their execution, starting in January and ending in December. Thus, in the introduction to the instructions for the calendar year, entitled *Zur Erinnerung*, it was written that “*agriculture is of big importance for each people*”.<sup>213</sup> Next, it was mentioned that the guardians of this district had had the opportunity, during the many wars in which they had participated, to have learnt from the experience and have observed the advanced agriculture of the countries through which they had had worked in. It urged them to apply these to their own households and to improve the situation.<sup>214</sup> It was recommended that both active and retired officers, priests, and the more experienced households serve as examples of agricultural organizers and rational cultivators of the land, who might guide the rest the population.<sup>215</sup>

Zatetzky also says that the economic situation was difficult for the population in this military district, and considers this to have been exclusively due to old routines and customs, the large number of holidays, and to the passivity of officers who did not express concern and interest in the economic problems of the border guards. For example, numerous weddings were organized, at which there was a lot of food waste. The poor were not invited to these events and the food surplus was thrown away.<sup>216</sup> This corresponds

<sup>207</sup> Romanian National Archives, București, found Microfilme din Austria, Inventory 1192, roll 67, C, pp. 988–992.

<sup>208</sup> ANR-București, 1192/ 67, C, pp. 1007–1008.

<sup>209</sup> ANR-București, 1192/ 67, C, pp. 993–997.

<sup>210</sup> ANR-București, 1192/ 67, C, pp.1003–1004.

<sup>211</sup> ANR-București, 1192/ 67, C, pp. 991–992.

<sup>212</sup> ANR-București, 1192/ 67, C, pp. 991–992.

<sup>213</sup> ANR-Bistrița-Năsăud, Kalender 1818, pp. 21v.

<sup>214</sup> ANR-Bistrița-Năsăud, Kalender 1818, pp. 21v.

<sup>215</sup> ANR-Bistrița-Năsăud, Kalender 1818, pp. 21v-22.

<sup>216</sup> ANR-Bistrița-Năsăud, Kalender 1818, pp. 22-26.

with the findings by anthropologists that the excesses of festive diet reflected the humble everyday diet.<sup>217</sup> Excessive consumption of alcohol by women is also mentioned.<sup>218</sup>

The distribution of wheat and flour was made to the guards according to the size of their family property, their participation in the Napoleonic Wars and the services provided, the number of cattle they kept and the size of the land; as a result, many guards did not receive money or grain for sowing, and were forced to emigrate at the beginning of 1817.<sup>219</sup>

The import of cereals was another measure taken by the Transylvanian Government (*Gubernium*). Due to the fact that the harvests were better in Wallachia and Banat, many cereals were imported from these regions, both by the state and by individuals involved in trade speculations with imported cereal products, selling the cereals at the highest possible prices.<sup>220</sup>

The Austrian State attached great importance to potato cultivation after 1817, as it was considered a resistant plant.<sup>221</sup> Regarding the extension of potato cultivation, the statistics provided by Hietzinger in 1823 provide a clear picture of the situation on the Banat and Transylvanian Military Frontier from 1818. In both regions, the figures indicate an increase in the areas of potato cultivation. On the Banat Military Frontier, about 3,400 yokes (around 19.4 km<sup>2</sup>) were cultivated until 1817, and in 1818, this grew to 6,442. In the territory of the Transylvanian Military Frontier, in 1815, there were around 9,560 potato-cultivated yokes, and in 1818, there were 11,806 yokes.<sup>222</sup> Regarding corn, on the Transylvanian Military Frontier there was a harvest of 118,693 buckets in 1818, compared with 115,789 in 1806<sup>223</sup> – a rather small amount of progress.<sup>224</sup>

## POPULATION AND LOCAL AUTHORITIES' MEASURES TO ALLEVIATE THE CRISIS

Diverse reactions to cope with the crisis can be identified. The wet weather in the analysed period caused significant changes in terrain: in Chirileu [Kerelő], the peasants complained that the river Mureş “broke” a third of its surface over the previous years. The conscription records from 1820 mention insufficient land for pasture and flood devastation might have been a reason thereof. The floods of the Mureş in 1816 and 1817 were so strong that they led to landslides and floods on different sectors of its middle course<sup>225</sup>. The Saxon chronicles mention the arrangement of new constructions and dams among various flood-protection measures. So, for example, at Codlea, where the Bârsa river crossed the city's territory, the inhabitants raised a 900-fathom-long dam (1.7 km) for flood protection,<sup>226</sup> with the support of the nearest communities of Vulcan [Wolkendorf/Volkány], Râşnov [Rosenau/Barcarozsnyó], Cristian [Neustadt/Keresztényfalva] and Ghimbav [Weidenbach/Vidombák]; they worked for three weeks to build it, under the guidance of an engineer.<sup>227</sup>

On 4 January 1817, a canteen was organized in Sibiu to feed the hungry for free, to which the burghers of the town contributed money and food. 100 people were fed daily.<sup>228</sup> A similar canteen had also been confirmed in Cluj, and a home for poor and orphaned children had been built in Arad<sup>229</sup>. On the other hand, the lack of assistance to the rural poor was one of the remarks in the preamble to the 1818 Calendar for the territory of the Military Frontier. Here, reference was made to the customs of the Wallachian people, such

<sup>217</sup> Helmut Hundsbichler, Pavel Santonino v Sloveniji (1486 in 1487) Stvarnost in mentaliteta v potopisu iz pozne gotike. In: Zgodovinski časopis, št. 2. Ljubljana, pp. 190. (=Paolo Santonino in Slovenia (1486 in 1487). Reality and Mentality in a Travel Book from Late Gothic)

<sup>218</sup> ANR-Bistriţa-Năsăud, Kalender 1818, pp. 22-26.

<sup>219</sup> Şotropa, “Un act memorabil”, pp. 153.

<sup>220</sup> Bariţ, “Părţi alese”. I., pp.525.

<sup>221</sup> Botezan, “Importanţa”, pp.78.

<sup>222</sup> Hietzinger, Statistik, II, pp.65.

<sup>223</sup> Hietzinger, Statistik, II, pp.57.

<sup>224</sup> Hietzinger, Statistik, II, pp.56.

<sup>225</sup> Botezan, “Posesiunile”, pp. 179.

<sup>226</sup> If a fathom was 1.80 m in Transylvania, then this is 1.620 m.

<sup>227</sup> Dück, “Auszug”, pp. 330.

<sup>228</sup> Emil Sigerus, Chronik der Stadt Hermannstadt 1100-1929, Sibiu: Honterus, 2005, pp. 44.

<sup>229</sup> Ciorba, Marea Foamete, pp. 330-331.

as weddings, baptisms, and funerals, where a large amount of food was wasted, instead of the surplus being given to the needy.<sup>230</sup>

### Survival strategies of the rural population

In order to survive, the peasants from the Transylvanian Plain were forced, between 1814 and 1817, to either sell their animals at minimum prices to buy cereals, or to kill and consume them,<sup>231</sup> as shown above in the case of the village of Bistra. The documents of the 1820 Czirákyan Conscription show that in many villages there were no remaining yoke oxen, and cows, calves, and sheep survived in a minimal proportion compared to the period before 1814.<sup>232</sup>

In the villages that had lakes or ponds on their borders, or were crossed by larger rivers, the inhabitants were able to obtain some of their food through fishing. This was only possible in those localities where the feudal owners allowed fishing because in Transylvania, this activity was monopolised by the gentry and royalty until 1848.<sup>233</sup> In this regard, the statement of the Orosia [Oroszy] servants from the 1820 Cziráky Conscription is significant: *“In Mureş we can fish with the indulgence of our gentlemen and from this we have benefits”*.<sup>234</sup>

At the beginning of the 19<sup>th</sup> century, there were public forests on the territories of many villages in Transylvania. Natural resources in these forests were accessible to peasant households, without being subject to monetary taxes.<sup>235</sup> The earnings from trade in wood and other economic benefits from forests in the farm economy enabled the inhabitants to buy subsistence food during the food crisis. According to the forest legislation, peasants were allowed to take more from the woods free of charge than what they needed themselves<sup>236</sup>.

As an important branch of the agricultural economy, the use of forests appears in the conscripts and the public pannage records, especially in the localities that were in the vicinity of extensive forests. The families of these villages fed their pigs on acorns, and in the years with rich harvests, villagers from the more remote localities were also allowed to use the forests, for a fee. Since the pigs freely grazed in the forest, the farmers could conserve feed and cereals for later times, as evidenced by a declaration from the villagers of Sângeorgiu de Mureş [Marosszentgyörgy] from 1820.<sup>237</sup>

Apart from wood and acorns, forests offered other benefits to peasant families. For example, they provided them with apples and pears for vinegar, blackberries, blueberries, mushrooms, caraway, snails, etc.<sup>238</sup> Regarding the gains resulting from the gathering of apples and pears in forests, the 1820 Declaration of the peasants from Mureni [Szederjes / Neuzekel] is descriptive: *“Crab apples are quite frequent within our borders, and when God gives poems, we can make vinegar abundantly for our homes”*.<sup>239</sup> In the same year, the people of Rigmani [Rigmány] claimed that *“one way to make money is to sell wild and homemade fruit, as well as vinegar”*.<sup>240</sup>

Free peasants also had access to trout from the streams and rivers flowing through forests on the borders of their communes. In addition, they had the freedom to hunt wild boar, deer, and other edible wild

<sup>230</sup> ANR-Bistrița-Năsăud, Kalender 1818, pp. 22v.

<sup>231</sup> Botezan, “Posesiunile obștești”, pp. 178.

<sup>232</sup> Liviu Botezan, “Organizarea pământurilor aratoare și finatelor iobagești din Transilvania în perioada 1785-1820”, *Apulum*, Nr. 8, pp. 161–163.

<sup>233</sup> Otto Witting, “Geschichte der Fischerei”, in *Das Burzenland* (ed. Erich Jekelius), V (Kronstadt: Sächsisches Museum Burzenland, 1929), pp. 108.

<sup>234</sup> Botezan, “Posesiunile”, pp. 186.

<sup>235</sup> Rudolf Rösler: “Zur Forstgeschichte Rumäniens. Ein zusammenfassender Überblick”, in: *News of Forest History*, ed. Elisabeth Johann, No. 28, 1999, pp. 24.

<sup>236</sup> Rudolf Rösler, *Geschichte der Forstgesetzgebung in Siebenbürgen*. In: *Zeitschrift für Siebenbürgische Landeskunde*, Köln-Wien, 1988, pp. 69.

<sup>237</sup> Botezan, “Posesiunile”, pp. 197.

<sup>238</sup> Heinrich Wachner, “Die Nebennutzungen des Waldes. Die Sammelwirtschaft der Zigeuner”. *Das Burzenland*, 5/1, 1929, pp. 99–102.

<sup>239</sup> Botezan, “Posesiunile”, pp. 199.

<sup>240</sup> Botezan, “Posesiunile”, pp. 199.

animals. For the subjects, fishing and hunting were possible only insofar as they were allowed by the feudal owners, because these had constituted royal and senior rights since the Middle Ages.<sup>241</sup>

The common fields such as those cultivated with cabbage, potatoes, and maize were additional sources of nutrition. The commons in Transylvania belonged to a village and were subject to common use (e.g. pasture, forest, water). The cultivation of potatoes in Transylvania was ordered by the Government in 1806. As they were then a new crop, they were not widespread. In Biertan [Birthälm] in 1815, only 183 buckets were grown.<sup>242</sup> The common cultivation of resistant plants, such as potatoes and corn, reflects the community's interest in increasing the resilience of their farm economy.

## THE MENTAL REVIVAL

One of the main factors that contributed to the mental revival of the population was the imperial visits. The journey of Emperor Franz I through Banat, Partium, and Transylvania was charged with symbolism. The imperial visit coincided with the end of the bad weather, and was symbolically seen to represent the end of rain and starvation: "*1817, His Majesty the Emperor Francis, visited his frontiers and brought with him a blessed autumn with all the dishes*".<sup>243</sup>

The route of the Emperor was recorded by chroniclers and historians: on 1 September 1817, he came from Galicia with his wife Carolina Augusta, through Bistrița, Alba Iulia, Cluj, Sibiu, and Codlea to Brașov [Brassó / Kronstadt], and brought with him 23 carts. He visited the county of Trei Scaune,<sup>244</sup> then three towns: Miercurea Ciuc [Csikszereda/Szeklerburg], Târgu-Mureș [Marosvásárhely/Neumarkt am Mieresch] and Sfântu Gheorghe [Sepsiszentgyörgy/ Sankt Georgen]; on 18 September, he returned to Brașov and walked with his wife through the city; he was seen by the people and visited many places. On 20 September, he returned to Sibiu, passing through Codlea. In every location, he was officially received, and triumphal arches were raised everywhere.<sup>245</sup> These triumphal arches can be built at the expense of the court in Vienna or the authorities.

*Remembering.* The starvation of 1817 was firmly rooted in local collective memory and the tradition about it was passed to the next generation. On the occasion of later calamities, it was often referred to in the priestly records. In the summer of 1824, a drought occurred, prompting a priest to remember the year 1817, when "*old people died under fences and roads*" due to food shortages.<sup>246</sup> In the year 1836, the inhabitants of the villages of Western Transylvania were scared that "*they will be starving as in 1817, even worse and worse, that they are poorer than then*".<sup>247</sup>

## CONCLUSIONS

The information provided by the chronicles and the notes within the church books greatly enhances the body of knowledge about the weather anomalies, the fluctuations in prices, and the starvation in the territories in question in recent historiography. They make it clear that Transylvania, Banat and Partium were extremely adversely affected by severe weather events of 1810s which caused the decrease in agricultural production and the increase in food prices, which in turn led to malnutrition, hunger and famine. This challenges the view of milder impacts of the 1810s crisis in Eastern Central Europe as a general phenomenon.

As Jürg Luterbacher and Christian Pfister have already shown, the effects of the Tambora eruption were not uniform<sup>248</sup>. During this period, the temperatures in Eastern Europe, Russia and Baltic Region

<sup>241</sup> Otto Witting, *Istoria dreptului de vânătoare în Transilvania*, București: Monitorul oficial, 1936, pp. 25-38.

<sup>242</sup> Johann Michael Salzer, *Der königl. freie Markt Birthälm in Siebenbürgen: ein Beitrag zur Geschichte der Siebenbürger Sachsen*, Graeser, 1881, pp. 314.

<sup>243</sup> Nicolae Stoica de Hațeg, "Scrieri: Cronica Mehădiei", Timișoara: Facla, 1984, pp.73.

<sup>244</sup> "Trei Scaune" is the Romanian name of the former Hungarian county "Háromszék" in south-eastern Transylvania, which also existed under this name during the interwar period, as this part of Transylvania was under Hungarian rule.

<sup>245</sup> Dück, "Auszug", 330; without author, "Auszug aus 'Annales Czeidinenses' (1597-1840)", in: *Quellen zur Geschichte der Stadt Brassó. Chroniken und Tagebücher*, ed. Julius Gross IV/2 (1392-1851), Brassó: 1909, pp. 413; Bariț, "Părți alese", I., pp. 525.

<sup>246</sup> Iorga, "Scrisori", pp. 176.

<sup>247</sup> Psaltire, 18<sup>th</sup> century, from Valea Mare de Codru (Bihar country), apud Dudaș, *Catastrofe*, pp. 66.

<sup>248</sup> Luterbacher, Pfister, *The year without a summer*, pp. 246.

Border-Province	1811	1812	1813		
	Total	Total	men	women	total
Banat	171,745	172,235	90,665	85,615	176,280
Transylvania	137,041	135,657	66,963	68,706	135,669

**Table 1:** The demographical situation on the territories of Border Province Banat and Transylvania between 1811 and 1815

Border-Province	1814			1815		
	men	women	total	men	women	total
Banat	89,969	84,945	174,914	89,023	86,021	175,044
Transylvania	66,505	68,779	135,284	66,679	69,146	135,825

remained normal, with no discernible effects on the agriculture and population<sup>249</sup>. Similar to most parts of Europe, the extreme weather events affected “biomass production and water availability” and delayed the start of plant growth<sup>250</sup>. The reduction in agricultural production led to inflation and malnutrition among the poor population. As a result, many died of starvation, contributing to a low birth rate in comparison to the increased death rate. In order to escape poverty and hunger, many Transylvanians emigrated to Wallachia, Moldavia and the Banat. Additionally, individuals from Germany and Switzerland also emigrated to these countries.

The lack of a divine scheme in the interpretation of these events is explained either by the rationalization of the discourse, in the case of Saxon and Hungarian writings, or by the fact that the notes within the liturgical books are in fact very brief, not including interpretations, particularly in the case of the Romanian ones. Thus, for the Orthodox priests, the recording of special natural events and the increase of food prices was comparable to documenting material purchases for the church or writing about other civil events. However, while divine punishment is lacking as an explanation in the case of calamities and hunger, the presence of God’s mercy appears in the case of returning to normality, in such expressions as “*God has given rich fruit*”.

Famine vs. starvation. From the above, it is evident that it was not *Famine*, but *starvation* in the analysed territories. The issue stemmed from an economic factor (lack of manpower, war, weather) as well as poor management. Officially, however, the term famine can be used instead of hunger since there is currently no translation available for the term “starvation” in Romanian. *Archives*:

Arhivele Naționale ale României – Direcția Județeană Bistrița-Năsăud [Romanian National Archives, Bistrița-Năsăud Country] Fund: Regiment II românesc de graniță Nr.17, package I, Folder 1, 1764–1819, 12. Grenz-Compagnie: Kalender oder Anzeiger über die mannigfaltigen in jeden Wirtschaftszweig vorkommenden Verrichtungen nach den Monaten auch Polizei Verfügungen und einzurichtende Eingaben Für die 12. Grenzkompagnie. No. 3638.

Arhivele Naționale ale României București, [Romanian National Archives], found Microfilme din Austria, Inventory 1192, roll 67, C.

## LITERATURE

1. Anonym. “Ziarul grănicerului Vasile Crăciun” “ [The diary of the board-guarders Vasile Crăciun from Nepos]. Arhiva Someșană, 20. (1936): 233-255.
2. Abel, Wilhelm. Massenarmut und Hungerkrisen im vorindustriellen Europa. Hamburg: Parey, 1974.
3. Alfani, Guido and Ó Gráda, Cormac (eds.). *Famine in European History*. Cambridge: Cambridge University Press, 2017.
4. Barițiu, George. *Părți alese din istoria Transilvaniei pre doua sute de ani din urmă* [Selected parts of Transylvania’s history]. (Sibiu: W. Krafft, 1889, Vol. I-III).

<sup>249</sup> D.I. Rus, “Witterungsanomalien in den Ostseeprovinzen in den Jahren 1816 bis 1818 nach den Angaben der Lokalpresse” [The weather anomalies of the years 1816-18 in the Baltic region reflected in the German-Baltic newspapers]. *Forschungen zur baltischen Geschichte*, 17, Tartu, 2022, pp. 171-188.

<sup>250</sup> Luterbacher, Pfister, *The year without a summer*, pp. 246.

5. Bârlea, Ioan. Însemnări din bisericile Maramureşului [Notes from the churches of Maramureş], Bucureşti: Atelierele grafice, 1909.
6. Bărnăuţiu, Elena. Carte românească veche în colecţiile sătmărene.[Old Romanian Book in the collections of Museum Satu Mare]. Satu Mare, Muzeul Sătmărean, 1998.
7. Behringer Wolfgang, Tambora und das Jahr ohne Sommer: Wie ein Vulkan die Welt in die Krise stürzte. München: Beck, 2015.
8. Bielz Eduard Albert, "Beitrag zur Geschichte merkwürdiger Naturbegebenheiten in Siebenbürgen". Verhandlungen und Mitteilungen des siebenbürgischen Vereins für Naturwissenschaften, 4 (1862): 1–74.
9. Bocşan Nicolae, Contribuţii la istoria iluminismului românesc.Timşoara: Facla, 1986.
10. Bogdán István, Regi magyar mértékek [Old Hungarian measures]. Budapest: Gondolat Zsebkönyvek, 1987.
11. Bolovan Ioan, "Realităţi demografice în Regimentul II românesc de graniţă (secolul al XIX-lea)" [Demographic realities in the Romanian Border Regiment II (19<sup>th</sup> century)], In *D. Prodan. Puterea modelului*, edited by Nicolae Bocşan, Nicolae Edroiu, Liviu Maior, Aurel Răduţiu, Pompiliu Teodor. Cluj-Napoca: Centrul de Studii Transilvane, (1995): 143-156.
12. Bona, Petru, Bocşan, Nicolae, Duma, Mihai. Franţa şi Banatul 1789-1815 [France and the Banat] Reşiţa, Muzeul Banatului, 1994.
13. Botezan, Liviu. *Organizarea pământurilor aratoare si fînatelor iobagesti din Transilvania în perioada 1785-1820* [The organisation of arable lands and serfs hay in Transylvania in the period 1785-1820]. *Apulum*, 8 (1972): 137-167.
14. Botezan, Liviu. *Posesiunile obşteşti ale ţăranilor de pe teritoriul actualului judeţ Mureş în perioada anilor 1785-1820*. [The common possessions of peasants from the territory of the current Mureş country during the years 1785-1820]. *Marisia*, No. IX (1979): 175-208.
15. Botezan, Liviu. *Tendenţe ale gospodăriilor nobiliare din Transilvania de a introduce plante tehnice şi de a ameliora soiurile de pomi fructiferi şi de viţă de vie în perioada 1785-1820* [Tendencies of the Transylvanian noble households to introduce technical plants and to improve varieties of fruit trees and vines in the period 1785-1820]. In *Ştefan Meteş la 85 de ani*, edited by Constantin Daicoviciu. Cluj-Napoca: s.n.(1977): 311-314.
16. Botezan, Liviu. *Importanţa conscripţiei czirákyene pentru studierea sesiilor iobăgeşti şi a obligaţiilor ţăranilor aserviţi din Transilvania între 1820-1848* [The importance of Cyrákyan conscription for the study of serfs sessions and the obligations of enslaved peasants in Transylvania between 1820 and 1848]. *Anuarul Institutului de Istorie Cluj-Napoca*, 41(2002): 41-85.
17. Braicu, Doina, Bunea, Victor. Cartea veche românească din secolele XVI-XVII în colecţiile arhiepiscopiei Sibiului. [Old Romanian book from the 16th-17th Centuries in the collection in the Archdiocese of Sibiu] Sibiu, Centrul mitropolitan, 1980.
18. Buzilă, Ştefan. *Documente bisericeşti*" [Church documents]. *Arhiva Someşană*, No. 15 (1831): 15–54.
19. Ciorba Ioan, *Marea Foamete din Transilvania dintre anii 1813-1817*, (Cluj-Napoca: Centrul de Studii Transilvănene, 2017).
20. Collet, Dominik, Lassen, Thore, Schanbacher, Ansgar (eds.). *Handeln in Hungerkrisen. Neue Perspektiven auf soziale und klimatische Vulnerabilität*. Göttingen: Universitätsverlag, 2012.
21. Collet, Dominik. *Die doppelte Katastrophe. Klima und Kultur in der europäischen Hungerkrise 1770-1772 (= Umwelt und Gesellschaft; 18)*. Göttingen: Vandenhoeck & Ruprecht 2019.
22. Colta, Elena Rodica. *Însemnări de pe cărţile româneşti vechi din judeţul Arad* [Notes from the old Romanian books from the Arad county]. *Ziridava*, XI (1979): 1059-1081.
23. Constantinescu, Ioana. *Climă, agricultură şi societate în Ţara Românească şi Moldova sub fanarioţi*" [Climate, agriculture and society in Walachia and Moldova under Phanariots]. *Revista de istorie*, Tom 42, No. 3 (1989): 259-272.
24. Corfus, Ioan. *Însemnări de demult* [Notes from a long time ago]. Iaşi: Junimea, 1975.
25. Cotoşman, Gheorghe. *Din trecutul Banatului* [From Banat's past], vol. III, Timişoara: s.n. 1934.
26. Csetri, Elek. *Erdélyi ezredekek a francia forradalom és a napóleoni idők háborúiban (1792–1815)* [Transylvanian regiments in the wars of the French Revolution and Napoleonic times (1792–1815)]. Kolozsvár: Múvelődés, 2005
26. Csetri, Elek, and Imreh, István. *Erdély változó társadalma 1767–1821 (Történelmi tanulmány)* [Evolution of social structure in Transylvania. Historical study]. Bucureşti: Kriterion, 1980.
27. Dudaş, Florian. *Catastrofe naturale în Transilvania în lumina însemnărilor scrise pe cărţi româneşti vechi, între anii 1500 şi 1900* [Natural disasters in Transylvania in the light of the notes written on old Romanian books, between 1500 and 1900]. Oradea: Lumina, 1999.
28. Edroiu, Nicolae. "Despre situaţia din Munţii Apuseni în prima jumătate a secolului al XIX-lea. Protocolul parohiei din Mărgău (Huedin)" [About the situation in the Apuseni Mountains in the first half of the 19th Century. Protocol of the parish of Mărgău (Huedin)], *Anuarul Institutului de Istorie şi Arheologie Cluj*, XXIV, (1981): 353-363.
29. Fabian, Iosif. *Consideraţii cu privire la obligaţiile în muncă ale locuitorilor din Gurbediu (comitatul Bihor) între anii 1722–1834*. [Considerations regarding the work obligations of the inhabitants of Gurbediu (Bihar County) between 1722 and 1834]. *Crisia*, No. XIII, (1983), 509–515.



30. Farca, Ioan. “‘Însemnare’ de pe un Ceaslov aparținător bisericii din Sintești (jud. Timiș)” [‘Note’ from a Horologion belonging to the church in Sintești (Timiș County)]. *Mitropolia Banatului*, No. 7-8 (1984) 517–518.
31. Göllner, Carl. *Die Siebenbürgische Militärgrenze*, Oldenbourg Verlag, München, 1974.
32. Gross, Julius (ed.). *Quellen zur Geschichte der Stadt Brassó*, Vol. IV/1 (Brassó, 1904); IV/2, Brassó, 1909.
33. Gyémánt, Ladislau. “Contribuții statistice privind agricultura Transilvaniei, Banatului și Bucovinei în perioada 1720-1871” [Statistical contributions regarding the agriculture of Transylvania, Banat and Bukovina between 1720 and 1871] *Anuarul Institutului de Istorie și Arheologie Cluj-Napoca*, No. 27 (1985-1986):161-184.
34. Hain, Dietmar. “Beiträge zur Witterungskunde Siebenbürgens”, In: *Programm des evangelischen Gymnasiums in Schässburg und der damit verbundenen Lehranstalten zum Schluss des Schuljahres 1853/4*, edited by Gymnasialdirektion Kronstadt, Kronstadt, (1854):1–35.
35. Haltrich, Joseph, “Zur Geschichte von Sächsisch-Regen seit letzten hundert Jahren”. *Archiv des Vereins für siebenbürgische Landeskunde*, No. 3, (1858): 274-332.
36. Hațeganu, Lucia. “Cartea veche românească în Biblioteca Muzeului Unirii din Alba-Iulia. III” [The old Romanian book in the Library of the Museum of Union in Alba-Iulia. III]. *Apulum*, No. XIV (1976): 225-250.
37. Herkle, Senta; Holtz, Sabine and Kollmer-von Oheimb-Loup, Gert (Eds.). 1816 – Das Jahr ohne Sommer. Krisenwahrnehmung und Krisenbewältigung im deutschen Südwesten (Veröffentlichungen der Kommission für geschichtliche Landeskunde in Baden-Württemberg, Reihe B: Forschungen). Stuttgart, 2019
38. Hietzinger, Carl Bernhard Edlen von. *Statistik der Militärgränze des österreichischen Kaisertums*, Vol. 1–3, Vienna: Carl Gerold, 1817–1823.
39. Hoffmann, Susanna, Smith, Oliver Anthony (Eds.): *Catastrophe and Culture. The Anthropology of Disaster* (Santa Fe/Oxford, 2002).
40. Hundsbichler, Helmut. Pavel Santonino v Sloveniji (1486 in 1487) Stvarnost in mentaliteta v potopisu iz pozne gotike. In: *Zgodovinski časopis*, št. 2. Ljubljana, [Paolo Santonino in Slovenia (1486 in 1487). Reality and Mentality in a Travel Book from Late Gothic]:187-202.
41. Imreh, István. *Viața cotidiană la secui 1750-1850. (Studii). [Daily life at Szekler 1750–1850 (Studies)]* (București: Kriterion, 1982).
42. Iorga, Nicolae. *Scrisori și inscripții ardelene și maramureșene. II. Inscriptii și însemnări* [Letters and inscriptions from Transylvania and Maramures. II. Inscriptions and notes]. București: atelierele grafice Socce & co., 1906.
43. Iorga, Nicolae. *Despre cronici și cronicari* [About chronicles and chroniclers], București: Științifică și enciclopedică, 1988.
44. Jianu, Angela and Barbu, Violeta. *Earthly Delights. Economies and Cultures of Food in Ottoman and Danubian Europe, c. 1500–1900* (Balkan Studies Library, Leiden; Boston: Brill, 2018).
45. Juneja, Monica, and Mauelshagen Franz. “Disasters and Pre-Industrial Societies: Historiographic Trends and Comparative Perspectives”. *The Medieval History Journal*, 10, No. 1&2, (2007), 1-31.
46. Klingaman Nicholas and Klingaman William. *The Year Without Summer: 1816 and the Volcano That Darkened the World and Changed History*. New York: 2013
47. Kodnar, Johann and Künstner, Norbert. *Katalog der österreichischen Banknoten ab 1759*, Eigenverlag, 2018.
48. Köpeczi, Béla, *Kurze Geschichte Siebenbürgens*, (Budapest: Akadémiai Kiadó, 1990).
49. Krämer, Daniel. *Menschen grasten nun mit dem Vieh: Die grosse letzte Hungerkrise der Schweiz 1816/17*, (Basel Schwabe Verlag, 2015).
50. Lupan, Doina and Hațeganu Lucia. “Cartea veche românească în biblioteca Muzeului Unirii din Alba Iulia. I”.[The old Romanian book in the Library of the Museum of Union in Alba-Iulia. I] *Apulum*, No. XII, (1974): 385-440.
51. Luterbacher Jürg and Pfister Christian. “The year without a summer”. *Nature geoscience*, vol. 8, (2015), 246-248.
52. McNeil, William. *The Rise of the West. A History of the Human Community*, Chicago: Chicago University Press: 1963.
53. Meteș, Ștefan, *Emigrări românești din Transilvania în secolele XIII-XX* [Romanian emigrations from Transylvania in 13<sup>th</sup>-20<sup>th</sup> Centuries] București: Academiei, 1971.
54. Moldovan, Liviu and Grama, Viorel. “Situția oierilor români transilvăneni în Țara Românească pe timpul domniei lui Ioan Caragea (1812-1818)” [The situation of the Transylvanian Romanian sheep in Wallachia during the reign of Ioan Caragea (1812-1818)]. *Marisia*, No. IX (1979): 237-245.
55. Montanari, Massimo, *Der Hunger und der Überfluss: Kulturgeschichte der Ernährung in Europa* (München: Beck 1993).
56. Mușlea, Ion. “Însemnările preoților de la biserica de pe Tocile (1815-1861)” [Notes of the priests from the church Tocile (1815-1861)]. *Țara Bârsei*, Nr. 2, Brașov, (1933): 311-324.
57. Muțiu, Maria. “La participation des régiments de garde-frontières roumains de Transylvanie et de Banat aux campagnes contre Napoléon”. *Revue roumaine d’histoire*, Nr. 2, (1970): 291-304.
58. Neamțu, Alexandru. “Date noi despre foametea din anii 1814–1816 pe domeniul Zlatnei” [New data on the famine of the years 1814–1816 in the Zlatna area]. *Anuarul Institutului de Istorie Cluj*, XIX, (1976): 315–442.

59. Neamțu, Alexandru. “Un proiect din anul 1817 privind măsuri de îmbunătățire a situației țărănimii din Transilvania” [A project from 1817 on measures to improve the peasant situation in Transylvania]. *Anuarul Institutului de Istorie și Arheologie Cluj-Napoca*, No. II, (1980): 487-495.
60. Negruți, Ecaterina. “Informații noi privind emigrările din Bucovina în prima jumătate a secolului al XIX-lea” [New information on the emigrations from Bucovina in the first half of the 19th century]. *Anuarul Muzeului Județean Suceava*, No. VIII (1981): 257-263.
61. Newman, Lucile F. (ed.), *Hunger in History: Food Shortage, Poverty, and Deprivation* (Oxford: Blackwell Pub. 1990).
62. Noback, Christian and Noback Friedrich Eduard: *Vollständiges Taschenbuch der Münz-, Maß- und Gewichtsverhältnisse ....* Band 1, Leipzig. F. A. Brockhaus (1851).
63. Ó Gráda, Cormac. *Famine: A Short History*. University Press Group Ltd, 2009.
64. Oppenheimer, Clive. *Eruptions that Shook the World*. Cambridge: University Press, 2011.
65. Pfister, Christian and White, Samuel. “A year without a summer, 1816”. In: *The Palgrave Handbook of Climate History*. London, Palgrave Macmillan (2018): 551-561.
66. Pop, Ioan. “Calendarul muncilor agricole gospodărești la grănicerii năsăudeni” [The calendar of household agricultural works at the boarder guards of Năsăud]. *File de istorie*, No. IV (1976), 313-326.
67. Pop, Ioan. “Situația și activitatea regimentului II românesc de graniță în perioada 1816-1847” [Situation and the activity of the Second Romanian Border Regiment 1816-1847]. *Marisia*, No. IX, (1979): 247-261.
68. Post, John D. *The Last Great Subsistence Crisis in the Western World*. Baltimore/London: John Hopkins University Press, 1977.
69. Prodan, David. *Problema iobăgiei în Transilvania 1700-1848* [The problem of the serfdom in Transylvania 1700-1848], București: Științifică și enciclopedică, 1989.
70. Radu, Iacob. *Istoria vicariatului greco-catolic al Hațegului* [History of the Greek Catholic vicarage of Hațeg]. Lugoj: Gutenberg, 1913.
71. Rohr, Christian. *Extreme Naturereignisse im Ostalpenraum. Naturerfahrung im Spätmittelalter und am Beginn der Neuzeit*, Köln, Weimar, Wien: Böhlau, 2007.
72. Rösler, Rudolf. “Geschichte der Forstgesetzgebung in Siebenbürgen”. *Zeitschrift für Siebenbürgische Landeskunde*, Köln-Wien, (1988): 61-71.
73. Rösler, Rudolf. “Zur Forstgeschichte Rumäniens. Ein zusammenfassender Überblick”, In: *News of Forest History*, edited by Elisabeth Johann, No. 28, (1999): 2-76.
74. Rumpler, Hemut, *Eine Chance für Mitteleuropa. Bürgerliche Emanzipation und Staatsverfall in der Habsburgermonarchie* (= Österreichische Geschichte, 1804-1914), Wien (2005): 147-152.
75. Rus, Dorin-Ioan: “Witterungsanomalien in den Ostseeprovinzen in den Jahren 1816 bis 1818 nach den Angaben der Lokalpresse” [The weather anomalies of the years 1816-18 in the Baltic region reflected in the German-Baltic newspapers]. *Forschungen zur baltischen Geschichte*, 17, Tartu, (2022): 171-188.
76. Rus, Dorin-Ioan. Weather anomalies in Transylvania, the Banat and Partium from 1813 to 1818, as reflected in contemporary sources. In: Hrvoje Petric and Ziga Zwitter (eds): *Historical Climatology in the Context of Human and Environmental History of the South-Eastern Europe, the Carpathian Basin and the Eastern Alps*. (Special Issue of the journal *Economic- and Ecohistory*, Zagreb, (2020): 146-166.
77. Salzer, Johann Michael: *Der königl. freie Markt BIRTHÄLM in Siebenbürgen: ein Beitrag zur Geschichte der Siebenbürger Sachsen*, Hermannstadt: Graeser, 1881.
78. Schenk, Gerrit Jasper, and Engels, Jens-Ivo (Eds.): “Historische Katastrophenforschung. Begriffe, Konzepte und Fallbeispiele”. *Historical disaster research. Concepts, methods and case studies. Historical Social Research*, 32, 3, Special Issue, Köln, 2007.
79. Sen, Amartya. *Poverty and Famines. An Essay on Entitlement and Deprivation*. Oxford: Clarendon press, 1983.
80. Sigerus, Emil: *Chronik der Stadt Hermannstadt 1100-1929*, Sibiu: Honterus, 2005.
81. Șotropa, Virgil. “Un act memorabil” [A memorable act]. *Arhiva Someșană. Revistă istorică-culturală*, No. 12, (1930): 153-155.
82. Ștefănescu, Barbu. “Începuturile introducerii tehnicii moderne în agricultura Bihorului” [The beginnings of introducing modern technology in the agriculture of Bihor country]. *Biharea*, Nr. 1 (1981): 7-38.
83. Stoica, Nicolae de Hațeg. *Scrieri: Cronica Mehădiei* [Notes. The Chronicle of Mehădia], Timișoara: Facla, 1984.
84. Szabó, Nicolae. “Dezvoltarea agriculturii țărănești din scaunul Mureș în secolul al XVIII-lea și primele decenii ale secolului al XIX-lea” [The development of rural agriculture from the Mureș country in the 18th century and the first decades of the 19th century]. *Cercetări de Științe Sociale*, No. 12, (1982): 225-252.
85. Szabó, Nicolae. “Frământări țărănești în Transilvania în timpul războaielor napoleoniene (1809)” [Peasant unrest in Transylvania during the Napoleonic war (1809)]. *Studii și Articole de Istorie*, XVI, București, (1970) 115-128.
86. Toth, Zoltan. *Mișcările țărănești din Munții Apuseni până la 1848* [Peasant movements in the Apuseni Mountains until 1848], București: Academiei, 1955.
87. Trócsányi, Zsolt. *Az erdélyi parasztság története 1790-1849* [The history of the Transylvanian peasantry between 1790-1848], Budapest: Akadémiai Kiadó, 1956.

88. Trommelt, Fabian and Hitz, Florian. *Das Jahr ohne Sommer: Die Hungerkrise 1816/17 im mittleren Alpenraum*, Innsbruck: Wagner Verlag, 2017.
89. Újfalvi, Sándor. *Emlékiratok* [Memories], Budapest: Szépirodalmi Könyvkiadó, 1990.
90. Vernon, James. *Hunger: A Modern History*. Harvard University Press, 2007.
91. Vocelka, Karl. *Österreichische Geschichte, Habsburgs angewandte Aufklärung: Repräsentation, Reform und Reaktion im habsburgischen Vielvölkerstaat 1699 – 1815*. Wien: Ueberreuter, 2004.
92. Wachner, Heinrich. “Die Nebennutzungen des Waldes. Die Sammelwirtschaft der Zigeuner”. In: *Das Burzenland*, edited by Erich Jekelius, V/1 (Kronstadt: Sächsisches Museum Burzenland, 1929): 99–102.
93. Witting, Otto. “Geschichte der Fischerei”, In: *Das Burzenland*, edited by Erich Jekelius, V/1 (Kronstadt: Sächsisches Museum Burzenland, 1929): 107-125.
94. Witting, Otto. *Istoria dreptului de vânatoare în Transilvania* [The history of hunting rights in Transylvania], București: Monitorul oficial, 1936.
95. Wood, Gillen D’Arcy. *Tambora: The eruption that changed the world*. Oxford: Princeton University Press, 2014.
96. Wurzbach, Constantin von. “Hietzinger, Karl Bernhard Freiherr von”. In *Biographisches Lexikon des Kaiserthums Oesterreich. 9. Theil*. Kaiserlich-königliche Hof- und Staatsdruckerei, Wien (1863): 7–10.

### Papers

1. “Vermischte Nachrichten”. Rigasche Zeitung, Nr. 53 (4.07.1817).

### SAŽETAK

Habsburška područja Transilvanije, Banata i Partiuma bila su od 1813. do 1818. pogođena nepovoljnim vremenskim uvjetima koji su uzrokovali smanjenje poljoprivredne proizvodnje i povećanje cijena hrane, što pak je dovelo do pothranjenosti i gladi. Proučavano razdoblje počinje ljeti 1813., kada su u tim pokrajinama zabilježene vrlo niske zimske temperature i hladno ljeto. Nastavlja se s ljetom 1815., kada su ovi dijelovi Europe svjedočili ekstremnim klimatskim anomalijama, a završava 1818. godine kada su se administrativne mjere uvedene za borbu protiv prehrambene krize pokazale učinkovitima. Vlasti su poduzele organizacijske i edukativne mjere za povećanje učinkovitosti uzgoja zemlje, stočarstva, vrtlarstva, voćarstva i šumarstva, a također su davale savjete o ekonomiji kućanstva i obiteljskoj higijeni. Izvori se sastoje od rukom pisanih bilješki u liturgijskim knjigama, lokalnim kronikama i raznim drugim dokumentima. Uzroci izgladnjivanja bili su: ratovi, vremenske anomalije i financijska kriza.

*Ekonomska i ekohistorija*  
*Economic- and Ecohistory*

Časopis za gospodarsku povijest i povijest okoliša

Journal for Economic History and Environmental History

---

Tema broja / Topic

**Povezanost Malog ledenog doba i  
nedostatka hrane početkom 19. stoljeća**  
*The connection of The Little Ice Age and food shortage  
at the beginning of the 19<sup>th</sup> century*

Volumen XIX. / Broj 19  
Zagreb – Samobor 2023.  
ISSN 1845-5867  
UDK 33 + 9 + 504.3

**Nakladnici / Publishers:**

Društvo za hrvatsku ekonomsku povijest i ekohistoriju  
*Society for Croatian Economic History and Environmental History*  
Ivana Lučića 3, HR – 10000 Zagreb  
[sites.google.com/site/ekoekohist/](http://sites.google.com/site/ekoekohist/)

Izdavačka kuća Meridijani  
p.p. 132, 10430 Samobor  
tel.: 01/33-62-367, faks: 01/33-60-321  
e-mail: [meridijani@meridijani.com](mailto:meridijani@meridijani.com)  
[www.meridijani.com](http://www.meridijani.com)

**Sunakladnik / Co-publisher:** Ekohistorijski laboratorij Centra za komparativnohistorijske i interkulturalne studije Filozofskog fakulteta Sveučilišta u Zagrebu Ivana Lučića 3, 10000 Zagreb, Hrvatska [www.ffzg.unizg.hr](http://www.ffzg.unizg.hr); <http://ckhis.ffzg.unizg.hr/>

**Glavni i odgovorni urednik / Editor-in-chief:**

Hrvoje Petrić

**Uredništvo / Editorial Staff:**

Dragutin Feletar, Željko Holjevac, Mira Kolar-Dimitrijević, Dubravka Mlinarić, Nenad Moačanin, Hrvoje Petrić, Drago Roksandić, Mirela Slukan Altić, Ivica Šute, Žiga Zwitter

**Međunarodno uredničko vijeće / International Editorial Board:**

Drago Roksandić – president/predsjednik (Zagreb), Daniel Barić (Sorbonne-Paris, Francuska), Marija Benić Penava (Dubrovnik), Slaven Bertoša (Pula), Zrinka Blažević (Zagreb), Tatjana Buklijaš (Auckland, New Zealand), Ljiljana Dobrovšak (Zagreb), Goran Đurđević (Beijing/Peking, NR Kina), Josip Faričić (Zadar), Borna Fürst Bjeliš (Zagreb), Boris Golec (Ljubljana, Slovenija), Hrvoje Gračanin (Zagreb), Paul Hirt (Tempe, SAD), Andrej Hozjan (Maribor, Slovenija), Egidio Ivetic (Padova, Italija), Silvije Jerčinović (Križevci), Isao Koshimura (Tokio, Japan), Marino Manin (Zagreb), Christof Mauch (München, Njemačka), Kristina Milković (Zagreb), Ivan Mirnik (Zagreb), Mirjana Morosini Dominick (Washington D.C., SAD), Géza Pálffy (Budimpešta, Mađarska), Daniel Patafta (Zagreb), Hrvoje Petrić (Zagreb), Lajos Rácz (Szeged, Mađarska), Gordana Ravančić (Zagreb), Marko Šarić (Zagreb), Mladen Tomorad (Zagreb), Jaroslav Vencalek (Ostrava, Češka), Milan Vrbanus (Slavonski Brod, Zagreb), Frank Zelko (Honolulu, SAD), Zlata Živaković Kerže (Osijek), Matija Zorn (Ljubljana), Ivana Žebec Šilj (Zagreb)

**UDK oznake članaka / Article's UDC markups:**

Ivica Zvonar

**Prijelom / Layout:**

Saša Bogadi

**Za nakladnike / Journal directors:**

Petra Somek, Hrvoje Petrić, Domagoj Tončinić

ISSN 1849-0190 (Online) ISSN 1845-5867 (Tisak)

**Tisak / Print by:**

Bogadigrafika, Koprivnica 2024.

**Adresa uredništva / Mailing addresses:**

Hrvoje Petrić (editor/urednik)  
Odsjek za povijest, Filozofski fakultet  
Ivana Lučića 3, HR-10000 Zagreb  
e-mail: [hrvoje.petric@ffzg.hr](mailto:hrvoje.petric@ffzg.hr)  
ili Vinka Vošickog 5, HR-48000 Koprivnica

**Tiskano uz djelomičnu potporu Grada Koprivnice**

**Print partially supported by the City of Koprivnica**

**Na naslovnici / Cover:**

Posljednja poplava u Kosinjskoj dolini 2018. godine / *The latest flood in Kosinj Valley in 2018.*

Ekonomsku i ekohistoriju referiraju:

CAB Abstracts

HISTORICAL ABSTRACTS, ABC CLIO Library, Santa Barbara, California, USA

AMERICA: HISTORY AND LIFE, Washington, USA

JOURNAL OF ECONOMIC LITERATURE (JEL), Pittsburgh, USA

CENTRAL AND EASTERN ONLINE LIBRARY, Frankfurt am Main, Deutschland

ECONLIT – AMERICAN ECONOMIC ASSOCIATION, Nashville, USA

**Popis suradnika u časopisu »Ekonomika i ekohistorija«, broj 19 (2023.)**

*List of contributors in the magazine »Economic- and ecohistory«, number 19 (2023)*

**Lajos RÁCZ**, Szeged University, Mađarska

**Dorin-Ioan RUS**, Universitätsarchiv Graz, Austrija

**Ema PAŠIĆ**, Sarajevo, Bosna i Hercegovina

**Dina PAŠIĆ**, Sarajevo, Bosna i Hercegovina

**Hrvoje PETRIĆ**, Odsjek za povijest, Filozofski fakultet Sveučilišta u Zagrebu

**Ivica ŠUTE**, Odsjek za povijest, Filozofski fakultet Sveučilišta u Zagrebu

**Gašper OITZL**, National Museum of Slovenia, Ljubljana, Slovenija

**Ivan BRLIĆ**, Institute of Social Sciences Ivo Pilar, Regional centre Gospić

**Ivan ŠULC**, University of Zagreb, Faculty of Science, Department of Geography

**Bruno ŠAGI**, diplomski student, Odsjek za povijest, Filozofski fakultet Sveučilišta u Zagrebu

**Adrian FILČIĆ**, diplomski student, Odsjek za povijest, Filozofski fakultet Sveučilišta u Zagrebu

**Igor KRNJETA**, doktorski student, Odsjek za povijest, Filozofski fakultet Sveučilišta u Zagrebu

**Marijana DLAČIĆ**, doktorska studentica, Sveučilište u Zadru

**WANG Wenxin**, Beijing Foreign Studies University, NR Kina

**LIANG Conyng**, Beijing Foreign Studies University, NR Kina

**YIN Yuxuan**, Beijing Foreign Studies University, NR Kina

**Mihael OJSTERŠEK**, Inštitut za novejšo zgodovino, Ljubljana, Slovenija