The Decimation of Livestock: The Ottoman East in the Great War

Batuhan Kahvecioğlu

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Declaration of Originality

The intellectual content of this thesis, which has been written by me and for which I take full responsibility, is my own, original work, and it has not been previously or concurrently submitted elsewhere for any other examination or degree of higher education. The sources of all paraphrased and quoted materials, concepts, and ideas are fully cited, and the admissible contributions and assistance of others with respect to the conception of the work as well as to linguistic expression are explicitly acknowledged herein.

Abstract

The Decimation of Livestock: The Ottoman East in the Great War

Batuhan Kahvecioğlu, Master's Candidate at the Atatürk Institute
for Modern Turkish History at Boğaziçi University, 2021

Assistant Professor Irmak Ertör, Thesis Advisor

This thesis investigates the reasons and effects of the small-cattle and draft animals' deaths during the Great War from an environmental history perspective. Focusing on the Eastern Ottoman region, it shows that the state's taxation policies, region's geography, climate, limited veterinary services, and contagious animal diseases were the main reasons behind the decimation of animals. These animal deaths affected the Ottoman government's policies toward animals and created local noncompliance with the government's decrees, showing the bilateral relationship between the environment and population.

34,000 words

Özet

Hayvan Ölümleri: Dünya Savaşı'nda Osmanlı'nın Doğusu

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Doktor Öğretim Üyesi Irmak Ertör, Tez Danışmanı

Bu tez, 1. Dünya Savaşı sırasında yaşanan küçükbaş ve yük hayvanı ölümlerinin nedenlerini ve etkilerini araştırmakta olup bu ölümlere çevre tarihi perspektifinden bakma amacıyla kaleme alınmıştır. Doğu Osmanlı eyaletlerine odaklanan tez; devletin vergi politikaları, bölge coğrafyası, iklim, sınırlı veterinerlik hizmetleri ve bulaşıcı hayvan hastalıklarının geniş ölçüdeki hayvan ölümlerinin arkasındaki ana nedenler olduğunu göstermektedir. Çevre ile nüfus arasındaki bağlantıyı gözler önüne seren bu hayvan ölümleri, Osmanlı hükumetinin hayvanlara yönelik politikalarını etkilemiş ve yerel halkın hükumet politikalarına karşı çıkmalarına neden olmuştur.

34.000 kelime

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1

Introduction

This thesis intends to find an answer to the following question: why the animal population of the Ottoman Empire decreased severely during the Great War?[1] To explain this phenomenon, this thesis decided to focus on the Ottoman East, in which animal power and husbandry occupied a significant place. Therefore, this research will first analyze the historicity of animal usage in the Ottoman East which covers the area between Ottoman - Russian borders in the East to the middle parts of Sivas in the West. The area stretches to Diyarbakir, Mameratülaziz, and Van in the south and reaches up to the Black Sea in the north.[2] Secondly, this thesis will examine the changes in the use of animals during the Great War and argue that the taxation policies of the

[1] Raziye Tamay Başağaç Gül, "Türkiye'de Veteriner Hekimliği Hizmetleri ve Hayvancılık Politikaları Üzerine Araştırmalar," Osmanlı Tarihi Araştırma ve Uygulama Merkezi Dergisi OTAM 15, no. 15 (2004): p. 230–31; Başbakanlık Devlet İstatistik Enstitüsü, "Türkiye'de Toplumsal ve Ekonomik Gelişmenin 50 Yılı" (Ankara, 1973): p. 32-33.

[2] The Ottoman East area was formed by the regions of Erzurum, Sivas, Van, Mameratülaziz, Bitlis and Diyarbakır, Trabzon and Northern Mosul. This region was also the constituting supply zone of the Ottoman Third Army of Eastern Anatolia during the Great War and hosted approximately 30% of the empire's population. Michael A. Reynolds, Shattering Empires: The Clash and Collapse of the Ottoman and Russian Empires, 1908–1918 (Cambridge University Press, 2011); Christopher Clay, "Labour Migration and Economic Conditions in Nineteenth-Century Anatolia," Middle Eastern Studies 34, no. 4 (1998): 1–32.Ali Sipahi, Yaşar Tolga Cora, and Dzovinar Derderian, The Ottoman East in the Nineteenth Century - Societies, Identities and Politics (I.B Tauris & Co. Ltd., 2016).

Empire during the war and the logistic failures of the Empire were the primary reasons for this decrease in the animal population.

§ 1.1 The Great War and the Ottoman Empire

The Ottoman Empire declared war against the Allied States on the 29th of October 1914, and the war ended with a ceasefire on the 30th of October 1918. These four years of Ottoman persistence in the war field happened despite the expectations of many European countries. The Allied States were estimating the implosion of the Ottoman Empire within the first half of the war due to the limited raw resources, military capacity, and logistic problems of the Empire.[3] However, the Ottoman Empire managed to sustain its battle capability for four consecutive years. Its army not only took a defensive position during the war and but also launched many attacking fronts, which requires significantly more resource exploitation.[4] Consequently, while fighting and surviving through the war, the Ottoman Empire and its army exploited a significant portion of the country's and local citizens' resources. This intense consumption of the military and long battle periods created devastation both on the war front for soldiers and locals' homefront.[5]

Human capital was one of the resources that were severely affected by this total war.[6] During these four perpetual years of battle, the Ottoman army recruited nearly 2.9 million soldiers from an empire that hosted approximately 19 million people.[7] Among these soldiers, it was estimated that approximately 750,000 lost their lives during the wars, 750,000 were injured, and 250,000 of

[3] Michael A. Reynolds, Shattering Empires: The Clash and Collapse of the Ottoman and Russian Empires, 1908–1918 (Cambridge University Press, 2011): p.82-87.
[4] The two attacking fronts were the Eastern Front in which Ottoman Army confronted with the Russian Forces and the Egyptian Fronts in which British Army was the enemy. Edward J. Erickson, Ordered to Die: A History of Ottoman Army in the First World War (Greenwood Press, 2001): p.57-64.
[5] Yiğit Akın, When The War Came Home - The Ottomans' Great War and The Devastation of an Empire (Stanford University Press, 2018): p.111-143.
[6] Total war was described as the mobilization of all forms of public and private life toward the victory on the battle field. Roger Chickering, Great War, Total War - Combat and Mobilization on the Western Front 1914-1918 (Cambridge University Press, German Historical Institute, 2006): p.17.
[7] Alptekin Müderrisoğlu, "Kurtuluş Savaşının Mali Kaynakları," 1997: p.30.

the soldiers got captured.[8] Besides these military-based losses, many deaths also occurred on the homefront due to malnutrition, contagious diseases, and formidable internal migrations. As a result, the population diminished by nearly 20% in the overall population at the end of the war.[9] In addition to that, the losses were primarily from the young and working people of the empire, which was another severe blow to the empire's economy based on labor-intensive production.[10]

The damage of the war to human capital has been widely studied within academic circles.[11] However, other severe environmental consequences of the Great War which had affected the Empire's natural resources yet remain understudied. One of those topics is the loss of the animal capital, mainly small cattle and draft animals, of the empire. To give a sense of the damage of the war to animals, the changes in the animal population create a good starting point. Before the war, in 1914, it was estimated that the Ottoman Empire had an animal population of around 45 million, including small cattle types, cattle, and draft animals. However, just within the four years of battle, it was assumed that the empire lost nearly 60 to 65% of all its animal stocks due to the war conditions, and the total animal population was reduced to approximately 14 million. [12]

[8] Yiğit Akın, When The War Came Home - The Ottomans' Great War and The Devastation of an Empire (Stanford University Press, 2018): p.3.
[9] Şevket Pamuk, Uneven Centuries: Economic Development of Turkey Since 1820 (Princeton University Press, 2019): p.189.
[10] Müderrisoğlu, "Kurtuluş Savaşının Mali Kaynakları": p.29.
[11] Korkut Boratav, "Anadolu Köyünde Savaş ve Yıkım," Toplum ve Bilim 15, no. 16 (1982): 61–75; Shorter Frederich, "The Population of Turkey after the War of Independence," International Journal of Middle East Studies 17 (1985): 417–47; Zafer Toprak, Türkiye'de Yeni Hayat-İnkılap ve Travma 1908-1928 (Doğan Kitap, 2017).
[12] Cezmi Tezcan, "Tekalif-i Harbiye ve Tekalif-i Milliye Örneklerinde Savaş Dönemleri Mali Politikaları" (Ankara Üniversitesi, 2005): p.39.

Table 1.1 Animal Population in Anatolia: Before and After the War

Animal Type	#beginning of the war	#end of the war
Cattle	6,938,306	4,118,000
Horse	1,050,580	630,000
Mule	144,680	85,000
Donkey	1,373,700	825,000
Sheep	18,721,550	11,200,000
Goat	16,463,180	2,065,000
	44,691,996	18,923,000

SOURCE: Tezcan (2005).[13]

Considering the environmental dependency of the empire whose economy was primarily based on agriculture and animal husbandry, this environmental effect of the Great War created social and economic problems for the entire population of the empire.[14] Moreover, the Ottoman East suffered from these animal deaths the most for three reasons. First, according to the economic and social historians of the region, animal husbandry was the foremost income opportunity for the majority of the population who lived in this geography.[15] So, during the Great War, military requisitions to satisfy the immediate needs of the Third Army must have led to the loss of prime mover of production in the geography. Moreover, the eastern part of the country experienced widespread seizure of animals compared to other regions because of the structural problems of Ottoman transportation. Due to the inadequate network of railroad and road logistics systems, the army confiscated a wide range of draft animals to achieve regular transportation of supply and ammunition.[16] Thirdly, contagious animal diseases affected this geography disproportionally. Because the illnesses mostly came from the animals of

[13] Due to the nature of the central Ottoman taxation system and geographical problems, it was hard to reach an exact number of animal deaths. Although existing resources and the primary sources about the war period estimated the animal losses during the war, it would be beneficial to take these numbers with a grain of salt.

[14] Müderrisoğlu, "Kurtuluş Savaşının Mali Kaynakları": p.31.

[15] Özge Ertem, "Considering Famine in the Late Nineteenth Century Ottoman Empire: A Comparative Framework and Overview," Collegium 22, no. 9 (2017): 151–72.

[16] Tuncay Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği (Ankara: AKDTYK Atatürk Araştırma Merkezi, 1999): p.134-142.

Caucasian Migrants of 1914 to 1916, this region experienced the greatest number of animal deaths.[17]

Despite the importance of the animals to the region and the high rates of small-cattle and draft animals deaths, there is very limited research that focuses on the reasons for the animal decimation and the following results of losing the animal population. To understand the region's experience of war, studying the decimation of this non-human actor is crucial. To achieve this, this thesis will first examine the literature that focuses on the pre-war social and economic status of the Ottoman East to give a sense of the importance of the animals for the region. The following parts will be about the Ottoman Army, which was the foremost consumer of the animals during the war, and the methods they used to employ the animals. Moreover, the requisition and taxation processes used by the government will be examined to understand the legitimization of the widespread animal seizures. Finally, this thesis will try to provide the potential reasons for the population loss of small cattle and draft animals within four years of battle.

§ 1.2 Methodology

This research benefitted from both primary and secondary sources. The majority of the primary sources were collected from the Directorate of State Archives (BOA). In addition, the memoirs of the soldiers and politicians and war years' newspapers were used as primary sources. As secondary resources, this thesis used academic publications about the Ottoman East's economy, taxation policies during the war, and veterinary studies about animal diseases. This research also benefitted from the logistics and military literature to explain the region's transportation facilities and the border changes due to military operations and following migratory movements that increased the spread of animal disease.

[17] Nihal Erk, "A Short History of Rinderpest in Turkey," Ankara Üniversitesi Veteriner Fakültesi Dergisi 22, no. 3 (1975): 71–83; Nihal Erk, "Tarihte Önemli Sığır Vebası Salgınları ve 1920'ye Kadar Memleketimizdeki Durumu," Ankara Üniversitesi Veteriner Fakültesi Dergisi 10, no. 3–4 (1963): 221–37; Mehmet Ak, "Osmanlı Devleti'nde Veba-i Bakarî," Osmanlı Tarihi Araştırma ve Uygulama Merkezi Dergisi OTAM 39, no. Bahar (2016): 215–40.

§ 1.3 Theoretical Framework

In this part of the chapter, the idea of nature and human interconnectedness will be broadly elaborated in light of the environmental turn in historiography. The aim is to analyze theoretical approaches toward this interconnection and create a framework to figure out how these environmental studies can be applied to the Ottoman Empire's historiography and the Ottoman East. This section will also provide theoretical background for the Ottoman Black Hole idea that conceptualizes the lack of academic studies which particularly focus on the Ottoman East and present the recent academic researches that search the region's historiography and challenges the Black Hole idea.

1.3.1 *Environmental Turn in History*

Since the early 1970s, history-writing began to take nature as a historical actor. Environmental history, in particular, tries to explain the relationship between natural developments and human actions. As Richard White said, "We cannot understand human history without natural history, and we cannot understand natural history without human history."[18] Environmental historians usually study the political, economic, and social consequences of these human and nature confrontations. Thus, the field looks into many natural elements like forestation, contagious diseases, water resources, animals' health, and population.[19]

Taking the environment into accounts was already being done for a long time. For example, Braudel explained history via "long duree" and environmental factors like waves, positions of the mountains, or climates.[20] However, this ecological approach to history only diminishes the role of

[18] Richard White, The Organic Machine: The Remaking of the Columbia River (New York: Hill & Wang, 1995): p.ix.; Alan Mikhail, Nature and Empire in Ottoman Empire (Cambridge University Press: Cambridge University Press, 2011): p.33.
[19] Onur İnal, "Environmental History as an Emerging Field in Ottoman Studies: An Historiographical Overview," The Journal of Ottoman Studies 38 (2011): p. 1–4.
[20] Fernand Braudel and Immanuel Wallerstein, "History and the Social Sciences: The Longue Durée," Review (Fernand Braudel Center 32, no. 2 (2009): p.171–203, https://www.jstor.org/stable/40647704.

human actions into a peripheral role and does not explain the relationship between nature and empires. So, the first rupture in this approach happened at this point. While ecological history looked into a period like thousands of years, environmental history inquired to shorter periods like 30 to 100 years and tried to create bilateral relationships between nature and humanity.[21] In other words, while in ecological history, nature has been the active part and determined everything about human history, in environmental history, humans can change nature and get affected by it.

With the environmentalist movements of the 1970s in the United States, historians started a self-conscious environmental history. Roderick Nash, William Cronon, and Richard White were the leading figures of the U.S historians who opened an intellectual and institutional place for further research.[22] Another prominent environmental historian J.R McNeill distinguishes three different versions of this field.[23] The first one is the study of "material environment history." This one stands to explain reciprocal relationships between nature and humanity. In this approach, human events and actions are only part of the larger story. For example, the environmental history of plagues, marshlands, floods, and climate can be taken into this category. The second category is "policy-related environmental study." This segment tries to explain the intentional efforts of humans to change and shape the surrounding environment. For example, large irrigation projects, construction efforts, or manipulation of natural resources like coal and water can be taken into this category. [24]

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[21] İnal, "Environmental History as an Emerging Field in Ottoman Studies: An Historiographical Overview." p.5-6

[22] There were many other environmental historians in the first generation like John Opie, Susan Flader and Donald Hughes. Because Nash was the first to use the "environmental history" term, I only added him to the article. According to McNeill, their intellectual prominence came to an end after the 1980's due to the lack of interest in the academia towards the concept of wilderness and rise of anthropology. John R Mcneill, "The Historiography of Environmental History," Encyclopedia of Life Support Systems (EOLSS), no. December (2015): p.5.

[23] John R McNeill, "Observations on the Nature and Culture of Environmental History," History and Theory 42, no. 4 (2003): p.5–43.

[24] McNeill, "The Historiography of Environmental History": p.2.

The difference between these two categories is mainly about who the passive and active actors are.[25] While, in the first one, nature is the decisive one to shape and regulate human actions, humans took deliberate steps to bend the natural elements according to their needs in the second one. Environmental historians mainly use the first one to explain the early-modern period. Although the deliberate and policy-related use of force to shape the environment dates back primarily to modernity, the restriction of air pollution, monarchical efforts for hunting, and windmills are exceptions.[26] The third type of environmental historian investigates the topic from an intellectual and cultural level. They are trying to understand how human's thoughts, concerns, and relationships have changed from pre-modern times to this age. The sources they have used are rarely written, but these studies are mainly based on the analysis of pictures and drawings.[27]

1.3.2 *Environmental History Studies on the Ottoman Empire*

Though the European and American academia have widely accepted these concepts, there was limited research conducted in the environmental historiography of the Middle East and Ottoman Empire. The history departments neglected historical studies that take the environment and environmental actors into consideration for a long time in the Ottoman Empire studies.[28] Nonetheless, these studies were pursued within the individual departments to explain the historical journey of the branches, like the veterinary histories, architectural histories, or engineering history departments of the science faculties. These studies were beneficial to collect information about the environmental phenomenon and interpret the collected data with a solid technical background. However, the lack of a historiographical foundation limits these studies to explain the historicity of environmental changes or developments.

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[25] McNeill: p.2-3.
[26] McNeill: p,3.
[27] McNeill, "The Historiography of Environmental History": p.3.
[28] Sam White, "Middle East Environmental History: Ideas from Emerging Field," World History Connected 8, no. 2 (2011).

On the other hand, the history departments also conduct researches that take environmental factors into account. Still, they were also working under the sub-field of economic, fiscal, and socio-political fields. Thus, although there was an interaction between the environmental history perspective and these fields, the historians did not consider themselves environmental historians. Therefore, this historical approach did not settle itself firmly into the Ottoman History academia either. [29]

Although this was the case for a long time, in the last 20 years, Ottoman and Middle Eastern environmental studies began to occupy a space in the academic circles for two reasons. The first one was about the widespread primary source availability that started from the very early ages. The long tradition of record-keeping that started from Ancient Egypt to Byzantine, then the Ottomans to Nation-States period, provides the richest primary records in terms of length about the Middle East and Egypt. Archives provide clues and proofs about the flood regime of the Nile, climate changes in the Middle East, earthquakes, and plagues. Therefore, this began to be seen as an opportunity that is unique to this geography.[30] Secondly, the Middle East and Ottoman Empire's borders were a crucial zone between Europe and Asia. So, it was an area of contact for travelers, merchants, microbes, and information. Understanding this intense interconnectedness and movement with environmental implications bears significant importance to explain the history of the Middle East.[31] These two features of geography ensure the applicability of the environmental perspective to the Ottoman and Middle East historiography. Based on these two factors, environmental history studies began to gain pace.

Even before the 2010s, there were famous researches about the environment of the Ottoman Empire like "The Camel and the Wheel" by Richard Bulliet and "Waning of Mediterranean" by Faruk Tabak, but these two research mainly located in the ecological approach by the environmental

[29] İnal, "Environmental History as an Emerging Field in Ottoman Studies: An Historiographical Overview": p.2-4.
[30] Alan Mikhail, "Global Implications of the Middle Eastern Environment," History Compass 9, no. 12 (2011): p. 952–70.
[31] Mikhail: p.959.

historians.[32] However, in 2011, two widely-applauded books have been published and both of them received important prizes about Middle-Eastern historiography. One is the "Climate of Rebellion" by Sam White, and the other one is the "Nature and Empire in Ottoman Egypt" by Alan Mikhail.[33] Both of them try to fill the research gap about energy, irrigation policies, climate, and contagious diseases to show how society was interlinked with nature and ecology in Ottoman Empire. While Sam White's book mainly focused on the classical period of the Ottoman Empire, Alan Mikhail focused on the early-modern period and transition to modernity in Egypt in the late 18th and early 19th centuries.

Alan Mikhail's study on the environmental history of Ottoman Egypt tries to explain the replacement of animal power with the human-power and following the corvee labor regime after the decimation of animals. Due to the decreasing animal population the region experienced after multiple ecological crises, the landowners tried to fill the power gap of the draft animals by employing humans. After this transformation, humans began to be seen as a feasible, more reproducible source of energy. In this study, Mikhail tried to show the integrity and importance of environmental factors such as animals for society. He tried to explain how the change in one important actor would change the entire society.[34]

A similar change was experienced in the historiography of war periods. The experience of war was usually considered as a human-based experience and investigated through the lenses of cultural, economic, and political historiography. Although the use of environment was mentioned in describing the human experience of war, it was not seen as a separate phenomenon.[35] While the battles and their logistics primarily benefitted from

[32] Richard W. Bulliet, The Camel and the Wheel (New York: Columbia University Press, 1975); Faruk Tabak, "The Waning of the Mediterranean, 1550-1870- A Geohistorical Approach" (Johns Hopkins University Press, 2008).

[33] Sam White, The Climate of Rebellion in the Early Modern Ottoman Empire (Cambridge University Press, 2011); Mikhail, Nature and Empire in Ottoman Empire.

[34] Alan Mikhail, "Unleashing the Beast: Animals, Energy, and the Economy of Labor in Ottoman Egypt," The American Historical Review 118, no. 2 (2008): 317–48; Mikhail, Nature and Empire in Ottoman Empire.

[35] The difference between nature and environment was described in relation to the human contact. When the nature interacts with humans, it transforms into the environment. Sverker

the environmental forces located behind the battlefronts, there was too little importance given to the issues.[36] Other than affecting the battlefront via supplying, military environments and actors like forests, animals and waters were also affected severely through this mobilization. The impact of military mobilization over the natural actors usually continues even after the war.[37]

Latest environmental studies began to accept the more-than-human character of wars and the environment as an active actor of the war periods.[38] Although this active part was crucial in determining the course of events during the war, it is not replacing the concept of "agency."[39] Nature influenced the military decisions and operations and, at the same time, got affected by it. Although this position of environmental history tries to bring new actors and new resources into account to explain the historical phenomena better, it comes with ignoring the other factors that led up to the historical changes. Therefore, environmental history does not stem from the accumulation of knowledge in different fields but tries to find historical results just like a newly-founded genre. While these new environmental actors de-politicize the area and bring new facets to the issues, there is also a risk to explain a human incident without human interaction.[40]

Sörlin and Paul Warde, Making the Environment Historical — An Introduction, ed. Sverker Sörlin and Paul Warde (London: Palgrave Macmillan, 2009): p.2-3,

[36] Edmund Russell, War and Nature: Fighting Humans and Insects with Chemicals from World War I to Silent Spring (Cambridge, New York: Cambridge University Press, 2001)p: 1-17.

[37] Richard Tucker and Edmund Russell, Natural Enemy, Natural Ally: Toward an Environmental History of Warfare (Oregon State University Press, 2004); Charles Closmann, War and the Environment: Military Destruction in the Modern Age (Texas A&M University Press, 2009).

[38] Chris Pearson, Mobilizing Nature The Environmental History of War and Militarization in Modern France (Manchester University Press Manchester, 2012); Tucker and Russell, Natural Enemy, Natural Ally: Toward an Environmental History of Warfare; Russell, War and Nature: Fighting Humans and Insects with Chemicals from World War I to Silent Spring; Colin Flint, The Geography of War and Peace (New York: Oxford University Press, 2005).

[39] Chris Pearson, Mobilizing Nature The Environmental History of War and Militarization in Modern France (Manchester University Press Manchester, 2012): p.5-6.

[40] Sverker Sörlin and Paul Warde, "The Problem of the Problem of Environmental History: A Re-Reading of the Field," Environmental History 12, no. 1 (2007): 107–30.

1.3.3 *Ottoman East: The Black Hole*

Figure 1.1 The map of the Eastern Ottoman regions. [41]

The Ottoman East is a concept used to describe the area that started from the Russian borders in the East to the middle parts of Sivas in the West. It stretches to Diyarbakir, Mameratülaziz, and Van in the south and reaches the Black Sea in the north. These regions mainly pair off with the cities of Vilayet-i Sitte in addition to Trabzon.[42] The Ottoman East's geography is the most mountainous and rough section of the empire. In some parts of this geography, the altitude reaches up to 3000 meters, but it is generally changing around 1500-2000 meters. The high and mountainous character of the region

[41] Ottoman Empire Administrative Division. This map shows the provinces, districts, and townships of the Ottoman Empire. Provincial statistics on populations are also available on the map. Prepared by R. Huber, published by F. Loeffler. Fr. (Scale: 1/1.500.000) BOA, HRT.h, 361

[42] Ali Sipahi, Yaşar Tolga Cora, and Dzovinar Derderian, The Ottoman East in the Nineteenth Century - Societies, Identities and Politics (I.B Tauris & Co. Ltd., 2016): p.13.

and the processing of deep valleys through the river network has revealed a fragmented and faulty topography.[43]

In addition to the high topography, due to the region's distance from the sea, the Ottoman East experienced a continental climate. The winters were freezing, and the temperature was changing around negative 8 to 12 degrees.[44] During the Great War, it was estimated that most of the region experienced long and harsh winters, which lasted from 80 to 155 days. The snowmelt time took 153 days in Sarıkamış, 117 days in Erzurum, the headquarter and supply center of the Third Army, 107 days in Kars, 115 days in Ağrı, and 78 days in Van.[45] The snow did not melt within these periods and reached a height ranging from 0.50 cm to 1.5 meters in lowlands and cities. In mountainous locations, the snow height reached up to 4 meters. Due to the snow, January and April were usually the wettest months in this geography, and precipitation could reach up to 1000 mm per year in the mountains.[46] These winter conditions and precipitation were highly nutritious for the grasses in the plains.[47] Due to these climatic reasons, steppe plants constitute the general character of the natural vegetation. In addition, there are forested areas in places like Erzincan and its immediate surroundings.[48]

In the academic circles, it was discussed that studies that focused on these regions of the Ottoman Empire were not as rich as the studies that focused on Western Anatolia, the Balkans, and the Arabic Estates of the Empire. Researchers conceptualized these limited studies and interest for the region as

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[43] Emre Özşahin, İlker Eroğlu, and Halid Pektezel, "Erzincan İlinde Yerleşmelerin ve Nüfusun Yükselti Basamaklarına Göre Dağılışı," Erzincan Üniversitesi Sosyal Bilimler Enstitüsü Dergisi 9, no. 1 (2016): 143–56.

[44] Zozan Pehlivan, "El Niño and the Nomads: Global Climate, Local Environment, and the Crisis of Pastoralism in Late Ottoman Kurdistan," Journal of the Economic and Social History of the Orient 63, no. 3 (2020): 316–56.

[45] Hüseyin Saraçoğlu, Doğu Anadolu Bölgesi, 1989; Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği, 3.

[46] Although this thesis were using the information that were mostly about the pre-war and war era of the Ottoman East, it would be safe to say that these climate conditions did not change much after the war, too.

[47] Pehlivan, "El Niño and the Nomads: Global Climate, Local Environment, and the Crisis of Pastoralism in Late Ottoman Kurdistan."

[48] Özşahin, Eroğlu, and Pektezel, "Erzincan İlinde Yerleşmelerin ve Nüfusun Yükselti Basamaklarına Göre Dağılışı."

the Ottoman Black Hole.[49] The limited interest of academia towards the region was explained with two reasons by the academicians. The first reason was the historical and ethnopolitical background of the area that kept these lands away from state control, hence the lack of primary resources. Tribal confederacies were the supreme force for many centuries in the region.[50] Because the state could not implement its power as strictly as in Western Anatolia or the Balkans, the archival resources of the Ottoman Empire about the region were not elaborative compared to the other areas. In addition to this tribal power structure of the region, the Empire was not particularly interested in this region but mainly focused on the more affluent areas like the Arab Provinces.[51]

However, in the past ten years, the academic studies that focus on the region and the late Ottoman Empire period began to enlighten the Black Hole and explain the geography, society, and economy.[52] In addition, socio-political studies written by Janet Klein and Sabri Ateş began to fill the research gap about the area and the borderline with the Iranian state.[53] Moreover, recently published Ph.D. dissertations began to focus more and more on the region's borderline with the Russian Empire and nomadic/tribal population of the

[49] Sipahi, Cora, and Derderian: p.13.
[50] Sipahi, Cora, and Derderian, "The Ottoman East in the Nineteenth Century - Societies, Identities and Politics": p.18-19.
[51] Sipahi, Cora, and Derderian: p.18-19.
[52] Fulya Özkan, "The Role of The Trabzon–Erzurum– Bayezid Road in Regional Politics and Ottoman Diplomacy, 1850s–1910s," in The Ottoman East in the 19th Century: Societies, Identities and Politics (London, New York: I.B Tauris & Co. Ltd., 2016), 26–43; David Gutman, "The Political Economy of Armenian Migration From The Harput Region to North America in The Hamidian Era, 1885– 1908," in The Ottoman East in the 19th Century: Societies, Identities and Politics, 2016, 44–58; Yaşar Tolga Cora, "Female Labor, Benevolent Merchants, and Resilient Manufacturing: Rethinking Late Ottoman Armenian History through Labor, Business and Community," Journal of the Social and Economic History of the Orient 61, no. 3 (2018): 361–95; Sipahi, Cora, and Derderian, The Ottoman East in the Nineteenth Century - Societies, Identities and Politics.
[53] Sabri Ateş, "Empires at the Margin:Towards a History of the Ottoman-Iranian Borderland and the Borderland Peoples, 1843-1881" (New York University, 2006); Janet Klein, The Margins of Empire: The Kurdish Militias in the Ottoman Tribal Zone (Stanford: Stanford University Press, 2011); Sabri Ateş, "Bones of Contention: Corpse Traffic and Ottoman-Iranian Rivalry in Nineteenth- Century Iraq," Comparative Studies of South Asia, Africa and the Middle East 30, no. 3 (2010): 512–32.

area. Therefore, increasing interest in the region and following academic researches created a base for further studies.[54]

In addition to the social and economic histories of the region, environmental topics about the region's historiography also began to be researched. Zozan Pehlivan's latest study about climate changes and the animal deaths following the extreme colds and draught of the 1880s tries to create a connection between a global climatic phenomenon, named El Niño Southern Oscillation, and the livelihood of the tribal population that live in the Ottoman East.[55] Also, the animal deaths and famine following the Ottoman-Russian War of 1878-79 that resulted from the diseases and draughts were studied.[56] Therefore, especially after 2015, a research base about the region's ecology also began to be established.

§ 1.4 Structure of the Chapters

In the next chapter, this thesis will examine the historicity of the region's static pre-war economic and logistic capabilities to explain the importance of animals and animal husbandry. For this discussion, the transportation problems of the Ottoman East will be the main focus. In addition, the previous studies about animal deaths, particularly the contagious diseases and their

[54] Fehminaz Çabuk, "The Influence of Kurdish Tribes Living in the Ottoman-Russian-Iranian Borders on the Regional Relations (1850-1900)" (Erciyes University, 2017); Erdal Çiftçi, "Fragile Alliances in the Ottoman East: The Heyderian Tribe and the Empire, 1820 - 1929" (İhsan Doğramacı Bilkent University, 2018); Yener Koç, "Nomadic Pastoral Tribes at the Intersection of the Ottoman, Persian and Russian Empires (1820s–1890s)" (Boğaziçi University, 2020).

[55] Pehlivan, "El Niño and the Nomads: Global Climate, Local Environment, and the Crisis of Pastoralism in Late Ottoman Kurdistan"; Zozan Pehlivan, "Abandoned Villages in Diyarbekir Province at the End of Little Ice Age; 1800 - 1850," in The Ottoman East in the 19th Century: Societies, Identities and Politics (London, New York: I.B Tauris & Co. Ltd., 2016), 223–43; Zozan Pehlivan, "Beyond 'the Desert and the Sown': Peasants, Pastoralists, and Climate Crises in Ottoman Diyarbekir, 1840-1890" (Queen's Universith, 2016).

[56] Sabri Mengirkaon, "19. Yüzyılın İkinci Yarısında Diyarbekir'de Veba-i Bakari," in Osmanlıdan Günümüze Diyarbakır (Ensar Neşriyat, 2018), 259–322; Ertem, "Considering Famine in the Late Nineteenth Century Ottoman Empire: A Comparative Framework and Overview"; Özge Ertem, "Önce Ekmekler Bozuldu: 1880 Diyarbakır Ekmek İsyani," Toplumsal Tarih 194, no. 2 (2010): 74–79.

effects on the region, will be studied to establish the region's interwoven structure of natural actors and society.

In the third chapter, the taxation and seizure policies of the government during the war years and subsequent animal deaths will be explained. This chapter will be mainly about the small cattle types affected the most by the war and had a significant part in the region's economy through meat provision.

The fourth chapter will examine the reasons for the death of the draft animals, particularly cattle types. Moreover, this research will look at the increasing effects of contagious diseases encountered during the war.

Finally, Chapter 5 makes a broader synthesis based on the data provided in different chapters of this thesis and discusses the reasons and effects of the draft animals and small cattle deaths in the region, and claims that state policies and contagious diseases were the primary reasons behind these decimations. In this way, it aims to contribute to the Ottoman East and environmental history debates and literature.

2

Reign of Animals in the Ottoman East and Historical Background

> Anatolian people, rather than ancient Egyptians, should have held ox in the highest esteem. Here the ox is the pillar of life.
>
> – Ahmet Haşim, *1917*[1]

In this chapter, the historicity of the small-cattle and draft animals in the Ottoman East's economy and the previous studies about the death of these animal kinds will be evaluated. In this regard, first of all, the production cycle of the Eastern region will be briefly discussed to explain the different animal species' contribution to local people's daily life. Then, the region's transportation network and the dependence on the draft animals will be explained to give a sense of the importance of animal's raw power for the region's commerce. Finally, the previous studies about animal deaths, their following results, and other animal studies about the region that look into the issue from an environmental perspective will be summarized to create a base

[1] Enginün and Kerman, eds., Ahmet Haşim, 4: 69. The transcription was made by Akın, "When the War Came Home - The Ottomans' Great War and The Devastation of an Empire": p.139.

for further studies. To conclude, explaining the environmental and economic actors of the region will be the main topic of this chapter.

§ 2.1 The Economy of the Ottoman East and Various Usages of Animals in the Region

In the 19th century, the Ottoman Empire and its economy got incorporated with the world economy from a peripheral perspective.[2] The Ottoman Empire's economy could produce the goods that were demanded by the global economy. However, these products were mainly related to the demands of the industrialized, centered countries markets. These products were primarily raw materials like cotton, nuts, and figs, which were also named cash crops.[3] Although the world economy theory accepted the Ottoman Empire as a peripheral economy, this peripheral relations with the global market took place only in Empire's port cities or its hinterlands that have suitable climates and that were equipped with an average road or railroad transportation networks.[4]

On the other hand, the regions which did not have these modernized transportation networks or suitable climate maintained their old production systems. These production systems were based on subsistence farming and animal husbandry activities that created no capital surplus but only

[2] This incorporation was described as becoming a part of the division of labor of the capitalist world-economy. The Ottoman Empire‘s peripheralization means that its economy accumulated the capital via selling raw materials to the central industrial countries. These raw product production facilities put Ottoman Empire’s economy into a secondary position. Immanuel Wallerstein, Hale Decdeli, and Reşat Kasaba, “The Incorporation of the Ottoman Empire into the World-Economy,” in the Ottoman Empire and the World-Economy, ed. Huri İslamoğlu-İnan, 1987: p. 88–101.

[3] The transformation from subsistence crops to cash crops required more labor but the incomes per person and the value of the outputs per unit were also increased during this period. The products that bring more cash to the market are named as the cash-crops. The Ottoman Empire unlike other peripheral countries did not experience a monocrop or monoculture economy which was only based on one cash-crop. Şevket Pamuk, Uneven Centuries Economic Development of Turkey Since 1820 (Princeton University Press, 2019): p.149-150.

[4] David Gutman, “The Political Economy of Armenian Migration From The Harput Region to North America in The Hamidian Era, 1885– 1908,” in The Ottoman East in the 19th Century: Societies, Identities and Politics, 2016: p. 44–45.

guaranteed the producers' existing livelihoods.[5] As opposed to precedent periods, this lack of surplus could create a rupture between the production and consumption cycles of the modern states after the 19th century. With the changing requirements of modern governance, the central government tried to gain control in every provincial region due to internal and external anxieties.[6] To finance the change in the understanding of governance and crisis period required the government to extract more raw and biomechanical resources from the places that had static production capabilities. Therefore, sudden changes that resulted in a difference between production-consumption cycles of the provincial regions created destructions for the region.[7] Modern wars were primary examples of this difference, unlike pre-modern times when the needs were more stable even in war periods.[8]

2.1.1 *The Ottoman East's Economic Background and Its Environmental Dependency*

Eastern parts of the Ottoman Empire were a prominent example of this modern rupture between needs and productions.[9] The production in the

[5] Gutman: p.47.

[6] The modern states were pursuing more active taxation, border control for taxation purposes, and education objectives. The war periods were also an incentive for the governments for aggressive taxation due to the gap between income and government spending. For example, the Ottoman Empire's fiscal deficit increased from 6 million liras to 94 million liras only within 5 years between 1914 and 1919. Alptekin Müderrisoğlu, "Kurtuluş Savaşının Mali Kaynakları," 1997: p.33.

[7] Akın, "When the War Came Home - The Ottomans' Great War and The Devastation of an Empire": p.112.

[8] With the development of modern states, the central government tried to create a surplus over local powers to implement its undisputable rule over the periphery. Achieving this hard power requires a strong controlling power of the army. The Ottoman East was experiencing this power struggle between the center and periphery since the early 19th century. David Gutman, "The Political Economy of Armenian Migration From The Harput Region to North America in The Hamidian Era, 1885– 1908," in The Ottoman East in the 19th Century: Societies, Identities and Politics, 2016: p. 44–58.

[9] Although it is widely accepted, the discussions about the "economically backward East" phenomena were put under question in the latest academic works. An article written by Cora, which is about an Armenian family from Erzincan in the early 20th century tries to prove that the manufactural activities were also establishing a certain section of the economy in the city. Yaşar Tolga Cora, "Female Labor, Benevolent Merchants, and Resilient Manufacturing: Rethinking Late Ottoman Armenian History through Labor, Business and Community," Journal of the Social and Economic History of the Orient 61, no. 3 (2018): p. 361–95.

region was based on agriculture and animal husbandry, which barely created a surplus. There were two reasons for this economic dependency of the Ottoman East on agriculture and animal farming and limited integration with the world economy. The first one was about the climate conditions experienced in the region and the second one was about the transportation facilities the region possessed.[10]

Due to the climate, the region could not produce the century's cash crops demanded in significant quantities by the industrialized markets. For example, despite the region's capability to grow cotton, the most prominent and profitable cash crop of the 19th century, and farmers could only manage to reap the output only in low quality due to the cool and short-growing climate of the region.[11] Therefore, the cotton outcome was low-grade, small-box cotton crops that were rarely demanded by the global market or purchased with prices that could not produce surplus capital.[12] The region's economy was mainly based on wheat, barley, and millet, requiring a constant supply of draft animal's power to plow the field. However, due to static production capacity, any environmental factors like periodic droughts that harm the crops and meadows or locust attacks destroyed the region's economy. [13]

The war periods provide solid examples of these destructions. To illustrate, the animal deaths of 1877 and 1880 occurred due to war. Following climatic features like freezing winters, harsh droughts, and exploitation of animals in the war created misery in the region.[14] A study by Özge Ertem on the famine of 1879-1880 Diyarbakir shows the persisting effects of the environmental problems and animals' deaths. A war-weary location after the 1878 Ottoman Russian war, the citizens in the geography already exploited all

[10] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.2-5.

[11] Gutman, "The Political Economy of Armenian Migration from the Harput Region to North America in the Hamidian Era, 1885– 1908." P.46

[12] Gutman, "The Political Economy of Armenian Migration from the Harput Region to North America in the Hamidian Era, 1885– 1908": p. 44-45; Donald Quataert, Ottoman Manufacturing in the Age of the Industrial Revolution (Cambridge University Press, 1993): p.39; Pamuk, Uneven Centuries Economic Development of Turkey Since 1820: p.142.

[13] Akın, When The War Came Home - The Ottomans' Great War and The Devastation of an Empire: p.111-113; Ertem, "Considering Famine in the Late Nineteenth Century Ottoman Empire: A Comparative Framework and Overview": p.153-155.

[14] Sabri Mengirkaon, "19. Yüzyılın İkinci Yarısında Diyarbekir'de Veba-i Bakari," in Osmanlıdan Günümüze Diyarbakır (Ensar Neşriyat, 2018): p. 259–322.

of their reserves. At the end of 1879, the region suffered from the drought, and at the beginning of 1880, a harsh winter took place. These weather changes destroyed the crops of the sedentary population. Moreover, meadows that feed the animals of the migratory tribes were dried and destroyed. During this crisis, due to the lack of reserve, the prices of bread increased sixteen times.[15] According to the British Consulate of the region, ninety-eight percent of those who lost their lives in this famine were from the Kurdish tribes whose only means of living were the animals. After losing their sole income opportunity, the migratory Kurdish tribes began to plunder the nearby villages. Any change in the environmental conditions and the number of animals in the region could affect the livelihood of the entire region utterly.[16]

Other research about the environmental dependency of the region on crops and animals was mainly related to locust attacks. Locust was the other reason for the famine of 1878-1880 that happened just after the 1878 Ottoman-Russian war. Just like climate change, these attacks also destroyed the crops and left the population empty-handed.[17] Another locust attack occurred at the beginning of the Great War and persisted until 1917 in the region. Locusts affected and destroyed the production of cereals that were critical for the continuum of the war. The government was trying to prevent the spread via pesticides and manual laborers. Farmers were collecting locust eggs by hand, and within a year, nearly 12,000 tons of eggs were removed from the lands, three million decares of lands were plowed, and millions of locusts were killed.[18] During these years, despite the efforts, the spread of the locust did not stop, and the Army decided to strengthen the combat with an additional budget and release the agricultural engineers within the military to join the

[15] Ertem, "Considering Famine in the Late Nineteenth Century Ottoman Empire: A Comparative Framework and Overview"; Özge Ertem, "Önce Ekmekler Bozuldu: 1880 Diyarbakır Ekmek İsyani," Toplumsal Tarih 194, no. 2 (2010): p. 74–79.

[16] Ertem claims that due to the harsh winters in 1873 more than 10,000 people have lost their lives due to hunger and malnutrition based diseases. Ertem, "Considering Famine in the Late Nineteenth Century Ottoman Empire: A Comparative Framework and Overview": p.165-167

[17] Hakan Asan, "Diyarbakır Vilayeti'nde Meydana Gelen Çekirge Afetleri," Journal of History Studies 9, no. 4 (2017): 2–18.

[18] Tuncay Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği (Ankara: AKDTYK Atatürk Araştırma Merkezi, 1999). P.105-107; "Çekirgeye Karşı", Tanin, 16 Şubat 1916, s.1; Salim Tamari and İhsan Salih Turjman, Year of the Locust: A Soldier's Diary and the Erasure of Palestine's Ottoman Past (University of California Press, 2015).

Ministry of Agriculture. In addition, Germany sent several experts on locusts that previously succeeded against the locusts and managed to destroy them in Kameron. The Army also translated the German manuscripts for the information of the farmers and imported zinc and chemical pesticides to kill the locusts.[19]

Other than the harmful effects of these environmental factors, some environmental actors in the region, especially animals, created ultimate benefits for the region in every means possible. Cattle's manure was used in heating the houses, cooking meals, and as a fertilizer to increase agricultural output.[20] Animal products like milk, cheese, and the meat provided from the non-breeding animals were establishing a significant portion of the producer's daily repasts. The herders were using the leathers of animals to make shoes and tents. Animal fats were also used to produce home candles for illumination.[21] Therefore, besides being the prime mover of agriculture and animal husbandry, animals also created a livelihood for their owners.

2.1.2 *Small Cattles and Migratory Tribes*

Animals were employed in agricultural production, and small cattle production established a significant portion of the region's economy and local trade. In Diyarbakir, it was estimated that there were around 670 thousand sheep and 320 thousand goats that almost hosted nearly 3% of the Empire's total animal population. In contrast, the population of the city approximately established 0.5% of the human population of the Empire.[22] Before the Great

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[19] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.105.

[20] Akın, When The War Came Home - The Ottomans' Great War and The Devastation of an Empire.

[21] Güran, 19. YY Osmanlı Tarımı. Sabri Mengirkaon, "19. Yüzyılın İkinci Yarısında Diyarbekir'de Veba-i Bakari," in Osmanlıdan Günümüze Diyarbakır (Ensar Neşriyat, 2018): p.298–299.

[22] This contrast was a result of the geography and climate of the region. Most of the regions located in the Ottoman East experience summer rains that help the meadows to grow. With this suitable climate, animal herds could be easily fed. Also, unlike farming, animal herding does not require extensive human power, which could explain the ratio between the human and animal populations. The other factor for the limited human population was the limited human population was the limited trade and farming option, which will be explained in detail, in 3.2 Transportation Problems of the Ottoman East Ömer Tellioğlu and Ahmet Zeki İzgöer,

War, animal husbandry was constituting around 40% of all agricultural production in Diyarbakir.[23] The animal population counts on the migratory tribes were mainly collected by the livestock tax records. However, these records were not presenting the exact numbers of the region due to the lifestyle of the nomadic tribes, which included tribes that have a presence both in Iranian and Ottoman lands. Many of the Kurdish tribes who played a significant role in small cattle production used the Iranian grounds to winter. The summer periods were spent over the east and northeast of the Ottoman East due to the abundance of pasture and water in this region.[24] The feeding of the animals required a migratory lifestyle, so the tribes spent their summers and winters in distant hills in a wide area, which made them hardly integrated into farming.[25] This phenomenon made the tribes wholly dependent on animal-based production like wool growing, dairy processing, or selling animals for butchering. Moreover, the tax officers could not collect the required tax due to disputes with the tribes who refused to pay the amount. Therefore, the tribal populations of the region are difficult to study from an environmental perspective.[26] However, it is still possible to collect information about the small cattle population and commerce of these tribes from the trade and tax records.[27]

Diyarbakır Salnameleri, 1286-1323 (1869-1905) (Diyarbakır: Diyarbakır Büyükşehir Belediyesi, 1999).

[23] Güran, 19. YY Osmanlı Tarımı: p.79.

[24] Çiftçi, "Fragile Alliances in the Ottoman East: The Heyderian Tribe and the Empire, 1820 - 1929." p.49

[25] Martin Van Bruinnessen, Agha, Sheik and State: The Social and Political Structure of Kurdistan (Zed Books, 1992): p.34-35.

[26] Erdal Çiftçi, "Fragile Alliances in the Ottoman East: The Heyderian Tribe and the Empire, 1820 - 1929" (İhsan Doğramacı Bilkent University, 2018): p.20.

[27] Salnames, yearly booklets prepared by the region's governors in order to summarize the events region had experienced, are one of the resourses to learn the livelihood of the tribal communities. Another resource can be found in the Sharia Registers, which were record kept during the trials. Many of these salnames were translated for the graduate studies. Funda Duruksu, "1310 Sene-i Hicriyesine Mahsus Salname-i Vilayet-i Mamurat'ül Aziz" (Fırat Üniversitesi, 2013); Mehmet Yangın, "399 Nolu Çermik Şeri'yye Sicili'nin Transkripsiyonu VE Değerlendirilmesi(H.1330-1336/ M.1912-1918)" (2019); İlhan Palalı, "XIX. Yüzyılın Ikinci Yarısında Diyarbakır: Vilayet Salnameleri ve Mahalli Kaynaklara Göre, 1869 - 1905" (İnönü Üniversitesi, 1999); Narin Demir Erdemci, "Haydarunlu Aşiretine Dair H. 1189-1249/M.1775-1833 Tarihli Osmanlı Arşiv ve Vesikalarının Transkripsiyonu ve Değerlendirilmesi" (Dicle University, 2019).

In the 19th century, it was estimated that the region could produce around 1.5 million small cattle only to be sent to Istanbul. Though many of the cattle were perished due to the long transportation efforts, this shows the production capacity and dependence on the small cattle for creating an economy in the region.[28] It is possible to claim that the main income creation mean of these tribes was animal husbandry. This business required them to have a semi-settled or nomadic lifestyle.[29] The animal products were used as primary goods and sold in the secondary markets for attaining other needs of the tribes that were hard for them to produce, mostly products that were based on manufactures like clothes and shoes or agricultural products like grain.[30]

§ 2.2 Transportation Problems of the Ottoman East

Transportation problems were another essential feature of the Ottoman East to explain the importance of the environmental factors for the region. The region's transportation networks were fragile and inadequate to meet the modern logistical needs of the area.[31] According to the centralization and modernization plans of the Ottoman Government, direct links between the center and periphery, and increasing the quality of the roads was a vital stepping stone to achieve. Via increasing the pace of transferring armies, goods, and resources from the peripheral regions to other parts of the Empire, and vice versa, the government would increase its ruling capacity, consequently taxation income, border control, and governance. These plans

[28] Çiftçi, "Fragile Alliances in the Ottoman East: The Heyderian Tribe and the Empire, 1820 - 1929": p.83

[29] Although animal husbandry was the main economic activity, there were many instances these Kurdish tribes participated in banditry which depends on their active negotiation between the state actors. These tribes were neither dependent nor independent from the interstate or interprovincial actors. Therefore, this negotiation process is proof that the banditry was not the main income opportunity of these tribes. But, this does not mean that they stayed away from the banditry, too. Çiftçi: p.52,84.

[30] Narin Demir Erdemci, "Haydarunlu Aşiretine Dair H. 1189-1249/M.1775-1833 Tarihli Osmanlı Arşiv ve Vesikalarının Transkripsiyonu ve Değerlendirilmesi" (Dicle University, 2019): p.44-48.

[31] Musa Çadırcı, Tanzimat Döneminde Anadolu Kentleri'nin Sosyal ve Ekonomik Yapıları, 3rd ed. (Ankara: Türk Tarih Kurumu Basımevi, 2013): p.360-371; Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.10.

were implemented in many parts of the Empire, like the Western parts and the Arabic Peninsula.[32] However, in the Ottoman East, these networks could not be created for several reasons like the region's width, local disagreements about the budget, and security threats from the Russian Empire in the borders. Therefore, the direct effect of this limited transportation capacity was becoming dependent on the biomechanical power supplied by the animals.[33]

2.2.1 *Networks of the Ottoman East*

The Ottoman East was still using the old dirt roads that limited the constant flow of goods and supplies at the beginning of the 20th century. To overcome these logistical problems, the Ottoman Government launched many tender bids to create a link between the center and the periphery. The objected destinations were planning to combine sea transportation with railroad transportation by using the harbors of either Trabzon or Rize and link the line to Erzurum via railroads. However, even in 1912, just before the Great War, Erzurum, the center of the eastern regions, could not fully benefit either from the railroads or proper land routes.[34] There were several reasons for this delay in the implementation of the Trabzon -Erzurum line. The first one was about the expenses it created. Upgrading the road system of a region that covers around 600,000-kilometer square was requiring a budget the Ottoman Empire could not manage to attain. Secondly, regional power holders could not agree upon the destinations or hubs the road would pass. The main discussion was about Rize and Trabzon. The concerns were about the closeness to the Erzurum-Bayezid line and its closeness to the Russian border and military hazards. So, the bidders could not conclude and construct the

[32] Nevin Coşar and Sevtap Demirci, "Incorporation into the World Economy: From Railways to Highways (1850–1950).," Middle Eastern Studies 45, no. 1 (2009): p. 19–31.
[33] Fulya Özkan, "The Role of The Trabzon–Erzurum– Bayezid Road in Regional Politics and Ottoman Diplomacy, 1850s–1910s," in The Ottoman East in the 19th Century: Societies, Identities and Politics (London, New York: I.B Tauris & Co. Ltd., 2016), p. 26–43.
[34] Fevzi Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar (Ankara: Genelkurmay Basım Evi, 2005): p.304-305.

line. This inability led to a few problems for the region's logistics, economy, and security.[35]

One of the severe consequences of limited transportation networks was the flatness in production. Despite the increasing needs and consumption capacity of the global markets or Istanbul, Eastern traders and producers could not merge with this commerce network due to the hardships in transportation. Transporting the excess agricultural output like wheat, barley, or cotton to the centers was extremely expensive for the villagers due to the weak dirt roads.[36] Even in good weather, it took more than two months to transfer goods from the peripheral regions to the ports of Trabzon or Rize. The only way to transport goods for trading was using animal power, and the costs that came with animal-based transportation created additional burdens to the producers.[37] Additional charges made it harder for the locals to compete with integrated global players. In addition to that, the agricultural outcome was not of high quality because of the unsuitable climate. Therefore, the only way to compete for the Eastern farmers was by selling their products at relatively lower prices. Thus, these additional export costs returned as a de-incentive to farmers, producing less than their capabilities.[38]

The second reason for not seeking excess in production was the phenomenon of diminishing price parities when the region had a surplus. The producers in the region only had a limited ability to transport the agricultural and animal-based surplus to other lucrative and demanding areas. So, the surplus farmers and herders produced had no option but to stick in the region, and it created a price decrease in the region for the unneeded products. Therefore, this de-incentive about working harder and creating less capital forced the regional producers to limit the efforts to produce more and make a

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[35] Özkan, "The Role of the Trabzon–Erzurum– Bayezid Road in Regional Politics and Ottoman Diplomacy, 1850s–1910s": p.31-35.

[36] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.5-7.

[37] Özkan, "The Role of The Trabzon–Erzurum– Bayezid Road in Regional Politics and Ottoman Diplomacy, 1850s–1910s": p.32.

[38] Ali Sipahi, "Suburbanization and Urban Duality in The Harput Area," in The Ottoman East in the 19th Century: Societies, Identities and Politics (London, New York: I.B Tauris & Co. Ltd., 2016): p. 197–214; Pamuk, Uneven Centuries Economic Development of Turkey Since 1820: p.142.

surplus.[39] Although this Eastern regions' system was maintained for long periods, with the unprecedented needs of modern states in the 19th century, the cycle between production and consumption was ruptured for the side of consumption. The effects of this fragile and pre-modern production system were most noticeable in crisis periods such as wars in which the consumption was increasing drastically, or the production reduced radically.[40]

Any changes in the consumption cycle of the government, or the hardships in production that came with either bad climate or wars, created total devastation for the region. The main reason for this was the lack of capital and time cost of adaptation. To illustrate, raising a draft animal that could participate in transportation activities or plow a field in the agricultural sector takes more than two years.[41] Moreover, while growing, the animal consumes many materials, which was additional costs for the farmers. Therefore, increasing agricultural production demands, to-be butchered animals and draft animals, or any animal deaths which decrease the production created a severe burden for the region's fragile economy.[42] Also, the animal-dependent agriculture sector received a mighty blow from any changes in the production or consumption cycles due to the extensive adaptation period. The greater the rupture, the more backbreaking it would be for the Ottoman East.[43]

The effects of the rupture were outgrowing because the region was unable to receive supports from other regions of the empire. Therefore, the lack of transportation networks affected the export sector and imports of the regions. Moreover, during crisis periods like famine or crop failure, the

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[39] Özkan, "The Role of The Trabzon–Erzurum– Bayezid Road in Regional Politics and Ottoman Diplomacy, 1850s–1910s": p.29.

[40] Ertem, "Önce Ekmekler Bozuldu: 1880 Diyarbakır Ekmek İsyani"; Ertem, "Considering Famine in the Late Nineteenth Century Ottoman Empire: A Comparative Framework and Overview."

[41] Ahmet Uzun, "19. Yüzyıl Osmanlı Tarımına İlişkin Çalışmalar," Türkiye Araştırmaları Literatür Dergisi 1, no. 1 (2003): p. 205–218.

[42] Nevin Memiş, "19. Yüzyıl Osmanlı İmparatorluğu'nda Ekonomik Yapı ve Dış Ticaret" (Atatürk Üniversitesi, 2008): p.45-51.

[43] Ak, "Osmanlı Devleti'nde Veba-i Bakarî": p.222; Ertem, "Considering Famine in the Late Nineteenth Century Ottoman Empire: A Comparative Framework and Overview" p.153-154; Mengirkaon, "19. Yüzyılın İkinci Yarısında Diyarbekir'de Veba-i Bakari": p.312-316; Erk, "Tarihte Önemli Sığır Vebası Salgınları ve 1920'ye Kadar Memleketimizdeki Durumu": p.233-234.

demands for receiving supplies from other areas were also becoming critical. Still, due to the incapability of mechanized transportation networks, the magnitude of the crisis was increasing for the region.[44] Furthermore, the region was impenetrable via draft animals during the winter due to an inferior highway system, which resulted in severe destruction for the region. To conclude, The Ottoman East based all of its transportation activities on biomechanical powers. Therefore, any changes in the number of animals resulting from diseases or malnutrition, or harsh winter conditions, create a crisis in transportation, imports, and exports.[45]

§ 2.3 Contagious Animal Diseases in the Ottoman East

Despite the importance of animals to the region, there were few studies about the animal deaths experienced in the area and their following effects. Many studies about animal deaths come from veterinary studies, which created a comprehensive research base about animal contagious diseases. Many types of illnesses injured or killed the animals on a significant scale, like pleurisy.[46] However, the effects of the rinderpest, also known as the cattle plague, were very influential in the Ottoman East for the widespread deaths. Rinderpest, a viral disease, can live in humid and wet places for up to a month without infecting a host. After the host catches the illness, there would be no symptom in the first nine days to diagnose the disease, and it utterly increases its infectiousness.[47] The first symptom would be increasing body heat which could reach forty-two-celsius degrees. Moreover, loss of appetite, inability to ruminate, teeth grinding, shaking, nagging cough, foamy saliva, and bloody diarrhea are other prodromal symptoms of the disease. Aside from these, cows also go dry and could not produce milk. In addition, if the diseased animal is

[44] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.122-127.
[45] Zeynel Özlü, "19. Yüzyıl Sonlarında Osmanlı Devleti'nde Hazırlanan İki Risale: Veba-Yı Bakari ve Zatülcenb," Askeri Tarih Araştırmaları Dergisi 12, no. 23 (2014): p. 99–113.
[46] Pleurisy is known as "zatülcenp" in Ottoman Empire. Zeynel Özlü, "19. Yüzyıl Sonlarında Osmanlı Devletinde Veterinerlik Mesleği İle İlgili Bir Değerlendirme," Belleten 76 (2012): 239–60; Özlü, "19. Yüzyıl Sonlarında Osmanlı Devleti'nde Hazırlanan İki Risale: Veba-Yı Bakari ve Zatülcenb": p.2-3.
[47] Ak, "Osmanlı Devleti'nde Veba-i Bakarî": p.232-237.

pregnant, they suffer from miscarriages. The whole duration of the disease would take between four to seven days. Some of the animals would die two or three days after diarrhea, and many after four to five days later.[48]

The virus could get transmitted from everything that touches a diseased animal's mouth, blood, tear, saliva, nasal flow, urine, meat or skin, and any grass, chaff, manure, or water. Because the diseased or freshly cured animals are the leading germ carriers of the Rinderpest, the keeper's hand, clothes and shoes are also the ways for the germ to transmit. Moreover, the pigeons and chickens carry the disease in the feet and contaminate the chaffs, affecting healthy animals. As can be seen, the disease is highly contagious, and once an animal got the disease, the whole herd or stable got sick quickly.[49]

The resistance to the rinderpest disease changes according to the races of the cattle. The most vulnerable ones were the Crimea, Odesa, Kars, Aleppo, and Egypt cattle races, whose death rates could reach up to 80% if they got infected. Moreover, the crossbreeds of these races were just as vulnerable.

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[48] The disease was a deadly contagion that destroyed the animals in many locations. In 1714, just within 3 years, it killed more than 1.5 million cattle. In Egypt, between 1903 and 1910, almost 3 million cattle were destroyed by the rinderpest. During the Great War, it is estimated that almost 6 million cattle were either died or killed by the authorities in Caucasia, Eastern Anatolia, and the Black Sea region. After the massive socio-economic destructions that came via the animal deaths, the European governments established the first veterinary institutions to particularly combat this disease. With the precautions taken in Europe and Egypt in the 19th century and the Ottoman Empire in the early 20th century, the disease was pushed into the Ottoman borders of Iran. However, as a borderline neighbor, the Ottoman East, were still very weak against any spread of this disease. Until its total eradication in 1950, the plague killed hundreds of millions of cattle. The death rates of the disease after an epidemic upsurge can reach up to 100% which depends on the naivety of animal kinds to the disease. One of the deathliest pandemics that outbreak in Sub-Saharan Africa in the 1890s killed nearly 90% of all cattle. However, in general, the death rate of the infected animals was in between 35-40% of the total population. Hüseyin K. Urman et al., "Sığır Vebasının Klinik ve Patolojik Yönleri Üzerine Araştırmalar," Ankara Üniversitesi Veteriner Fakültesi Dergisi 20, no. 4 (1973): p. 103; Mehmet Ak, "Osmanlı Devleti'nde Veba-i Bakarî" OTAM 39, no. Bahar (2016): p.215–40; Nihal Erk, "A Short History of Rinderpest in Turkey," Ankara Üniversitesi Veteriner Fakültesi Dergisi 22, no. 3 (1975): p. 71–83; Nihal Erk, "Tarihte Önemli Sığır Vebası Salgınları ve 1920'ye Kadar Memleketimizdeki Durumu," Ankara Üniversitesi Veteriner Fakültesi Dergisi 10, no. 3–4 (1963): p. 221–37; Zeynel Özlü, "19. Yüzyıl Sonlarında Osmanlı Devleti'nde Hazırlanan İki Risale: Veba-yı Bakari ve Zatülcenb," Askeri Tarih Araştırmaları Dergisi 12, no. 23 (2014): p. 99–113.

[49] Özlü, "19. Yüzyıl Sonlarında Osmanlı Devleti'nde Hazırlanan İki Risale: Veba-yı Bakari ve Zatülcenb": p.10-12.

Death rates in Rumelia cattle races are approximately around 60%. Anatolian cattle types are more resistant to the rinderpest, whose death rates are approximately 40%. The death rate in water buffalos is around 30% and young buffalo calves around 70%.[50] The dairy cattle in the Diyarbakir region were mainly gray, whose resistance to the disease was lower than Western Anatolia types. It was estimated that the Eastern Anatolia and Central Anatolia cattle types can produce a 45.1% positive neutralization antibody against this disease.[51]

2.3.1 *The Ottoman Experience of Rinderpest*

After the 19th century, rinderpest began to be experienced rapidly compared to other contagious animal diseases in the Ottoman Empire. The archive records mentioned the condition as "Veba-i Bakari & Malkıran," which means cattle plague and destroyer of cattle. As an empire in which animal power and animal husbandry constitute a significant portion of the economy and workforce, the spread of disease affected the country harshly.[52] Ottoman Archives recorded rinderpest epidemics on many occasions. There were 11 cases of noticeable disease spread before the Balkan Wars which took place in 1847, 1877, 1881, 1889, 1893, 1894, 1899, 1905, 1906. In most cases, it was estimated that the disease's death rate reached up to 60% of the contagion.[53]

Although there were several incidences of rinderpest after the Tanzimat period, according to Ahmet Şerif, a Tanin Newspaper columnist, the actual encounter with the disease started just after the beginning of the 1877 Ottoman-Russian war. The mobilization of both refugees leaving their homes to settle in Anatolia and armies that rely on animal power in transportation enabled the rinderpest to spread into the most interior lands of the Ottoman

[50] Nikolai Mavrioğlu, "Veba-i Bakari Serumu ve Tedavi-i Bi'l-Masl," Mecmua-i Fünun-i Baytariye 1, no. 3 (1908): 79–85; "Sığır Vebası ve Hakkında İttihazı Lazım Gelen Tedabir(Veba-i Bakari)," Ticaret ve Ziraat Nezareti Mecmuası 7, no. 61 (1916): 59–83; Özlü, "19. Yüzyıl Sonlarında Osmanlı Devleti'nde Hazırlanan İki Risale: Veba-yı Bakari ve Zatülcenb": p.10-12; Ak, "Osmanlı Devleti'nde Veba-i Bakarî": p.217

[51] Selahattin Gürtürk, E. Finci, and Burgu I., "Yurdumuz Sığırlarında Sığır Vebası Üzerine Araştırmalar," Ankara Üniversitesi Veteriner Fakültesi Dergisi 21, no. 1 (1974): p. 102–13.

[52] Ak, "Osmanlı Devleti'nde Veba-i Bakarî": p.216

[53] Tevfik Güran, 19. YY Osmanlı Tarımı (Eren Yayıncılık, 1998): p.108-109;

Empire. The theatre of war, the Ottoman East, was the part of the country affected most by this disease at the period.[54] Moreover, the locals were sending letters to the Sultan about a disease that destroyed most of the cattle, and the remaining animals were not significantly different from the dead ones in the Ottoman East. Therefore, the disease severely damaged the population's well-being, and they requested from Sultan Abdulhamid to be exempt from taxation. Moreover, during the same period between 1879 and 1880, another environmental factor, cold weather, was destroying the crops, which left the animals malnourished and even more vulnerable to the disease.[55] Although the Ottoman East suffered severely from the Rinderpest, the empire did not institute its first veterinary institutions until its capital was affected by the disease.[56]

2.3.2 *Medical Combats against the Cattle Plague*

After this spread of the disease and following the 1897 Rinderpest Epidemic, which outbreaks in Çatalca, the Ottoman Empire began to institutionalize the fight against the rinderpest. The first action was protecting the animal transaction in Istanbul by necessitating veterinarian inspection of animals from Russia. Thus, placing a veterinarian in the Black Sea quarantine station became a required condition but this could not stop the disease from spreading. To have a more significant measure against the disease, Bakteriolojihane-i Şahane, which was settled in 1893, launched a serum for the diseased animals turned out to be effective in the 1898 Yozgat rinderpest epidemic.[57] This success with the epidemic paved the way for the settlements for animal disease centers in the Ottoman Empire. In 1901, the Bakteriolojihane-i Baytari, the first institution to focus on animal diseases,

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[54] Nihal Erk, "Veteriner Tababeti Tarihine Kısa Bir Bakış," Ankara Üniversitesi Veteriner Fakültesi Dergisi 4, no. 3 (1957): p. 135–46; Ahmet Şerif, Anadolu'da Tanin, p.116-117, 124.

[55] Mengirkaon, "19. Yüzyılın İkinci Yarısında Diyarbekir'de Veba-i Bakari": p.299-300; Ertem, "Considering Famine in the Late Nineteenth Century Ottoman Empire: A Comparative Framework and Overview."

[56] Ak, "Osmanlı Devleti'nde Veba-i Bakarî"; Kamuran Şimşek, "Osmanlı Devri Denizli'de Sığır Vebası: Veba-i Bakari," Belgi Dergisi 19, no. 1 (2020): 2068–80.

[57] Unat Ek, "Osmanlı İmparatorluğunda Aşı ve Serum Hazırlama Müesseseleri," Türk Tıp Alemi 2 (1970): p. 144–56.

mainly focused on producing vaccines and serums for animal diseases, was founded which tried to cope with animal diseases.[58] To increase the production of the serum, the government founded another disease center in Erzurum in 1910. The first serum produced in this center was rinderpest serum.[59]

In the late 19th century, a commission settled by the military and civil veterinary professionals prepared two booklets about the disease.[60] These studies tried to explain the nature and spread of two contagious animal diseases; rinderpest and pleurisy. Moreover, it suggested specific preventive measures for both the owners of the animals and the local administrators of the diseased territory and inhibited the contagion's spread. The rules for the locals were generally about the cleansing of the stables and spreading the diseased animals from the healthy ones to keep the rest of the animals safe.

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[58] In the Ottoman Empire, the veterinary profession was essentially military-originated. To meet the needs of the army, the first veterinary school was established in 1842. However, the army did not promote and prioritize this profession over other military profession branches and appointed illiterate students which led to the underdevelopment of veterinarians in the Ottoman Empire. In 1849, during the reign of Sultan Abdulhamid, another veterinary class settled and the first graduates of this class were 1853 alumni. Veterinary school graduates of the army could only raise into the ranks of squadron leadership, and to move upper ranks they had to change their classes to cavalry. After the 1878-81 Rinderpest epidemic, the organization tried to employ both veterinary school academicians and medicine school academicians to educate non-military students as well to meet the increasing needs to combat the epidemic. However, until 1889, there was no improvement in this very subject. Esin Karlıkaya, "Osmanlı İmparatorluğu'nda Üretilen Aşı ve Serumlar Ile Bunların Üretildiği Kuruluşlar," Trakya Üniversitesi Tıp Fakültesi Dergisi 16, no. 3 (1999): p. 167–78. Erk, "Veteriner Tababeti Tarihine Kısa Bir Bakış": p.80-85; Kasım Kırbıyık, "Baytarlık" in TDV İslam Ansiklopedisi, vol. 5 (Istanbul: Türkiye Diyanet Vakfı Yayınevi, 1992): p.278–82; Atilla Özgür, "Osmanlı İmparatorluğunda Veteriner Hekimliği Eğitim-Öğretim Kurumları," Yeni Türkiye Osmanlı II Ekonomi ve Toplum 33, no. 701 (2000): p. 791–97.

[59] Unat Ek, "Osmanlı İmparatorluğunda Aşı ve Serum Hazırlama Müesseseleri," Türk Tıp Alemi 2 (1970): 144–56; Unat Ek, "Osmanlı İmparatorluğunda Bakterioloji ve Viroloji," İstanbul Üniversitesi Cerrahpaşa Tıp Fakültesi Yayınları 4, no. 11–49 (1970).

[60] After these two booklets were published, in 1892, the Regulation of Central Veterinary Organization began to be implemented and the combat against animal diseases began to be more organized. Within this framework, the Office of General Veterinary Works (Umur-ı Baytariye Müfettiş-i Umumiliği) was linked to the Ministry of Forest, Mines and Agriculture and Rehabilitation of Animals Office (Islah-ı Hayvaniye Şubesi) and Veterinary Works Office (Umur-u Baytariye Office) were instituted. Muzaffer Bekman, Veteriner Tarihi (Ankara: Ankara Basım ve Cilt Evi, 1940); Özlü, "19. Yüzyıl Sonlarında Osmanlı Devleti'nde Hazırlanan İki Risale: Veba-yı Bakari ve Zatülcenb."

After the disease killed the animals, the booklets described how to bury the animals. Booklets also emphasized the dangers of selling the parts of the diseased animals like leather for making boots.[61]

The administrator and veterinary personnel rules were mainly about creating isolation zones for limiting the spread of the disease from villages to the centers or vice versa. Moreover, an adequate veterinary examination of animals in quarantine stations before their movement into different locations is proposed. At the same time, importing animals from other countries, the same inspections also applied.[62] If any incidence of rinderpest occurred in the land of import, import processes must be suspended. Any animals that came from the border without an inspection must be killed on the spot and buried according to the rules. Moreover, the booklets emphasize the importance of communication between the disease center and other zones about the rinderpest. After a veterinarian was tasked with an inspection for rinderpest control, he should immediately report the situation to the local administration and fill a report about informing the Ministry of Internal Affairs and Ministry of Agriculture about the situation. Also, if there is no veterinary personnel in the incidence zone, the village headmen or board of alderman of the village should undertake the tasks. The directors would inform the district governors, and district governors would inform the governor within twenty-four hours.[63]

Other journals also tried to improve the fighting against the disease by providing information and suggesting measures to stop the Rinderpest spread. For example, Mecmua-i Fünun-i Baytariye attempted to inform the veterinary community by publishing rinderpest disease from 1908 to 1911.[64] The studies changed from the cleansing of the animal stables to reduce the spread of the disease to the production processes, directives for implementing the serum

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[61] Özlü, "19. Yüzyıl Sonlarında Osmanlı Devleti'nde Hazırlanan İki Risale: Veba-yı Bakari ve Zatülcenb": p.4-5.

[62] Özlü, "19. Yüzyıl Sonlarında Osmanlı Devleti'nde Hazırlanan İki Risale: Veba-yı Bakari ve Zatülcenb": p. 4-6.

[63] Ak, "Osmanlı Devleti'nde Veba-i Bakarî": p.230-234

[64] The journal was media outlet of the Osmanlı Cemiyet-i İlmiye-i Baytariyesi which settled on 26 August 1908 to improve the veterinary profession and increase the knowledge of animal care and public health among the Ottoman Society. Berfin Melikoğlu Gölcü and Şule Osmanağaoğlu Sanal, "Mecmua-i Fünun-i Baytariye: İnceleme ve Özetli Bibliografya," Osmanlı Bilimi Araştırmaları 14, no. 1 (2012): 45–88.

produced by the Pendik Bakteriolojihane-i Baytari, and possible results on the animals.[65] Moreover, the same journal summarized the empire-wide efforts to prevent the spread of the disease and the different animal kinds of immune systems against the epidemics.[66] One of the articles stated that the import of Rumeli Cattle Types to Eastern Anatolia increases the immunity of overall cattle in the country.[67]

The Ottoman Government tried to cope with the disease by implementing specific legislation and increasing field control. However, after the Balkan Wars and the following mobilization of animals from the Ottoman East to the center, another deadly rinderpest epidemic was experienced. Therefore, the government tried to legislate new laws to prevent the spread of the disease by using carrots and sticks. This new legislation was named "The Legislation for Controlling Animal Health."[68] The legislation claimed to award the villagers who inform the authorities about the rinderpest by compensating one-third of the value of the diseased animal. Moreover, the government compensates half of the value of the animals living in the same stable if they were killed and buried and two-thirds of the value of the dead animal. However, these payments are only given to the animal owners if they inform the authorities in time. If the villagers did not report the local authorities, besides losing the right to have compensation, authorities fined the villagers a prison sentence of up to a month and one to five Ottoman Gold coins. Moreover, anyone that trades or purchase the skin or animal carcass of the

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[65] Şehremaneti Müfettiş Muavinlerinden Tabib-i Baytar Bohor, "Devair-i Belediye Dahilinde Mevcud İnek Ahırlarının Islahına Dair Verilen Takrirdir.," Mecmua-i Fünun-i Baytariye 1, no. 3 (1908): 65–69. Berfin Melikoğlu Gölcü and Şule Osmanağaoğlu Sanal, "Mecmua-i Fünun-i Baytariye: İnceleme ve Özetli Bibliografya," Osmanlı Bilimi Araştırmaları 14, no. 1 (2012): 45–88.

[66] Nikolai Mavrioğlu, "Veba-i Bakari Serumu ve Tedavi-i Bi'l-Masl," Mecmua-i Fünun-i Baytariye 1, no. 3 (1908): 79–85; Melikoğlu Gölcü and Osmanağaoğlu Sanal, "Mecmua-i Fünun-i Baytariye: İnceleme ve Özetli Bibliografya."

[67] Kosova Aygır Deposu Müdürü Mustafa Sıtkı, "Islah ve Teksir-i Hayvanattan - Anadolu'ya Rumeli Hayvanat-ı Bakariyesinin İdhal ve Teksir Lüzumu," Mecmua-i Fünun-i Baytariye 2, no. 5 (1910): 135–36; Melikoğlu Gölcü and Osmanağaoğlu Sanal, "Mecmua-i Fünun-i Baytariye: İnceleme ve Özetli Bibliografya."

[68] Zabıta-i Sıhhiye-i Hayvanatiye Kanununu Muvaffakati; Mengirkaon, "19. Yüzyılın İkinci Yarısında Diyarbekir'de Veba-i Bakari"; Zeynel Özlü, "19. Yüzyıl Sonlarında Osmanlı Devletinde Veterinerlik Mesleği İle İlgili Bir Değerlendirme," Belleten 76 (2012): 239–60.

diseased animal were fined three months of prison and 20 Ottoman Gold coin. Moreover, if the disease turns into an epidemic spread, the punishment would be tripled.[69]

The government could not create a sufficient budget to fight the disease and gave instructions to the municipalities to cover the spending from their incomes and treasury. Later on, with the increasing pace of the disease government tried to cover the expenditures via forest and mine incomes, but they could not manage it. In 1910, the Tanin newspaper compared other countries spending on rinderpest and tried to show the inadequacy of the disease spending of the government. In 1910, according to the newspaper, Egypt spent seven million Liras, and Russia spent seventeen million Liras. Meanwhile, the Ottoman Empire could only create a budget of 150,000 Liras for disease management.[70]

§ 2.4 Conclusion

The history of the Ottoman East reveals that the economy and daily life of the region could not be understood without taking the environmental factors and animals into account. Since the animals were highly integrated with everyday life in terms of economic and transportation means, any changes that affect their lifetime utterly damage the region. The previous studies about the animals and other environmental factors in the area began to take a pace with the environmental turn in history. In addition to climate and famine studies, the rinderpest studies created a solid base in researching the animals because of their immediate damage to the economy.

Disease studies also make the animals the primary actors of history rather than secondary actors that only benefit humanity. However, despite the importance of animals, other than this disease studies conducted by the veterinary faculties, there were a limited amount of works about the animals and their deaths conducted by historians. In addition to that, studies that focus

[69] Mengirkaon, "19. Yüzyılın İkinci Yarısında Diyarbekir'de Veba-i Bakari"; Özlü, "19. Yüzyıl Sonlarında Osmanlı Devletinde Veterinerlik Mesleği İle İlgili Bir Değerlendirme"; Özlü, "19. Yüzyıl Sonlarında Osmanlı Devleti'nde Hazırlanan İki Risale: Veba-Yı Bakari ve Zatülcenb."
[70] Ak, "Osmanl ı Devleti 'nde Veba-i Bakarî, The Rinderpest in the Ottoman State." p.228.

on the Ottoman East's experiences, this thesis's main focus, are considerably rare. Consequently, this chapter tried to give a sense of the importance of animals, explaining the possible reasons for their death and their effects on the economy and livelihood by referencing the previous academic studies.

3

The Great War, Taxes and Small Cattle of the Ottoman East

> *After four years of war-weariness and massive destruction of animals, there were no animals left to be taxed. So, what was left was taken by force and pounding.*
>
> –Başkatipzade Teğmen Ragıp Bey[1]

This chapter hypothesized that the animal deaths in the Ottoman Empire during the Great War were directly related to the government's taxation policies and meat consumption of the army. In that regard, this research will examine three main topics in this chapter. First, the tax zone of the Third Army will be explained to understand the back front of the Army. Secondly, both the Ottoman and Russian Caucasian Army's daily and monthly repast requirements and consumption capacities will be explained. Finally, this thesis will discuss the regulations that enabled the tax officers to collect the animals on such scales. These three points will facilitate understanding possible reasons for animal deaths in the region.

[1] Ahmet Emin Güven, Yaşam Öyküm / Kayserili, Başkatipzade Teğmen Ragıp Bey'in Eğitim, Savaş, Tutsaklık, Kurtuluş Anıları, ed. Ahmet Emin Güven (Dizayn Ofset, 2003): p.78.

Due to the nature of the central Ottoman taxation system and geographical problems, it was hard to reach an exact number of animal deaths. However, existing resources and the primary sources about the period show that a wide range of animals lost their lives. Considering the environmental dependency of the empire in that period, studying these tremendous animal deaths is essential to understand the war experience of the empire. Understanding the legal basis of the requisition of the animals from the local population and the reasons behind these massive decimations of the small cattle would be the main topic of this chapter.

Moreover, to explain the process of taxation and contextualize the causes and effects of the animal deaths, the Ottoman East would be the point of focus. Significant animal losses affected the region's social and economic status severely, as the prime mover of the economy in the Ottoman East. The small cattle production was substantial economic activity in the region for both the sedentary population and migratory animal herders. In addition, the Ottoman Army's dependency on the draft animals' raw power and underdeveloped transportation system problems could be observed in its purest form in this region. Based on these two factors, this thesis focused on the Ottoman East to understand and explain the reasons for animal deaths.[2]

During the Great, according to the State Statistical Institution's data and Trade Chamber's records, the number of animal losses was around 55 to 60%. It was estimated that, in 1914, the animal number was around forty-five million and at the end of the war, the numbers declined nearly to nineteen million.[3]

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[2] Although the army kept records of the confiscated animals for the draft animals and the daily population of the animals that served for the army, there is not any clear historical source about the animal deaths in the Ottoman East. Therefore, the used resources about the animal death rates were not particularly about the Ottoman East. The second reason for the lack of resources was the massive Russian Invasion during 1915-1917 which resulted in the loss of Van, Erzurum, Bitlis, and Erzincan which disabled the Ottoman Army to chronologically note the animal deaths. Therefore, due to the aforementioned features of the Ottoman East, it would be safe to say that the animal death percentages were probably higher compared to other regions, but still, providing the exact numbers on animal deaths is a shortcoming of this thesis and further studies about these numbers is necessary. Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.337-342. Çeloğlu, "Birinci Dünya Savaşı'nda Doğu Cephesinin Lojistik Organizasyonu: 3. Menzil Müfettişliği: p.29-30."

[3] Gül, "Türkiye'de Veteriner Hekimliği Hizmetleri ve Hayvancılık Politikaları Üzerine Araştırmalar": p. 230-231; Başbakanlık Devlet İstatistik Enstitüsü, "Türkiye'de Toplumsal ve

Tax resources were other documents that could hint at the decrease in the animal population of the Empire. Before the war, according to the tax records, the number of small cattle animals like goats and sheep was around 37.2 million in total. However, at the end of the war in 1918, it was estimated that the number diminished to 22 million, which decreased approximately 40% country-wide.[4]

Table 3.1 Yearly Change of Small-Cattle Population

Animal Type	Small-Cattle Population(in millions)
1913/14	37.2
1914/15	37.2
1915/16	30.3
1916/17	27.4
1917/18	22.2

SOURCE Eldem (1994).

§ 3.1 The Third Army and Small Cattles[5]

The Ottoman war records about animals in the Great War were mainly about cattle types, conscription, and health. Although the records gave comprehensive coverage to these animal types, the ones greatly affected by the

Ekonomik Gelişmenin 50 Yılı": p. 32 - 33; Tezcan, "Tekalif-i Harbiye ve Tekalif-i Milliye Örneklerinde Savaş Dönemleri Mali Politikaları.": p. 39

[4] Vedat Eldem, Harp ve Mütareke Yıllarında Osmanlı İmparatorluğu'nun Ekonomisi (Ankara: Türk Tarih Kurumu Basımevi, 1994): p.89.

[5] After the Tanzimat, to settle up a professional army, Ottoman Army divided its forces into two parts as peace and war forces. Peace forces were Nizamiye Army and Campaign Army was constituted by redif, müstahfız, aşiret and süvari units. In September 1843, after evaluating the geographical locations, demography, economy, and transportation facilities, Nizamiye Units were divided into five army locations, and one of those armies was the Third Army. The Third Army's headquarter was located in Erzurum and the army was mainly about protecting the eastern borders of the empire. The establishment of this new military technique removed the old system which was based on military movement from the center and moving into the next supplies centers. After 1843, the army had to bear the burden of provision of supplies directly on itself. Mevlüt Karagöz, "Osmanlı Sefer Organizasyonlarında ve Birinci Dünya Savaşında Menzil Hizmetleri," Yakın Dönerm Türkiye Araştırmaları 35 (2019): 27–56; Bülent Durgun, "Sefer Planlarında ve Balkan Harbi'nde Osmanlı Ordusunda Menzil Teşkilatı," Çağdaş Türkiye Araştırmaları Dergisi 14, no. 29 (2014): p.59.

war were the small cattle types like goat and sheep. This difference between cattle and small cattle in the record-keeping was about the direct contribution to the war efforts provided by the animal types. Due to the logistic benefits cattle provided, the concerns about their numbers and health immediately affected the war capacity of the army.

On the contrary, the army benefitted from the small cattle in the back front, which diminished their visibility to record-keepers.[6] Even the diary-keeper soldiers rarely mentioned them compared to the draft animals and their destitution. This radical decrease in the number of goats and sheep created irrevocable damage to the economy of the migratory tribes of the Ottoman East, whose lifestyle was based on the existence of these animals.[7] Unlike the cattle whose lifetime was tried to be increased by the Army to extract more drafting power, the usage of small cattle was one-off and mainly based on the direct consumptions like meat provision for the soldiers' diet; fur and skin provision for textile, shoes, and quilts for soldiers; and provision of animal oil which provided multiple uses for soldiers which ranging from cooking and heating to lighting.[8] Therefore, to understand these radical decreases, looking into the Army's food provision policies for soldiers is a good starting point.

3.1.1 *The Third Army's Supply Zone and Daily Repasts*

During the Great War, the Ottoman Army's Eastern Front was wide-reaching in confrontations with the Russian Army until the Brest-Litovsk Agreement.[9] After the Russian Empire withdrew from the battle, the Ottoman Army expanded into the Caspian Sea until the Armistice of Mudros in 1918. During these four years of consecutive fights, the war zone extended to

[6] Suriano, Animals in the Great War: p.21-23.
[7] Akın, When The War Came Home - The Ottomans' Great War and The Devastation of an Empire: p.123-124.
[8] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği.
[9] This peace agreement was signed between the Soviet Union and the Central Power, which are The German Empire, Austria-Hungary in March 3rd of 1918. The Ottoman Empire and the Bulgarian Kingdom. In the scope of this thesis, this agreement ended the war between the Russian and Ottoman Armies in the Caucasian front, and enabled the Ottoman Forces to invade Kars, Ardahan and Batum. Reynolds, Shattering Empires: The Clash and Collapse of the Ottoman and Russian Empires, 1908–1918.

Caucasian Mountains and the Black Sea in the North; to the Caspian Sea in the East; to South Azerbaijan, Van Lake, and Mardin South; to Malatya, Sivas, and Samsun in the West. Thus, the Ottoman Army had to fight in an area that covers around 600,000 km square.[10]

The Third Army's population was around 110,000 at the beginning of the war in 1914. As the scale of the war increased in 1914, the population of the Army grew simultaneously. In 1915, the number reached up to 150,000 soldiers. The army divided the Empire into several supply hubs before the war. It charged each of the hubs to provide raw materials, ensure steady transportation and accommodation for the Army located on that front. In this respect, the Third Army and the Eastern Front were gathering its materials from Kayseri, Sivas, Erzurum, Mameratülaziz, Diyarbakır, Bitlis, Van, and Trabzon regions. The supply zone has consisted of approximately 5 million people, and population density was very low in each region, and the central city population was lower than 50,000 in almost all of them.[11] Most of the population was living in the villages and were employed in agriculture or animal husbandry.[12] These regions were already the most underdeveloped regions of the Empire in terms of production and trade. In addition to this poverty, the army was expecting the locals to provide logistic services and feed an army that consisted of 150,000 soldiers and 50,000 draft animals.[13]

Before the war started, in 1914, the Ottoman Army legislated a regulation to arrange the soldiers' food provision, which set a limit for the

[10] Genelkurmay Başkanlığı, "Birinci Dünya Harbinde Türk Harbi Kafkas Cephesi 3.Ordu Harekatı" (Ankara, 1993): p.15. Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.3.

[11] Before the start of the war, the Ottoman Empire's population was around 16 million empire-wide, and the Ottoman East was constituting approximately one-third of the total population with 5,279,184. It was estimated that each city was populated as following: Erzurum; 812,538; Trabzon 1,151,601; Mameratülaziz 527,319; Diyarbakir 558,886; Van 247,173; Bitlis 427,491; Sivas 1,162,168; Samsun 392,008. Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.7.

[12] Mustafa Keskin, "Milli Mücadele Başlarken Anadolu'nun Demografik Yapısı," Erciyes Üniversitesi Sosyal Bilimler Enstitüsü Dergisi 3 (1989): p. 477.

[13] Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p.305.

minimum amount of food given to a soldier.[14] According to the Regulation of Military Bouche and Feeding, the regular diet of a soldier should include 900 grams of bread, 600 grams of biscuit, 250 grams of meat, 150 grams of bulgur, and 20 grams of butter. The German Empire also applied the same meat ratio during the Great War. However, unlike the other Western belligerent countries of the Great War, the Ottoman Empire's meat provision was mainly based on red meat produced from cattle and small cattle. As an empire that did not develop a white meat category of fish and chicken, delivering these items to the war front was problematic. The production of the fish meat was already very limited to the seashores, and the inner lands were not familiar with the white meat. Another problem with other kinds of meat was the transportation problems of the Eastern Front. Supplying the fish and chicken meat to the region would require a lot more effort than both the cattle and small cattle types due to problems like mobility and rottenness.[15]

3.1.2 *Expected Usage of Small Cattle*

In many parts of the Empire, the protein needs were met via sheep and goats. For example, on 13 March 1916, after the invasion of Van, Erzurum, Bitlis, and Trabzon by the Russian Army, the population of the Third Army was around 80,000 soldiers, and the yearly meat need of the army was around

[14] Askeri Tayinat ve Yem Kanunu, 12 Eylül 1330 Tertip 2 Cilt 6 Sayfa 1286: This legislation was published just a year before the war and, it was applied by the Republic of Turkey army until 1961. After 1917, the Ottoman Army began to have problems with providing the assigned food ration to the army. In March 1918, the soldiers in the Palestinian front could only get 500/600 grams of bread and some vegetables. From the documentation of the soldiers, it can be inferred that meat could be rarely given to the soldiers in this front, but on other fronts in which the small cattle population is widely distributed, the army faced with little meat provision problems. Mehmet Beşikçi, The Ottoman Mobilization of Manpower in the First World War; Between Voluntarism and Resistance (BRILL, 2012)., p.282; Çakmak: p.309.

[15] Compared to the other countries that took part in the Great War, the legislation was organized accordingly to the general trend. In 1916, the German Army was also providing 250 grams of meat or fish to their soldier. The kind of protein was changing dependent to the climate conditions. The British Army also published a regulation which organizes the ideal amount and in 1916, the army was trying to provide 340 grams of meat to their soldiers every day. So, it can be said that these minimal amounts Ottoman army decided to provide to their soldier very much aligned with the general trend. Ina Zweiniger-Bargielowska, Rachel Duffett, and Alain Drouard, Food and War in the Twentieth Century Europe (New York: Routledge, 2016). Çakmak: p.309.

10,625 tons.[16] Moreover, half of the collected small cattle would be used by the Third Army, while the remaining half would be sent to the capital.[17] Although it was not stated how many animals were needed to supply this amount of meat, considering the weight ratio of the animals, approximately 350,000 sheep, and goats were needed to feed the Third Army.

Many animals were transported to the other battlefronts Ottoman Army fought in. Because the Ottoman East was the primary provisionary of the empire in terms of the red meat, any surplus was transferred to the other regions of battle like the fourth Army of Syria and the sixth Army of Mesopotamia battle zones to feed the Army in those lands.[18] For example, in 1915, the general need of the Ottoman army was determined as 2,727,652 sheep or goats. Moreover, in 1916, the Army's overall need for meat was determined as 66,937 tons which were equal to approximately 2.3 million sheep or goats.[19]

In addition to this Ottoman usage of sheep and goats, while thinking about the Ottoman East, it is also essential to include the Russian Army's usage of small cattle and their taxation in the region. With the beginning of the war, the Russian Army began to invade many of the tax zones of the Third Army. In 1915, the Russian Army invaded the Van province of the Ottoman Empire, and in 1916, they invaded Trabzon, Erzurum, and Erzincan. In the east, the Russian powers reached up to the Erzincan-Bayburt line and south to Bitlis, and they occupied those lands until the Brest-Litovsk agreement of 1917.[20] Compared to the Ottoman Third Army, the size of the Russian Army was immense. At the beginning of the war, in Caucasia, more than 300,000 soldiers were mobilized.[21] On average, their army population was around 200,000 soldiers. In addition, with the supply lines in the backfront the

[16] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.50.
[17] BOA DH.İ.UM 93/1 H-09-08-1333
[18] Erickson, Ordered to Die: A History of Ottoman Army in the First World War: p.87.
[19] Mehmet Çevik and Yavuz Selim Çeloğlu, "Birinci Dünya Savaşında Türk Ordusunun İaşe Temini," Türk Dünyası Araştırmaları 215, no. 2 (2015): p.9–34.
[20] Çeloğlu, "Birinci Dünya Savaşı'nda Doğu Cephesinin Lojistik Organizasyonu: 3. Menzil Müfettişliği": p.7-33; Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p.309-311.
[21] Reynolds, Shattering Empires: The Clash and Collapse of the Ottoman and Russian Empires, 1908–1918: p.137.

Russian Army had, it was estimated that Russians brought 850,000 soldiers to the Ottoman East.[22]

With the massive population of the Russian Army on all fronts that reach up to 4.5 million population after mobilization, the Army was consuming 1.6 million kilograms of meat per day.[23] On the Caucasian front, their yearly consumption was around 91,250 tons which were seven times larger than the consumption of the Ottoman Third Army. Although the Army could not provide the determined amount every day, it would be wise to say that they confiscated the animal's major scale to continue the war efforts. Although the food amount mentioned earlier could not be provided certainly, in both the Ottoman Army and the Russian Army, the soldiers were well-fed compared to ordinary peasant citizens. While the regular Ottoman citizen diet rarely includes meat, the army soldiers could consume at least a kilogram of meat per week.[24] In Russia, ordinary peasants were able to consume 250 grams of meat per week on average while in the army, they were able to get more than a kilogram of meat per week.[25]

Although the back front of the Russian Army also benefitted from the animal in the Caucasian region, with the invasion of the sheep-productive regions of the Ottoman East, they began to take their immediate needs from these regions. However, as stated by Fevzi Çakmak, this massive army population did not mainly squeeze the region with aggressive taxation. On the contrary, a telegraph from the Ottoman Third Army claims that the deaths from hunger were rare under the Russian management. However, with the Ottoman domination in the region, the death from hunger began to be seen and increasing day by day. The army generals mentioned this as saving citizens from a death of one kind and forcing them to another death via hunger.

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[22] Considering the army population of the Russian Empire during the war, the overall population was changing around 4.5 million during the war. Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p. 251; David R. Stone, The Russian Army in the Great War: The Eastern Front 1914-1917, (University Press of Kansas, 2015): p.33.

[23] Stone. P.37

[24] Tamari and Turjman, Year of the Locust: A Soldier's Diary and the Erasure of Palestine's Ottoman Past: p.9-11.

[25] David R. Stone, The Russian Army in the Great War: The Eastern Front 1914-1917 (University Press of Kansas, 2015): p.37.

Therefore, they requested the immediate help of the government for the region.[26] Moreover, Tsar Nicholas II's diaries were mentioning the Russian benevolence in the region and the following abundance.[27]

§ 3.2 Seizure of Small Cattle

At the beginning of the war, lawmakers were concerned about the animals and their requisitions significantly. The Army needed a constant supply of meat for the continuum of the war. Two types of in-kind taxes were used during the war; Konak Tax, and Tekalif-i Harbiye.[28] Both of the taxes were very aggressive which tried to extract as many resources from the taxpayers as possible due to the rapid mobilization before the Great War and the lack of transportation capacity of the Empire. Despite the widespread seizures of the army during 1914 and early 1915, the Army began to run out the supplies and drafting power in the middle of 1915.[29] At the same time, taxation created destruction in the region, and the government had to protect the economy of the Eastern Front from rapidly shrinking animal numbers.[30] Therefore, the tax regulations published after 1915 were contradictory to each

[26] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.118.

[27] Halit Dündar Akarca, "Imperial Formations in Occupied Lands: The Russian Occupation of Ottoman Territories During the First World War" (Princeton University, 2014): p.52.

[28] Other than these in-kind taxes, the army was also collecting cash-based taxes named as Ağnam Tax, also known as sheep tax. Since it was a cash-based tax, the revenue gathered over this tax was used to finance the army's cash procurements from the market. This tax was especially important for the eastern region because a significant portion of the population was adopted a mobile lifestyle and their income was based on animal husbandry. However, during the war period, the tax yield over the Ağnam tax was decreasing rapidly due to the decreasing number of sheep and goats. To keep the revenue approximately at the same level and to cope with the high rates of inflation Ottoman Economy was suffering, the Ottoman Government increased the tax rates regularly. Because of the rapid decrease in the animal population, these new tax rates could not create a reliable tax base for the army. The revenue from the Ağnam Taxes was around 160 Million Kuruş. And as the war intensified, the revenues were decreasing because of the 33% decrease in the animal population. Eldem, Harp ve Mütareke Yıllarında Osmanlı İmparatorluğu'nun Ekonomisi; Tezcan, "Tekalif-i Harbiye ve Tekalif-i Milliye Örneklerinde Savaş Dönemleri Mali Politikaları."

[29] Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar.

[30] BOA, DH.İ.UM.EK, 73/57, H-23-12-1332; BOA, DH.İ.UM.EK, 73/62, H-27-12-1332; BOA, DH.İ.UM.EK, 23/105, H-17-01-1335.

other. While the regulations published before late 1915 tried to extract more resources from the population, regulations published after 1916 tried to control the damage created by the massive requisition spread of 1914-1915 by putting an end to the famine and animal decimation.

3.2.1 *Konak Tax*

The first method the army used for the requisition of goods and animals from the population was the Konak Tax. The logic behind the Konak Tax was seizing the goods and services from the locals of the Army's location. Wherever the army resides, the Konak Tax was applied in those regions, and due to the rapidly changing nature of the war, the tax zone was almost covering the entire Ottoman East. This in-kind tax was the preferable one for the Army's logistic services because of its pace and cost-effectiveness. The army could obtain the material as quickly as possible via requisitions from the nearby cities or villages. Moreover, because the tax base and the Army's garrisons were almost the same, the transportation of the goods was becoming an advantage for the Army.[31] There were no exact limitations about the number of animals that could be seized via Konak tax. The army consulate and the tax officers singlehandedly determined the amount taxed and collected. When the Army commandeered the goods via the tax, they purchased the goods with cash or a voucher to pay it later. After requisitioning the goods in Erzurum, the other regions such as Van, Bitlis, Diyarbakır, Mameratülaziz, and Sivas would be notified, and the remaining needs of the Army would be completed from those regions.[32]

As stated in chapter two, the Ottoman East's capacity was limited in terms of demography and economy to meet the needs of 150,000 army personnel for a long period. Therefore, in 1914, the Army was planning to use the resources collected from the interior supply zone of the military and this Konak tax at the beginning of the war. However, after the fight's pace increased and the winter period began to block transportation in the Eastern Front, the Konak taxations got violent. They began to damage the economy severely for two reasons. The first one was about the unlimited taxation power of the tax

[31] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.32-36.
[32] BOA. DH.ŞFR. 44/222 H-18-10-1332

officers.[33] The Konak Tax enabled the army officers to tax as much as to meet the Army's immediate need for the war continuum. Although the tax officers were either buying the goods with cash or with the invoices for future payments, this 'official brigandage' had the power to determine the value of the goods.[34] With the limited amount of cash and low-valued government bonds for after-war payments, the Army seized the animals with no real return. After losing their sole income opportunity, the locals who were already on the brink of hunger began to perish more and more.

Secondly, the Eastern Front was one of the battle zones where the headquarters and war borders were changing quickly and widely.[35] The battle zone covered an area of around 600,000 kilometers square. Between the war periods of 1914 to 1918, the Ottoman Armies first lost the Van, Bitlis, Erzurum, and Trabzon regions and, after 1917, conquered near the Caspian Sea Baku. During these movements, the mentioned "nearby villages" to the Army and locations were also changing, and they began to be taxed more and more for the immediate needs of the army. Feeding an army division that consisted of thousands of soldiers put a tremendous burden on the locals' economy and livelihood. This issue worsened the inequality in taxation, and the Ottoman East became the battlefront and homefront simultaneously for four years. As Ahmet Emin Güven puts it, "there was no equality in taxation, and when they were taxing the villages, due to four years of war-weariness and massive destruction of animals, there were no animals left to be taxed. What was left was taken by force and pounding."[36] Therefore, the Konak Tax, which was only

[33] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteğ: p.62-64.

[34] Akın, When The War Came Home - The Ottomans' Great War and The Devastation of an Empire: p.113-117.

[35] In general, the Great War was described as "the battle of trenches" in which the armies were stuck in small warzones and could not move into the enemy territory due to the widespread wires, machine guns, and the inefficiency of horses. Although this phenomenon applies to the Western Front, the Eastern Front experienced a different war process and the land exchanges happened relatively quickly. The Ottoman East is an example of these massive territorial losses and military expansions. The direct result of these invasions was the spread of battlefront experience into the new borders, and following migrations, border taxations, and civilian miseries. Stone, The Russian Army in the Great War: The Eastern Front 1914-1917, Akarca, Imperial Formations in the Occupied Lands: The Russian Occupation of Ottoman Territories During the First World War

[36] Güven, Yaşam Öyküm / Kayserili, Başkatipzade Teğmen Ragıp Bey'in Eğitim, Savaş, Tutsaklık, Kurtuluş Anıları:p.78.

planned for the frontier zones, was applied in almost all of the Ottoman East due to the moving borders and battles which destroyed the economy and increased the number of animals taken by the Army.

However, due to the increasing prices in many locations, the tax collectors did not have sufficient funds to buy the animals from the herders. To illustrate, tax collectors of Mameratülaziz stated that the municipality did not have any usable animals and demanded additional funds to purchase new animals. The government declined their additional fund request, and it was stated that the budget should be transferred from the Third Army's funds.[37]

3.2.2 *Tekalif-i Harbiye*

Tekalif-i Harbiye was applied to the interior tax zones and its rate was pre-determined. The army had to bring the supplies from different locations hence the second type of tax came into play. This tax was an extraordinary one planned to apply only in desperate situations the army would face. Although it was not the first time the government would like to charge these taxes, it was not a favorable tax due to its harms in the previous Balkan Wars. However, although it was a war tax, the Empire prepared another Tekalif-i Harbiye tax even before the mobilization of the army started. On 27 July 1914, 7 days before the mobilization of the empire was announced, the regulation was published in the Takvim-i Vekayi.[38]

The army planned to benefit from this tax for requisition of the in-kind needs of the army. The needs of the army ranged from clothes to food or tumbrels to animals. The Tekalif-i Harbiye enabled the government to seize all the materials when needed. The Ottoman Army did not plan to rely on these war taxes. However, as the battle was continuing in 1915, the army grew in terms of population, the scale of the battle increased, and the transportation needs became gargantuan.[39] In early 1915, the Third Army has consisted of 70,000 soldiers and 28,000 draft animals. Daily, the army and their animals

[37] BOA, DH.İ.UM.EK, 73/34, H-15-15-1332

[38] Tezcan, "Tekalif-i Harbiye ve Tekalif-i Milliye Örneklerinde Savaş Dönemleri Mali Politikaları: p.57"

[39] Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p.305-309.

consumed a significant amount of food per day, which changed around one hundred and fifty tons of food daily. However, just within nine months, at the end of 1915, the population of the army reached 168,000 soldiers and around 50,000 animals. So, the army's size became twice as big, which doubled the army's needs, too.[40] On 27 October 1915, the Third Army General Fevzi Çakmak noted that the army was consuming 313 tons of food per day. Because the region was far from meeting the army's demand with the Konak Tax, the solution was found in implementing a broad version of Tekalif-i Harbiye.[41]

While considering the small cattle taxations, at the beginning of the war, to meet the demand for meat, the army was allowed to commandeer 25% of all male and infertile sheep and 15% of all lambs. Considering the small cattle population in 1914 and 1915, the army was allowed the requisition of approximately 5 million sheep and lambs within a year with this tax.[42] This massive taxation of small cattle was also seen as a precaution to guarantee the food supply for an extended period. However, with the widening of battlefronts in the whole empire and the increasing army population, this collected number of animals did not satisfy the needs. In addition to the army's population, while transferring the small cattle from the taxed villages to army centers located in Erzurum, Iraq, and Hijaz, many animals have perished on the roads.[43] Moreover, due to the aggressive taxation of the government, the sheep producers generally gave away their weakest and oldest members of the herds, which increased the animal casualties on the road to army warehouses. To prevent this waste on roads, the army warned the tax commissions to feed the small cattle before sending.

Despite the widespread requisition of the animals with the Tekalif-i Harbiye tax, the army could not meet the needs for raw meat. In 1915, with the pressure in the Battle of Dardanelles, the state sent instructions to the local administrators to seize 50% of all butchery animals like goats, sheep, and

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[40] Çakmak: p.305.
[41] Tezcan, "Tekalif-i Harbiye ve Tekalif-i Milliye Örneklerinde Savaş Dönemleri Mali Politikaları: p.50-51."
[42] Çevik and Çeloğlu, "Birinci Dünya Savaşında Türk Ordusunun İaşe Temini."
[43] Tamari and Turjman, Year of the Locust: A Soldier's Diary and the Erasure of Palestine's Ottoman Past.

cattle.[44] Only the breeding animals were exempted from this rule. The herd owners were forbidden to sell or trade their animals unless they delivered their in-kind taxes. If the owners could not provide the taxation document, 50% of the herd would be seized at the point by the army or tax officers.[45] However, with these massive taxations, the number of animals began to shrink quickly. The sheep and goat population declined by 7 million which raised alarms in the government.[46]

On 31 October 1915, due to the rapidly diminishing animal numbers, the army decided to reduce the tax from 50% to 15%. The amount would only be provisioned from 15% of male small cattle.[47] The regulations explicitly stated that no seizure should be done above this rate. In 1916, the army applied the same rate.[48] However, the taxation of 15% could not meet the army's needs, so 15% of the female small cattle, especially infertile ones, have also been seized.[49] On 11 March 1916, the army banned the butchering of lambs that weighed lower than 6 kilograms of meat.[50] On 1 September 1916, the government published another regulation with the pre-note about the illegal butchering of animals and the possible threat of eradicating animals, and the potential dangers for the post-war economy of the region. Therefore, additional prohibitions were published about the butchering of the cattle. The butchering of all oxen younger than 2.5 years, all fertile cows younger than ten years old, all farm-suitable oxen younger than 12 years old, all bulls younger than five years old, female sheep, and fertile small cattle were forbidden.[51]

As the number of animals was constantly decreasing, the tax officers had to increase the percentage to seize the same amount of animals nominally. On 3 March 1917, the government increased the 15% taxation rate to 25% for male and infertile female small cattle and 15% for lambs with the comment about the danger of eradication of sheep population in the country. Another

[44] Çevik and Çeloğlu, "Birinci Dünya Savaşında Türk Ordusunun İaşe Temini."
[45] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.52.
[46] Eldem, Harp ve Mütareke Yıllarında Osmanlı İmparatorluğu'nun Ekonomisi: p.89.
[47] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.54.
[48] BOA, DH.İ.UM.EK. 103/41 H-09-10-1334.
[49] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.54.
[50] Öğün.p.109.
[51] Akın, When The War Came Home - The Ottomans' Great War and The Devastation of an Empire.

regulation was sent to the officers about the taxation of lambs which prohibits the seizure of female ones to overcome the risk of eradication. Moreover, to protect the sheep number, the government legalized the butchering of the cattle again. The remaining cattle in the villages with ages between 4 and 10 would be spared as breeding animals. The remaining cattle would be butchered gradually. As can be seen from the changing tax rates, the government tried to protect animals. Another factor for this decrease in taxation was the decreasing army population after 1917 due to the war casualties and deserters. The army population decreased nearly to 300,000, which was %60 percent lower than at the beginning of the war.[52]

Even though it was a fast, efficient and resourceful tax in a short period, it had managed this objective only by excessively commandeering the goods. First, it was an unreliable and unsustainable method of taxation that could only meet the needs of the army.[53] Secondly, by taking so much from the locals, the army destroyed the locals' social and economic survival capacity. The direct result of this widespread destruction was the villagers' disapprobation towards the taxation policy, which led them to hide their goods when the tax officers came to their livelihood. Therefore, the tax revenue of the government in the following parts of the war decreased.[54] In the Tekalif-i Harbiye tax, the army requisitioned the goods over the price determined by the Governor, Municipality, and Chamber of Commerce.

Furthermore, if there were a military threat and time constraints, the army was entitled to use force on the owners to seize the goods. The army could even seize the tumbrels and animals of the visitors in the region, who were not liable to pay the tax in that region. This broad authority significantly affected the animal merchants trying to sell their animals in a particular location.[55] However, due to the length of the war and the delayed payments to the farmers, the farmers either refused to produce more which brought no

[52] Mehmet Beşikçi, The Ottoman Mobilization of Manpower in the First World War; Between Voluntarism and Resistance (BRILL, 2012).
[53] Akın, When The War Came Home - The Ottomans' Great War and The Devastation of an Empire.
[54] Tezcan, "Tekalif-i Harbiye ve Tekalif-i Milliye Örneklerinde Savaş Dönemleri Mali Politikaları."
[55] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.31.

financial gains for themselves or began to hide their animals from the authorities.[56]

The other problem with the Ottoman War efforts was the unplanned and unchecked supply organization. When the food shortages and even famine threats occurred, the army founded the İaşe-i Umumiye organization, a central planning organization to distribute the collected resources, to overcome these risks. With the increasing death of the animal, they decided to plan every resource centrally, like the German Empire.[57] The army planned to move the surplus of every region to warfronts via central commandments and overcome shortages in other regions. This control of supply even contained civil trade and transactions. Because the army already requisitioned almost all the country's transportation facilities, it could control the needs and delivery. Via banning the trade of the surplus of goods, the army decided to control every transaction.[58]

This central control of every means, even taxation, price determination, and transportation, led to both waste of goods and certain corruptions. For example, the system tried to motivate the buyers with 2 to 4 percent of commission over their collected goods. However, if the officers failed to collect, they were obliged to pay ¼ of the remaining part. Therefore, the officers were forcing the population to tax more.[59] Furthermore, it was stated that in some regions, the tax officers and the governors did not seize the animals of the rich folks in the city but only commandeered the poor's

[56] Öğün: p.36.

[57] Öğün: p.56.

[58] Although it was inspired by the German Empire, there were clear differences between the German Empire and the Ottoman Empire, in terms of implementation of these rules. The farmers and producers were located dispersed and distantly from each other. Besides that, the transportation capacity was much more limited and time-consuming compared to Germany. The goods and animals have to be transferred via mountains, cliffs and rivers to supply zones with donkeys and cattle. To counterbalance a train's 15 tons capacity, 300 donkeys have to employ. This increased the price of the goods and raised the price for the final consumers. A tons of cereal's price in Istanbul reaches to 600 German Marks, which was even higher than the price of cereal that came from USA. In Germany, the price of cereal was around 260 Marks. Tuncay Öğün p.62

[59] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği. P.63

animals, which also created inequality in taxation and further destitution for the poor, whose sole income opportunity was taken by the government.[60]

These numbers showed that only one-fourth of the resources were collected from the interior due to logistic problems. The remaining portion was collected from the nearest locations possible. The best way to collect the goods from the locals was by proposing money or other valuable items. Therefore, when the Konak and Tekalif-i Harbiye seizure would not be enough for the army's needs, the army procured the goods with cash payments. This method was named the "Mubayaa" method.[61] Without this method, forcing or threatening the population would not produce any outcome and create unrest in the region. Only after the Russian forces invaded the villages, the villagers informed the army about the stocks and expected the army to rescue their villages. According to Fevzi Çakmak, the army did not face many problems about the requisition of the animals to be butchered due to plentiful resources in the Ottoman East. However, the herds had to be collected and transferred to the front before the winter due to the mud and snow problems.[62]

Because the government had taxed the population on a number basis, at the beginning of the war, the herd owners were giving the weakest animals to the army to keep the value of the herds high. However, due to the long transportation distance, many of the animals have died on the road. After this situation, an instruction was given to the Commission of Tekalif-i Harbiye to select the animals to stop the waste. However, the herd owners continued to provide the weak and sick animals to the army. Moreover, because the animals were piled up in stables or small places, any sickness was transmitted to other sheep or goats. After this, on 6 November 1916, the army decided to appoint a veterinarian to the Commission of Tekalif-i Harbiye, to stop the loss.[63]

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[60] BOA, DH.İ.UM.EK, 73/38, H-16-12-1332.

[61] Çevik and Çeloğlu, "Birinci Dünya Savaşında Türk Ordusunun İaşe Temini."

[62] Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar. P.309

[63] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği. P.52

3.2.3 *Why Small Cattle Were Used More for Meat Provision?*

In the first year of the battle, the army decided to use both the cattle and small cattle types to create a protein source. The Ottoman Army planned these military regulations of bouche and feeding for a short period of the battle, which would not last longer than a year. However, with the war's unexpected length and major conscription of the farming population, the agricultural output reduced dramatically.[64] A decrease in agricultural production put the unprecedented need for the beasts of burden to provide raw power for both transportation and agriculture, especially after the food stock reached a critical level. Therefore, the army decided not to use cattle in the meat provision but focused on agricultural and logistic raw power. This decision also put a lot of burden on the small cattle for providing the required meat per soldier.[65]

The protein source was also changing according to the climate and seasons of the year. From December to April, the protein source would have been the cattle, and in the remaining seven months, the sheep population would be the primary protein source of the army. The logic behind this arrangement was mainly about the breeding seasons and the winter conditions of the eastern regions. Although the animal types and season paradigm was determined in the regulation, it changed according to the developments in the farming processes. In most of the empire and the eastern lands, the cattle's drafting power was most needed in the April to November period. After December, the agricultural activities already stopped due to the growing nature of the cereals.

The other factor was the transportation capacity that increased in the summer periods. The army wanted to use the cattle for transportation during the good weather periods. In the winter period, the mobility in the army was already slowed down, which reduced the need for constant drafting power. Therefore, due to the hardships in transportation, cattle usage was limited to this period.[66] Another reason for the cattle's usage in the winter period was

[64] Akın, When The War Came Home - The Ottomans' Great War and The Devastation of an Empire: p.123-139.
[65] Akın: p.121.
[66] Akın.

the ability of these animals to reach into the warzone during the winter conditions. Transporting the small cattle in the winter condition brought a lot of waste and destruction in the Ottoman East compared to the cattle.

The seizure of cattle was also restricted due to the low agricultural production capacity as a result of the recruitment of thousands of villagers and thousands of cattle into the army. At the beginning of the war, the army tried to overcome these problems by encouraging the remaining population to produce more with Amele-i Müşterekiye Talimatnamesi.[67] In this regulation, the remaining animals in a village would be responsible for the plow of the whole village's farm zones. Besides that, if the neighboring villages could not plow the lands used every year, the animals would be used in those locations.[68] Despite these efforts, in 1915, due to the drought, migrations, locust attacks, and the limited amount of animals, the yield decreased nearly 40 to 50% in Sivas, Erzurum, and Mameratülaziz. The best yield in Anatolia did not get over one to 3.5, which was barely enough for the sustainability of the economic activity.[69] Therefore, additional prohibitions regarding butchering were published. The butchering of all oxen younger than 2.5 years, all fertile cows younger than ten years old, all farm-suitable oxen younger than 12 years old, all bulls lower than five years old were forbidden. Therefore, after the cattle types were exempted from the raw meat provision, the taxation of the small cattle increased to a significant degree.

However, despite these regulations, as the scale of the war increased, the army commandeered whatever animal they can found to butcher or employ in transportation. Moreover, the laws that regulate the forbidding of animal butchery began to be ignored by everyone. The need for transportation was massively increased in the summer months, which simultaneously increased with the population of the army. One of the reasons for the need for draft

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[67] Öğün, *Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği*; P.87.

[68] The regulation was not only covering the raw power of the animals, but humans too. They were also responsible for the cropping of the lands. However, regulation could not be implemented in equal degree in every location, which radically decrease the agricultural output in the Third Army supply zone. Therefore, the regulation implemented in 1915, too. Mevlüt Karagöz, "Birinci Dünya Savaşı'nda IV. Ordu Menzilinde Amele Taburları," Güvenlik Stratejileri 15, no. 30 (2019): 379–415.

[69] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği., p.114

animals was the climate conditions in the east. First, because the summer months were mainly the period for farm harvesting, there was a fair amount of surplus. Secondly, because of the region's poor infrastructure, the army decided to transport as many goods as they can find to the front in these months. This decision led to a massive requisition campaign for the army. As the quantity commandeered increased, the required draft animals' numbers to transport them increased, eventually. The third reason for this general requisition was the lack of statistical data about the villager's surplus. The army had no prior information about the number of animals the individual villages have or their wealth. Therefore, to not risk the army's future needs, they decided to collect as much as they can get.

Despite all these regulations and legislations, the lack of experience, and lack of developed organization structure in range forces and war taxation, the imposition of war taxes could not be enforced coequally in every region. Because of the war-weariness and changing local needs, arbitrary decisions of the local authorities began to be experienced, and in the war zones like the Eastern War front, tax collection was more aggressive. The Tekalif-i Harbiye taxations were implied more harshly in the locations closer to battle zones than the inner homefront. Even though animal husbandry was well-developed in the inner regions of the empire, due to these local decisions and needs, taxing the war front aggressively led to a rupture in the Eastern Front and more animal requisition by the army.[70] The application of it was much more severe in front zones compared to the home front. According to the law, the army could seize food resources and every piece of equipment they needed, from cars to animals.[71]

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[70] These taxation models also applied in the invaded enemy lands of the Eastern Front. Only exception to the taxation was the extreme poverty of the region. Taxation of animals in Inner Anatolia was a matter of subject after the Dardannelles Front came to an end in 1916. Before that, these regions and Balkans were providing the supplies of fifth army in the Dardannelles. However, after the war ended, these supply zones were required to feed the third army in the Eastern Front and fourth army in the Syrian front as well. Tezcan, "Tekalif-i Harbiye VE Tekalif-i Milliye Örneklerinde Savaş Dönemleri Mali Politikaları." P.30

[71] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.7, 31

§ 3.3 Frontier Taxation

Although the army planned a range supply organization that planned to tax everyone in the empire within the same degree, with the developments in the war field, the taxation of the villagers and tribes rather depended on personal decisions of the tax-officers and army forces. Within the Third Army's range which experienced plenty of border changes and retreats, taxing and taking whatever they can when they move back became a habit. The Eastern Anatolia and the Kurdish migratory population were the leading producers of the small cattle population. So, the Third Army was a lot closer to the base for meat production during the war. This increased the requisition processes, and during the war, the army confiscated animals on massive scales, which were even described as plunder.[72] When the food provision was becoming very hard in winter conditions, the plunder from the closest regions and nomadic tribes became very common. In these periods, the sheep were consumed on a massive scale.

Moreover, sheep and goats were used enormously for the provision of protein sources for the soldiers. There were two direct results of this recruitment and requisition. The first one was the decreasing production capacity. Moreover, the requisition of the small cattle affected the economy and commerce of the animal herders, especially the Kurdish tribes. Although the recruitment of men did not damage animal husbandry due to its nature which required low men's power, the widespread requisition of small cattle, goats, and sheep for four years damaged the sole source of their income.[73]

Locals were not happy with these situations. There were some families and herders who hid their animals from the tax officers.[74] Moreover, because the army has taken the animals without providing enough compensation money or bills, the locals did not want to raise more animals because of their cost. After 1914, animal traders stopped the trade of animals due to high

[72] Güven, Yaşam Öyküm / Kayserili, Başkatipzade Teğmen Ragıp Bey'in Eğitim, Savaş, Tutsaklık, Kurtuluş Anıları; Evangelia Achladi, Karamanlı Rum Ortodoks Bir Askerin Seferberlik Hatıraları Çanakkale ve Doğu Cepheleri, 1915-1919 (Kitap Yayınevi, 2017).
[73] Akın, When The War Came Home - The Ottomans' Great War and The Devastation of an Empire.
[74] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği. P.29

taxation. When tax officers saw these traders, they immediately seized the animals by only giving bills to the trader. This double taxation of the same herds created additional burdens for the producers.[75] Finally, the bans on transporting animals from a supply zone to a different supply zone made it harder for the traders to create an income, and this became a de-incentive for the animal producers.[76]

§ 3.4 Conclusion

Although the Empire planned its seizures at the beginning of the war for a short battle period, the war took much longer than expected, which increased the importance of the taxation of animals. The more extended periods of war created aggressive taxation policies, especially in the frontier region from which the army seize the animals quickly. The Ottoman East was a prime example of these widespread requisitions and following animal population decreases. When these rapid decreases began to negatively affect the economy and society of the region, the central government tried to reduce the tax rates to ease the burden of the local people living in the Ottoman East. However, the increasing battle efforts in late 1915 and 1916 and decreasing tax zones after the invasion of Van, Erzurum, Trabzon, and Erzincan made these policies ineffective. The centralization of the taxation process also created problems that led to massive wastes and corruption.

To conclude, all these problems about the decimation of the small cattle population resulted from the difference between the massive consumption of the army and the limited production capacity of the region and political decisions. Although the army tried to increase the population of the cattle, the consumption and waste of them overwhelmed, and at the end of the war, the overall population of the cattle decreased by nearly 65%.

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[75] BOA, DH.İ.UM, 4/5, H-15-03-1336;

[76] The provision of purchase invoices were not favored by the traders although it have the treasury guarantee. Due to the high inflation Ottoman Empire faced during the Great War, the invoices could not afford to pay anything in the following season. Akın, When The War Came Home - The Ottomans' Great War and The Devastation of an Empire.

4

The Decimation of Draft Animals During the Great War

> *Here we had the terrifying experiences of our journey. Due to the snow, the path was only the width of a wooden plank, and deep ditches surrounded us. A day ago, we were told that many camels, tied together by ropes, slipped their feet and fell off the bottomless cliff.*
>
> *– Sidney Whitman on Zigana Pass, 1914*[1]

In this chapter, this thesis will discuss the historicity of draft animal deaths in the Ottoman East during the Great War. In this regard, first of all, their most commonly used service, the logistic story of the Great War, will be evaluated from both Ottoman and Russian perspectives. Then, this thesis will explain the infrastructural and climatic conditions that led to the death of the animals. Although they were futile, the efforts of the Ottoman Empire to prevent the draft animal deaths in the region will be presented based on the regulations and telegraphs sent from the central government. Finally, the reasons for contagious animal diseases and their rapid increase in their occurrence during the war will be discussed.

[1] Sidney Whitman, Turkish Memories, (General Books, Originally published:New York: C. Scribner's sons, 1914., 2010): p.78.

§ 4.1 The Third Army's Logistics and Dependence on Draft Animal Power

In August 1914, just before the war started, the Ottoman Army gradually seized around 220.000 draft animals for transportation purposes.[2] The average number of animals served for transportation purposes remained the same throughout the war until the end of the war in 1918. The seizure of the draught cattle types and other beasts of burdens like donkeys, camels, horses were the most essential for the progression of Ottoman war efforts due to the non-mechanized nature of the Ottoman Army.[3] Usually, in modern wars, armies pursued transportation via railroads, which enabled the delivery of a high quantity of food and ammunition quickly.[4] The armies stored their goods in the warehouses and transferred them in bulk to the fronts when needed. However, the Ottoman Army did not have this modernized logistic capacity to regularly requisition goods from a place and transport these goods to the battlefront. Therefore, the animal forces had to work throughout the year to collect the goods from village to village with the physical limitations of their drafting powers.[5]

At the beginning of the war, the Ottoman Empire had 5,759 km of railroad. Although this railroad capacity was limited compared to the European forces, another problem with these railroads is their implementation in specific regions like the Balkans and Arab Provinces. For example, the Ottoman government did not implement any railroad system in the Ottoman

[2] Henry Morgenthau, Büyükelçi Morgenthau'nun Öyküsü (Belge Yayınları, 2017): p.59; Tezcan, "Tekalif-i Harbiye ve Tekalif-i Milliye Örneklerinde Savaş Dönemleri Mali Politikaları": p.83; Erickson, Ordered to Die: A History of Ottoman Army in the First World War: p. 7.

[3] BOA, DH.ŞFR, 451/121, R-21-09-1330; Beşikçi, The Ottoman Mobilization of Manpower in the First World War; Between Voluntarism and Resistance; Eldem, Harp ve Mütareke Yıllarında Osmanlı İmparatorluğu'nun Ekonomisi; Tezcan, "Tekalif-i Harbiye ve Tekalif-i Milliye Örneklerinde Savaş Dönemleri Mali Politikaları."

[4] Arif Baytın, İlk Dünya Harbinde Kafkas Cephesi 29 Tümen ve 3 Alay Sancağı (Istanbul: Vakıf Matbaası, 1946).

[5] Beşikçi, The Ottoman Mobilization of Manpower in the First World War; Between Voluntarism and Resistance.

East, covering Sivas, Trabzon, Erzurum, and Mosul regions.[6] To overcome this problem, the Ottoman Army tried to connect the center and the Ottoman East with sea transportation and ensure its security via the Yavuz and Midilli Battleships.[7] The army also constructed a narrow-gauge line to increase the pace of transportation and supply of ammunition between Trabzon and Erzurum.[8] However, after the Yavuz Battleship malfunctioned due to a Russian attack on 26 December 1914, the power superiority was taken by the Russian Navy Forces and this created security concerns for Ottoman logistics. This weakness in the Black Sea left the Ottoman Army with no option but to use the Ulukışla-Sivas-Erzincan-Erzurum.[9] However, the road transportation between Ulukışla and Erzurum was 859 kilometers, and with the animal power, it took at least 60 days to reach the battlefront.[10]

Although the Ottoman Army's logistic capacity was limited, the army's needs were endless due to the population of the army and the size of the battlefront. It was estimated that the Third Army's population was changing from 70,000 to 200,000. After the battle of Sarıkamış on February 1st of 1915, the army reached its lowest personnel number. Nevertheless, even in its lowest form, the army's population was around 62,000 soldiers and 28,000 animals. This population consumed approximately one-hundred-fifty tons of supply per day.[11] On average, in 1915, the army was populated with around 200,000 soldiers and 60,000 animals, including horses and small cattle. Relocation of this army also required a significant logistic capability. Moving this army into two-day lengths was requiring 40,000 draft animals, at least. Moreover, the

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[6] Emin Ahmet Yalman, Turkey in the World War (New Haven and London: Yale University Press, 1933): p.84-85

[7] Yavuz and Midilli Battleships were taken from Germany and used in the Black Sea during the Great War. A detailed information about the battles in the Black Sea and sea transportation facilities of both Ottoman and Russian forces can be found in the seventh conference of Fevzi Çakmak. Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p.255-291

[8] Narrow-gauge railway is a transportation facility which have a railway gauge shorter than 60 cm and its vehicles were powered by the steam, animal or humans.

[9] BOA, DH.ŞFR, 48/266, H-17-02-1333; Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p.255.

[10] Çakmak: p.305

[11] Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p.305.

time and budget expenses were increasing proportionally as the distance increases.[12]

Due to the inefficiency in the transportation network, the army's population grew enormously in the back front. Although the Third Army was the most populated force of the Empire's army in the Great War, the battling population was meager, and the logistic population was significantly higher. On July 25th of 1917, the army's population was around 140,000, and only 40,614 of the soldiers were fighting on the front.[13] The remaining share of the deployed-in supply garrisons was constituting two-third of the army population. Many army personnel and animals were only working to collect and bring the resource to the battlefront. The ratio was not changing with the passing of the war.[14] This limited logistic capacity of the Ottoman Army forced them to base their network entirely on the biomechanical power of the animals. When the population of the draft animals was not increasing, this overloading to the animals created a reverse consequence, and logistic activities became a critical reason for the death of the draft animals.[15]

4.1.1 *Logistic Entities*

Although these problems inhibited the capacity of the Ottoman logistics, to limit the effects, the army divided the empire into different supply regions according to their closeness to war fronts and named this system as a "Menzil" organization.[16] The Menzil unit was mainly about the continuum of the army's military capacity by gathering materials from the inner lands of the country to deliver the provision to the borders of war. Menzil units were assigned to seize food, clothes, tools, ammunition, fuel, and medical supplies to the army. This transportation also works bidirectional, including the

[12] Hafız Hakkı Paşa, Hafız Hakkı Paşa'nın Sarıkamış Günlüğü, ed. Murat Bardakçı (Türkiye İş Bankası Kültür Yayınları, 2014): p.58.
[13] Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p.314.
[14] Çakmak: p.305.
[15] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.138-143.
[16] Karagöz, "Osmanlı Sefer Organizasyonlarında ve Birinci Dünya Savaşında Menzil Hizmetleri": p.29-32.; Durgun, "Sefer Planlarında ve Balkan Harbi'nde Osmanlı Ordusunda Menzil Teşkilatı": p.58-62.

transportation of the injured and sick soldiers and the prisoners of wars to the inner army centers.[17]

This method was a recent approach developed by the army and the parliament after the logistic failure in Balkan Wars. During the Balkan Wars, the army considered the empire a single unit of supply that required all the empire's regions to transport their supplies. Therefore, the army tried to bring the animals from the eastern regions to the front. However, due to weak transportation networks, this resulted in delays and massive wastes.[18] The system mainly tried to secure the food provision in the location, and also with the army personnel, they tried to secure the location where the Menzil Headquarters were placed. The Army General Staff divided the country into six supply zones when the war began. Moreover, to secure the supply zones and ensure steady transportation, each zone was strengthened with supply points. The army tried to locate each supply point or menzil headquarters every twenty to thirty kilometers, equal to ten to twelve hours of walking distance.[19] In the Third Army's menzil zone, the Menzil organization planned to establish thirty menzil headquarters, but the army could not fully implement it. Furthermore, with the Russian invasion into Erzurum, Van, and Erzincan in 1915-1917, these Menzil lines also changed, and all these relocation processes damaged the movement of the supply lines.[20]

In the Great War, the Ottoman Empire was fighting on many fronts at the same time. Additionally, due to a solid central government understanding, all production facilities were settled in Istanbul. Many goods came from the center, from ammunition to clothing, which created its advantages and disadvantages. In the battlefronts that were close to the center, like the Battle of Dardanelles, the central production created advantages. However, on

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[17] Hakan Türkkan, "Askeri Mecmua'da Birinci Dünya Savaşı Türk Cepheleri" (Kırıkkale Üniversitesi, 2007): p.105. ; Karagöz, "Osmanlı Sefer Organizasyonlarında ve Birinci Dünya Savaşında Menzil Hizmetleri": p.32.

[18] Akın, When the War Came Home - The Ottomans' Great War and The Devastation of an Empire: p.113-116.

[19] Rıza Bozkurt, "Osmanlı İmparatorluğu Döneminde Ülkenin Harekât Bakımından Bölgelere Ayrılması, İkmal ve İaşe İşleri, Haberleşme Sistemleri," Askeri Tarih Bülteni 13, no. 25 (1988): p. 5–42.

[20] Çeloğlu, "Birinci Dünya Savaşı'nda Doğu Cephesinin Lojistik Organizasyonu: 3. Menzil Müfettişliği."

peripheral fronts like Caucasia, the transportation costs and time became a burden.[21] As stated above, the supply line disembarked the materials supplied from the center in Ulukışla. Transferring these goods to the battlefronts or closer warehouses required sixty days of draft animals' logistic efforts. Any delay in transportation created the risk of battle weaknesses or hunger in the front.[22]

The Menzil system also decided upon the average weight carried by the convoy was changing according to the animal types. According to the regulations, a buffalo car could carry up to 600 kilograms. An oxcart and double-horse cart could carry 400 kilograms, a camel could carry 200 kilograms, and one cattle could carry up to 80 kilograms.[23] However, when the animal population was decreasing, the average weight carried was increasing proportionally to balance the delivery. Animal population losses limited the logistic capacity in the Ottoman East, so that in 1917 when the draft animal stock was critically low, even the soldiers were carrying 10 kilograms of food on their back for their consumption, and 15 kilograms for the army personnel in the front.[24]

4.1.2 *Seizure of Cattles*

Before the war, the Ottoman Empire planned to seize 210,000 animals to maintain the war efforts of the armies.[25] All these logistic dependencies of the army for the animals forced the empire to publish two laws to regulate the seizure of the draft animals and vehicles from the villagers. The first one was the Law on the Method of the Imposition of the War Taxes, also known as Tekalif-i Harbiye. The second one was the Law on the Acquisition of Military Transport Vehicles.

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[21] Karagöz, "Osmanlı Sefer Organizasyonlarında ve Birinci Dünya Savaşında Menzil Hizmetleri": p.45

[22] Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p.305.

[23] Mevlüt Karagöz, "Osmanlı Sefer Organizasyonlarında ve Birinci Dünya Savaşında Menzil Hizmetleri," Yakın Dönerm Türkiye Araştırmaları 35 (2019): p. 27–56.

[24] Mustafa Abdülhalik Renda, Hatırat, ed. Aytaç Demirci and Sabri Sayarı (Yapı Kredi Yayınları, 2018).

[25] Cemal Akbay, Birinci Dünya Harbinde Türk Harbi(1inci Cilt) Osmanlı İmparatorluğu'nun Siyasi ve Askeri Hazırlıkları ve Harbe Girişi (Ankara: Genelkurmay Basım Evi, 1991).

The Tekalif-i Harbiye law enabled the requisition of every material the army sees fit. The second article of the Tekalif-i Harbiye enabled the governor and military personnel to determine the minimum need of the local population to survive and seize the remaining. The army made payment for the seized materials with a voucher to pay it after the war.[26] Based on this second article of the law, the tax officers seized most of the draft animals of the population to meet the massive transportation needs of the army. As opposed to the small cattle types, the army determined no minimum or maximum limit for draft animals and seized most of them.[27] The second law, the Law on the Acquisition of the Military Transport Vehicles, known as Tedarik-i Vesait-i Nakliye-i Askeriye, also enabled the army to seize the animals and vehicles. Army officers can determine the types, breeds, and quantity of animals to be seized from a particular region. The only exception to be seized animals were the ones that will be used for breeding. Based on these taxations, the army's seizures were wild. In many villages, the tax officers left only the weakest draft animals for the village, and in some villages, there were none remained. During the harvest periods, villages were expected to share their beasts of burden for reaping processes with the neighboring villages. Meclis-i Mebusan, the Ottoman Empire's parliament, also discussed and commented on these aggressive taxations and warned the government about the massive seizures and the destruction of the region's economy.[28] However, due to the four years of battles and massive territorial losses, the army and its tax officers continued to seize every animal they could find to continue war efforts.

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[26] Tekalif-I Harbiye'nin Suret-i Tarhı Hakkında Kanun-i Muvakkat" Düstur, İkinci Tertip, vol.5,21 Safer 1331

[27] Cem Barlas Arslan, "Birinci Dünya Savaşı ve Harp Vergisi," *Akademik Bakış Dergisi* 57, no. 3 (2016): p. 73–83.

[28] The discussions in the Meclis-i Mebusan also focused on the inequality in taxation. Because the second article enabled the tax officers to tax anyone in the country, selective taxation was applied in the Balkan War. As a result, the officers were either bribed or focused on the minorities who could not defend their rights effectively. Matyos Nalbandyan Efendi of Kozan and Kazım Bey of Biga assumed that the same phenomenon would occur in this war. Therefore, they stated that the clarification of the taxation process was necessary. TBMM Arşivleri, Meclis-I Mebusan Zabıt Ceridesi(İçtima-I Fevkelade) Devre:3 Cilt:1 İctima Senesi: 1 Onbeşinci İtikad R-02.06.1330 Pazartesi; Akın, When The War Came Home - The Ottomans' Great War and The Devastation of an Empire: p.114.

§ 4.2 Perishing Draft Animals on the Ottoman East Roads during the Great War

The draft animals that were collected via these laws were used both in the battlefront and back front. Their numbers diminished nearly by 40% for all draft animal and cattle kinds like the ox, horse, water buffalo, donkeys, and camels during these four years of battle.[29] The need to exploit the animal's drafting power in such a destructive manner resulted from the two problems the army faced when moving supplies from a peripheral location to the center of the battle or resource hubs. The first reason was the poor quality of the roads and harsh winter climate, which severely increased the arrival time of the supply line and forced the animals to work for longer hours and in dangerous road conditions. The second reason was the malnutrition of the draft animals, which led to their eventual deaths.

4.2.1 *Infrastructure and Climate*

The first reason for the death of draft animals was the poor infrastructure quality in the Eastern lands and the harsh climates.[30] During the Great War, the army commandership and the government constantly urged the local tax forces and Menzil lines to supply the goods they seize in a hurry. Any negligence on this behalf would be punished accordingly to the damage they created for the army. However, poor road quality forced the army and the animals to their limits to meet the demanded amounts of supply. Furthermore, inadequate transportation capacity was creating delays in delivery time. Therefore, to keep up with the demands, the draft animals had to work for longer hours and in dangerous paths that eventually led to injuries and deaths of the draft animals.[31]

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[29] Tezcan, "Tekalif-i Harbiye ve Tekalif-i Milliye Örneklerinde Savaş Dönemleri Mali Politikaları": p.39; Başbakanlık Devlet İstatistik Enstitüsü, "Türkiye'de Toplumsal ve Ekonomik Gelişmenin 50 Yılı": p.32-32.

[30] Ali Rıza Eti, Bir Onbaşının Doğu Cephesi Günlüğü (Türkiye İş Bankası Kültür Yayınları, 2009): p.49.

[31] Baytın, İlk Dünya Harbinde Kafkas Cephesi 29 Tümen ve 3 Alay Sancağı; Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği..

To reach the battlefront, the Ottoman Army used several roads in the Ottoman East. Before the war, the army depended on sea transportation with the Trabzon-Erzurum road, which paved mediocrely enough for the vehicles. The distance between Trabzon -Erzincan, which was around one-hundred-eighty kilometers long, was completed around ten days, requiring the army to move twenty to thirty kilometers per day, including the resting days.[32] The road used the Zigana path, whose altitude is around 2050 meters. This path links the Trabzon and Gümüşhane, but it was covered with snow for almost five months. In the remaining periods, due to the narrowness of the roads, it was not particularly secure for the delivery of goods. It was estimated that more than 7,000 people and 35,000 animals were employed only in the line between Trabzon Harbor and Erzurum to achieve a constant flow of goods and services.[33] However, after the Ulukışla – Erzurum line became the main transportation line, it took nearly sixty days for supply convoys to reach the army center in Erzurum and additional ten days to reach the battlefront. Most parts of these roads were worse than the Trabzon path due to a lack of infrastructural investments and dependence on Trabzon Harbor for commerce before the war.[34] Even when the army retreated to Suşehri, a province of Sivas, after the invasion of first Erzurum, then Erzincan, the transition of soldiers, supplies, and ammunition from the nearest railroad station took nearly a months on foot.[35]

The other roads were just the village roads, and the stone-based structure was not strengthened. The most challenging part of the region was located in the east of Euphrates to Pağaştaş. This road was significantly important because it linked the transfers from Mosul, Diyarbakır, and Mameratülaziz to the warehouses in Erzincan. Many of the village roads, this was also had an inclined posture due to the mountainous nature of the

[32] Baytın, İlk Dünya Harbinde Kafkas Cephesi 29 Tümen ve 3 Alay Sancağı: p.14.

[33] Fulya Özkan, "The Role of The Trabzon–Erzurum– Bayezid Road in Regional Politics and Ottoman Diplomacy, 1850s–1910s," in The Ottoman East in the 19th Century: Societies, Identities and Politics (London, New York: I.B Tauris & Co. Ltd., 2016): p.35.

[34] Özkan, "The Role of The Trabzon–Erzurum– Bayezid Road in Regional Politics and Ottoman Diplomacy, 1850s–1910s."

[35] Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p.306; Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p. 129-131

geography. In addition to that, the stones were not appropriately placed during the construction, and this led to a significant problem for transportation and animals. With the overwhelming usage of the roads, stones of the roads were dislocated. The dislocated stones created gaps in which the animal's feet can stick to its knee and led to fractures.[36] In general, the draft animals became useless after the injuries for the logistic services. Therefore, the convoy had to split the carriage into the other tumbrels and animals. In many cases, only half of the supply can be transferred due to the lack of space, and the remaining portion became wasted. In addition, the injured animal was butchered for meat provision, and the woods of the tumbrels were used in heating.[37]

The remaining paths that connect the periphery to the main roads also shared the problems, and as the usage of these roads increased due to the war transportation, they wore off rapidly. Even the best routes in geography were designed to work with around 25,000 animals of commerce. With the increasing animal population in transportation that reaches up to 80,000 animals and heavy transportation schedules, the routes were deprived rapidly. Moreover, the thin tires of the tumbrels were cutting the soft dirt roads and making it harder for the next voyage.[38] The central government or local people did not repair the existing roads near the streams and hills.[39]

Besides that, existing road networks also created dangerous situations for the animals when carrying the weight. The "paths" in the highlands, which linked the Trabzon -Erzurum or Diyarbakır-Erzurum line, were not improved

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[36] Güven, Yaşam Öyküm / Kayserili, Başkatipzade Teğmen Ragıp Bey'in Eğitim, Savaş, Tutsaklık, Kurtuluş Anıları: p.80.

[37] Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p.309; 83. Alay Komutanın Yürüyüş Raporu, 10 Mayıs 1915, Bahtiyar İstekli, Bir Teğmenin Doğu Cephesi Günlüğü (Türkiye İş Bankası Kültür Yayınları, 2009): p.74-76

[38] Before the war started, there were 160 automobiles in the country, and each of them could carry 3-4 tons of weight. However, the army did not provide any of the automobiles to the Ottoman East. After the war started, despite the requests of the army generals, the government only allocated 20 motorized carriages, and at the end of the war, the number reached up only to 80. Also, due to the poor road conditions, they could only be used in Trabzon-Erzurum road and certain parts of the Ulukışla-Erzurum line. Also, because the cars were not brand-new, they went out of order frequently. Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.134.

[39] Bahtiyar İstekli, Bir Teğmenin Doğu Cephesi Günlüğü, (Türkiye İş Bankası Kültür Yayınları, 2009): p.30.

according to the army's needs and were very close to the cliffs, which made it harder for animals to move. Therefore, during the transportation, animals fell from the cliffs, and also the goods they carried became wasted. The main reason for this problem was the width of the network, which was not wide enough for two loaded animals to pass at the same time.[40] In some places, the army decided to use the soldiers to carry out this massive ammunition and supplies. For example, in the 29th division of the Third Army, the generals decided to use soldiers to carry cannons that were even heavy for the animals. In such poor road conditions, the soldiers were carrying the weight on their backs to ensure the health of animals and delivery of the goods.[41]

The army seized the strongest draft animals at the beginning of the war, considering the region's infrastructure problems. However, within four years, with the death of the draft animals, the supply zone started to force the weak animals to carry the artillery.[42] Even the dairy cattle were teamed before tumbrels in some places with the lack of oxen and horses. Teaming weak animals to carry the heavy loads created a downward spiral for the destruction of the animal population via overburden. During the war, the army personnel kept diaries about their war experiences, and the destitution of the draft animals due to poor working conditions was a common issue. All these transportation problems led the animals to work for longer hours to achieve transportation. "*Their working hours started very early in the morning and ended in late-night, leaving them 4-5 hours to rest.*"[43] This overburden led to their eventual decimation.

Due to the rapidly decreasing number of animals, on January 6th of 1917, just before the offensive combats started in the Caucasian Front, the government implemented a list of directories for the movement of animals and vehicles. The rules were about the orderly movement of the draft animals. Transportation should only be completed on the right side of the road, and passing should be done on the left. Any carriage that needs to stop should alert

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[40] Özkan, "The Role of The Trabzon–Erzurum– Bayezid Road in Regional Politics and Ottoman Diplomacy, 1850s–1910s": p.36

[41] Achladi, Karamanlı Rum Ortodoks Bir Askerin Seferberlik Hatıraları Çanakkale ve Doğu Cepheleri, 1915-1919: p.82.

[42] Baytın, İlk Dünya Harbinde Kafkas Cephesi 29 Tümen ve 3 Alay Sancağı: p.20.

[43] Eti, Bir Onbaşının Doğu Cephesi Günlüğü: p.60.

the following vehicles with a hand warning. Also, to keep the strength of the draft animals, no one should be mounted on the animals.[44] The maximum amount of load a draft animal was determined as eighty kilograms for a two-horse car, this amount was set to 350 kilograms, and for one-horse cars, and it was one-hundred-and-eighty kilograms. For oxcarts, the amount was 450 kilograms. Misbehavior towards the animal-like forcing them to carry beyond their capability was strictly forbidden.[45]

Already requiring a great deal of effort, with the long winters, the destitution of the animal increased utterly. In the winter conditions, the journey either took longer or was aborted. The situation was worse in more rural districts. During the winter and early spring periods, snow was covering all the roads and make transit impossible. Most of the region experienced long and harsh winters, which lasted from 80 to 155 days. Therefore, the military-based carriages were done under problematic winter conditions that delayed the travel time.[46] To prevent this, usually, the tax officers were working with haste to complete the transfers before the winter period. For example, the first army corps of the Third Army was constituting one-third of the army population, and the supply zone of this corps was Sivas province. Before the start of the winter and closure of the Karabayır pass that linked the city to Erzincan, the governorship was stacking their pile into Şuşehri and Refahiye and demanded motorized cars from Konya and Ankara to achieve this process.[47] However, in many cases, these transactions could not be completed, and the supply lines had to work through the cold winters when the roads were not completely closed.

When spring came, and the snow melted, the situation did not ameliorate, either. The lack of reliable transportation networks doubled the effects of these harsh weather conditions. Road transportation was primarily achieved via unimproved dirt roads, and the melted snow turned the roads into muds. It was challenging for traditional vehicles and tumbrels to move on

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[44] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği.
[45] BOA, DH.HMŞ, 31/8, H-27-03-1335
[46] Hüseyin Saraçoğlu, Doğu Anadolu Bölgesi, 1989; Başkanlığı, Birinci Dünya Harbinde Türk Harbi Kafkas Cephesi 3.Ordu Harekatı 1.; Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği. P.3
[47] BOA, DH.İ.UM.EK, 5/2, H-03-01-1333

these roads. When the tumbrels were sticking into a muddy road, the pace of the trip could reduce down to 2 km per hour, and lift the tumbrels from the muds more strength and energy were required, which destroyed the animals.[48]

The final problem caused by the transportation was the lack of services for animals, especially the lack of stables. Although the Menzil system planned to provide the inns and veterinary personnel for the draft animals, the system was trembling even in the second year of the war. The only existing network that was sufficient enough was in the Trabzon- Erzurum line. Another problem with the transportation was the lack of horseshoes and nails. Many of the animals were injured and perished due to the lack of these fundamental gears. With the start of the war, the army recruited the blacksmiths and employed them to the battlefronts. This situation limited the blacksmiths to deal with the animals working inner lands. To prevent further problems with the horseshoes, the governor of Erzurum required adequate blacksmiths in the Erzurum, Ilıca, Yeniköy, Aşkale, and Tercan warehouses and tried to ensure the shoe of animals of villagers.[49] However, in many other places, the army started mobilizing with the lack of equipment and services that led to the death of the draft animals.[50]

Compared to the Ottoman experience of the war in the Ottoman East, the Russian forces also benefitted from the drafting power of the animals. In addition, their logistic services were enforced with robust railroad transportation systems from Batum and Erivan to the front. Moreover, with the hegemony in the Black Sea, they were transporting the goods to the Batum Port.[51] While using the animals, the army strictly enforced the one-hundred kilometers rules to keep the benefit of drafting animals and limited the maximum distance for a tumbrel to one hundred kilometers.[52]

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[48] Kaymakam Guze, Büyük Harpte Kafkas Cephesindeki Muhabereler, 1916; Faik Tonguç, Birinci Dünya Savalında Bir Yedek Subayın Anıları (Türkiye İş Bankası Kültür Yayınları, 2019): p.47-48; Bahtiyar İstekli, Bir Teğmenin Doğu Cephesi Günlüğü (Türkiye İş Bankası Kültür Yayınları, 2009): p.30.

[49] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.142.

[50] Beşikçi, The Ottoman Mobilization of Manpower in the First World War; Between Voluntarism and Resistance: p.109.

[51] Stone, The Russian Army in the Great War: The Eastern Front 1914-1917.

[52] Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar.

After the Russian invasion of the region, the Russian army immediately constructed railroad systems and improved the dirt roads and highways to enable a more persistent transportation network. One striking example of investing in infrastructure was that the 150 km railroad between Trabzon and Gümüşhane that was completed only within months.[53] 25,700 animals were used in the transportation line, which was lower than the Ottoman Empire was using.[54] Another line constructed by the Russian Army was the narrow gauge railways between Kars, Erzurum, and Erzincan. After the Brest-Litovsk Agreement and following the Ottoman expansion into the Caucasia and the Caspian Sea, they benefitted from these transportation networks. After the sea transportation became secure, the army could use the Trabzon – Batum – Tiflis line. Therefore, after the mid-1917, the losses in the roads decreased significantly for the Ottoman Army.[55]

4.2.2 *Malnutrition*

The other reason for the animal deaths on the roads was the limited amount of food provided to each logistic unit. In general, a draft animal was expected to carry around 80 kilograms of supply and ammunition. However, each of them consumes around 5 kilograms of food per day, besides the grass, they ate during the spring and summer periods. This consumption increased with the bad weather conditions due to the lack of grass. During the fall and winter periods, the army had to provide sufficient fodder like chaff and millet.[56] However, as the battle continued, the animals could only get only one-third of what day needed to continue. In general, they could only get around 1.5 kilograms of millet, which destitute their well-being.[57]

In addition to that, the incredibly long delivery destinations created absurd conditions for the carriage. To illustrate, the distance between Sivas

[53] Akarca, "Imperial Formations in Occupied Lands: The Russian Occupation of Ottoman Territories During the First World War": p.99
[54] Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p.310-311.
[55] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği.
[56] Hafız Hakkı Paşa, Hafız Hakkı Paşa'nın Sarıkamış Günlüğü: p.66.
[57] Achladi, Karamanlı Rum Ortodoks Bir Askerin Seferberlik Hatıraları Çanakkale ve Doğu Cepheleri, 1915-1919: p.76.

and Bayburt was around 300 kilometers that were completed by tumbrels in 15 days. After completing the delivery, the convoy had to come back, which took 15 days without considering the resting days. As stated before, the maximum amount of cereals or food carried by a tumbrel was around 200 kilograms. This carried amount was equal to the consumption of the oxen and the driver of the tumbrels in a month.[58] In addition to that, due to the winter conditions, the drafting animals could not find grass to eat due to the mud and snow around the road. Therefore, they had to eat the whole amount of carried food to survive if they wanted to return to Sivas from Bayburt. However, this would not leave any resource for the battlefront and the army found the solution to butcher the drafting animal that worked during the fall and winter periods and use the remaining cereals for the soldiers in winter conditions.[59] The army was also burning the tumbrels to heat up. At the beginning of the war, this did not bother the army due to the plentiful wood resources and oxen population. However, with the rapidly decreasing number of animals, the army tried to plan resource usage with care.

The army needed approximately 40,150 tons of chaff in 1915, according to the calculations of Levazımat-ı Umumiye Dairesi, to feed the animals of the Third Army. The army was planning to gather the chaff from the locals as aid due to the chaff's low commercial value. However, after the communications with the local administrative forces, it became clear that only ¼ of the desired amount could be gathered as aid. Moreover, the army was faced with problems with the lack of sack and transportation facilities to move the chaff. As a result, after three months, the aid method was applied, a minimal amount of it was collected, and in August, the chaff transportation came to a stopping point.[60] Due to malnutrition problems caused by the lack of chaff, the army published another regulation on 23 August 1915 about the imminent supply of chaff to continue animal transportation.[61] Even after the inadequate supply, the

[58] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği.

[59] Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p.309.

[60] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.41.

[61] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.42.

Ministry of Interior published a law for 40% of the chaff to aid the army. The remaining amount could be bought from the villagers.

The main problem with this chaff situation was the transportation of the goods, as the administrators remarked about the plenty of resources for the chaff. The extreme taxation of warzones can be seen here. In the Erzurum region, the army already requisitioned 2/3 of the chaff as military requests.[62] Because every unit of animals was employed excessively, their capacity for burden decreased day by day. Due to the lack of food, only one kilogram of barley could be supplied in some places. In some places, animals were fed wheat, but it was not as nutritious as barley for the animals. Moreover, because it was not a regular diet for the animals, the wheat could lead to indigestion. Due to the low production capacity of barley in the region and lack of grass due to the cold, the animals had to be fed with chaff in winter periods. To feed such an animal capacity, it required a considerable amount of chaff. In the region, there was no bailing machine to bale the chaff, and despite the request, the central authority did not provide the machine which would ease the transportation of the chaff.[63]

4.2.3 *Combatting Population Decrease*

The Ottoman army was aware of the sliding logistic power after the death of the beasts of burdens. Therefore, regulations and warnings were published, which were about the treatments to the drafting animals to limit their destitution and widespread deaths. To illustrate, it was obligatory that the grooming of the animals had to be completed in an officer's presence, and the army generals insisted on regular feeding of animals. Any negligence of the animals by the army personnel would be punished since it would reduce the army's war capability consciously. The person in charge of this would be personally liable for the death. Moreover, the army tried to ensure the food supply for the animals via punishments targeted to the supply unit officers.[64]

Due to the inflation in animal prices and decreasing population, the parliament needed to interfere with the widespread taxation of animals and

[62] Öğün, Kafkas Cephesinin 1.Dünya Savaşındaki Lojistik Desteği: p.42.
[63] Öğün: p.43.
[64] İstekli, Bir Teğmenin Doğu Cephesi Günlüğü: p.128.

tried to encourage the breeding of the animals via new regulations. This set of laws mainly focused on the cattle types and their butchering for meat provision. The legislation prohibited the butchering of all cattle types younger than 2.5 years, water buffalos younger than ten years old, oxen, and bulls younger than 12 years old. These regulations were designed to protect the draft animals, which were ensuring a regular production cycle. Water buffalos, oxen, and bulls were widely used in transportation. The army could benefit from their drafting power until they were around 10 to 12 years old. After that, due to the decrease in their power, they became suitable for butchering. In addition to these regulations, after 17 November 1915, due to the problems in farming and low outputs, selling the cattle suitable for farming was forbidden. Moreover, the taxation of female cattle was explicitly forbidden by the Supreme Military Office. The army contractors could purchase the remaining animals. However, due to the low enforcement capacity, these laws could not be implemented. To meet the raw meat need, the contractors were butchering all types of cattle.

§ 4.3 Contagious Cattle Plague during the Great War

The last reason for the massive death rate of the animals was the contagious diseases and lack of veterinary personnel to control the animal deaths. Rinderpest, a deadly epidemic that aims at cattle types, was already sweeping Eastern Anatolia before the Great War. Even before the heat of such a war on such a scale, Ottoman Empire could not manage to surpass the disease.[65] With the beginning of the war, the disease secured its place in Ottoman East once more.

During the Great War, in Meclis-i Mebusan, the secretary of agriculture, Mustafa Şerif Bey, informed the parliament about the total death counts caused by the rinderpest. In 1914, over 50,000 cattle got infected, and 4.300 of them were killed by the disease. In 1915, the numbers were 218,000 to 33,000;

[65] A detailed information about the spread of Rinderpest in the Ottoman Empire can be found in chapter two of this thesis.

in 1916, 147,000 to 18,000.[66] In 1917, the animal number that got touch with the disease was around 77,000, and 15,000 of them got sick. 5,990 of these animals were killed by the disease, and 48.000 of them were saved by the vaccination. However, considering the contagiousness of the disease, it would be safe to say that these numbers are political. To illustrate, another report prepared in the same period claimed that the number of animals that died from the disease in the Eastern Front covering the Russian Caucasia, Black Sea shores, and the Ottoman East was nearly six million.[67] Other manuscripts also give a sense about the wreck of the disease. For example, in Mameratülaziz, because of the animal deaths caused by the rinderpest, the locals could not transport the cereals and munition that the oxen would generally carry.[68] In Mameratülaziz, the army forced people to carry the cereal on their backs to overcome this problem. Other regions also informed the government about the lack of means of transportation due to the destruction of the tax-remaining animals by the rinderpest.[69]

The spread of the disease increased compared to the pre-war period due to a few reasons. The first one was the increasing mobility that was caused by the transportation of the army and civilian population. The second reason was the lack of veterinary services provided by the government. Finally, the third reason was the personal negligence of the animal owners. All these reasons increased the pace and effects of the disease via interaction of animals and following contagion

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[66] Contagious diseases not only affected animals in the Eastern Front. After the Battle of Sarıkamiş, at least 30,000 soldiers lost their lives due to multiple diseases like typhus, fever and typhoid. In Erzurum, the government was planning to have a hospital capacity for 16,000, however the capacity was around 900. This lack of treatment increased the pace of the contagion. Even the general of the Third Army, Hafız Hakkı Paşa died from typhus. Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar: p.74

[67] These animal diseases affected any military operation that was done in the Iran-Georgia-Ottoman East triangle. Çakmak.144 "Sığır Vebası ve Hakkında İttihazı Lazım Gelen Tedabir (Veba-i Bakari)"; Erk, "Tarihte Önemli Sığır Vebası Salgınları ve 1920'ye Kadar Memleketimizdeki Durumu."

[68] BOA, DH.İ.UM.EK, 72/67, H-14-11-1332; BOA, DH.İ.UM.EK, 73/47, H-20-12-1332.

[69] BOA, DH.İ.UM.EK, 73/47, H-20-12-1332; BOA, DH.İ.UM.EK, 80/44 H-21-12-1334

4.3.1 *Mobility and Contact*

The first reason for the increase in the pace of the disease was the war mobilization. This unprecedented mobility of the animals brought and stack almost all of them next to each other and ease the contagion.[70] The travel of the goods and animals to these locations was completed via a four-fold approach. First, the animals were gathered in the village stables and then transferred to the city centers to combine all animals and additional reserve purposes.[71] Then, the animals were transferred to each Menzil warehouse located every 20-30 kilometers.[72] In the third step, all the seized foods and animals from Erzurum, Trabzon, Mameratülaziz, Diyarbakir, Van, Bitlis, and Mosul would be stacked in Erzincan Müddehar-i Umumiye, the general army supply storage.[73] In the final step, the materials were sent from Erzincan to the war fronts using the draft animals. Such mobility to meet the army's demand via seizure from every village of the empire increased the contact among animals and eased the contagion. The limited stable capacity of the army warehouses was another reason for the spread of the disease. Furthermore, due to the cold temperatures during the winter, the army enforced to stack them against cold weather.

Although the quarantine method was tried to be applied, the Eastern Anatolian cattle types were not showing symptoms of the disease as early as the European kinds due to their more robust resistance system to the disease, which facilitated the spread of the disease. Therefore, if the disease was diagnosed in the third step and the contagion spread into the Menzil animals, the government sent army veterinarians to understand the contagion and take

[70] Just alike, the human diseases were also spreading with a quick pace during the withdrawal of the Third Army in the early 1916.Due to the withdrawal diseases like cholera, typhus spread into Suşehri and Sivas. In an army report that was published in March 1916 it was stated that many privates were exposed to the disease. Mustafa Karatepe, "Birinci Dünya Savaşı Yıllarında 3. Ordu Bölgesi'nde Aşılama Çalışmaları," Türkiye Klinikleri J Med Ethics 17, no. 3 (2009): 125–29. Erickson, Ordered to Die: A History of Ottoman Army in the First World War. P.63

[71] BOA. DH.ŞFR, 440/113, R-02-07-1330

[72] Although it was planned to establish a Menzil line in every 20 to 30 kilometers, during the Great War, in many locations the Empire could not manage this organization.

[73] BOA, DH.ŞFR, 45/8, H-23-10-1332.

the necessary precautions about killing and burying the diseased animals to prevent further damages.[74]

During the war, the army sections were actively mobilized, and the civilian population was experiencing a migration wave. As stated before, the warzone in the Ottoman East changed extensively with the Russian invasion of the Ottoman lands like Erzincan, Erzurum, and Van, which were essential to the Ottoman population and economy. After the invasion of these lands, the army had to retreat and establish the new army center in Erzincan, then in Suşehri in 1916. This movement of the army was also followed by the migration of the locals of the region. The places the Ottoman Army left were filled by the Russian army, which consisted of 200.000 soldiers and two-third of a supply unit.[75]

The region was experiencing another great transition due to the forced migration of the Armenian population, which increased the mobility and contact of the people.[76] Another forced migration happened after the Russian invasion through the deportation of Kurds in the region.[77] All these mobilizations from different lands of the empire were achieved via animal power, which increased the contact of animals, leading to the spread of the disease. Another similar movement of the army and population occurred after the Russian retreat due to the Brest-Litovsk peace treaty. The Ottoman Army began to march forward into the deeper lands like Batum, Erzurum and as forward as to the Caspian Sea. All these backward and forward movements led to the spread of the disease to the Ottoman East's whole cattle population and the empire.[78]

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[74] BOA, DH.ŞFR, 483/19 R-26-05-1331.

[75] Çakmak, Birinci Dünya Savaşı'nda Doğu Cephesi - 1935 Yılında Harp Akademisinde Verilen Konferanslar. P.306.

[76] Mustafa Karatepe, "Birinci Dünya Savaşı Yıllarında 3. Ordu Bölgesi'nde Aşılama Çalışmaları," Türkiye Klinikleri J Med Ethics 17, no. 3 (2009): 125–29.

[77] Akarca, "Imperial Formations in Occupied Lands: The Russian Occupation of Ottoman Territories During the First World War." p.72-74

[78] Erk, "Tarihte Önemli Sığır Vebası Salgınları ve 1920'ye Kadar Memleketimizdeki Durumu."

4.3.2 *Veterinary Services*

Ottoman Empire tried to overcome this disease via veterinary institutions. However, due to many weaknesses in the bureaucracy and economy, this effort to prevent the disease did not end up as expected.[79] Unlike the other contemporaries of the Great War, the Ottoman Army did not have enough veterinary resources to become aware of the contagious diseases quickly, apply the primary measures to stop the spread of the disease, cure the diseased animals or properly bury the decomposing animal carcass to minimize the effects of the disease. However, at the beginning of the Great War, the number of veterinary personnel in the entire Ottoman Army was 210.[80] Most of the veterinarians were also located in places close to the center, and very few remained in the peripheral parts of the empire. So, the Eastern Front, which consists of 50,000 active draft animals and many more in the homefront mobilization, was checked by a handful of veterinary personnel. Later in the war, in 1916, thanks to the government's efforts, the number of veterinarians reached up to 250. However, compared to other countries, these numbers were insufficient. For example, during the Great War, the German Empire employed nearly 6,000 veterinarians. So, 250 veterinarians of the Ottoman Empire had to control almost 47,000,000 animals, which significantly inhibited the quality and quantity of the animal disease treatments.[81] Besides that, civilian veterinary personnel was enlisted in the army and only looked after the army's animals. Therefore, inner village

[79] Ak, "Osmanlı Devleti'nde Veba-i Bakarî."

[80] Esin Karlıkaya, "Osmanlı İmparatorluğu'nda Üretilen Aşı ve Serumlar Ile Bunların Üretildiği Kuruluşlar," Trakya Üniversitesi Tıp Fakültesi Dergisi 16, no. 3 (1999): p.167–78.

[81] In 1910, the number of total veterinary personnel was 180, and most of these people were living in Istanbul or Rumelia. In many cities of Anatolia, there were no veterinarians at all. These limitations make the early diagnosis and interference of the disease impossible. In 1911, the government estimated the required number of veterinary personnel to cope with the diseases and stated that 518 veterinary personnel would be sufficient. However, the capacity of the veterinary school allowed to have 10 to 12 graduates per year, and with the possible enhancements, the numbers could reach only 24 to 30 personnel ready for duty. Also, to help with the veterinarians, the government instituted a practice school that would train 40 to 50 students for two years. These trainees would be entrusted with the task of animal vaccinations in the rural lands. Gül, "Türkiye'de Veteriner Hekimliği Hizmetleri ve Hayvancılık Politikaları Üzerine Araştırmalar." Ak, "Osmanl 1 Devleti 'nde Veba-i Bakarî, The Rinderpest in the Ottoman State."

territories' access to veterinary services was also limited, and the rinderpest spread benefited from it.

Other than veterinarians, the Ottoman Empire tried to overcome this disease by producing modern serums in disease centers. After the Empire had several serum production centers, the capacity of these laboratories was limited.[82] With the increasing mobility of the army, logistic lines, and spread of the disease, the laboratory could not produce sufficient vaccines and serums for the beasts of burden. Already produced less than the number of contained animals, the remaining serums were not sufficient to limit the spread of the disease. In 1914, the serum production capacity of the entire empire was 5,563 liters, and in 1915, the capacity reached up to 7,627 liters. Considering the serum's effectiveness, which lasted only for a year, these preventive efforts were insufficient.[83]

Other than the production capacity, there were two other problems with the laboratory and serums. The first one was the Russian advancements in the Ottoman East. With the invasion of Erzincan by the Russian forces, the laboratory had to be transported to an inner land. The first location selected was Aleppo which has a link with both the Eastern Front and the Hicaz front.[84] However, due to the problems in the transportation with the Eastern Front, the laboratory was transported to Niğde, which had a railroad transportation network that also links the laboratory with the Dardanelles and the centers. With the end of the battle in the Dardanelles, the laboratory moved to Sivas again to have it closer to the center of Rinderpest, the Eastern Front. In Sivas, there was already a laboratory that was producing serums and vaccines for diseases like smallpox. However, during all these times, and due to the importance of the Dardanelles in the Great War, the combat with the Rinderpest in the Eastern Front was hindered.[85]

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[82] Karlıkaya, "Osmanlı İmparatorluğu'nda Üretilen Aşı ve Serumlar Ile Bunların Üretildiği Kuruluşlar": p.10.

[83] Sabri Mengirkaon, "19. Yüzyılın İkinci Yarısında Diyarbekir'de Veba-i Bakari," in Osmanlıdan Günümüze Diyarbakır (Ensar Neşriyat, 2018): p. 315-317.

[84] The other reason for choosing the Aleppo was the increase in the spread of the disease in March 1915. DH. UMVM 80/50 H-27-06-1333

[85] Karlıkaya, "Osmanlı İmparatorluğu'nda Üretilen Aşı ve Serumlar ile Bunların Üretildiği Kuruluşlar." Karatepe, "Birinci Dünya Savaşı Yıllarında 3. Ordu Bölgesi'nde Aşılama Çalışmaları."

In addition to that, serum was not particularly effective in preventing the spread of the disease. Due to the resistance of the Eastern Ottoman draft animal types, the symptoms appear later, limiting the time to deliver the serums to the region.[86] However, the transportation lines were not adequate to transport these serums to the villages efficiently. After the first symptoms appear, the cattle were usually killed by the disease within the first week. If the quarantined zone was 150 km away from the Erzincan or Sivas, the first wave of animals lost their lives. The serums were not transported carefully on the broken paths either, increasing the waste and decreasing the quantity delivered to the disease center.

4.3.3 *Noncompliance with the Regulations*

Although the government forced a medical inspection of the animals while they were moving into a different location, in addition to the lack of veterinary personnel, the veterinary personnel or the inspectors were asking for examination fees. Already in a problematic economic condition, the villagers abstained from the inspection in order not to pay fees and secretly smuggled their animals into different locations, which also led to the spread of the disease. Moreover, contrary to the 1913 legislation, the local authorities did not pay the determined compensation fees for the decimation of the disease animals, which left the villagers empty-handed. Therefore, the locals were not informing the government, and if their animals' health became critical and they butchered the animal, they traded them to make a profit. Moreover, in some cases, the locals and soldiers consumed the dead animals' meat due to the malnutrition faced in both the homefront and the battlefront. As a result, dead animal bodies were found everywhere, and the immediate burials of the animal deaths were commanded by the army to prevent these acts of noncompliance. Any negligence about the issue would be punished severely, according to the army regulations.[87]

The supervision of the regulations about contagious disease was not effective per se. The lack of military personnel in the homefront prevented

[86] Ak, "Osmanlı Devleti'nde Veba-i Bakarî."

[87] İstekli, Bir Teğmenin Doğu Cephesi Günlüğü: p.139.

creating effective quarantine and cordon zone precautions.[88] In addition to that, although there was a ban on the transportation of animals from different supply and range zones, some animal owners were intentionally breaking the rules to create profit. Because of the geographical impracticability of auditing the migratory tribes and their transportation, it was easier for these tribes to transport the animals and sell them for fair prices than the army provided.[89]

§ 4.4 Conclusion

To conclude, the death of the beast of burdens mainly resulted from the infrastructural problems and dependence on animals. Many of the animals died due to the overburden and long working hours, which aimed to constantly achieve the flow of supply and goods to the army fronts. In addition to that, the cattle plague was another reason for the animals' widespread death, which also created additional burdens for the remaining drafting animals. The animal deaths also affected the state's tax policy, which increased the desolation of the Ottoman East. Due to the low capacity, the tax officers could not go to the tax locations frequently, especially to the mountainous villages. Therefore, the army had to seize every material in bulk to supply further needs during the war. These materials were requisitioned even though the army would not use them in a short period.[90] The result of this was a vicious cycle. Because the army was unable to transfer the good it seized from people to the army, they needed more requisition to diminish the effects of the waste.

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[88] Mengirkaon, "19. Yüzyılın İkinci Yarısında Diyarbekir'de Veba-i Bakari": p.302; Kamuran Şimşek, "Osmanlı Devri Denizli'de Sığır Vebası: Veba-i Bakari," Belgi Dergisi 19, no. 1 (2020): p. 2068–80.

[89] Ak, "Osmanlı Devleti'nde Veba-i Bakarî": p.10; Emin Ahmet Yalman, Turkey in the World War (New Haven and London: Yale University Press, 1933): p.88-89.

[90] Beşikçi, the Ottoman Mobilization of Manpower in the First World War; Between Voluntarism and Resistance. P.99 In 1921, the state admitted that this bulk requisitions were mistake.

5

Conclusion

In this thesis, I searched the reasons for the phenomenon of small cattle and draft-animal population decrease in the Ottoman Empire during the Great War. To understand why the number of draft animal and small-cattle population declined sharply in a short period, I chose Ottoman Eastern geography as the focus of study. This thesis decided to focus on this particular region for two reasons. First, compared to the rest of the empire, this region was logistically the most backward one, and this tremendously increased its dependence on the draft animals. Therefore, the usage of animals during the war was extremely critical for the army's logistic capacity. Secondly, due to geographical characteristics such as mountainous surface and climate, one of the region's main income opportunities was animal husbandry.

To understand the reasons for the draft animal and small-cattle population decrease in the region, the state's taxation policies, the region's long-stating infrastructural and economic problems, and contagious diseases that affected the aforementioned animals were put under question. Despite their enormous contributions to human lives and their action, animals were one of the neglected actors of history. This neglect is not only about diminishing their roles, efforts, and labor but also their presence in the field of history by providing so few resources to dig. However, certain rare times in history such as crisis periods like wars and contagions provided more primary and secondary resources to lean on while researching animal history. This is

the reason why this thesis focuses on this region, on this period, and the animal actors of history.

Via focusing on the animals as an environmental actor, this thesis tried to locate itself in the fields of environmental history. It attempted to show that human actions have undeniable effects on the environment. As the environmental historiography suggested, these effects on nature should also create results upon the human population. To present this mutual relationship, this thesis also tried to show the impact of animal deaths on the human population. Although the hardships in harvesting, price increases in agricultural products, and the state's healthcare efforts on animals were mentioned, there is still much room to study. Therefore, this thesis tried to make the first steps into the phenomenon even though it could not fully amplify the research. Also, explaining the animal deaths brought up many new questions to study, which require further research. After losing a significant portion of their small-cattle herds during the war, what happened to the nomadic tribes in the Ottoman East? Was there a change in the modes of production as Alan Mikhail described in his book about Ottoman Egypt[1], or did the population migrate into different lands to survive? Elaborating these potential relationships between animal deaths and society and deepening the research about the effects of these deaths on the locals' daily lives are still essential to understand this geography and its history.

During these crisis periods in which the population of animals was severely decreasing while their importance was increasing due to transportation or agricultural needs, more written sources can be found in the state archives which focus on the health, reproduction, and population of the stable animals. So, during war or crisis periods, the visibility of these animals was increasing. However, another limitation of this thesis was that although the army kept records of the confiscated animals and the daily population of the animals that served for the army, there is not any clear historical source about the animal deaths in the Ottoman East. One reason for the lack of resources was the massive Russian Invasion during 1915-1917 which resulted in the loss of Van, Erzurum, Bitlis, and Erzincan which disabled the Ottoman

[1] Mikhail, "Unleashing the Beast : Animals , Energy , and the Economy of Labor in Ottoman Egypt."

Army to chronologically note the animal deaths. Therefore, the primary resources this thesis benefitted from were not particularly about the Ottoman East. To provide exact numbers on animal deaths is a shortcoming of the thesis and further studies are necessary.

To summarize, this thesis concluded that the radical decrease in the animal population resulted from the state policies during the Great War. To finance and maintain the four years of battle, the Ottoman Empire used aggressive taxation policies which enabled the army to collect and slaughter the animals in masses. Other than that, many of the animals also died due to insufficient care for their well-being. The draft animals' power was exploited for long years due to the logistic problems of the army in the Ottoman East, and total dependence on animals' power. In addition, malnutrition, lack of services, and contagious diseases were other reasons that destroyed the animal population.

This thesis found out that the animals were considered passive actors to be decided upon by the state policies rather than being perceived as active environmental actors. However, their decimation affected the state policies and the region's socio-economy in many ways. The Ottoman government tried to inhibit the increasing number of animal deaths via regulations on breeding, butchering, husbandry, and veterinary services. Furthermore, to cope with the taxation and loss of animals the locals created certain noncompliance acts to the regulations, which shows the economic and social bonds between the animals and animal owners. The requisition or the death of the animals affected the animal owners' understanding and behaviors toward the government. Therefore, this study can inspire to examine the social and political unrest in the Ottoman East after the Turkish Republic had founded from another perspective building on environmental history. The region experienced many unrests and rebellions after the Great War and a comprehensive understanding of the decimation of these environmental actors needs to be taken into account due to the bilateral relationship between the environment and the population, as the environmental history theory suggested.

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