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The Natural Catastrophes Between 18th And 19th Centuries in the Ottoman Empire in Anatolia*

*XVIII. ve XIX. yüzyılda Osmanlı Devleti'nde (Anadolu'da) Meydana
Gelen Tabii Afetler*

ABSTRACT

Events coming into being out of human control and destructing the equilibrium of social and economic structure are generally named as catastrophes and natural disasters¹. In its most general definition “catastrophe” is a destructive event, which has an effect in human life. Specifically, it is a destruction that is caused by nature².

Catastrophes can be categorized in two groups including social and natural ones. This study does not deal with the catastrophes coming into being by human hand but mainly focuses on natural disasters. People have always become desperate mostly because of earthquakes, famines as a result of drought, epidemic invasion of insects, cholera (illet-i mahfufe), plague (ta'un) torrents and heavy rains, intense heat (şiddet-i harare) and intense cold (şiddet-i şita), conflagration, animal diseases like hoof and mouth diseases and cattle pestilence.

* This article was published in Ankara in 2005, XIV. Presented to the Turkish History Congress as the Communiqué. Look İbrahim Yılmazçelik, “XVIII. ve XIX. Yüzyılda Osmanlı Devleti'nde (Anadolu'da) Meydana Gelen Tabii Afetler, XIV. Türk Tarih Kongresi, Ankara, Eylül, 2002, Kongreye Sunulan Bildiriler, C.: II, Kısım:1, Ankara, 2005, s. 665-693.

1 According to an opinion about catastrophes “whichever kind they are named, whole catastrophes belongs to category accident that they perceived as unusual and unexpected by the individuals. This category plays role in history that has always been a controversial subject... Gy. Hazai, “Osmanlı Tarihinde Doğal Afetlerin Rolü Hakkında Birkaç Görüş”, *Osmanlı İmparatorluğunda Doğal Afetler*, Editör Elizabet Zachariadou, Tarih Vakfı Yurt Yayınları, İstanbul, 2001, p.3.

2 Cemallettin Şahin, *Türkiye Afetler Coğrafyası*, Gazi Uni. Gazi Eğt. Fak. Yay. Ankara, 1991, p.1.

Within a long lasting period so as to study this subject several classifications in Ottoman Archives in Prime Ministry (Cevdet, İrade, Ali Emiri, Hatt-ı Hümayun and partially Mühimme classifications) were scanned. In addition, with an exemplification way, the Ottoman Law Records “chronicles” coinciding with the same period in important Anatolia centers (Diyarbakır, Harput, Trabzon, Adana, Antep, Ankara, Amasya, Bursa, Kayseri, Konya) were scanned. Moreover, chronicles (Asım, Şani-zade, Lütfi and Cevdet Tarihi) and travel books (especially written by foreign travelers) which belong to the same period were scrutinized.

The subject, natural disasters in Ottoman State has covered a wide field of study. Hence, history of natural disasters in Anatolia is taken as a focus point. In this respect, natural disasters in Aleppo, Mosul, Kerkük, Süleymaniye, Erbil, Rakka that were in Ottoman Anatolia during the Ottoman reign are also inspected in this study. However, Istanbul and its near periphery are out of this studies subject because of its distinctive feature. This study aims to call attentions to natural disasters in Ottoman Anatolia and to preventive measures taken throughout the last two centuries of Ottoman State so as to enable to success more significant analysis on the socioeconomic history of Ottoman State³.

Key Words: The Ottoman Empire, Anatolia, Natural Catastrophes, Earthquake, Drought

ÖZET

İnsanların kendi iradeleri dışında gerçekleşen ve meydana geldikleri dönemlerde toplumun sosyal ve ekonomik dengelerini alt-üst eden hadiselere genelde tabii afetler adı verilmektedir. En geniş manasıyla “**Afet**”, insanlara zarar veren olaylardır. Biraz daha dar kapsamlı olarak da, doğanın sebep olduğu yıkımdır.

Afet türlerini beşerî ve tabii olarak ikiye ayırmak mümkündür. Ancak doğrudan insan eliyle meydana getirilmiş afetler üzerinde bu çalışmada durulmamıştır. Tabii afetler esas olarak alınmıştır. Tabii veya doğal afetler, adından da anlaşılacağı üzere doğal kökenli olup, oluşumları temelde tabiata ve tabiat olaylarına ve özelliklerine dayanmaktadır.

Başta deprem olmak üzere, kıtlık ve buna bağlı olarak kuraklık, çekirge ve benzeri böcek istilaları, veba (ta'un) salgınları, kolera (illet-i mahfufe) salgınları, sel ve şiddetli yağmurlar, şiddetli sıcak (şiddet-i harare) veya şiddetli soğuk (şiddet-i şita), yangın, hayvan hastalıkları (şab, sığır vebası) ve benzeri hadiseler karşısında insanların çoğu kez çaresiz kaldıkları bilinmektedir. Afetlerin en önemli özelliği, doğal olması, can ve mal kaybına sebep olmalarıdır. Bir diğer özelliği ise çok kısa sürede yani aniden meydana gelmeleridir.

3 For detailed information look: Gy. Hazai, “Osmanlı Tarihinde Doğal Afetlerin Rolü Hakkında Birkaç Görüş”, *Osmanlı İmparatorluğunda Doğal Afetler*, Editör Elizabet Zachariadou, Tarih Vakfı Yurt Yayınları, İstanbul, 2001, p.3. In addition look. Elizabet Zachariadou, “Doğal Afetler: Fırsat Anları”, *Osmanlı İmparatorluğunda Doğal Afetler*, Editör Elizabet Zachariadou, Tarih Vakfı Yurt Yayınları, İstanbul, 2001, p.7-10.

En kısa süreli afet, deprem olup, süresi saniyelerle sınırlıdır. En uzun süreli afetler ise sel, su baskını ve fırtınadır. Tabii afetlerin en önemli özelliklerinden bir tanesi de başladıktan sonra engellenememesidir. Yani insanlar çaresizdirler. Bununla birlikte bazı tabii afetler önceden tahmin edilebilmektedir. Depremlerin nerelerde olacağını tahmin etmek mümkündür. Ancak ne zaman olacağını bilmek mümkün değildir. Heyelan, çığ, don ve sel olaylarının zamanını da tespit etmek mümkün olabilir.

Uzun bir dönemden beri yürüttüğümüz ve ilk sonuçlarını bu tebliğimizde ortaya koyacağımız bu çalışmamızda; başta Başbakanlık Osmanlı Arşivindeki çeşitli tasnifler (Cevdet, İrade, Ali Emiri, Hatt-ı Hümayun ve kısmen Mühimme tasnifi) taranmış ve buna ilave olarak örnekleme yoluyla yine aynı döneme ait Anadolu'daki önemli merkezlerin Şer'iyye Sicillerine de (Diyarbakır, Harput, Trabzon, Adana, Antep, Ankara, Amasya, Bursa, Kayseri, Konya) müracaat edilmiştir. Ayrıca yine aynı döneme ait Vak'a-nüvis tarihleri (Asım, Şanî-zade, Lütfi ve Cevdet Tarihi) ve seyahat-nameler (özellikle bu dönemlere ait yabancı seyyahların eserleri) de incelenmiştir. Bütün bunlara ilave olarak konu ile ilgili yerli ve yabancı genel mahiyetteki eserler ve tetkik eserlerden de konu takip edilmiştir.

Osmanlı Devletinde tabii afetler konusunun oldukça geniş bir alanı ihtiva ettiği gerçeğinden hareketle, konu araştırılırken sadece Anadolu ele alınmıştır. Ancak Osmanlı döneminde Anadolu'nun tabii sınırları içerisinde kabul gören, Halep, Musul, Kerkük, Süleymaniye, Erbil, Rakka gibi yerler de araştırma içerisinde değerlendirilmiştir. Bununla birlikte **İstanbul ve çevresi** özelliğine binaen araştırma dışında tutulmuştur. Bu tebliğimizde 200 yıllık bir süre içerisinde Anadolu'da meydana gelen tabii afetler ve bunlara karşı alınan tedbirler genel hatları ile ortaya konulacaktır. Osmanlı devleti açısından oldukça sıkıntılı bir dönemi ihtiva eden bu dönemde meydana gelen hadiselerin ortaya konulması, dönemin sosyo-ekonomik tarihi üzerinde de daha ciddi analizler yapılmasına imkan verecektir.

Anahtar Kelimeler: Osmanlı Devleti, Anadolu, Tabii Afetler, Deprem, Kıtık

I. EARTHQUAKES

The most significant factor lessening the human population in history is war between struggling states. Apart from this, one of the other factors in decrease in human population is natural disaster which are out of human control. Within the definition of natural disasters, earthquakes emerge as a factor in decreasing human population through historical periods.⁴

In Ottoman State chronicles, earthquake is defined as movement of earth in Ottoman Turkish "...hareket, hareket-i arz, hareket-i arziye, zelzele, tezelzül, tezelzülât, and

4 For earthquakes caused decreases in population of Anatolia look: Muharrem Kesik, "XII. Yüzyılın İlk Yarısında Anadolu'da Meydana Gelen Doğal Afetler ve Depremler", *Tarih Boyunca Anadolu'da Doğal Afetler ve Deprem Semineri 22-23, Bildiriler Mayıs 2000*, İstanbul, İstanbul University, Literature Faculty, Centre of History Researches, İstanbul, 2001, p.29-40. In addition look: Ebru Altan, "1150-1250 Yılları Arasında Anadolu'da Doğal Afetler", *Tarih Boyunca Anadolu'da Doğal Afetler ve Deprem Semineri 22-23, Bildiriler Mayıs 2000*, İstanbul, İstanbul Uni. Literature Faculty, Centre of History Researches, İstanbul, 2001, p.41-49.

tezeliilat-ı arziye...” and always assumed as the most significant disaster in catastrophe classification.⁵

The most serious study about the earthquakes in Ottoman State is “*The Seismicity of Turkey and Adjacent Areas, A Historical Review, 1500-1800*”⁶ written by Nicolas Ambraseys and Caroline Finkel. In this study, earthquakes occurred in Anatolia and its periphery between 1500 and 1800 centuries signed and mentioned chronologically and mainly depends on written and print valuable evidences. Some important studies on earthquakes in Ottoman State have been done recent years⁷.

A. EARTHQUAKES BETWEEN 1700s -1800s

First earthquake was in Istanbul at the beginning of the 18th century and right after in May 26, 1701 a vigorous earthquake come into being in İzmir especially Foça-i Atik (Old Foça). Although many provisions had not been affected by this earthquake, Kütahya which is on the same fault had waved many times throughout 18th century⁸.

In May 26, 1701 there was an earthquake in Van and its environs as well. After few months later in November 30, Van waved once more⁹.

Throughout the year 1701 many frequent seismic waves come into being in Aleppo. In addition, in February 25, 1702 a more destructive earthquake occurred and killed 12000 people in ¹⁰.

In 27 June 1704 in Kayseri and in January 13, 1705 in Van earthquakes came into being¹¹.

Earthquake in January 27, 1705 in Bitlis many people died. August 8, 1705 was another date of earthquake for Bursa. At the same year there was a new earthquake in İzmir¹².

In 1706 a seismic vibration was recorded and through this year in İzmir small scale

5 Selahattin Tozlu, “Erzurum Depremleri (1850-1900)”, *Akademik Araştırmalar*, No:1, Erzurum, 1996, p.119.

6 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas, A Historical Review, 1500-1800*, Istanbul, 1995.

7 These studies can be given as a valuable example: *Osmanlı İmparatorluğunda Doğal Afetler*, Editör Elizabet Zachariadou, Tarih Vakfı Yurt Yayınları, İstanbul, 2001, Specifically look: Jean Vogt, “Osmanlı Topraklarında Tarih Boyunca Depremsellik, Batılı Kaynaklardan ve Tanıkların İfadelerinden Örnekler”, *Osmanlı İmparatorluğunda Doğal Afetler*, Editör Elizabet Zachariadou, Tarih Vakfı Yurt Yayınları, İstanbul, 2001, p.13-58., Selahattin Tozlu, “Erzurum Depremleri (1850-1900)”, *Akademik Araştırmalar*, Sayı:1, Erzurum, 1996, p.119-126., Kemalettin Kuzucu, Osmanlı Döneminde İstanbul Depremleri, *Osmanlı Ansiklopedisi*, Vol. 5, Yeni Türkiye Yay. Ankara, 1999, p.678-685. Furthermore: *Tarih Boyunca Anadolu'da Doğal Afetler ve Deprem Semineri 22-23, Bildiriler Mayıs 2000* İstanbul, İstanbul Uni. Literature Faculty, Centre of History Researches, İstanbul, 2001.

8 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas, A Historical Review, 1500-1800*, İstanbul, 1995.

9 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.96.

10 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.96-97.

11 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.97.

12 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.97.

seismic vibrations had recorded as well¹³.

In June 1, 1707 in The Marmara and The Aegean Seas some seismic vibrations were recorded. In July 1707 an earthquake came into being in Van¹⁴.

In July 3, 1709 in northwest İzmir's Foça-i Atik (Old Foça) an earthquake came into being. At the same year another one was recorded in Muş¹⁵.

It is not known whether the earthquakes occurred in February 1710 in Samsun's subdivision of province Ladik and in 1712 in Erzurum caused destructions. Between the years 1714 and 1715 a seismic vibration was recorded in Northern Iraq's Erbil¹⁶.

In March 8, 1715 an earthquake which came into being in Van, Erciş, and Hoşab killed many people and demolished many more buildings¹⁷.

In May 7, 1917 the earthquake in Kayseri and its environs was very destructive which demolished many buildings including mosques, houses, inns, public baths, masjids, and killed 8000 people¹⁸.

In July 1717 in İzmir there were two earthquakes occurred within one day. In November 1717 in Denizli and its environs faced with a destructive earthquake which destroyed many buildings and nearly whole province and killed 6000 people. This earthquake also affected Kütahya, Menteşe, Aydın, Hamid sanjaks and their subdivision provinces¹⁹.

Throughout May 1719 in Aleppo and environments 3 mosques and more than 200 number of homes damaged with several numbers of seismic vibrations²⁰.

In March 1719 an earthquake came into being at the east Sides Sea of Marmara. 6000 people died in Yalova, Pazarköy, Karamürsel, Kazıklı, İzmit and their subdivisions and villages at this earthquake. It was not only has destructive effect on Düzce and Sapanca but also but also sensed at Istanbul. Seismic vibrations had continued until 1721²¹.

An earthquake had occurred at Erzurum in June 1979,²² the earthquake occurred at

13 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.98.

14 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.98.

15 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.98.

16 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.99-100.

17 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.100.

18 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.100.

19 For detailed information look. Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.101-102-103.

20 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.103.

21 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.103.

22 For detailed information about 1719 earthquake look: Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, s.104-105-106-107-108. and about earthquakes occurred in Istanbul: Kemalettin Kuzucu, "Osmanlı Döneminde İstanbul Depremleri", *Osmanlı Ansiklopedisi 5*, Yeni Türkiye Yay. Ankara, 1999, p.680.

Aleppo in 15th April 1726 had been realized at Antakya as well. Another earthquake had occurred at İzmir in 16th September 1728²³.

As a result of the earthquake occurred in May-June 1730 (Zilka'ade 1142) at Çorum İskilip lots of buildings were collapsed and many people were killed. The earthquake happened in Amasya in 1734-1735 (H. 1147) may probably be the follower vibration. Of the İskilip earthquake.²⁴

Earthquake occurred on March 1737 in Biga affected Çanakkale, Ezine, Tuzla, central Bayramiçi and its villages. On September 25, 1738 an earthquake occurred in Elmadağ and had realized in Belen, İskenderun, Payas and Aleppo²⁵.

Many people died and lots of buildings collapsed in İzmir and its environs on April 4, 1739 with an earthquake occurred in Foça²⁶.

Lots of building collapsed in Antalya with and earthquake happened on March 20, 1743.²⁷ In result "a mountain near Antalya totally collapsed, sea water of the port ebbed, and several buildings founded on city wall collapsed and their rubble fallen down"²⁸.

A powerful earthquake occurred in İzmit on September 2, 1754 was realized by Istanbul and 4000 people died in Istanbul and its environs and many buildings collapsed.²⁹

On 2 September 1754, the earthquake occurred in one of the subdivision of Sivas had been realized in many Anatolian provinces³⁰.

A small sized earthquake occurred in Mosul on 1764-1765 (H. 1178)³¹.

An earthquake occurred at Sea of Marmara on May 22, 1766 affected a whole zone between İzmit and Tekirdağ. 5000 people, especially in Istanbul, died in this zone³². The successor of this earthquake had continued within a long lasted period and on January 30, 1767 and on February 7-8, 1767 important seismic vibrations had recorded in Istanbul³³. The earthquake occurred on May 22, 1766 in Istanbul destroyed many structures and the people had lived in tents for several days because of fear. One of the most significant results

23 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.108.

24 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.111-112.

25 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.113-114.

26 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.114-115.

27 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.118.

28 Jean Vogt, "Osmanlı Topraklarında Tarih Boyunca Depremsellik, Batılı Kaynaklardan ve Tanıkların İfadelerinden Örnekler", *Osmanlı İmparatorluğunda Doğal Afetler*, Editör Elizabet Zachariadou, Tarih Vakfı Yurt Yayınları, İstanbul, 2001, p.23.

29 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.125.

30 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.131.

31 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.135.

32 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.136-137.

33 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas, A Historical Review, 1500-1800*, İstanbul 1995, p.150.

of this earthquake was the destruction of irrigation system. Therefore, the people faced with difficulties in terms of finding fresh water. Because furnaces and mills were destroyed by the earthquake, the people also faced with difficulties in finding foods. Moreover, because of damaged roads and bridges, the people had faced difficulties for a long lasted period in transporting the goods. In addition, because many wagf were damaged, most of the services of these foundations were disrupted. Although the state wanted from his subjects to built their new houses with “stone” as a protection from conflagrations, the people had tended to build their houses with “timber”³⁴.

Although the main source about the earthquakes occurred in Anatolia in 18th century, “**The Seismicity of Turkey and Adjacent Areas**” mentions about the successors of the earthquake occurred in Istanbul in 1767, it does not mention that this earthquake was realized in Bursa. However, Carsten Niebuhr, recorded that it was realized in Bursa and gives this information: “...an earthquake occurred in the evening of January 30, 1767 at 5-6 o'clock in Bursa. Whole provision was shaken. I was in a well-constructed inn. At the first shake the clay roofing tiles fallen down. The pilaf plates serviced by my servant were fall over. At the second shake I run to outside door. Some of cloy roofing tiles again fallen to my front. Within 5-6 minutes the dwellers of the inn gathered in the outdoors. Everyone was in fear. Shakes began to decrease steadily. An hour later, because shakes were diminished, everyone returned to their rooms. On February 8 at 8 o'clock a new shake occurred but this one was just a single shake...”³⁵.

On October 9, 1766 in Erzurum's countryside, İspir, Tortum, an earthquake occurred. On October 1769 an earthquake occurred again in Erzurum but at this time in Hasankale³⁶.

On December 29, 1776 an earthquake occurred in Merzifon / Vezirköprü and lots of house, mosques, and small mosques demolished, nearly 100 people died. Afterwards on January 20, 1777 a successor earthquake occurred in Amasya and Tokat³⁷.

In 1778, İzmir and its environs had been shaken many times. Lots of houses and structures were damaged³⁸. In the earthquake occurred in July 3, 1778 27 small seismic vibrations had recorded and afterwards a big and influential one came into being and destroyed many shops, two Turkish baths and killed 70 people³⁹.

34 For a detailed information for the earthquake occurred in 1766 in look: Erhan Afyoncu- Zekai Mete, “1766 İstanbul Depremi ve Toplum Yaşantısına Tesirleri”, *Tarih Boyunca Anadolu'da Doğal Afetler ve Deprem Semineri 22-23, Bildiriler, Mayıs 2000*, İstanbul, İstanbul Uni. Literature Faculty Centre of History Researches, İstanbul 2001, p.85-92.

35 Carsten Niebuhr, *Reisebeschreibung nach Arabien und den umliegenden Ländern*, foreword and publication: Deetmar Henze, Graz-Austuria, 1968, III, p.147-148

36 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.149, 152. and look: Ahmed Cevdet Paşa, *Tarih-i Cevdet*, Vol. I, Üçdal Neşriyat, İstanbul, 1994, p.338.

37 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.155.

38 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.155-157.

39 For information given by consuls look: Jean Vogt, “Osmanlı Topraklarında Tarih Boyunca Depremsellik, Batılı Kaynaklardan ve Tanıkların İfadelerinden Örnekler”, *Osmanlı İmparatorluğunda Doğal Afetler*, Ed Elizabeth Zachariadou, Tarih Vakfı Yurt Yayınları, İstanbul, 2001, p.21.

The earthquake occurred on March 14, 1979 in Arapgir was also realized in Divriği, Ağın, Ovacık and Keban. In 1782 an earthquake occurred in Mosul⁴⁰.

A destructive earthquake occurred in Kığı(Keghi) on July 18-19, 1784 was realized in Erzincan, Muş, Pülümür(Kuzican) and Tercan. In this earthquake 12000 people died 1500 of whom were in Kığı⁴¹. In Erzincan many mosques, churches, monasteries, inns, Turkish baths, and bazaars demolished and it is said that nearly 5000-6000 people died⁴². In another source it is recorded that in the earthquake in central Erzincan and its environs 10000 people died. This earthquake's long lasted seismic vibrations had been realized for 4 months. Süleyman Pasha who was appointed to Erzurum provision as a governor, died in his short residing in there⁴³. Hence, many more records can be found about this earthquake⁴⁴.

Between 1785 and 1788 many seismic vibrations had been recorded in İzmir⁴⁵.

An influential earthquake occurred on May 28, 1789 of which its center was recorded as Keban, also affected Harput, Mazgirt, Çemişgezek, Peri and Palu. Many people died in this destructive earthquake. Earthquake occurred at evening in Ramadan Feast. Ulu Mosque collapsed and many people died at their supererogatory prayer performed in the month of Ramada. In this earthquake lots of structures demolished and nearly 10000 people died⁴⁶.

On July 1789, a powerful earthquake destructed lots of buildings and killed many people in Mardin⁴⁷.

On July 18, 1794 an earthquake occurred in Çorum and its environs and killed many people. The earthquake occurred on August 5, 1794 in Bursa-Söğüt should be successor of this earthquake. Throughout the year 1789, many earthquakes had come into being frequently⁴⁸.

B. THE EARTQUAKES OCCURRED BETWEEN 1800s AND 1900s

At the first half of the 19th century one of the biggest earthquake occurred in Anatolia was on the night of Wednesday August 14-15, 1822 and following Thursday in the environs

40 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.158-159.

41 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.160-161-162.

42 Selahattin Tozlu, "Erzurum Tarihinde Depremler", *Tarih Boyunca Anadolu'da Doğal Afetler ve Deprem Semineri Bildiriler* (22-23, Mayıs 2000), İstanbul Uni. Literature Faculty Centre of History Researches, İstanbul 2001, p. 96-97.

43 Event is recorded in Ahmed Cevdet Tarihi as: "... a God given powerfull earthquake occured in the small town. Even thought some of his men rescued with their broken bones without hope of theri survival, Pahsa and many of his men died because of collapsed walls and roof of his residence. Because of Süleyman Pashas ill-omened came to provisin, in this earthquake, many people also died. *Tarih-i Cevdet*, Vol. II, Üçdal Neşriyat, İstanbul, 1994, p.658-659.

44 For a detailed information look: Mücteba İlgürel, "1784 Erzincan Depremi", *Tarih Boyunca Anadolu'da Doğal Afetler ve Deprem Semineri*, p.197-202.

45 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.163.

46 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.163-164.

47 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.164.

48 Nicolas Ambraseys - Caroline Finkel, *The Seismicity of Turkey and Adjacent Areas*, p.166-167-168.

of Antep and Aleppo. In the Historical Chronicle of Ahmet Cevdet Pasha⁴⁹ this issue is mentioned briefly.

According to Ahmet Cevdet Pasha “it is heart that a severe earthquake occurred, many Structures collapsed, and lots of people died at the sixth day of Zilhicce (1237) at 3 o’clock” Aleppo, Kilis, and Antakya and their environs. This information is partially wrong but its date is not because (A.H) Zilhicce 6, 1237 coincides with Gregorian date August 24 1822. Moreover, official documents sent immediately after from both Aleppo and Antep to Istanbul recorded the date of issue as (A.H) Wednesday of Zilka’ade 1237 (1882) or the night of Zilka’ade 27. With this earthquake lots of mosques, small mosques, umbra, madrasahs, and houses collapsed any many of the people died and injured. Remaining of the peoples left the city and began to live in tents constructed outer side of the city because of heavy damages occurred in houses.⁵⁰ In addition as a result of this earthquake houses located in the caste of city and towers collapsed⁵¹.

Istanbul was informed with the earthquake by the written judgment of Qadi of Antep and official report of the city’s prominent people⁵². Although after this heavy damages, with a imperial edict which was sent to Antep that demanded flour, barley and sheep from Antep to Damascus suffering from famine, after the presentation of the written judgment of earthquake to Sultan this imperial edict was annulled with the Hatt-ı Hümayun released in October 7, 1822 by Mahmud the second⁵³. In an imperial edict released in October 13, 1822, Sultan reflects his sorrow but adds that earthquake is a God given affair people should bear with. In addition he ordered to determine the causalities and their heirs so as to distribute their estate to them. Also he ordered to record the estates, which have not any heir, to Beytü’l Mal⁵⁴. So as to do this Ahmet Hamdi Efendi, the Old Head of Janissaries was selected to send Antep⁵⁵.

The earthquake occurred on August 14-15, 1822 was also influential in Aleppo and its environs. In 1822 Pasha Behram was appointed as a governor to Rakka provision including Maraş provision. He was also commissioned to protect Aleppo⁵⁶. There are more detailed information in documents. According to Pasha Behram’s kaime sent to Sadaret in Zilkaade 27, 1237 (August 16, 1822), “on the night of August 14-15, 1822 at 3:10 o’clock an earthquake occurred. Kitchen and coffee furnace of Şeyh Ebubekir Zaviye, locating the northeast side of the city that Pasha Behram presents, and minaret of mosque collapsed. Some walls of the castle and its water supply system collapsed. Although Pasha sent his men with torches to gather information about the condition of the city, his men fail in

49 *Cevdet Tarihi XIII*, Istanbul, 1309, s. 45. Look: Ahmed Cevdet Paşa, *Tarih-i Cevdet 6*, Üçdal Neşriyat, Istanbul 1994, p. 2854

50 BOA, *Hatt-ı Hümayun Tasnifi*, No: 26272. Look: *Antep Şer’iyye Sicili*, No: 140, p. 57. Safer 4, 1238 (October 22, 1822) dated copy of imperial edict.

51 For a detailed information look: Milli Kütüphane, *Antep Şer’iyye Sicili*, No: 140, p. 58

52 BA., *Hatt-ı Hümayun Tasnifi*, No:26272-C.

53 BA., *Hatt-ı Hümayun Tasnifi* No:26272-B. Also look at *Antep Şer’iyye Sicili*, No:140, p.57.

54 *Antep Şer’iyye Sicili*, No: 140, p.58.

55 BA., *Hatt-ı Hümayun Tasnifi* No: 16803.

56 BA., *Hatt-ı Hümayun Tasnifi* No: 37098.

entering the city because people in the city was in chaos in terms of rescuing their selves and their families by escaping to out of city with lots of shouting. The next day, August 15, a new severe earthquake occurred at 13:30 o'clock. Hence, the people could not return to the city because of fear and they stay in vineyards and orchards. In addition, Behram Pasha had tried to protect the estates of the people from the pillagers."⁵⁷

According to Behram's kaime written immediate after the earthquake, August 16, 1822, and sent to the Sadaret Makamı it is estimated that 8000-10000 people died and the number of casualties under the wreckages are not known exactly⁵⁸. According to second kaime written by Behram Pasha in Zilkaade 27, 1237 (August 15, 1822), the number of causalities was estimated as 20000⁵⁹.

Furthermore, important information about this earthquake can be found in the report written by the governor of Anatolia provision in Zilhicce 29, 1237 (September 17, 1822) Hasan Pasha who was appointed to protect Aleppo. According to this report, one day before of the Pasha Hasan's coming to Adana, an earthquake occurred in Ayıntab, Aleppo and its environs. Because many bridges and roads collapsed, Pasha was left no choice but cross some rivers by boat and cover a long distance. He arrived to Aleppo in September 4, 1822 (Zilhicce 17, 1237). According to Pasha's fixing mosques, madrasahs, quarters, houses, streets, shops, gates of city and inner castle collapsed. The minaret of Great Mosque (Emeviyye Mosque) was in ruin. More than 20000 people including Muslims, Christians, Jews and Müstemins died. Subdivisions of Aleppo provision's Kilis, A'zaz, Antakya, Ma'ara, Eriha, Şugur, Edlib districts and dependent villages faced with heavy destruction and casualties⁶⁰. We learn from a translators of French consulate located in Aleppo that "bigger than a foot cracks occurred in vaults, frequent seismic vibration had continued after the earthquake, and whole cities and villages within 50 fersah in Lazkiye, İskenderun and Aleppo totally and partially collapsed."⁶¹

Former mutesellim of Kastamonu Reşit Efendi was appointed so as to record the estates of the deaths who did not have any heirs to Beytü'l mal⁶². Before the earthquake, flour, sheep and barley was asked with an imperial edict from Aleppo to send for the governor of Trablus Dervish Mehmed Pasha and his soldiers. But with the request of the Pasha Mustafa, governor of Aleppo, and of the people this order was cancelled⁶³.

Although its date is not known certainly, an earthquake occurred in Gümüşhane and destroyed the Church of the miners. This earthquake was reported to Istanbul by Maden-i Humâyûn Emini Ahmed Pasha and added the request of repairs of the church by the miners.

57 BA., *Hatt-ı Hümayun Tasnifi*, No: 37098.

58 BA. *Hatt-ı Hümayun Tasnifi*, No: 37098.

59 For detailed information look at, BA. *Hatt-ı Hümayun Tasnifi*, No: 37098-A.

60 BA. *Hatt-ı Hümayun Tasnifi*, No: 35560. In addition, for the information of the destruction of this earthquake in near vicinity looks BA. *Hatt-ı Hümayun Tasnifi*, No: 3550-J, 3550-K, 3550-L.

61 Jean Vogt, "Osmanlı Topraklarında Tarih Boyunca Depremsellik, Batılı Kaynaklardan ve Tanıkların İfadelerinden Örnekler", *Osmanlı İmparatorluğunda Doğal Afetler*, Editör Elizabet Zachariadou, Tarih Vakfı Yurt Yayınları, İstanbul, 2001, p.17. Besides look: p.25.

62 BA., *Hatt-ı Hümayun Tasnifi*, No: 16803.

63 BA. *Hatt-ı Hümayun Tasnifi*, No: 20617- A, Besides look: BA., *Hatt-ı Hümayun Tasnifi*, No: 20674-D.

Then Mamud the second replied this request in his imperial edict as “... manzûrum olmuşdur. Bunu yapmağa gerçi tabî at meyl etmez. Lâkin reâyâ dahî ma’bedsiz olmaz. İstiftâ olunup şer’-i şerîf cevâz verirse, fetvâ mûcebince emr verilir. Şer-i şerîf cevâz vermez ise...”⁶⁴

An earthquake which its results are not known occurred in Diyarbakir, Anatolia on Recep 18, 1241 (February 12, 1826)⁶⁵.

We learn from a hatt-ı hümayun that there was an earthquake in central Sivas, Tokat and its environs in 1827 (A.H 1243). According to this imperial edict, several guestrooms of an Armenian monastery and its annex were demolished by an earthquake and another Armenian church was destroyed as well. Imperial edict asked to Mehmed Pasha, governor of Sivas, give permission of repairs⁶⁶.

Some important information given about the earthquakes occurred in Anatolia by a study⁶⁷ done by **Missionary Herald**, which is official publication of **The American Board of Commissioners for Foreign Missions**⁶⁸. There are some earthquakes which are not covered in this study.

The earthquake occurred in Bursa on towards morning of November 3, 1835 was not a destructive one. According to information it was a small seismic vibration. However, the earthquake started February and continued to April and May in Bursa in 1855 caused a heavy destruction in Bursa and its environs.⁶⁹ Lots of structures collapsed. About this earthquake and its effect, Cevdet Pasha gives detailed information in his book, *Tezâkir*⁷⁰. In Bursa, its central district, and its villages, nearly 300 people died. Hayrettin Pasha Mosque totally collapsed; some bazaars and inns suffered damage⁷¹. One of the witnesses of the earthquake, Gazi Muhtar Pasha, gives important information. The earthquake continued

64 BA. *Hatt-ı Hümayun Tasnifi*, No: 36415

65 *Diyarbakır Mutasarrıfı İbrahim b. Muhammed’in Hatırat ve Mektupları*, Museum of Elazığ, Envanter No: 137. Varak:26 / B (Der-kenar) “... Diyarbekir’de sene 1241 de Recebin sekizinci günü zelzele oldu...”

66 BA. *Hatt-ı Hümayun Tasnifi*, No: 42746

67 Constantia Kiskira, “Missionary Herald’dan 19.Yüzyıl Anadolu’sundaki Depremler”, *Osmanlı İmparatorluğunda Doğal Afetler*, p.133-148

68 The American Board of Commissioners for Foreign Missions (A.B.C.F.M.), was organised in 1810 by a small group of missionaries in Massachusetts. It developed by the time with the works of the missionaries and it started to organise missions in order to spread the Christianity all over the world. Dating from the year of 1819, the American Christians who directed themselves to also the Ottoman State, firstly started to reform the eastern churches and they built schools, mission printing – houses and hospitals between the years of 1819 and 1931 on the Ottoman Lands. As a result of the workings of these missionaries, Missionary Herald served as the formal publication organ between the years of 1821 and 1932. It is possible to find detailed information also about natural disasters in this publication organ American Board made a systematic information flow, especially from the East Anatolia Area where they made the missionary activities. Even they organised an earthquake centre in the Euphrates Collage in Harput. For detailed information pls. Look at Constantia Kiskira, “Missionary Herald’dan 19. Yüzyıl Anadolu’sundaki Depremler”, *Osmanlı İmparatorluğunda Doğal Afetler*, p. 133 – 135

69 Constantia Kiskira, “Missionary Herald’dan 19.Yüzyıl Anadolu’sundaki Depremler”, *Osmanlı İmparatorluğunda Doğal Afetler*, Editör Elizabet Zachariadou, Tarih Vakfı Yurt Yayınları, İstanbul 2001, p.138-139

70 According to information given by Pahsa Cevdet that it is recorded that the date mentioned in Bursa an earthquake occurred in the morning at 7:30 o’clock in Wednesday stone made lots of houses, mosques, tombs, shops, and bazaars collapsed. For detailed information look, Cevdet Paşa, *Tezâkir-i Cevdet 1-12*, Edit. Cavid Baysun, Ankara 1991.p. 33-35

71 Mehmet Yıldız, “1855 Bursa Depremleri”, *Tarih Boyunca Anadolu’da Doğal Afetler ve Deprem Semineri* p. 119, 140

frequently within 3-4 months in the winter season. Because it was winter some fires came into being five different places in Bursa and could not be interfered. As a result of this earthquake in Bursa and its environs 3000 people died⁷².

On May 1858 in Bursa another earthquake occurred. In this earthquake the numbers of casualties were low⁷³.

The most severe earthquake occurred in the second half of the 19th century was in Erzurum on June 2 1859. Before this earthquake another non destructive one occurred in Erzurum on July 14-15 1852. But the earthquake occurred in June 2 1859 destroyed the whole Erzurum. In this period some measurements were taken⁷⁴ and serious amount of aids were sent to this region⁷⁵. A firm social solidarity, after the earthquake, captures the attention because it was an important success that totally destroyed city was rebuilt and its dwellers located within one year⁷⁶.

There is not a precise information about the damage of the earthquake occurred in Erzurum and Sayda in 1868-1869 (A.H.1285)⁷⁷. In 1869 of June an earthquake occurred in Urla, subdivision of Aydın, and realized in Izmir as well. No casualties happened in this earthquake⁷⁸. Lots of structures collapsed any many people died in the earthquake occurred in Aleppo and Antakya on April 1872. Besides, there is not adequate information about this earthquake⁷⁹. According to records in Lütü Tarihi, 1000 deaths brought out from the ruins⁸⁰.

It is known that a severe earthquake occurred on January 1874 in Sarıkamış and destructed lots of houses but there is not precise information found⁸¹.

On January 14, 1874 a severe earthquake occurred and destroyed some villages. At 7 o'clock on May 8 1874 in Harput a new earthquake occurred. Specifically Village Habusu totally collapsed but the casualties were relatively low⁸².

72 For detailed information look: Gazi Ahmed Muhtar Paşa, *Sergüzeşt-i Hayatım*, Cild-i Evvel, Yay Haz: M.Sabri Koz; Nedret İşli, Tarih Vakfı Yurt Yay.Istanbul, 1996, p. 3

73 Constantia Kiskira, "Missionary Herald'dan 19.Yüzyıl Anadolu'sundaki Depremler", *Osmanlı İmparatorluğunda Doğal Afetler*, p.140. For the earthquakes occurred in this period look: Jean Vogt, "Osmanlı Topraklarında Tarih Boyunca Depremsellik, Batılı Kaynaklardan ve Tanıkların İfadelerinden Örnekler", *Osmanlı İmparatorluğunda Doğal Afetler*, p. 33-34

74 For example, according to record of Lütü Tarihi, after the earthquake 3000 kise were sent to region immediately. *Ahmet Lütü Efendi Tarihi IX*, Edit. Münir Aktepe, Istanbul 1984, p.153

75 Selahattin Tozlu, "Erzurum Tarihinde Depremler", *Tarih Boyunca Anadolu'da Doğal Afetler ve Deprem Semineri*, p. 93-118

76 Selahattin Tozlu, "Erzurum Depremleri (1850-1900)", *Akademik Araştırmalar 1*, Erzurum, 1996, p.119.

77 *Ahmet Lütü Efendi Tarihi XII*, p.15. Besides look: Selahattin Tozlu, "Erzurum Depremleri (1850-1900)", p. 119

78 *Ahmet Lütü Efendi Tarihi, XII*, Edit. Münir Aktepe, Ankara 1989, p. 81

79 *Ahmet Lütü Efendi Tarihi, XIV*, Ankara 1991, p. 16

80 *Ahmet Lütü Efendi Tarihi, XIV*, 1991, p. 15

81 Constantia Kiskira, "Missionary Herald'dan 19.Yüzyıl Anadolu'sundaki Depremler", *Osmanlı İmparatorluğunda Doğal Afetler*, p. 140

82 Constantia Kiskira, "Missionary Herald'dan 19.Yüzyıl Anadolu'sundaki Depremler", 141

At 21:00 o'clock on April 19, 1878 a severe earthquake occurred in Izmir. Lots of the structures in Adapazarı and Izmit destroyed and many people died⁸³.

Series of earthquakes occurred in 1880 in İzmir and Manisa regions⁸⁴.

The earthquake occurred in Malatya on March 3, 1893 seriously affected the Adıyaman as well. Lots of buildings collapsed and many died in both Malatya and Adıyaman⁸⁵.

If it is looked at the measurements taken after the earthquakes occurred in Anatolia in 19th century:

1. Although some mübaayas were planned before the earthquakes from the regions faced with earthquakes, they are stopped immediately after the occurrence of the earthquakes.

2. State immediately took the security measurements so as to protect the estates of the people from pillaging in the disaster zone. Even pillagers belongs to Janissary army were punished.

3. The estates of the dead people without any heirs were recorded in Beytü'l Mal by an officer that was sent from the center.

4. Religious structures collapsed at the earthquakes repaired after the earthquakes. However, religious structures belonged to non Muslim subjects could repaired with the permission of the fatwa issued by Sheikhulislam.

II. FAMINE-DROUGHT- THE LACK OF RAIN (Kaht ü Galâ)

Famine emerges as a result of lack of food for a long time that people require to maintain their lives. Apart from famine in all other natural disasters death is inevitable. Besides, famine is not a direct cause of death because people have learned to live in poverty through time. However, this poverty introduces some other problems. After a severe famine, an infectious illness may wipe out the people⁸⁶.

Famine or drought appears because of scarcity in crop that depends on raining fell down not in the right time and in the right season. In addition, with the scarcity of the rains water sources begin to decrease and the effect of drought begin to increase vice versa. As a result vital problems including famine, starvation, and waterlessness can cause a serious disaster⁸⁷.

83 Constantia Kiskira, "Missionary Herald'dan 19.Yüzyıl Anadolu'sundaki p. 141-142

84 Constantia Kiskira, "Missionary Herald'dan 19.Yüzyıl Anadolu'sundaki Depremler", p. 142

85 Constantia Kiskira, "Missionary Herald'dan 19.Yüzyıl Anadolu'sundaki Depremler", p.142-143

86 Gülay Öğün Bezer, "Selçuklular Zamanında Anadolu'da ve Civar Bölgelerde Kıtık", *Tarih Boyunca Anadolu'da Doğal Afetler ve Deprem Semineri (22-23, Bildiriler Mayıs 2000)* İstanbul, İstanbul Uni. Literature Faculty Centre of History Researches, İstanbul, 2001, p.67

87 Gülay Öğün Bezer, "Selçuklular Zamanında Anadolu'da ve Civar Bölgelerde Kıtık", p. 69

Throughout several historical periods Anatolia had come across with famines because of scarcity in rains. Before Ottoman period, famines were very effective specifically in eastern Anatolia and Diyarbakır regions⁸⁸.

Between 1757 and 1758 a prevalent famine emerged specifically in Syria, Iraq, and southeastern Anatolia as a result of scarcity in rains. Famine affected Mosul, Diyarbakır, and Urfa. Because⁸⁹of excessive raise in the price of grain people began to abandon their houses. It is possible to fix that the same famine had affected both Balkans and Marmara region as well depending on a sentence, issued by Edirne Bostancıbaşı to the subdivisions of Edirne's Qadi.⁹⁰

According to document dated 1802, in the named date because of the invasion of grasshoppers and conflagration, people suffered from a famine in Bursa and its environs. Then, grain aid was supplied to Bursa⁹¹.

One of the most effective natural disasters in eastern Anatolia is "famine". In 1803-1804 (A.H 1218) people suffered from a famine in Diyarbakır and its environs⁹². This famine had showed its serious effect in 1805. At the time of this famine the life became more expensive and affected people very seriously⁹³.

The most negative effect of famine emerged in 19th century was in 1810. Presentation documents were sent to Istanbul by Nabi and Qadi of Diyarbakır shows the sufferings of the people living in Diyarbakır explicitly. In this presentation document, briefly, it is mentioned that "the people living in Diyarbakır and its environs abandon their villages because of scarcity in rains causing agriculture negatively. People suffer from high prices and famine in the city. Hence, they formally request help for the people living in the city."⁹⁴

In 1813 (A.H. 1228) in Izmir and its environs famine emerged. According to the same dated document, hard biscuits could not be prepared for the army because of this famine⁹⁵.

A severe famine appeared in Diyarbakır in 1817. According to an order document, subjects living in villages faced with "...mahsûl-i cedîdin adem-i zuhûrundan naşî siklet-keş oldukları..." and it is ordered to give wheat collected by "Cânib-i mirî" to the poor⁹⁶. This document shows that there was a famine in the region. According to another record, the

88 For a detailed information about the natural disasters before the Otoman period in Anatolia look: İlyas Gökhan, *XIII. ve XIV Yüzyıllarda Mısır ve Syria'de Krizler, Kıtıklar ve Vebalar*, Fırat Uni.Social and Sciences Ins. Unpublished Phd.Thesis, Elazığ1998. In this study it can be found important information about the natural disasters in eastern Anatolia.

89 Dainel Panzac, *Osmanlı İmparatorluğunda Veba (1700-1850)*, p. 11

90 BA, *Cevdet Belediye*: 3396

91 BA, *Cevdet Belediye*, No: 2594

92 BA, *Hatt-ı Hümayun*, No:5268

93 BA, *Cevdet Dahiliye*, No: 13026.

94 Topkapı Müzesi Sarayı Arşivi, *Defter* No: 8977- *Emir* No: 8664, *Emir* No: 8486

95 BA, *Hatt-ı Hümayun*, No: 30042

96 BA, *Cevdet İktisat*, No: 637

famine emerged in 1817 had continued to 1820 and covered not only Diyarbakır provision but also other ones close to Diyarbakır. For example, the years 1819-1820 (A.H 1235) had passed with rainless. Water retreated from rivers, wells, and fountains in villages in the Antep region. Hence, villagers migrated to border of Euphrates⁹⁷.

In the same period whole Damascus provision had suffered with this rainless and stock of grain was transported there from subdivision of provision; Saruhan and Aydın⁹⁸.

According to İnha of the governor of Karaman, Pasha Ali, there was a famine in Konya in 1833-1834 (A.H. 1249)⁹⁹.

It is possible to say that state sometimes did supply villagers in terms of reducing their poverty at famine times. For example, it was decided by the council of Diyarbakır that 1000 kile wheat and 1000 kile barley should be given to 200 villagers, settling in the environs of Diyarbakır that working in crop production, and farming and suffering because of “...killet-i nüzûl-ı barân münasebetiyle...” in terms of rainless season that wastes their productions¹⁰⁰. Despite all these benefits; The increase in prices due to the famine was not prevented. Although prices traffickers government take some measures on this issue they have increased continuously¹⁰¹.

An severe famine appeared in 1874 in Anatolia. According to records of Ahmet Lütfi Tarihi, famine in Konya, as known one of the grain stock in Anatolia, Ankara, and Yozgat region made people miserable. The subjects of these regions began to emigrate. Hence, some committees founded so as to supply money and grain to these people¹⁰².

III. INTENSE COLD-FROST (Şiddet-i şita) AND INTENSE HEAT (Şiddet-i harare)

Throughout the historical periods in Anatolia, intense heat and cold had caused serious casualties. At the time of Ottoman period, the people living in The Middle East were familiar with heat weather. However, because of the intense cold appeared in 1756 river Asi frozen and cold weather had covered the whole Syria and Iraq ranged from Aleppo to Jerusalem. Winter in 1778-1779 had passed more coldly. The snow maintained through one month in Damascus. In addition, Baghdad and Basrah snowed and whole Ottoman regions faced with intense cold. Anatolia was also in the effect of this intense cold¹⁰³.

97 *Antep Şeriyeye Sicili*, No: 141, p. 36. According to a Recep 15 1235 (April 15, 1820) dated record, in the region named Batal Höyük water found and this affair made many Muslims happy.

98 BA., *Cevdet Dahiliye*, No: 340

99 BA., *Hatt-ı Hümayun*, No: 20215

100 BA., *Cevdet İktisat*, No: 637

101 Mustafa Öztürk, “Osmanlı İktisadında Fiyatları Etkiliyen Unsurlar”, *Prof. Dr. Şerafettin Turan Armağanı*, Antakya 1996, s.233

102 “...1291 (1874) senesi Anadolu'nun Asya-yı Suğra ta'bir olunur, Ankara, Yozgat ve Konya taraflarında şiddetle zuhûr eden kaht u galâ nice binlerce çoluk çocuk zükûr ve nisvân ahaliyi giriñâr-ı zaruret ederek açıktan telefat-ı nüfûsiyye vukûu ve ber-hayat olanların dahi vatan ve me'vâlarını ve ma'mûrelerini terk ile etrafa ve çoğu İstanbul'a müteveccihen dağılmış oldukları...” look. *Ahmet Lütfi Efendi Tarihi XV*, Ankara 1989 p. 17-18

103 Danel Panzac, *Osmanlı İmparatorluğunda Veba (1700-1850)*, p.10

In the Diyarbakır provision in 1818 winter season had passed very insensitively. River Tigris froze¹⁰⁴. The winter in 1828 had passed very hard specifically in Diyarbakır and whole region. Depending on a presentation document it is understood that many people and animal died when they tried to arrive Diyarbakır¹⁰⁵.

At Ottoman archives it is possible to find information about a region depending on an affair occurred there. Apart from Anatolian region we can always found the effects of intense cold and heat appeared in Istanbul. For example, winter in 1874 had passed very hard in Istanbul¹⁰⁶. Depending on this information we can just interperet that in that year the winter had passed very hard in the Anatolian side of Istanbul and its environs.

IV. PLAGUE (Ta'un) AND CHOLERA (İllet-i Mahfufe) EPIDEMICS

A. EPIDEMIC OF PLAGUE

The epidemic called in Western sources as “**black death**”, in Arabic sources “**tâ'ûn**” or “**veba**”, in Turkish sources “**tâ'ûn**”, “**veba**” and “**kıran**” had emerged and killed many people in Anatolia at the Ottoman period as well. If it is looked the history of Anatolia before the Ottoman period it is possible to determine the serious destruction of plague. In 560 in Diyarbakır, in 745, in the region of el-Cezire, in 1047 in Mosul, in 1152 in the several regions of the Anatolia, in 1221 in Malatya, and in 1258 in southeast Anadolu epidemic of plague had appeared several times and caused fatal destructions¹⁰⁷.

In historical periods plague had spread out from specific regions. East side of Turkey, west side of Iran, the region covering Syria and Iraq were the starting points of this epidemic disease. Other regions were east side of Caspian Sea and River Volga, Outher Moğolistan region, Wietnam, West Sahra, and Lake Region of Africa continent. Besides these permanent spreading points, there were ephemeral spreading points. Ephemeral spreading regions emerged mainly because of transportation of goods from permanent regions to ephemeral ones by ships and caravans. Ephemeral spreading regions in Ottoman period were west Balkans, Istanbul, coasts of Epir-Dalmaçya, Makedonya, Eflak-Boğdan, Anatolia and Egypt. These regions were the transition points that enabled plague to spread other regions¹⁰⁸.

Caravan roads, in Ottoman period had many benefits in terms of connecting regions and provisions. On the other hand they were one of the most significant agents in the spread of epidemic diseases. Some cities, by closing their gates to outer world, had succeeded in

104 Abdulgani Bulduk, *El-Cezire'nin Muhtasar Tarihi*, p.392

105 BA., *Hatt-ı Hümayun*, No:38081-D.

106 *Ahmet Lütüfî Efendi Tarihi XV*, Ankara 1993, p. 29

107 F. Damascusil Arık, “Selçuklular Zamanında Anadolu'da Veba Salgınları”, *DTCF. Tarih Araştırmaları Dergisi XV/26* (1990-1991), p.27-57.

108 For a detailed information about the spread of the plague within historical periods look: Dainel Panzac, *Osmanlı İmparatorluğunda Veba*, p. 41-46. See also Orhan Kılıç, *Eskiçağlardan Yakınçağlara Genel Hatlarıyla Dünyada ve Osmanlı Devleti'nde Salgın Hastalıklar*, Fırat Ün. Orta Doğu Araştırmaları Merkezi Yayınları No: 6, Elazığ 2004, s.30-32

preventing the spread of epidemic diseases in their cities¹⁰⁹.

Beside this, throughout the humanity “epidemic diseases” including plague (ta’un) and cholera (illet-i mahfufe) have been named one of the most influential natural disasters and caused lots of casualties. From beginning of 17th century to the middle of the 19th Ottoman State had faced with plague epidemics many times. After this period plague began to disappear and cholera epidemics had emerged¹¹⁰.

Izmir was one of the most affected region from the plague through 18th century. Within this century, it is determined that İzmir infected with plague 13 times. 8 of which emerged in 1709, 1728, 1735, 1741, 1759, 1762, 1771, 1788 were acute and 5 of which appeared in 1740, 1760, 1765, 1784 were drastic¹¹¹.

Plague appeared in 18th century in Diyarbakır provision was very influential. At the time of this epidemic many people died. According to an order document sent to governor of Diyarbakır, Qadi of Harput and Dizdar of the castle, it was denoted that “... *işbu sene-i mübârekede eyâlet-i Diyârbekir’e müstevlî olan tâ’ûndan ka’a-i mezbûr neferâtının ekserî fevt olub gedikleri hâlî ve hizmet-i lâzıması mu’attal kaldığı...*” and asked its subdivision Harput to sent soldiers shows that there was a serious plague epidemic in the center of the provision¹¹².

An important plague epidemic had influenced Aleppo in 1729 and spread to Kilis. In this region in 1742 another plague epidemic appeared as well¹¹³.

At the second half of the 18th century in 1762, 50000 people died in because of plague epidemic called “Büyük Ölet” in Diyarbakır provision. This epidemic was first seen in 1757 in Süleymaniye then spread to Diyarbakır and Mardin.¹¹⁴

The plague epidemic appeared between 1784-1787 spread out on the whole Ottoman lands and affected İzmir and Aydın seriously. It spread to Aleppo and killed many people living there¹¹⁵.

At the beginning of the 19th century between the years 1799-1800 plague epidemic had reemerged¹¹⁶. There can be found many documents about the effect of this epidemic disease. In addition, it is determined that this plague affected some subdivisions including Hani, Atak, and Tercil as well¹¹⁷. Immediate after this, another epidemic plague appeared

109 İbrahim Yılmazçelik, *XIX.Yüzyılın İlk Yarısında Diyarbakır, 1790-1840*, Ankara, 19995, p. 246

110 Dainel Panzac, *Osmanlı İmparatorluğunda Veba*, p. 3 and continues.

111 Dainel Panzac, *Osmanlı İmparatorluğunda Veba*, p. 14-15

112 *Harput Şer’iyye Sicili*, No: 3888-p. 98

113 Dainel Panzac, *Osmanlı İmparatorluğunda Veba*, p. 44

114 Abdulgani Bulduk, *El-Cezire’nin Muhtasar Tarihi*, p. 362, İbrahim Yılmazçelik, *XIX.Yüzyılın İlk Yarısında Diyarbakır, 1790-1840*, Ankara 19995, p. 110

115 Dainel Panzac, *Osmanlı İmparatorluğunda Veba*, p.14-15

116 BA, *Cevdet Maliye*, No:715

117 For a detailed information look: BA., *Cevdet Askeri*, No:16540, *Cevdet İktisat*, No:2215

between the years 1801-1802 in Baghdad affected the region severely¹¹⁸.

In 1813-1814 (A.H 1229) many people died including Behisni Mutasarrıfı Rışvanzade Abdurrahman Pasha and Müftü Hüseyin Efendi in the plague epidemic emerged in Sivas¹¹⁹.

Although its effects do not known, occurrence of plague epidemics are determined in the years 1815-1816, 1827 and lastly 1848 in Diyarbakır¹²⁰. The plague emerged in 1805 in the region bordered by Erzurum, Bayburt, and Trabzon had reappeared at the same region between the years 1807-1812 and 1824-1827¹²¹. Plague had affected Trabzon and Erzurum in 1839-1841 as well.

The plague appeared in 1830 in Mosul and Kerkük and one year later it had affected Baghdad seriously¹²². Likewise, according to a 1831-1832 (A.H 1247) dated document it is told that because of both plague and grasshopper epidemics the region had become a like a judgment day. In addition, nobody could left his home for shopping and it is recorded that Baghdad needs 20 years so as to recover and turn to its old days¹²³.

In 1831 in the Karaman provision plague showed itself and its effects had lasted to 1836.¹²⁴ Çanakkale and its environs had faced with plague in 1834-1835 (A.H 1250)¹²⁵ and quarantined. Disease disappeared shortly after the measurements¹²⁶.

Lastly, in the Bozok and Kayseri subdivisions plague appeared. Then, diseased foot soldiers locating in these subdivisions were allowed to go their homes¹²⁷. After this date ineffective plague epidemics had appeared several times in Ottoman lands but left their place to cholera.

B. CHOLERA (İllet-i Mahfufe) EPIDEMICS

Cholera epidemics had been influential in 19th century all over the world and emerged with the disappearance of the plague epidemics. After 1843 plague epidemics never appeared in Anatolia¹²⁸. First cholera epidemic emerged in Lower Bengal in 1817 and had spread to several regions of the world from here. Specifically, in 1817, 1829, 1852, 1881 and 1899

118 Ahmed Cevdet Paşa, *Tarih-i Cevdet*, Vol. 4, Üçdal Neşriyat, İstanbul, 1994, p.1836

119 BA., *Hatt-ı Hümayun*, No:24385.

120 İbrahim Yılmazçelik, *XIX.Yüzyılın İlk Yarısında Diyarbakır, 1790-1840*, p.110

121 Dainel Panzac, *Osmanlı İmparatorluğunda Veba*, p.56

122 Ahmed Lütfi Efendi, *Vak'anüvis Ahmed Lütfi Efendi Tarihi III*, Yapı Kredi Yayınları, İstanbul, 1999, p.629-630

123 BA., *Hatt-ı Hümayun*, No:22645-F, No:22645-E

124 Dainel Panzac, *Osmanlı İmparatorluğunda Veba*, p.56

125 BA., *Hatt-ı Hümayun*, No:25569-C.

126 BA., *Hatt-ı Hümayun*, No:25569-K.

127 BA., *Hatt-ı Hümayun*, No:19082-A, No:19082-C.

128 Dainel Panzac, *Osmanlı İmparatorluğunda Veba*, p. 244

humanity had faced with severe cholera epidemics¹²⁹.

First record of cholera epidemics was written by Pasha Cevdet. He told that there was a cholera epidemic in Süleymaniye in October/November 1821 (A.H Safer 1237).¹³⁰ In the same years there was a war between Ottomans and Iranians at the eastern Anatolia. In this war Abbas Mirza and his soldiers defeated the Ottoman forces. However, in May/June 1822 cholera epidemic came into being in Abbas Mirza's army and they indispensably withdrew from the battle with many casualties¹³¹.

Cholera appeared in 1831 in Istanbul and next year it had spread to several regions of the Ottoman lands. This epidemic was specifically influential in Hedjaz. The cholera emerged in near east in 1837 had spread through pilgrims in the Anatolia¹³².

With the first half of the 19th century the most important epidemic seen in the region of Diyarbakır was cholera. According to an official presentation paper dated October 15, 1843 "...Erzurum ve Diyarbakır taraflarında İllet-i mahûfe zuhûr ettiğinden..." a cholera epidemic came into being in Erzurum, Diyarbakır and their environs and quarantine regime was demanded.¹³³ Although this measurement was taken, disease spread to Diyarbakır provision. Then, in March 13, 1851 it was demanded from the state not to collect taxes from the death dwellers in Diyarbakır with an official proposal (takrir). "... kolera illetinden dolayı nefis-i Diyarbakır ahâlisinden vefat eden ehl-i İslâm re'aya vergileri..."¹³⁴ On these days cholera had been very influential in Erzurum, Kars, Trabzon and Istanbul as well.

In 1851 the cholera epidemic emerged in Bagdat and Basrah had immediately spread to Ottoman lands and whole of Europe. Although serious measurements were taken by Ottomans, due to The Crimean War it was spread with allied European soldiers in the province¹³⁵.

The effect of cholera appeared in Damascus and Bingazi warded off with serious measurements taken in 1857. The epidemic emerged in 1865 had affected Hedjaz and Egypt severely but could not cause a serious damage in Anatolia¹³⁶.

Lots of people had died in Diyarbakır in 1879 because of cholera epidemic¹³⁷.

129 Gülden Sarıyıldız, "XIX.Yüzyılda Osmanlı İmparatorluğunda Kolera Salgını", *Tarih Boyunca Anadolu'da Doğal Afetler ve Deprem Semineri*, p. 309-310

130 Ahmed Cevdet Paşa, *Tarih-i Cevdet* 6, Üçdal Neşriyat, İstanbul 1994, p. 2826

131 Ahmed Cevdet Paşa, *Tarih-i Cevdet* 6, p. 2825-2826

132 Gülden Sarıyıldız, "XIX.Yüzyılda Osmanlı İmparatorluğunda Kolera Salgını", p. 310-311

133 BA, *Cevdet Sıhhiye*, No: 593

134 BA, *Cevdet Maliye*, No: 28024

135 Gülden Sarıyıldız, "XIX.Yüzyılda Osmanlı İmparatorluğunda Kolera Salgını", p. 312

136 Gülden Sarıyıldız, "XIX.Yüzyılda Osmanlı İmparatorluğunda Kolera Salgını", p. 314-315

137 "...Diyarbakır'e doğrulduk. Lakin Diyarbakır'de şiddetli bir kolera hüküm-ferma idi. Beni azimetden bazı ihvân men' için nereye gidiyorsunuz, ahali kâmilten vefat itmiş ve şehrin dört kapısı da kapanmış dediler. Ben de öyle ise cevabı getiren adem niçün ölmemiş didim. Ve dönmedim. Diyarbakır'e muvasalatımda fi'l-hakika kolera'nın pek şiddetli hüküm-ferma bulunduğunu ve mevcut ahâlisinin kısm-ı a'zamının dağlara çekilmiş olduğunu gördüm. Ma'mafih hayatta ve şehirde kalan bir çok ihbâ ve ihvan ile görüşüdüm..." .Ali Emiri, *Osmanlı Vilâyât-ı Şarkiyesi*, İstanbul 1337, p. 23-25

At the time of the great cholera epidemic emerged and spread between 1881 and 1896 fugitives specifically from Russia and Iran had caused a serious problem in Anatolia. The most damage occurred in Hedjaz and in spite of its huge effect, Istanbul suffered from this epidemic very slightly¹³⁸.

With the second half of the 19th century, “quarantine regime” and serious medical protections taken by European states also implemented firmly by Ottomans as well¹³⁹. This had enabled to diminish infectious diseases and specifically cholera epidemics.

There is no doubt people had suffered from many diseases in addition to cholera and plague epidemics in Anatolia at the Ottoman period. Because of these epidemics’ widen and serious effect in terms of causing extreme casualties, more information could be found in Ottoman chronicles about plague and cholera. In addition, “firengi” syphilis diseases occasionally had affected the people living in Ottoman lands, specifically in Istanbul. For example in 1865 syphilis had emerged in Bolu Sanjak but its spread was stopped with strict measurements¹⁴⁰.

It is known that through historical periods epidemic diseases not only influence human beings but also influence animals. The most known animal diseases are hoof and mouth diseases, cattle pestilence and smallpox. However, we can not find adequate documents recording animal diseases in the Ottoman period of Anatolia region.

In a document dated July 7, 1844 it is implied that because of drought, expensiveness and several animal diseases, people are suffering too much and demanded new animals, seeds, and loan for the people¹⁴¹. Another document, dated 1894, demands an educator to teach the ailment of smallpox diagnosed in sheep.¹⁴² Lastly, in a document dated April 16, 1866 it was implied that there was a animal disease spreading in Gallipoli and demanding veterinarian¹⁴³. In conclusion, it can be clearly asserted that the small number of documents reporting animal diseases in Ottoman land does not mean animal diseases had not been emerged in Anatolia.

V. GRASSOPHER-LARVA-INSECT INVASIONS.

The people working in agriculture in Anatolia had faced with insect invasions beside of natural disasters like droughts, floods, intense heat and cold, and hails. It is not possible to say that they were very successful in terms of struggling with this insect problem within the conditions of at that time. Grasshoppers as a larva have grown in special ecologies (deserts, abundant rains, alluvial soils, special plant associations) with big numbers and speed. With the hot winds they pass long miles with their flocks. Sometimes their flocks’ size aggregate to a kilometer square and cause a serious disaster within the restricted

138 Gülden Saryıldız, “XIX.Yüzyılda Osmanlı İmparatorluğunda Kolera Salgını”, p. 318-319

139 BA., *Cevdet Sıhhiye*, No:575, No: 485, No:441, No:739

140 BA., *İrade Meclis-i Vâlâ*, No:4015

141 BA., *Cevdet İktisat*, No:495

142 BA., *Cevdet İktisat*, No:826

143 BA., *İrade Meclis-i Vâlâ*, No:25153.

agricultural territory¹⁴⁴.

At the times of Seljuk period in Anatolia grasshopper invasions had took place and damage the villagers' land very seriously¹⁴⁵. For example, in 1223 lots of grasshoppers invaded Diyarbakır and its environs and damaged the crops seriously.¹⁴⁶

One of the results of the grasshopper invasions is famine. In 1791-1792 (A.H. 1206) according to a mazhar send by notables of Adana to Divan-ı Ali there was a grasshopper invasion in the region¹⁴⁷ and, a famine came into being. Again, it is understood from a document dated 1802 that a Bursa and its environs suffered from a famine stemmed from invasion of grasshoppers and a conflagration. Hence, grain aid was supplied to Bursa¹⁴⁸.

According to a document dated 1831-1832 (A.H. 1247) beside of plague epidemic, invasion of grasshoppers in Baghdad and Basrah had caused a tragedy¹⁴⁹. A new invasion of grasshoppers had seen in Baghdad in 1845 and then people suffered from famine much in the same year¹⁵⁰.

It is understood from a February 16, 1862 dated record that in this date agricultural lands of Aleppo and its environs was damaged by grasshoppers' invasion¹⁵¹.

VI. TORRENT AND HEAVY RAINS

In fact, torrents, heavy rains, hails, and any other natural events come into being from atmosphere can be named as "meteorological disaster". It is determined that at the Ottoman period of Anatolia's history hails and floods had caused serious damages, specifically Euphrates and Tigris had overflowed in various times and became the reason of torrents¹⁵². Hails and the floods occurred in Istanbul at the period of Ottoman Empire can be tracked from various documents, chronicles, and travel books because it was the center of Ottoman Empire. For example, according to Lütüfî Tarihi on Friday of August 6, 1728 because a heavy rain had started in morning and hails with 70-80 dirhem (drachma) many places in Hisars, Kanlıca, Beykoz, İstinye and Yeniköy were invaded by floods. Again, in the same record, the rain started on the night of September 12, 1266 AD., 4 o'clock had continued to the night of next day at 6 o'clock and many places near Baltalimanı, Ortaköy, Beşiktaş, Kasımpaşa and Eyyüb were invaded by floods¹⁵³. As it asserted above finding many records

144 Dainel Panzac, *Osmanlı İmparatorluğunda Veba (1700-1850)*, p. 10

145 For the grasshopper invasions occurred in Seljukids period in Anatolia look: Gülay Öğün Bezer, "Selçuklular Zamanında Anadolu'da ve Civar Bölgelerde Kıtık", *Tarih Boyunca Anadolu'da Doğal Afetler ve Deprem Semineri* p.74-75

146 İlyas Gökhan, *XIII. ve XIV Yüzyıllarda Mısır ve Suriye'de Krizler, Kıtıklar ve Vebalar*, p. 50

147 BA., *Hatt-ı Hümayun*, No:8907

148 BA., *Cevdet Belediye*, No: 2594

149 BA., *Hatt-ı Hümayun*, No:22645-F

150 BA., *Cevdet Askeri*, No: 3833

151 BA., *İrade Meclis-i Vâlâ*, No:21844

152 For the torrents occurred in Seljuks' period in Anatolia look at; Gülay Öğün Bezer, "Selçuklular Zamanında Anadolu'da ve Civar Bölgelerde Kıtık", *Tarih Boyunca Anadolu'da Doğal Afetler ve Deprem Semineri*, p.77-78.

153 Look. *Ahmet Lütüfî Efendi Tarihi XI*, 1989, p. 43-44

about the torrents occurred in Istanbul is very easy but it is very hard to find the same abundant records for Anatolia because the number of records in contrast to Istanbul are very few.

One of the important results of heavy rains is landslide. As other records about torrents occurred in Anatolia the number of records about landslide is few. There is valuable information about the landslide occurred in “Hinzorik (Taşoluk) village-Hortum (one of the district of Tortum in Erzurum) Landslide” in 1889.¹⁵⁴ At the landslide on August 2, 1889 145 people died and the village was totally destroyed¹⁵⁵.

Because the natural structure of the Anatolia was not spoiled and the dwellings were not constructed on the bed of rivers and lakes, in fact, the number of floods was few. In addition, it must be evaluated that the occurrence of torrents and their affects give key information about the region’s history of agriculture¹⁵⁶.

VII. CONFLAGRATIONS AS A NATURAL DISASTER

As in the case of torrents, heavy rains, and hails in it is hard to find enough information in chronicles about conflagrations occurred in forests in Ottoman Empire. However, it can be found several information about the conflagrations happened in the cities. Within historical periods houses mainly had been constructed with stone and mud bricks in Syria and the Middle East. Nevertheless, in many parts of the Anatolia houses had been constructed with wooden¹⁵⁷. Practically, this kind of houses was thought towards earthquakes but causes serious damages at the times of conflagrations. In addition, old Anatolian street design made houses closer and this enabled fires to spread their-selves easily and turn into a conflagration. Namely, with a small sized fire a big part of the city and a quarter could be burn and erased. Because of this state had encouraged the people to built their houses with stone but people had choose to built them with wooden in spite of the danger of conflagration in Istanbul.

As it was reflected the documents in 18th century the most conflagrations had happened in İzmir. The conflagrations in April 1737, January 1740, July 1742, May 1753, July 1760, August 1763, and July 1778¹⁵⁸ had made serious damages in İzmir. In 1793 a fire had burned a school near Ulu Cami in Kütahya¹⁵⁹.

154 Look at pls. Selahattin Tozlu, “Hinzorik (Taşoluk) Köyü- Hortum Heyelanı(1889)”, *Akademik Araştırmalar*, No. 4, Erzurum, 1997, p.106-119

155 Selahattin Tozlu, “Hinzorik (Taşoluk) Köyü- Hortum Heyelanı (1889)”, *Akademik Araştırmalar IV*, Erzurum, 1997, p. 113

156 *Osmanlı İmparatorluğunda Doğal Afetler*, p. 3. Also look: Suraiya Faroqhi, “Tarımsal Değişimin Bir Göstergesi olarak Doğal Afet: Edirne Bölgesinde Sel,100/1688-89”, *Osmanlı İmparatorluğunda Doğal Afetler*, p.273-286

157 Dainel Panzac, *Osmanlı İmparatorluğunda Veba (1700-1850)*, p. 9

158 Dainel Panzac, *Osmanlı İmparatorluğunda Veba (1700-1850)*, p. 9

159 BA., *Cevdet Maarif*, No:3691

At the beginning of the 19th century an important conflagration happened in Bursa in 1802¹⁶⁰. Although there is not much information about it there was a conflagration between the dates December 24, 1832 and January 21, 1833 in Bursa¹⁶¹. Nevertheless, immediate after the earthquake occurred in 1855 the conflagrations started in Bursa had caused many damages. The eyewitness of this disaster, Pasha Gazi Muhtar, gived important information that earthquake occurred in the winter. Stoves in houses had started the fire in five different place of Bursa and it was impossible to interfere it for a long lasted period¹⁶².

The conflagration of İznik in 1834 had caused serious damages¹⁶³.

Like in 18th the conflagrations happened in 19th century in İzmir affected the city very seriously. The conflagration started in 1841 had continued 17 hours and burnt many houses and shops and affected more than 20000 people¹⁶⁴. After this, it was demanded from the state to cancel the tax debts of people living in İzmir and to help people who were harmed at the conflagration¹⁶⁵. It can be understood from a August 14, 1841 dated document that state had sent aids to the people damaged from the conflagration¹⁶⁶.

In 1845 a conflagration started again in İzmir and many houses and shops had burned¹⁶⁷ including bakeries that the need of bread had supplied from the Istanbul¹⁶⁸. It is understood from the official representation paper that people had demanded basic aids from the center¹⁶⁹. These demands were taken in to consideration and an important amount of aids had been sent¹⁷⁰. Two small sized fires had happened in İzmir in 1852 and 1857¹⁷¹. Again, 481 houses and 88 shops were burnt in İzmir by the 1860-1861 (A.H 1277) conflagration¹⁷².

The first conflagration at the second half of the 19th century in Anatolia had started in Antalya in 1854¹⁷³. Mansion of the governor burned in Harput at the January 12, 1858 conflagration. The spread of this conflagration to city was prevented with difficulty. Although most part of the governor's mansion burned, dorms of polices and prison were

160 BA., *Cevdet Belediye*, No:2594

161 Ahmed Lütfi Efendi, *Vak'anüvis Ahmed Lütfi Efendi Tarihi IV*, Yapı Kredi Yayınları, İstanbul,1999, p.724.

162 for more detailed information; Gazi Ahmed Muhtar Paşa, *Sergüzeşt-i Hayatım*, Cild-i Evvel, Edit. M. Sabri Koz; Nedret İşli, Tarih Vakfi Yurt Yay., İstanbul 1996, p. 3

163 BA., *Hatt-ı Hümayun*, No:33350-B

164 Ahmed Lütfi Efendi, *Vak'anüvis Ahmed Lütfi Efendi Tarihi VII*, Yapı Kredi Yayınları, İstanbul, 1999, p.1107

165 BA., *İrade Dahiliye*, No:2100, No:2101

166 BA., *İrade Dahiliye*, No:2123, No:2302

167 Ahmed Lütfi Efendi, *Vak'anüvis Ahmed Lütfi Efendi Tarihi VIII*, Yapı Kredi Yayınları, İstanbul 1999, p.1196-1197

168 BA., *Cevdet Belediye*, No:5787

169 BA., *İrade Dahiliye*, No:5296, No:5305

170 BA., *İrade Dahiliye*, No:5355; BA., *İrade Meclis-i Vâlâ*, No:1826. Ayrıca bkz. *Cevdet Belediye*, No:5852, No:5831.

171 BA., *İrade Dahiliye*, No:16099, No:26016.

172 Look: *Ahmet Lütfi Efendi Tarihi IX*, 1984, s.165.

173 BA., *İrade Dahiliye*, No:19507

saved but official documents not¹⁷⁴ On May 5, 1858 a conflagration occurred in Kütahya.¹⁷⁵ Another conflagration occurred in 1858 in Manisa and had caused serious damages¹⁷⁶.

The 1863 conflagration in Bursa resulted with severe effects¹⁷⁷. Lots of houses shops and buildings collapsed in the Konya at the conflagration occurred in September 1867¹⁷⁸.

On September-October 1869 a conflagration started in the Gördes town in the Aydın provision and had caused serious damages¹⁷⁹.

240 houses and shops burned in the Bursa conflagration started in 1871-1872 (A.H.1288)¹⁸⁰.

Between July and August in 1872 the conflagrations occurred in Istanbul Erzurum, Ankara and Bursa had caused serious damages¹⁸¹.

The conflagration started in 1874 in Bandırma had burnt the 2/3 of the town¹⁸².

Lots of buildings, houses, shops, mosques, a and schools burned in the Afyon Karahisar conflagration in 1875¹⁸³.

Lots of important document totally burned down with mansion of the governor in the central district of Saruhan Sanjak in the 1891 conflagration¹⁸⁴.

CONCLUSION

The information about the results of the natural disasters occurred in Ottoman era have been cited at the end of the related sections. However, it will be beneficial to state here the following information for Ottoman Period.

When examining the Ottoman Land from the perspective of the earthquakes, it will be possible to determine that the Ottoman Land including Anatolia has been on the important

174 Ahmet Aksın, *19. Yüzyılda Harput*, Elazığ, 1999, p. 71

175 BA., *İrade Meclis-i Vâlâ*, No: 17155

176 BA., *İrade Dahiliye*, No:27045; *İrade Meclis-i Vâlâ*, No: 17559

177 BA., *İrade Dahiliye*, No:33410, No:35044

178 *Ahmet Lütüfî Efendi Tarihi XI*, p. 97

179 This affair is cited in the *Ahmet Lütüfî Efendi Tarihi* as "...Anadolu'nun Manchester'i denmeye şayan bir şehir idi ki, imâl olunan kilim ve kâliçeleri cihanın her tarafında nefasetle şehirdir. Hatta Paris sergisinde âmilleri birinci mertebeden altun madalyalar almışlardı. Masûlât-ı araziyesi fevka'l-âledir. Harik-ı mezbûrda pek çok mahalleler, derûnlarında müdahhar zahair ile yanmış ve üçyüz on bâb dükkan ve mağazayı hâvî çarşusu ile beş bab câmi-i şerif ile iki mekteb ve üç han vi iki hamam ve üçyüz yirmibeş hane ve üç pazar mahalli kâmil muhterik olmuştur...". Look at pls. *Ahmet Lütüfî Efendi Tarihi XII*, p. 53

180 *Ahmet Lütüfî Efendi Tarihi*, CXIII, Edit. Münir Aktepe, Ankara 1990, p. 20

181 *Ahmet Lütüfî Efendi Tarihi*, C.XIV, Edit. Münir Aktepe, Ankara 1991, p. 33

182 *Ahmet Lütüfî Efendi Tarihi*, C.XV, Edit. Münir Aktepe, Ankara 1993, p. 22-23

183 *Ahmet Lütüfî Efendi Tarihi*, CXV, Edit. Münir Aktepe, Ankara 1993, p. 74-75

184 Ali Osman Çınar, "Tanzimat Sonrasında Osmanlı Devletine Arşivler ve Doğal Afetler", *Tarih Boyunca Anadolu'da Doğal Afetler ve Deprem Semineri Bildiriler*, p. 268

faul. In addition to this, Turks, after coming to Anatolia, especially preferred the high and mountainous places, and this tradition was remained in Ottoman Period. They realized that the new place they settled was shaken by earthquakes. Thus, they had mainly preferred to make their houses with wooden and single floor. Stone made houses started to be constructed at the beginning of 18th century because of intense conflagrations in this period as it is mentioned above. Within the historical period of this study many earthquakes had occurred frequently in Anatolia but except several ones many of them were harmless or caused small harms. After the earthquakes state had interfere the region which faced with earthquake and supplied aids in kind and cash. However, it is not possible to say that these aids were enough. So as to prevent pillages and establish the security state immediately had sent its security forces to the disaster zone. In addition, in places with earthquakes, a census was carried out shortly and the results of these censuses were recorded in the books. In this study like any others it is just described a situation of earthquakes. The socioeconomic results of these earthquakes will be a subject of another study.

The fact that the houses are close to each other and the use of wooden materials in general caused fires to occur frequently in the Ottoman period. The consequences of these fires and the damages they cause will also be evaluated later.

Plague and cholera are also among the major epidemic diseases that the Ottoman state is frequently exposed during the periods examined. The consequences of these diseases have resulted in a considerable amount of human deaths and other serious consequences such as migration. Famine is among the important natural disasters encountered in the period under examination. Serious famines, especially after grasshopper outbreaks, have resulted in a steady decline in the population of Anatolia. One important point that strikes us in the period we studied is that the seller is very rare in Anatolia during the Ottoman state time. The most important reason for this is that the natural environment is unspoiled and not settled in the water beds of settlements. However, flooding at some time should be related to the general climate conditions. In the meantime, it should not be forgotten that the formation of the selin and its influences give a key to the agricultural history of a distinction.

XVIII and XIX centuries in Anatolia in this case, we have determined that natural disasters in this period in the period mentioned that Anatolia is often exposed to various natural disasters. In the mentioned period, the results of natural disasters will be evaluated separately

After these brief evaluations of the Ottoman period, we would like to give some general evaluations.

During the historical periods natural disasters have constantly devastated human beings due to their general consequences. Sometimes even large-scale losses have resulted in serious consequences, which could lead to the removal of a civilization or cult from it.

At the beginning of the most important consequences of natural disasters are human losses. Hundreds, thousands and perhaps tens of thousands of people can die after many natural disasters. It is understandable that human beings are faced with a serious threat if

some other factors brought to the human hand are added.

In addition to the loss of a significant number of human populations during natural disasters, perhaps a greater amount of animals may be lost. Some of these animals are domestic animals and it is possible to replicate them in later periods. However, natural disasters such as earthquakes, fires and similar natural disasters have led to the destruction of ecologically unbalanced animals and their arrival in these days.

Perhaps most important is the collapse of historical artifacts and the disappearance of natural beauties from the untoward consequences of natural disasters during historical periods.

It is possible to say that natural disasters have caused problems on the structure of the society. Namely, after disasters a feel of fear and insecurity had emerged among people and they do not trust each other. With the decrease in the work facilities, unemployment had rose, then dirtiness and poverty had covered the zones of disasters. This general cause-effect relation in disasters and society is acceptable in Ottoman period of Anatolia as well. In addition at the Ottoman period after disasters the people living in the zone of disaster had tended to move other places. This situation was one of the main problems that Ottoman state had tackled with.

As a consequence, in this study “a general descriptive map” is presented about the natural disasters came into being in Anatolia between 18th and 19th centuries. Damage of these disasters and their effects on the people will be a subject of another study.

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