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The Comparison of Institutional Frameworks Regarding Risk Management for Conservation of Cultural Heritage by Focusing on UNESCO World Heritage Sites: The Cases of the UK, Japan and Turkey

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Abstract

The aim of this study is to investigate different institutional frameworks that deals with the management of UNESCO World Heritage Sites (hereafter WHS) under the threats of natural and technological hazards in other countries in comparison with Turkey. While doing this it is also aimed to figure out the factors that threat those sites. In this regard, first of all the international agenda regarding the conservation of cultural heritage in relation to risk management are discussed. Then, three different countries; namely Japan, U.K. and Turkey are examined with respect to how they consider 'risk management' for the conservation of cultural heritage sites. In addition to that, while explaining about the relationships between institutional approaches and factors that UNESCO WHS of those countries are exposed to 'State of Conservation System' (hereafter SOC) has been used. According to this investigation it is showed that in the UK case, among 31 UNESCO WHS, 2 of them are facing threats due to natural factors, 18 of them are exposed to threats because of human-induced factors and 14, out of 31 are subject to threats due to institutional factors. In Japan case, 3 of 21 World Heritage Sites are faced with threats because of natural factors, 3 of them are exposed to human-induced factors and 4 are subject to institutional factors. In the case of Turkey, it is observed that 3 of 17 WHS are faced with hazards because of natural factors, 4 are subject to human-induced threats and 7 of them are exposed to institutional factors. However, among instances in three countries, it should be noted that there are three different institutional systems for risk management and the conservation of cultural heritage. In this study those institutional systems have been investigated with their pros and cons as well as similarities and differences. In the scope of this article the investigation has been limited to only 3 case countries so that the result should be accepted as preliminary covering cases from Asia, Europe and Anatolia. Further studies could extend the number of cases investigated in order to have a spectrum of solutions in institutional framework for dealing with risks in WHS.

Key Words: institutional framework, risk management, UNESCO World Heritage Site, the UK, Japan, Turkey

Farklı Kurumsal Çerçevelerin Kültürel Mirasın Korunmasında Risk Yönetimi Açısından Karşılaştırması: Birleşik Krallık, Japonya ve Türkiye UNESCO Dünya Miras Alanı Örnekleri

Öz

Bu çalışmanın amacı başka ülkelerdeki doğal, insan-kaynaklı ve kurumsal tehlikelere maruz UNESCO Dünya Mirası Alanları'nın (bundan böyle DMA) yönetimiyle ilgili farklı kurumsal çerçeveleri Türkiye ile karşılaştırmalı olarak incelemektir. Bunu yaparken aynı zamanda bu alanları tehdit eden faktörlerin ortaya konulması amaçlanmıştır. Bu kapsamda, öncelikle kültürel mirasın risk yönetimi ile ilişkili olarak

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korunması konusundaki uluslararası gündem tartışılmıştır. Daha sonra Japonya, Birleşik Krallık ve Türkiye olmak üzere 3 farklı ülke kültürel miras alanlarının korunmasında risk yönetiminin nasıl dikkate alındığı konusunda incelemeye tabi tutulmuştur. DMA'ları tehdit eden faktörlerin aynı zamanda kurumsal yaklaşımlarla olan ilişkisi konusuna değinirken Koruma Durum Raporları Bilgi Sistemi'nden (bundan sonra KDS) faydalanılmıştır. Bu incelemeler göstermiştir ki Birleşik Krallık örneğinde, 31 UNESCO DMA arasında, 2'si doğal faktörlerden, 18'i insan kaynaklı faktörlerden ve 14'ü de kurumsal faktörlerden kaynaklanan tehditlere maruzdur. Japonya örneğinde, 21 DMA'dan 3'ü doğal faktörlerden, 3'ü insan kaynaklı faktörlerden ve 4'ü kurumsal faktörlerden dolayı tehdit altındadır. Türkiye örneğinde de, 17 DMA'dan 3'ü doğal faktörler, 4'ü insan kaynaklı faktörler ve 7'si kurumsal faktörler nedeniyle tehditlere maruz kaldıkları gözlemlenmektedir. Üç ülkedeki örnekler arasında yapılan bu kıyaslamada, risk yönetimi ve kültürel mirasın korunması için üç farklı kurumsal sistem bulunduğunu unutmamak gerekir. Bu çalışmada da, bu sistemler arasındaki benzerlikler ve farklılıklar incelenmiş, bu sistemlerin artıları ve eksileri tartışılmıştır. Bu çalışmanın kapsamı araştırmayı sadece 3 ülke örneğiyle sınırlandırılmıştır, dolayısıyla Asya, Avrupa ve Anadolu'dan birer örnek olmak üzere yapılan bu incelemenin sonuçlarını başlangıç niteliğinde kabul etmek anlamlıdır. İleriki çalışmalarda örnek sayısının artırılması ile DMA alanlarındaki risklerle mücadeledeki kurumsal çerçevedeki çözümlerin bir izgesi elde edilebilecektir.

Anahtar Kelimeler: kurumsal çerçeve, risk yönetimi, UNESCO Dünya Miras Alanı, Japonya, Birleşik Krallık, Türkiye

1. INTRODUCTION

With the increase of globalization, different hazards including natural ones such as earthquakes, landslides, floods and man-made hazards including urbanization, tourism pressure, conflicts have affected negatively cultural heritage sites, which are essential social, cultural and physical components of cities and communities. UNESCO World Heritage Sites (hereafter WHS) have cultural importance and economic values for nations. They are exposed to such hazards derived from natural, man-made and institutional factors. However, their conservation for future generations with their various values is a necessary issue for nations. As it can be seen in Figure 1, the number of UNESCO WHSs introduced in the danger list has been changing from the year of 1978 to 2015.

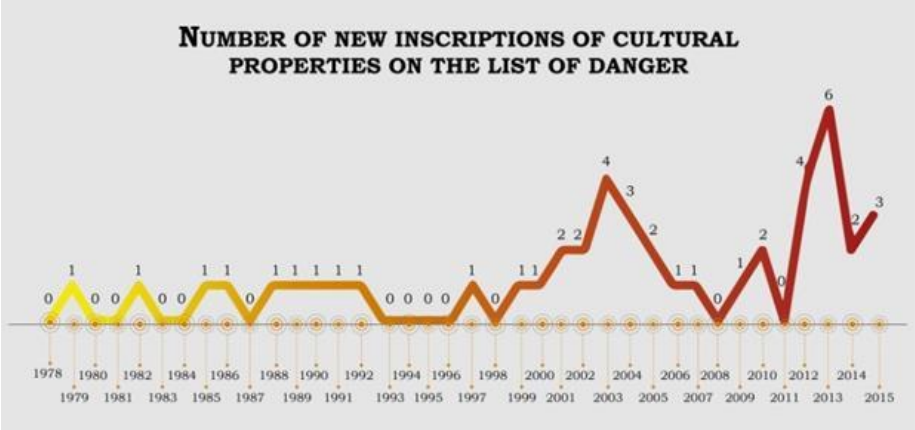


Figure 1. The Number of World Heritage introduced on the danger list per year (Matiz López, 2016, p.37)

Furthermore, according to Matiz López (2016), nature-induced disasters, climate factors, armed conflict, managerial and socio-economic factors are major reasons why those sites were introduced in danger as it can be seen in Figure 2. Accordingly, in recent years, the dominant factor for being described in the danger list is armed conflict as many countries and cultural heritage sites are exposed to.

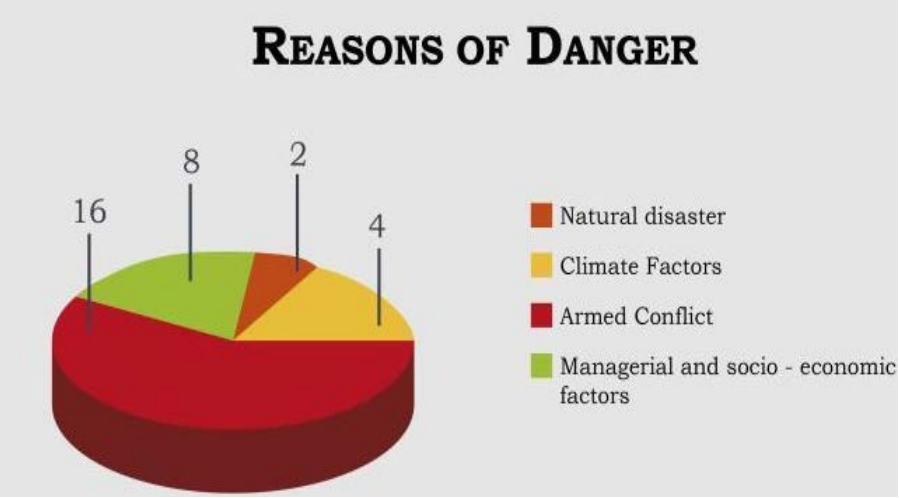


Figure 2. Reasons for which Cultural World Heritage Properties are on the danger list in 2015 (Matiz López, 2016, p.36)

However, since those areas constitute physical, social and cultural character of the city, their sustainability becomes a critical issue to be handled by different stakeholders including central and local authorities, NGOs, researchers, and essentially local people who live where cultural heritage sites are located. The vulnerable and authentic character of those sites that should be conserved bring the necessity of taking pro-active measurements by responsible different authorities before disasters occurred. In fact, managerial and socio-economic factors, which exist as a result of institutional organization and its effectiveness are important issues to be dealt with. Institutional frameworks for disaster risk management to conserve UNESCO World Heritage Sites play an important role. Different approaches bring different results for conservation of those sites.

Therefore, in this study, different countries including UK which is one of the developed country in Europe in terms of institutional organization related to conservation of cultural heritage is chosen to be analyzed. Secondly, Japan, a country prone to extreme disasters and well-known for dealing with different risks, has chosen to be studied. Thirdly, Turkey, as a bridge between Europe and Asia is chosen to be discussed as well as several inferences from other cases could be discussed to be implemented in the field of conservation planning for the improvement of Turkish case. In this respect, different threats UNESCO World Heritage Sites face in those countries are described according to data introduced in UNESCO State of Conservation System (hereafter SOC). In this respect, the hazards that archaeological heritage sites in Turkey face are classified as human-induced factors, natural factors and institutional factors as Yıldırım-Esen described in her PhD study for Risk Assessment for Archaeological Sites in 2014. In her study, she identifies natural hazards including sudden geological and ecological events, slow and progressive hazards and climate change. She claims that *certain human-induced hazards are institutional as destruction results from development programs/projects of public institutions such as urban development, construction of tourism facilities, transportation and services infrastructures, dam construction and physical resource extraction* (Yıldırım-Esen, 2014; 51). In addition, she evaluates human induced hazards as activities of individiuals/groups such as social and cultural uses of heritage, biological resource use/modification in rural areas, unfavorable human activities, and illicit digging (Yıldırım-Esen, 2014). In this context, factors that WHSs in the UK, Japan and Turkey are subject to in UNESCO SOC are categorized with respect to those three classes in terms of natural, human-induced, and institutional hazards (Table 1 in the third part).

2. INTERNATIONAL AGENDA REGARDING RISK MANAGEMENT FOR CONSERVATION OF CULTURAL HERITAGE

Since 1900s, The Hague Convention with respect to the Laws and Customs of War on Land that was announced in 1899 and in Article 28 and 47 prohibiting pillaging was emphasized, and in Article 56 prohibiting destruction was introduced (Bouakaze Khan, 2017). In 1907, The Hague Convention also emphasizes the rules that should have been followed by the states. Following this, especially after World War II, the emphasis on this specific topic had increased. Accordingly, in 1954 The Hague Convention, underlined the risks due to armed conflict on cultural property and pointed out the destructions of cultural properties because of armed conflict (UNESCO, 1954).

However, the 1972 UNESCO World Heritage Convention was assumed as the first international document related with both risk and conservation of cultural heritage. In this document, in addition to traditional causes of decay on natural and cultural heritage in the world, the impacts of changing social and economic conditions were emphasized (UNESCO, 1972). In 1975, with initiations of the European Commission and with the Amsterdam Declaration, the concept of integrated conservation was underlined. In this period, around historic pattern new settlement areas were considered as hazards; on the other hand, today's risks were not (Jokilehto, 2010 cited in Dinçer, 2012).

In this regard, after Florence flood occurred in 1966, ICCROM organized the international aid for the protection issues. This catastrophic consequence made the disaster management one of ICCROM's core topic (Tandon, 2013, p. 5). Therefore, disaster preparedness has played an important role for preventive conservation. Following Indian Ocean Tsunami in 2004, ICCROM has focused on risk reduction for cultural heritage. An innovative methodology for assessing risks, identifying priorities, and informing conservation decisions are major issues of its studies (Tandon, 2013).

In ICOMOS Charter on Historic Towns (1987), also called as Washington Charter, the emphasis was on the protection of historic towns against natural disasters and pollution and vibration problems for conservation of the heritage and residents' security and wellbeing. Furthermore, preventive and repair measures supporting the unique character of properties in case of disasters are emphasized (ICOMOS, 1987).

In 1991, the foundation of an Inter- Agency Task Force's, with collaboration of ICCROM, UNESCO, ICOMOS and ICOM and many others, could be evaluated as an important attempt with respect to defining a general framework about how to conserve cultural heritage against risks (Dinçer, 2012). Namely, the responsibility of coordinating activities of the Task Force and its members in terms of funding, emergency, response, training and guidelines, documentation and awareness belonged to this organization (Stovel, 1998, p.2).

In addition, in 1980s, 'risk preparedness' concept was started to be discussed in the field of cultural heritage protection (Yıldırım-Esen, 2014: 40). In these years, outputs for conservation policies for cultural heritage sites locating in seismic areas have been obtained. ''Between Two Earthquakes'', published by Bernard Feilden in 1987 with the support of ICCROM and Getty Preservation Institute, is an information source for the preservation of historic buildings, monuments and archaeological sites in seismic regions. Despite the fact that various international conferences focusing on cultural heritage sites remaining in seismic regions, in 1990s, 'prevention' was emphasized (Yıldırım-Esen, 2014; Stovel, 1998). In 2000s, disaster risk management is discussed to protect cultural heritage (Jigyasu, 2015; Jigyasu, 2016), mitigation and reduction of disaster effects instead of avoiding natural hazards were emphasized (Tandon, 2013).

3. THE ROLE OF INSTITUTIONAL FRAMEWORK REGARDING RISK MANAGEMENT FOR CONSERVATION OF CULTURAL HERITAGE

Institutional framework regarding risk management for conservation of cultural heritage sites compromises various levels including national level, state level, district level and local level with different responsible institutions. The coordination and collaboration between those different institutions, NGOs and local people can enhance an integrated risk management process for conservation cultural heritage sites.

The factors that were defined for UNESCO WHSs in the UK, Japan and Turkey are categorized into natural, human-induced and institutional factors (Table 1). In this respect, management systems and plan, management activities, housing, ground and underground infrastructure system, effects arising from the use of transportation infrastructure, water infrastructure, solid waste, commercial development, high impact research monitoring activities, legal framework, governance, renewable energy facilities, which are threats classified in UNESCO State of Conservation Information System that UNESCO World Heritage Sites are exposed to can be evaluated as a result insufficient institutional organization system of nations. Therefore, those factors are assumed as institutional factors.

Table 1. Categorizing factors affecting UNESCO World Heritage Sites (UNESCO, 2019)[3]

Natural Factors	**Man-made factors**	**Institutional factors**
● Earthquake ● Aquaculture ● Hyper-abundant species ● Invasive/alien terrestrial species ● Water (rain/water table) ● Flooding	● Impact of Tourism/visitor/ recreation ● Interpretative and visitation facilities ● Mining ● Major visitor accommodation and associated infrastructure ● Oil and gas ● Society's valuing of heritage ● Illegal activities ● Pollution of marine waters ● Quarrying ● Fishing/collecting aquatic resources ● Forestry/Wood Production ● Identity/Social Cohesion/Changes in Local population ● Civil unrest ● Deliberative destruction of heritage	● Management Systems/Management Plan ● Management Activities ● Ground Transportation Infrastructure ● Underground Transportation Infrastructure ● Effect arising from the use of transportation infrastructure ● Housing ● Commercial Development ● High impact/research/monitoring activities ● Legal framework ● Solid waste ● Governance ● Renewable energy facilities ● Water Infrastructure

However, in coordination between those stakeholders and insufficient regulations regarding risk management and conservation of cultural heritage sites cause significant threats on unique and vulnerable cultural heritage sites.

According to a study, which evaluates threats faced by UNESCO WHSs between 1994 and 2004, conducted by ICOMOS in 2005, the major highest percentages of threats belonged to management and development issues. Failures in management are the largest threats faced by all regions and all sites (ICCROM, 2005).

Therefore, in this part, current institutional framework of the UK, Japan and Turkey are

[3]There are major factors identified by UNESCO affecting properties. However, in this study, the main analyses were based on factors those sites are exposed to and those factors are classified into three groups. It should be noted that, the data related with factors was gathered the information from the State of Conservation System, other documents such as reports and its contents are not evaluated in the scope of this study.

identified regarding risk management for conservation of cultural heritage sites. Then, the different factors defined in UNESCO Information System for UNESCO WHS in those countries[4] are analyzed. It should be noted that the study is limited to data that are available as UNESCO WHS for each country.

3.1. THE CASE OF THE UK[5]

3.1.1. Institutional Framework

The UK is exposed to both natural and human-induced hazards. More than 5 million people are threatened by natural disaster threats annually (Crichton, 2005 cited in Şahin et al, 2008). The institutional organization of the UK for disaster management includes various responsible organizations as it can be seen in Figure 3. As a part of Cabinet Office, **The Civil Contingencies Secretariat (CCS)** supports Civil Contingencies Committee in the case of terrorism and natural disasters (Kapusuz, no date). It focuses on ensuring the UK and its communities a safe and secure place for living and working, effective identification and management of emergency risk and maintenance of world-class capabilities for response and recover from emergencies [URL1]. In addition, **Lead Government Departments (LGD),** are responsible for different emergency situations, **Civil Contingencies Secretariat** organizes lists of LGDs. Furthermore, **Cabinet Office Briefing Room (COBR/COBRA)** is dealing with crisis management facility of the UK government of national significant cases (Kapusuz, no date). In the meetings of COBRA, The PM, Intelligence Officials, representatives from the Ministry of Defence, Department of Defence and Home Office officials, other senior Ministers, Mayor of London and Metropolitan Police Commissioner and representatives of relevant LGDs decide about effective response and recovery disaster actions (Kapucu, n.d.).

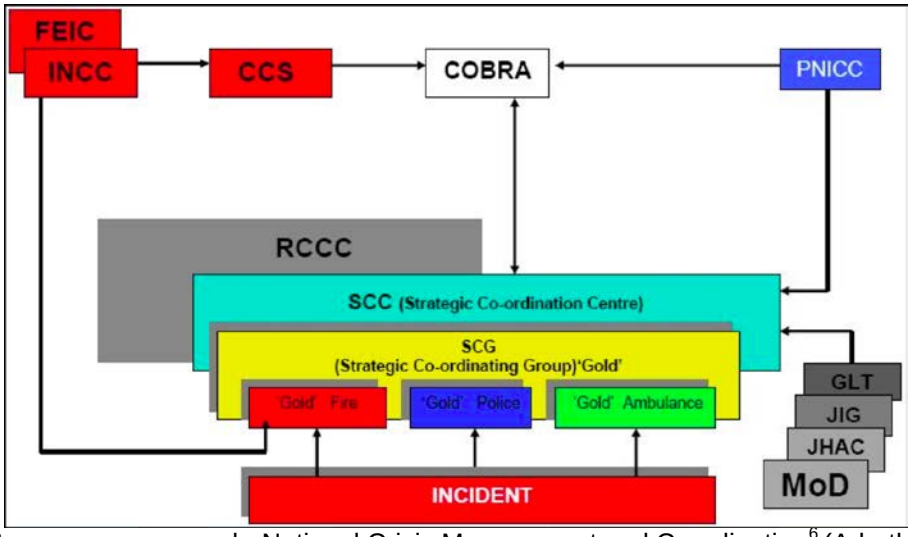


Figure 3. Interagency command - National Crisis Management and Coordination[6] (Arbuthnot, 2005 in Kapucu, n.d.)

[4] 17 World Heritage Sites in Turkey, 31 in the UK and 21 in Japan have been analyzed in this study because while study was started between September 2017-January 2018, those sites were designated. However, the other sites (1 in the UK, 2 in Japan and 1 in Turkey) which were designated as a UNESCO World Heritage Site, after this study was started, therefore they are not included in this study.

[5] The UK includes four countries-England, Northern Ireland, Scotland and Wales. It is a unitary state governed by parliamentary system (Kapucu, n.d.). UNESCO has designated 31 properties in the '' The UK of Great Britain and Northern Island as a World Heritage Site.

[6] COBR/COBRA – Cabinet Office Briefing Room; CSS – Civil Contingencies Secretariat; SCC – Strategic Coordination Centre; SCG – Strategic Coordination Group; PNICC – Police National Information and Coordination Center; JIG – Joint Intelligence Group; JHAC – Joint Health Advisory Cell; MoD – Ministry of Defense; and RCCC – Regional Civil Contingencies Committee

In addition, there are three different **levels of emergency management** in the UK (Figure 4). Accordingly, catastrophic emergency or disaster widespread impact that requires immediate involvement of central government is evaluated in **Level 3.** Serious emergency or disasters are taken into account **in Level 2** and in this level, support and coordination of government is needed. In addition, **in Level 1** significant emergency, any disaster with small impact are considered (Kapucu, n.d.).

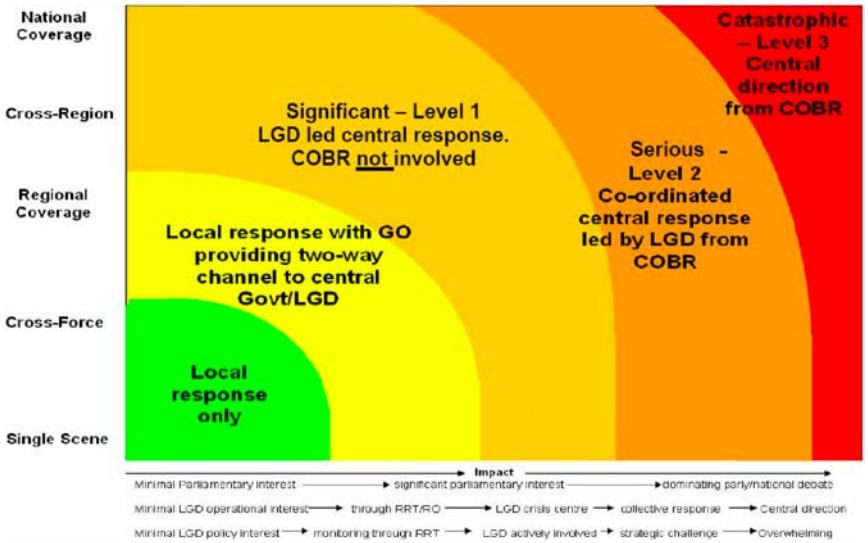


Figure 4. Central Government Engagement Model (Cabinet Office 2005 in Kapucu, n.d.)

According to Kapucu (n.d.), decentralized system and emergency management structure provides a sustainable emergency response and support in the UK. Also, he states that central government and local authorities have significant responsibilities through collaboration and established framework of emergency management.

In addition to organizations and regulations for risk assessment and management for conservation of cultural heritage, there are organizations regarding Conservation of Cultural Heritage in the UK system as in the following: English Heritage, Historic England. English Heritage is independent of government and it aims to make social and economic research in order to perceive heritage value [URL2]. On the other hand, within Historic England, there is Heritage at Risk program, which was established in 2008, aims to protect and manage historic environment. Each year, Historic England arranges Heritage at Risk register. This register includes buildings, structures, archaeological sites, conservative areas, registered parks and gardens, registered battlefields and protected wreck sites [URL3].

There are different responsible bodies for the protection of cultural heritage with respect to different constituent nations. Accordingly, Historic England in England, Cadw in Wales, Historic Environment Scotland in Scotland, Northern Ireland Environment Agency in Northern Ireland Environment exist.

To sum up, there is no specific organization responsible for disaster management for conservation of cultural heritage sites. Site owners of assets are responsible to implement the guidelines for the protection of cultural heritage against natural disasters. On the other hand, there are recent studies to involve British Emergency Services with cultural heritage management. An example defined in STORM (Safeguarding Cultural Heritage through Technical and Organizational Resources Management) Project is Greater Manchester Fire and Rescue Service organizes plans based on gathering information about historic buildings in Greater Manchester region. Accordingly, this information will be utilized to protect listed

buildings in case of fire [URL4].

In addition, Museums and Trusts, responsible for multiple locations, cultural heritage and artefacts could have regional and national responses to hazards. However, this is for cases where there is no action plan to follow. In case of disasters, site owners follow their procedures. In addition, after damage, with the help of experts such as architects, archaeologists and emergency services, site owners assess the damages occurred. The guidelines of Historic England, assessing damages with local government were followed. Suitable insurance could be obtained by owners for cost of damage to their assets. Furthermore, after disaster local authorities can help with grants to fix damage of assets [URL4].

3.1.2. UNESCO World Heritage Sites and the dangers they face

Throughout history, The UK has hosted different settlements, therefore there are unique, authentic and vulnerable cultural heritage sites in the UK. Accordingly, 31 of them are designated as a UNESCO World Heritage, there are 26 cultural heritage sites, 4 natural sites and 1 mixed sites as shown in Table 2. Those authentic sites show social, physical and cultural characteristics of the UK. For this reason, their sustainable conservation to future is on responsibility of different stakeholders including central and local authorities, NGOs, local people etc.

Table 2**.** UNESCO World Heritage Sites in the UK

Cultural	
1	Blaenavon Industrial Landscape (2000)
2	Blenheim Palace (1987)
3	Canterbury Cathedral, St Augustine's Abbey, and St Martin's Church (1988)
4	Castles and Town Walls of King Edward in Gwynedd (1986)
5	City of Bath (1987)
6	Cornwall and West Devon Mining Landscape (2006)
7	Derwent Valley Mills (2001)
8	Durham Castle and Cathedral (1986)
9	Frontiers of the Roman Empire (1987, 2005, 2008)
10	Gorham's Cave Complex (2016)
11	Heart of Neolithic Orkney (1999)
12	Historic Town of St George and related Fortifications, Bermuda (2000)
13	Ironbridge Gorge (1986)
14	Liverpool- Maritime Mercantile City (2004)
15	Maritime Greenwich (1997)
16	New Lanark (2001)
17	Old and New Towns of Edinburg (1995)
18	Palace of Westminster and Westminster Abbey including Saint Margaret's Church (1987)
19	Pontcysllte Aqueduct and Canal (2009)
20	Royal Botanic Gardens, Kew (2003)
21	Saltaire (2001)
22	Stonehenge, Avebury and Associated Sites (1986)
23	Studley Royal Park including the Ruins of Fountains Abbey (1986)
24	The English Lake District (2017)
25	The Forth Bridge (2015)
26	Tower of London (1988)
Natural	
27	Dorset and East Devon Coast (2001)
28	Giant's Causeway and Causeway Coast (1986)
29	Gough and Inaccessible Islands (1995, 2004)
30	Henderson Island (1988)
Mixed	
31	St Kilda (1986, 2004, 2005)

3.1.3. The dangers UNESCO World Heritage Sites in the UK face

The dangers that UNESCO World Heritage Sites face in the UK differs with respect to characteristics and conditions of each site. As it was stated in the first part of the study, the three kinds of threats natural, human-induced and institutional threats as Yıldırım-Esen (2014) stated-are classified and adapted in this study. In Table 3, natural threats, human induced threats and institutional threats that those UNESCO World Heritage Sites face can be seen.

Accordingly, management systems and management plan, ground transportation infrastructure, underground transportation infrastructure, effects arising from the use of transportation infrastructure, housing, commercial development, high impact research/ monitoring activities, legal framework, solid waste, governance, renewable energy facilities are threats that can be evaluated in institutional factors led threats. In addition, impact of tourism/visitor/recreation, interpretation and visitation facilities, mining, oil and gas, major accommodation and association facilities, society's valuing of heritage, illegal activities, pollution of marine waters, quarrying, fishing/collecting aquatic resources are threats caused by human-induced factors. Furthermore, invasive/alien terrestrial species are hazards because of natural factors. The data in this section gathered from UNESCO State of Conservation Information System (http://whc.unesco.org/en/soc/) in January 2018 and categorized into three groups. Accordingly, for example, Frontiers of the Roman Empire is exposed to impact of tourism/visitor/recreation in human induced factors both in 1992 and 1993.

Table 3. The factors UNESCO World Heritage Sites in the UK face

Natural Factors	Human-induced Factors	Institutional Factors
Invasive/alien Terrestrial Species Gough and Inaccessible Islands (1999, 2000, 2009, 2016) Henderson Island (2008, 2010)	**Impact of Tourism/Visitor/ Recreation** Frontiers of the Roman Empire (1992, 1993) Giant's Causeway and Causeway Coast (2012, 2013, 2014, 2016) Henderson Island (2002, 2003) Stonehenge, Avebury and Associated Sites (2008) **Interpretative and Visitation Facilities** City of Bath (2009) Giant's Causeway and Causeway Coast (2001, 2002, 2003, 2005, 2008) Liverpool- Maritime Mercantile City (2012, 2013, 2014, 2015, 2016, 2017) Stonehenge, Avebury and Associated Sites (1994, 1998, 2000, 2001, 2002, 2003, 2007, 2009, 2011) **Mining** Cornwall and West Devon Mining Landscape (2012, 2013, 2014, 2015, 2017) Frontiers of the Roman Empire (1992, 1993) **Oil and Gas** Giant's Causeway and Causeway Coast (2014, 2016) St Kilda (1998, 1999, 2001, 2002)	**Management Systems/Management Plan** City of Bath (1992) Cornwall and West Devon Mining Landscape (2017) Giant's Causeway and Causeway Coast (2001, 2002, 2003, 2005, 2008) Gough and Inaccessible Islands (1999, 2000) Henderson Island (2002, 2003, 2004, 2005, 2007, 2008) Liverpool- Maritime Mercantile City (2008, 2009, 2011, 2012, 2013, 2014, 2015, 2016, 2017) Palace of Westminster and Westminster Abbey including Saint Margaret's Church (2008, 2009, 2011, 2012, 2013, 2014, 2015, 2017) St Kilda (1999, 2001, 2002) Stonehenge, Avebury and Associated Sites (1992, 1994, 1998, 2000, 2001, 2002, 2003, 2004, 2005, 2007, 2008, 2009, 2011) The Forth Bridge (2017) Tower of London (2008, 2009, 2011, 2012, 2014) **Ground Transportation Infrastructure** Stonehenge, Avebury and Associated Sites (1994, 1998, 2000, 2001, 2002, 2003, 2004, 2005, 2007, 2008, 2009, 2011, 2017)

Table 3. The factors UNESCO World Heritage Sites in the UK face (continued)

Natural Factors	Human-induced Factors	Institutional Factors
	Major visitor accommodation and associated infrastructure Giant's Causeway and Causeway Coast (2012, 2013, 2014, 2016) **Society's valuing of heritage** Liverpool- Maritime Mercantile City (2016, 2017) **Illegal activities** Gough and Inaccessible Islands (1999, 2000) **Pollution of marine waters** Dorset and East Devon Coast (2007) **Quarrying** New Lanark (2014) **Fishing/collecting aquatic resources** Gough and Inaccessible Islands (1999, 2000)	**Underground Transportation Infrastructure** Stonehenge, Avebury and Associated Sites (2004, 2007, 2017) **Effect arising from the use of transportation infrastructure** Old and New Towns of Edinburg (2011) Stonehenge, Avebury and Associated Sites (2011, 2017) **Housing** City of Bath (2008, 2009) Liverpool- Maritime Mercantile City (2006, 2007, 2008, 2009, 2011, 2012, 2013, 2014, 2015, 2016, 2017) New Lanark (2014) Old and New Towns of Edinburg (2003, 2004, 2009, 2011) Palace of Westminster and Westminster Abbey including Saint Margaret's Church (2007, 2008, 2009, 2011, 2012, 2013, 2014, 2015, 2017) Tower of London (2003, 2004, 2005, 2006, 2007, 2008, 2009, 2011, 2012, 2014) **Commercial Development** Cornwall and West Devon Mining Landscape (2012, 2013, 2014, 2015, 2017) Giant's Causeway and Causeway Coast (2001, 2002, 2003) Liverpool- Maritime Mercantile City (2006, 2008, 2009, 2011, 2012, 2013, 2014, 2015, 2016, 2017) **High impact/research/monitoring activities** Liverpool- Maritime Mercantile City (2016, 2017) Stonehenge, Avebury and Associated Sites (2004) **Legal framework** Henderson Island (2004) Liverpool- Maritime Mercantile City (2016, 2017) **Solid waste** Cornwall and West Devon Mining Landscape (2012) Old and New Towns of Edinburg (2008) **Governance** Liverpool- Maritime Mercantile City (2016, 2017) **Renewable energy facilities** Heart of Neolithic Orkney (2008)

Table 4. The number of UNESCO World Heritage Sites facing threats because of natural factors, human-induced factors and institutional factors

	Natural factors	Human-induced factors	Institutional factors
Number	2/31	18/31	14/31
Percentage	6 %	58 %	45 %

As it can be seen from the Table 4, 14 UNESCO World Heritage Sites have at least one threats related with institutional factors. 9 of 31 UNESCO World Heritage Sites have more than one threats in relation to institutional factors.

3.2. The Case of Japan

3.2.1. Institutional Order of Japan

Because of its natural conditions, Japan is exposed to different natural disasters including heavy snowfalls, sediment disasters, volcanic eruptions, and earthquakes (Cabinet Office, 2015). In this sense, risk assessment and management became an important issue for Japan.

In the **Cabinet Office**, there is **Central Disaster Management Council**. The role of this council defined as formulating and enhancing application of Basic Disaster and Earthquake Countermeasures Plans, deliberating crucial issues on disaster reduction in agreement with the Prime Minister of Minister of State for Disaster Management and offering ideas about significant issues on disaster reduction to Prime Minister and Minister of State for Disaster Management [URL5].

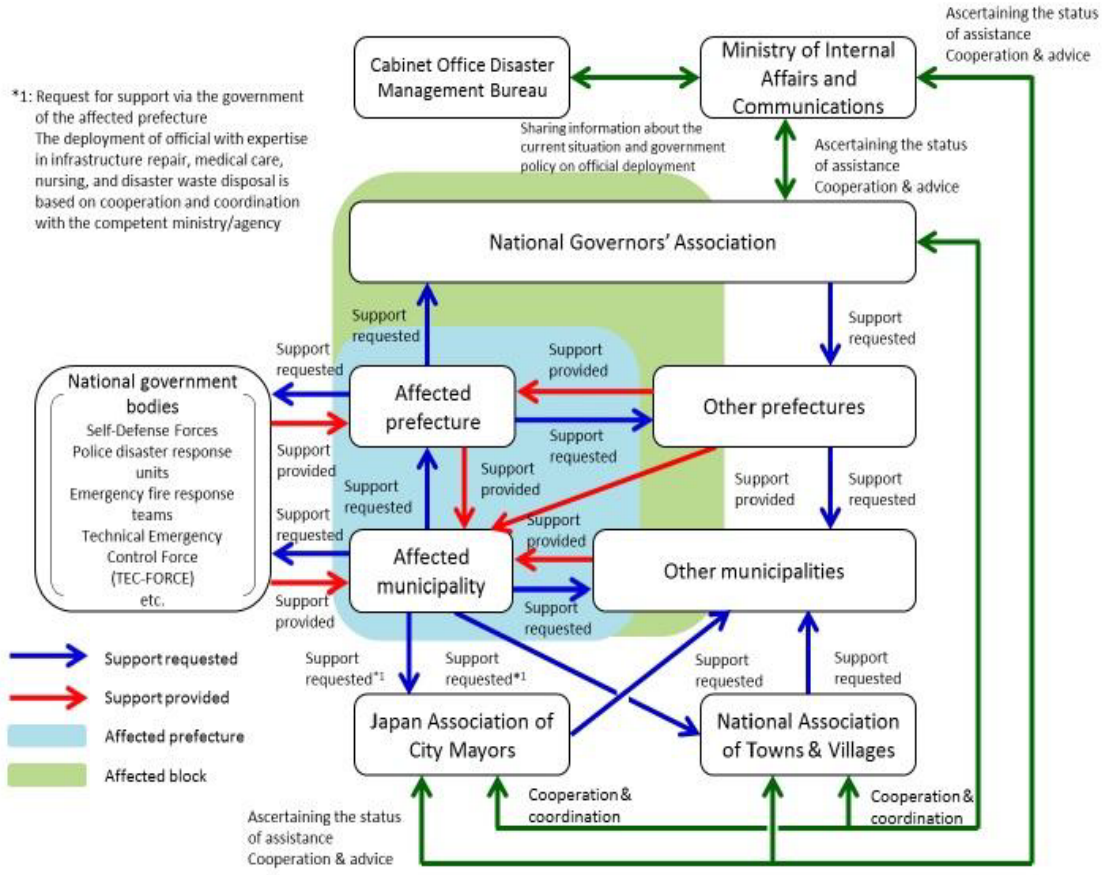


Figure 5. Illustration of Deployment of Support Officials Major Municipalities Following a Major Disaster (From materials distributed at the Fourth Meeting of the Working Group for Studying Emergency Response and Livelihood Support Measures in Light of the Kumamoto Earthquake in Cabinet Office, 2017, p.10)

As it can be seen from Figure 5, there are central and local authorities related with risk management issue. In addition, Current disaster management policies of Japan is based on public support with respect to *raising awareness of disaster risk reduction among the public* (Cabinet Office, 2017).
After Kobe earthquake, which occurred in 1995, cultural heritage was exposed to severe damages as in Hyogo 46 national cultural properties, 54 designated cultural assets, in prefecture border, 43 designated assets in municipality border (Murakami, 2011).

After this catastrophic event, scholars, local residents demand to repair and preserve cultural properties nationally, prefecturally (similar to provincially), municipally and undesignated cultural properties valued by local community. Accordingly, Great Hanshin- Awaji Earthquake Restoration Fund were used to rescue undesignated assets (Murakami, 2011). The differences between regulation systems after Kobe earthquake can be seen in Table 5.

Table 5. Comparison between before and after Kobe earthquake on regulation systems (Murakami, 2011, p.4) (table was reproduced by authors.)

Regulation System	**Before**	**After**
Master Plan for Disaster Prevention	No mention about cultural heritage	Cultural heritage is mentioned as important item should measure in Agency Plan
Agency Plan for Disaster Prevention	No rescue protection measures for undesignaties	Outline of establishment for rescue committee for cultural heritage (involving undesignation) Dispatch staffs & support request to local government & volunteer groups
The Low for Cultural Property	-	Register system introduced Guideline for reinforcement of historic buildings
Regional Plan for Disaster Prevention	No agreement	Agreement of mutual support in prefectures at disaster event Cities & Town also have linked to rescue committee for cultural heritage
Volunteer Training System	-	Heritage manager system introduced in Hyogo & another

3.2.2. UNESCO World Heritage Sites and the dangers they face

Due to Japan's history, there are different kinds of cultural heritage sites. Accordingly, there are 17 UNESCO World Heritage Sites and 4 mixed sites (Table 6).

Table 6. UNESCO World Heritage Sites in Japan and the date they were designated

Cultural	
1	Buddhist Monuments in the Horyu-ji Area (1993)
2	Fujisan, sacred place and source of artistic inspiration (2013)
3	Gusuku Sites and Related Properties of the Kingdom of Ryukyu (2000)
4	Himeji-jo (1993)
5	Hiraizumi-Temples, Gardens and Archaeological Sites Representing the Buddhist Pure Land (2011)
6	Hiroshima Peace Memorial (Genbaku Dome) (1996)
7	Historic Monuments of Ancient Kyoko (Kyoto, Uji and Otsu Cities) (1994)
8	Historic Monuments of Ancient Nara (1998)
9	Historic Villages of Shirakawa-go and Gokayama (1995)
10	Itsukushima Shinto Shrine (1996)
11	Iwami Ginzan Silver Mine and its Cultural Landscape (2007)
12	Sacred Island of Okinoshima and Associated Sites in the Munakata Region (2017)
13	Sacred Sites and Pilgrimage Routes in the Kii Mountain Range (2004)
14	Shrines and Temples of Nikko (1999)
15	Sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining (2015)

16	The Architectural Work of Le Corbusier, an Outstanding Contribution to the Modern Movement (2016)
17	Tomioka Silk Mill and Related Sites (2014)
Mixed	
18	Ogasawara Islands (2011)
19	Shirakami-Sanchi (1993)
20	Shiretoko (2005)
21	Yakushima (1993)

Table 7. UNESCO World Heritage Sites in Japan and the dangers they face

Natural Factors	Human-induced Factors	Institutional Factors
Earthquake Hiroshima Peace Memorial (Genbaku Dome) (2001) Itsukushima Shinto Shrine (2001) **Aquaculture** Shiretoko (2017) **Hyper-abundant Species** Shiretoko (2017)	**Impact of Tourism/Visitor/ Recreation** Historic Monuments of Ancient Nara (2007, 2008, 2009, 2011) Shiretoko (2017) **Forestry/Wood Production** Shirakami-Sanchi (1995)	**Management Systems/ Management Plan** Fujisan, sacred place and source of artistic inspiration (2016) Sacred Sites and Pilgrimage Routes in the Kii Mountain Range (2006) Shiretoko (2008, 2012, 2015) **Ground Transportation Infrastructure** Historic Monuments of Ancient Nara (2003, 2004, 2006, 2007, 2008, 2009, 2011) **Water Infrastructure** Shiretoko (2015, 2017)

As it can be seen from Table 8, there are 3 out of 21 UNESCO World Heritage Sites in Japan faces with natural threats, 3 of 21 are exposed to human-induced threats and 4 of 21 are subject to institutional threats. The data in this section gathered from UNESCO State of Conservation Information System (http://whc.unesco.org/en/soc/) in January 2018 and categorized into three groups.

Table 8. The number of UNESCO World Heritage Sites in Japan facing different threats because of natural factors, human-induced factors and institutional factors

	Natural factors	Human-induced factors	Institutional factors
Number	3/21	3/21	4/21
Percentage	14 %	14 %	19 %

3.3. THE CASE OF TURKEY

3.3.1. Turkey Institutional Framework Regarding Risk Management for Conservation of Cultural Heritage

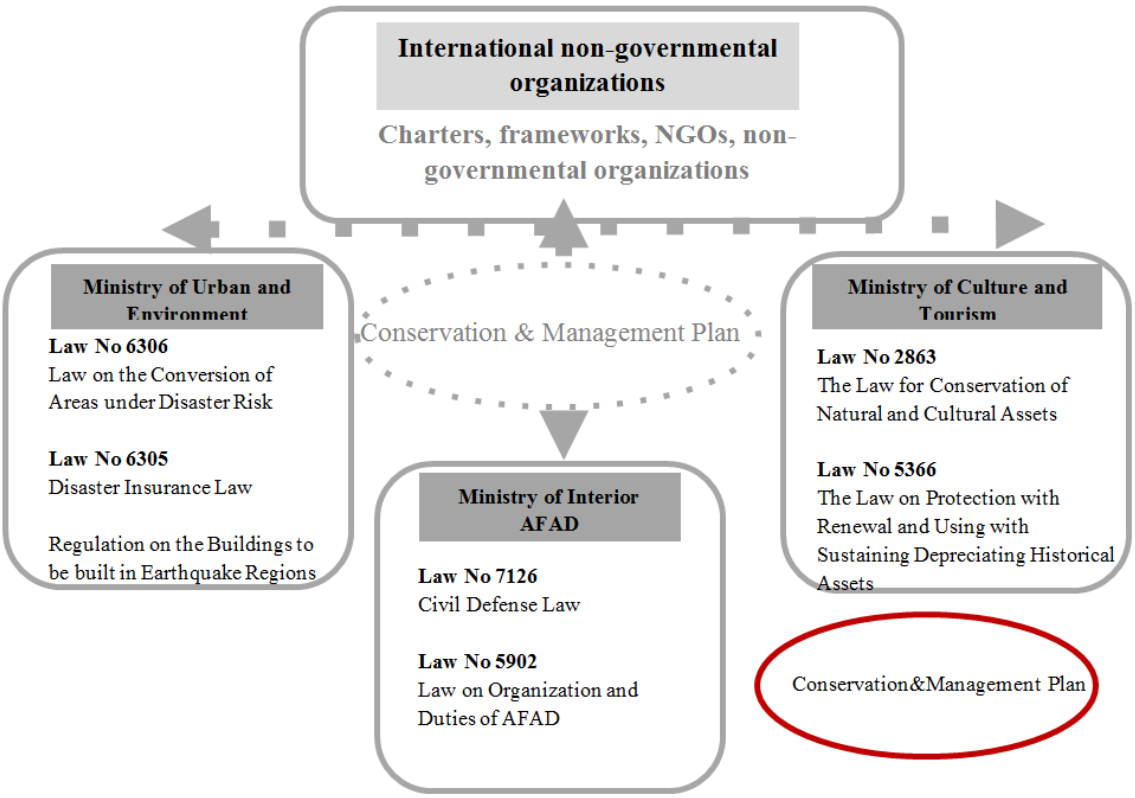
There are different legal regulations defined in different ministry responsibility both for conservation of cultural heritage and risk management. Accordingly, the existence of independent legal and managerial regulations on protection and risk management in Turkey makes risk management complicated in cultural heritage areas. For example; the issue of risk and risk management has not been addressed in **the Law on the Protection of Cultural and Natural Assets (Law No. 2863)**, which entered into force in 1983 and it is the basic law on protection concepts and approaches. The Ministry of Culture and Tourism is responsible for the protection of cultural and natural assets. In Article 10, it was stated that *taking the precautions to ensure the protection of immovable cultural and natural property, regardless of their ownership or administration, or to have the necessary measures taken by public institutions and organizations, municipalities and governorships, the responsibility belongs to the Ministry of Culture and Tourism* [URL4].

In addition, it was emphasized that measures against disaster risks should be taken in **the**

Law on the Renewal and Protection of Damaged Historical Properties No. 5366, which was enacted in 2005, but it has not been stated who should be the responsible actors. **The Ministry of Culture and Tourism's Regulation on the Preparation of a Conservation Development Plan** emphasized the strategies and practices against natural disasters such as earthquakes, floods, landslides, fires and rock fall that the cultural heritage might encounter. However, it seems that the process of risk management and the actors responsible for it are not yet defined (Uluç & Şenol-Balaban, 2017b). Moreover, the relation of Conservation and Development Plan with existing regulations and laws stay undefined (Table 9).

Following 1999 Marmara Earthquake, in order to gather the authority and coordination for disaster management under a single roof, the General Directorate of Civil Defence, the General Directorate of Disaster Affairs and the Turkish Emergency Management Directorate were closed. Disaster and Emergency Management Authority (AFAD) established under the foundation law with Law No 5902 has taken the responsibility for taking necessary precautions and ensuring the coordination between these institutions and organizations, policy production and implementation. In addition, within the scope of this law, Disaster and Emergency Management Center, Disaster and Emergency Higher Board and Disaster and Emergency Coordination Board have been foreseen. However, there is no definition of duty for the protection of cultural heritage in this arrangement (Uluç & Şenol-Balaban, 2017b).

Table 9. Existing Legal and Institutional Order in Turkey in terms of Risk Management and Conservation of Cultural Heritage (Uluç, Şenol- Balaban, 2017a)



In 2012, **No. 6306 Law on the Conversion of Areas under Disaster Risk** includes the issue of reserve building area, risky area, definition of risky structure and disruption and transformation in the case of the structure in risky area. This constituting the risk of transformation and destruction of heritage. In 2014, in the decision of the Constitutional Court, this was changed into risk reduction (Zıvralı & Cabbar, 2015).

In 2012, **Law No 6305, Disaster Insurance Law** does not include any arrangement for cultural assets. On the other hand, in the Law No 6546, which was organized for Çanakkale War Gelibolu Historic Area, the area presidency was authorized to make historical field geological, geophysical, geotechnical, marine sciences and other scientific researches and surveys and to approve the reports related to them. It is also tasked to identify and monitor the rules governing the construction and approval of risk management and conservation plans, making, carrying out and approving the geological and geotechnical surveys. With these responsibility descriptions, it can be determined that the execution of risk management and conservation plans in the historic areas is beginning to take place in the law (Zıvralı & Cabbar, 2015).

3.3.2. UNESCO World Heritage Sites and the dangers they face

From antique period until today, Turkey has hosted many civilizations, therefore there are different kinds of cultural heritage such as archaeological sites, historic urban landscape, monuments and rural landscapes etc and sometimes they were located on top of each other and multilayered character cultural heritage sites exist. Accordingly, there are 17 heritage sites designated as UNESCO World Heritage (Table 10).

Table 10. UNESCO World Heritage Sites in Turkey and the date they were designated

Cultural	
1	Hattusha: The Hititite Capital (1986)
2	Xanthos-Letoon (1988)
3	Archaeological Site of Troy (1998)
4	Neolithic Site of Çatalhöyük (2012)
5	Ephesus, Izmir (2015)
6	Ani Archaelogical Site, Kars (2016)
7	Aphrodisias, Aydın (2017)
8	Great Mosque and Hospital of Divriği, Sivas (1985)
9	Selimiye Mosque and its Social Complex, Edirne (2011)
10	Historic Areas of İstanbul, İstanbul (1985)
11	Nemrut Mountain, Adıyaman (1987)
12	City of Safranbolu, Karabük (1994)
13	Pergamon and its Multi-layered Cultural Landscape, İzmir (2014)
14	Bursa and Cumalıkızık: The Birth of Ottoman Empire, Bursa (2014)
15	Diyarbakır Fortress and Hevsel Gardens Cultural Landscape, Diyarbakır (2015)
Cultural and Natural	
16	Göreme National Park and the Rocks Sites of Cappadocia, Nevşehir (1985)
17	Hieropolis, Denizli (1988)

Table 11. UNESCO World Heritage Sites and the dangers they face

Natural Factors	Human-induced Factors	Institutional Factors
Earthquakes Historic Areas of İstanbul (2004-2003-2000-1999**)** **Flooding** Xanthos-Letoon (1994) **Water (rain/water table)** Xanthos-Letoon (1994-1991)	**Impact of tourism/visitor/ recreation** Hierapolis Pamukkale (2002-2001-1991) Xanthos-Letoon (1994-1991) Historic Areas of İstanbul (2006) **Identity/Social Cohesion/Changes in Local population** Historic Areas of İstanbul (2003-2000-1999-1998) **Society's valuing of heritage** Historic Areas of İstanbul (2006) **Interpretative and visitation facilities** Historic Areas of İstanbul (2006) **Civil unrest** Diyarbakır Fortress and Hevsel Gardens Cultural Landscape (2017-2016) **Deliberative destruction of heritage** Historic Areas of İstanbul (2006)	**Management Systems and management plan** Ephesus (2017) Hierapolis (1992-1990) Historic Areas of İstanbul (2017-2015-2013-2012-2010-2009-200 8-2007-2006-2005-2004-2003-2000-19 99-1998-1997-1994-1993-1992) Neolithic Site of Çatalhöyük (2013) Pergamon and its Multi-layered Cultural Landscape (2016) Xanthos-Letoon (1994) **Management Activities** Historic Areas of İstanbul (2017-2015-2013-2012-2011-2010-200 9-2008-2007-2006-2004-2003-2000-19 99-1998-1997-1994) **Housing** Historic Areas of İstanbul (2017-2015-2013-2012-2011-2010-200 9-2008-2007-2006-2005-2004) **Underground Transport Infrastructure** Historic Areas of İstanbul (2017-2015-2013-2012-2011-2010-200 3-2000) **Effects arising from use of transportation infrastructure** Pergamon and its Multi-layered Cultural Landscape (2016) Xanthos-Letoon (1994-1991) **Legal framework** Ephesus (2017) Historic Areas of İstanbul (2004) **Ground Transport Infrastructure** Ephesus (2017) Historic Areas of İstanbul (2017-2015-2013-2012-2011-2010-200 9-2008-2007-2006-2

The data in this section gathered from UNESCO State of Conservation Information System (http://whc.unesco.org/en/soc/) in January 2018 and categorized into three groups. Table 12 shows that 3 of 17 UNESCO World Heritage Sites in Turkey are subject to natural threats, 4 of 17 are exposed to human-induced threats and 7 of 17 are faced with institutional threats.

Table 12. The number of UNESCO World Heritage Sites facing threats because of natural factors, human-induced factors and institutional factors

	Natural factors	Human-induced factors	Institutional factors
Number	3/17	4/17	7/17
Percentage	18 %	24 %	41 %

4. THE COMPARISON OF THE UK, JAPAN, AND TURKEY CASES

Different institutional framework regarding regulations and practices in order to conserve cultural heritage affect the hazards cultural heritage sites face. In this regard, UNESCO World Heritage Sites having socio-economic value for the communities face exposed to various dangers that should be taken into account. As in shown Table 13, three different countries' the UK, Japan and Turkey World Heritage are subject to natural hazards, human-induced hazards and institutional hazards. The UK and Turkey, both have decentralized disaster risk management system. Although it was stated that the UK has sustainable decentralized disaster management system (Kapucu, n.d.), the integration of conservation of heritage from disasters could be developed at different scales as there is no specific organization dealing with disaster risk management for heritage. In the UK case, the responsibility is given to owners of properties, this may reduce effective disaster risk mitigation for heritage. In Turkey, there is no specific organization related to disaster risk management for heritage as in the UK. There are different institutions related with disaster risk management and the integration of conservation of cultural heritage into disaster risk management system is not established. Namely, the proportions of the UK and Turkey are higher than Japan's. Although the proportions may not give certain results about relation between legal framework and threats that UNESCO WHSs are subject to, it may tell some clues about relationship between them. Since Japan has more integrated disaster risk management system, the proportions of heritage sites exposed to threats are less.

Table 13. Threats faced by UNESCO World Heritage Sites in the UK, Japan and Turkey

	UK	**Japan**	**Turkey**
Natural Factors	2/31 (6%)	3/21 (14 %)	3/17 (18 %)
Human-induced factors	18/31 (58 %)	3/21 (14 %)	4/17 (24 %)
Institutional factors	14/31 (45%)	4/21 (19%)	7/17 (41 %)

As it can be seen in Table 14, since Turkey and Japan located at active fault lines, there are many UNESCO World Heritage Sites prone to earthquake risk. In addition, civil unrest, which is a current problem in east part of Turkey, heritage sites in east are subject to such kind of hazards too. In addition, management plans and management activities are basic problems that most of UNESCO World Heritage Sites in the UK, Japan and Turkey face. Furthermore, because of being international heritage sites, some of those sites are exposed to tourism-based hazards.

Table 14. Natural threats, human-induced threats and institutional threats that UNESCO World Heritage Sites in the UK, Japan and Turkey face

Threats category	Type	UK	Japan	Turkey
Natural Threats	Earthquake		■	■
	Flooding			■
	Water (Rain/water table)			■
	Aquaculture		■	
	Hyper-abundant species		■	
	Invasive/alien terrestrial species	■		
Human-induced Threats	Major visitor accommodation and associated infrastructure	■		
	Impact of tourism/ visitor	■	■	■
	Interpretative & visitation facilities	■		
	Mining	■		
	Oil and gas	■		
	Society's valuing of heritage	■		■
	Illegal Activities	■		
	Pollution of marine waters	■		
	Quarrying	■		
	Fishing/collecting aquatic resources	■		
	Identity/social cohesion/changes in local population			■
	Forestry/wood protection		■	■
	Civil Unrest			■
	Deliberative destruction of heritage			■
Institutional Threats	Management systems and plan	■	■	■
	Management Activities	■		■
	Housing	■		■
	Commercial Development	■		
	Ground Transportation Infrastructure	■		
	Underground Transportation Infrastructure	■		
	Effects arising from the use of transportation infrastructure	■		
	Water infrastructure		■	
	Governance	■		
	Solid Waste	■		
	High impact/research/monitoring activities	■		
	Legal framework	■		■
	Renewable energy facilities	■		

5. CONCLUSION

In conclusion, different institutional framework regarding risk management for conservation of cultural heritage sites affect threats that cultural sites face. Accordingly, in the UK case, among 31 UNESCO World Heritage Sites, 2 are faced with threats because of natural factors, 18 are faced with hazards because of human-induced factors and 14 of 31 are exposed to threats due to institutional factors. As it can be seen, most of the World Heritage Sites are subject to hazards because of human-induced and institutional factors. In Japan case, 3 of 21 World Heritage Sites are faced threats because of natural factors, 3 because of

human-induced factors and 4 are subject to hazards because of institutional factors. For Turkey case, 3 of 17 World Heritage Sites are faced with threats because of natural factors, 4 are subject to hazards due to human induced factors and 7 are exposed to dangers because of institutional factors. In three cases, there are separate institutional bodies responsible for risk management and conservation of cultural heritage. With an integrated management system, the possible negative effects of those threats could be minimized. As stated by UNESCO (2010), managers of World Heritage properties have responsibility to protect outstanding universal value of those assets. Therefore, those stakeholders should take their responsibility to conserve and promote cultural heritage sites. For the UK case, there is no organization for disaster management for cultural heritage, there may be guidelines that define the ways for handling hazards at local level [URL4]. Nevertheless, in the UK case, the responsibility belongs to the actual owners of the assets. However, there may be more integrated emergency system at national, regional and local level. Although there are some organizations related with risk management for heritage as Heritage at Risk, the legal framework for collaboration should be supported. Local institutions may provide funds to owners of the assets in damage rehabilitation process after disasters [URL4].

For Turkey Case, similar to the UK case, there is no organization for disaster risk management for properties. There are different central institutions, which have responsibility to deal with disaster risk management. Nevertheless, although the protection of heritage from disaster was stated in several laws, the process and responsible bodies are not clearly defined. There should be regulations in terms of disaster risk management for heritage conservation in national, regional and local scale. The responsible bodies at all levels should clearly be defined with the level of responsibilities. During the preparation process of conservation management plan, disaster risk management should be included as a part of this plan.

In contrast to the UK and Turkey, Japan has more integrated disaster risk management system at national and local system. In addition, after the Kobe earthquake, since some of the heritage sites were affected negatively from this catastrophic event, more attention was given to heritage sites. In fact, one critical initiative related with the disaster risk management and conservation of heritage called “International Training Course on Disaster Risk Management of Cultural Heritage” has been organized with the support of UNESCO, ICCROM, ICOM, and ICOMOS/ICORP since 2006.

Hence, mitigation strategies should be applied comprehensively to sustain those sites to future generations. This study shows that various countries with different institutional frameworks regarding regulations, laws and practices may respond those threats on heritage sites accordingly. This study has an initial step in this field so that further studies having large number of cases are required to examine other institutional frameworks with wider perspective so that common solutions and best practices could be contributive for the others who have similar hazards that heritage sites face. Although it is difficult to make an exact relation between those proportions and disaster risk management level of these three countries for conserving heritage, it may give some clues about the current legal framework of those countries. Namely, Japan has more integrated and regulated system for heritage conservation and disaster risk management for its WHSs, which are exposed to different threats, although it has fewer number of cases compared with the UK and Turkey cases.

6. REFERENCES

Bouakaze Khan, D. (2017). Armed Conflict Presentation of SA 506 Cultural Heritage and Disaster Zones (METU/ODTÜ Post-grad seminars).

Dinçer, İ. (2012). Kültür Mirasının Korunmasında 'Risklere Hazırlık' Kavramanının Gelişimi, *Mimarlık Dergisi* (364), 56-59.

Feilden, B. S. (1987). *Between Two Earthquakes: Cultural Property in Seismic Zones*, Rome; Italy, Marina Del Rey, CA: ICCROM; Getty Conservation Institute.

ICOMOS (1987). *Charter for the Conservation of Historic Towns and Urban Areas (The Washington Charter),* Washington DC, 1987.

ICOMOS (2005). *Threats to World Heritage Sites 1994-2004: An Analysis,* retrieved from https://www.icomos.org/world_heritage/Analysis%20of%20Threats%201994-2004%20final.pdf.

Jigyasu, R. (2015). Challenges and Opportunities for Disaster Risk Management of Cultural Heritage against Floods. *ICOMOS–Hefte des Deutschen Nationalkomitees,* 60, 22-29.

Jigyasu, R. (2016). Reducing Disaster Risks to Urban Cultural Heritage: Global Challenges and Opportunities. *Journal of Heritage Management, 1*(1), 59-67.

Kapucu, N. (no date). Emergency and Crisis Management in the United Kingdom: Disasters Experienced, Lessons Learned, and Recommendations for the Future in D. A. McEntire in *Comparative Emergency Management: Understanding Disaster Policies, Organizations, and Initiatives from Around the World* retrieved from https://training.fema.gov/hiedu/aemrc/booksdownload/compemmgmtbookproject/.

Murakami, Y. (2011). *Disaster Risk Management of Cultural Heritage Based on the Experience of the Great Hanshin Earthquake*, retrieved from http://www.nara.accu.or.jp/elearning/2011/risk.pdf.

Stovel, H. (1998). *Risk Preparedness: A Management Manual for World Cultural Heritage*, Rome:ICCROM.

Şahin, B., Kapucu, N., Unlu, A. (2008). Perspectives on Crisis Management in European Union Countries: United Kingdom, Spain and Germany, *European Journal of Economic and Political Studies*, 1(1), 19-45.

Tandon, A. (2013). *ICCROM Programme on Disaster and Risk Management: A Background Paper,* retrieved from https://www.iccrom.org/sites/default/files/RDRM-Background-paper_AT_REV_30-April-2.pdf.

Uluç, A. & Şenol-Balaban (2017a). *Kültürel Miras Alanlarının Karşılaştığı Riskleri Diyalog(suzluk) Üzerinden Tanımlamak,* Koruma: Geçmiş Bugün Gelecek Arasındaki Diyalog*,* presentation at TED University, Ankara, Turkey, 26-27-28 October 2017.

Uluç, A. & Şenol-Balaban (2017b). *Kültürel Miras Alanlarının Karşılaştığı Riskleri Diyalog(suzluk) Üzerinden Tanımlamak*, Koruma: Geçmiş Bugün Gelecek Arasındaki Diyalog in Published Extended Abstract Book, (47-54), TED University 26-27-28 October 2017, Ankara.

UNESCO (1954). *Convention for the Protection of Cultural Property in the Event of Armed Conflict (The Hague Convention)*.

UNESCO (1972). *Convention Concerning the Protection of the World Cultural and Natural Heritage*.

UNESCO (2010). Managing Disaster Risk for World Heritage, UNESCO World Heritage Center, Paris. Retrieved from http://whc.unesco.org/en/managing-disaster- risks.

UNESCO (2019, November,9). *List of factors affecting properties*, retrieved from https://whc.unesco.org/en/factors/.

Cabinet Office (2015). *White Paper Disaster Management in Japan,* retrieved from http://www.bousai.go.jp/kyoiku/panf/pdf/WP2015_DM_Full_Version.pdf.

Cabinet Office (2017). *White Paper Disaster Management in Japan, retrieved from http://www.bousai.go.jp/kyoiku/panf/pdf/WP2017_DM_Full_Version.pdf*.

Yıldırım Esen, S. (2014). *Risk Assessment of Archaeological Heritage at Territorial Scale: The Case of İzmir Metropolitan Area* (Unpublished PhD Thesis), METU, Ankara.

Zıvralı, İ., Cabbar N. Ü. (2015). *Kültür Varlıklarında Risk Yönetimi; Gelişimi, Güncel Durum ve Öneriler*, 5. Tarihi Eserlerin Güçlendirilmesi ve Geleceğe Güvenle Devredilmesi Sempozyumu, 1-3 Ekim 2015, Erzurum.

Matiz López, J. P. (2016). *Integrated Risk Assessment for Cultural Heritage Sites: a holistic support tool for decision-making* (Unpublished PhD Thesis), IMT School for Advanced Studies, Lucca, Italy.

Internet Sources

[URL1] (https://www.preventionweb.net/organizations/3389/profile), Last Access 29.01.2018.

[URL2] (http://www.english-heritage.org.uk/about-us/our-priorities/) Last Access 31.01.2018

[URL3] (https://historicengland.org.uk/advice/heritage-at-risk/types/) Last Access 31.01.2018

[URL4]. (2017). *D1.1 Current Practice for Management and Conservation of Cultural Heritage* retrieved from http://www.storm-project.eu/wp-content/uploads/2017/04/D1.1-Current-practice-for-management-and-conservation-of-Cultural-Heritage.pdf. Last Access Last Access 31.01.2018

[URL5] (http://www.cao.go.jp/en/importantcouncil.html) Last Access 31.01.2018

http://whc.unesco.org/en/soc/ Last Access 31.01.2018

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