



## UNDERSTANDING DISASTER NEWS IN MEDIA THROUGH 2017 ÇANAKKALE-AYVACIK EARTHQUAKE

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### ABSTRACT

In this study earthquake news in the media is discussed in terms of disaster awareness. In this context, the moderate example of the earthquake in Turkey was examined through the media. The example is the earthquake, 5.3 magnitude which took place on February 6th, 2017 in Çanakkale Ayvacık district. Two national newspapers Hürriyet and Sabah with high circulation and the certain local newspaper Gazeteboğaz were studied. Press releases were obtained from the internet archive. The news is classified in terms of text content, the scope of the visuals and the frequency of the news. Rescue activities, structural damage, emergency, and temporary shelter, benefit from the assistance, the public requests, state and NGO aid announcements in the first 72 hours and 30 days period of disaster are examined. The period when the public pay attention to the disaster news, the media has the power to transmit information mostly about official announcements, structural damage, and earthquake news.

**Keywords:** Earthquake, media, disaster news, public awareness, Ayvacık earthquake.

### 1. INTRODUCTION

The media is a tool that reaches large masses in a very short period. In this respect, the media still maintain its effectiveness and importance role in all period of disaster management. Disseminating disaster awareness is an essential tool in disaster risk reduction studies. The International Federation of the Red Cross provides informal education within the context of public awareness of disaster risk reduction, and the media is an essential tool in this [1]. Moreover, after the Great East Japan Earthquake (2011) United Nations (UN) published a framework in Third United Nations UN World Conference in Sendai [2]. In this framework, the role of media has been mentioned. The media in contributing to the raising of public awareness and understanding and disseminate accurate and non-sensitive disaster risk, hazard and disaster information including on small-scale disasters media should take an active and inclusive role, at local, national and regional and global levels [2]. According to the framework, stakeholders such as media and Nongovernmental Organizations (NGOs) should take a responsibility for reducing disaster risk beyond governments. Especially, it is important to release information which helps to increase disaster awareness during disasters when the public got attention.

According to the study which compares to earthquake news in high circulation newspapers in Turkey and Japan, Japan newspapers have more than earthquake news than Turkish newspapers throughout the first week following earthquakes [3]. Another study which investigates the content and numerical analysis following the first week and after the year 1999 Marmara Earthquake, on the contrary of the first days which had lots of pictures, after a while criticism against official institutions and politicians was in place [4]. The same study emphasizes that media for the first time published the informative and educative broadcasts in that scientific issue after the 1999 Marmara Earthquake. It is possible to

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say that media has a function such as informing, warning and training to disaster. Media reports are formed by different circumstances [5]. In a relevant study which investigates two different earthquakes, news about earthquakes generally concentrate on structural damage in regard to the number of news and content. Especially in Turkey which is an earthquake-prone region, the role of mass media for reducing disaster risks are needed research. In order to understand the role of media, news should be investigated in regard to their content. In this study; the moderate earthquake example is investigated to reach this aim.

## 2. LITERATURE REVIEW

The role of media has been discussed in the disaster studies; such as; the meaning of disaster in the media, the role of media in disaster awareness [6, 7]. The meaning of disaster cannot easily be separated from how it is portrayed and announced by the mass media. There are lots of studies saying that the media increases the awareness of the individual and civic participation. Routine coverage of disasters in the media may lead to disaster awareness [8]. *“It may be more important to view media coverage in terms of transmitting symbols that prompt concern and stimulate citizen involvement”* [9]. Nowadays, social media which are used for information and communication source are also in the stage to release disaster information. But mass media, especially television still the most used and trusted information source for the majority of the population [10]. First, after the disasters because of uncertainty in crisis situations, social media may disseminate the fake news. So, the reliability of social media becomes questionable. Second, social media may not actively have used by middle-aged or old aged people. Most of them still an active user of mass media.

Mass media are still a major source of information for people after the disaster. Also such as television networks, newspaper, and other media tools are effective on public awareness and helps people to realize how vulnerable their society may be and how necessary it creates mitigation and contingency plans [7]. For example; the frequency of the disaster information or rescue activities or the interview with the disaster professionals helps people to raise disaster awareness. Moreover, the media draw attention to the vulnerability issue against natural hazards [8]. 17th August 1999 in Marmara earthquake reveal that cities were not prepared for the natural disasters even though Turkey is in the earthquake zone.

The claim that *“media is the creator of disaster awareness”* should be analyzed for two different type of disasters, first one is the disasters; such as floods or hurricane which people can live from television, stream or follow on internet news so they can take precaution. But, disasters such as earthquake people can only receive information after the disaster. So, when disaster awareness discussed it should be known that disaster awareness refers to the different process in these two kinds of disasters. When people do not have previous earthquake experience, it is hard to understand what can happen. Lugo (2001) remark that warnings can be effective only if two conditions are satisfied; the information has to be consistent, frequently published and credible [8]. However, there are differences between chronic disasters and sudden, having high intensity and having big scale disasters. While chronic ones trigger sporadic attention, other ones may stimulate citizen involvement.

There are seven basic questions which are known as "media control list" in the case of disaster [11]. Questions are related to general, structural elements, non-structural, preparedness measures, economic, recovery process, and responsibility questions. The questions play an important role both in informing media workers about the impact of the disaster on the society and in the direct relationship of the representatives of the institutions with the media. Research on the effects of mass media in post-disaster recovery shows that mass media have a positive effect on post-disaster recovery, too [10].

### **3. MATERIAL AND METHODS**

The study is based on the quantitative research method focusing on the positive role of media in disaster and disaster risk reduction. The news which is related to a moderate example of the earthquake in Turkey is examined. The earthquake of 5.3 magnitude which took place on February 6th, 2017 in Çanakkale Ayvacık. Earthquake related news data to be analyzed were obtained from newspapers. Press releases were reached from the internet archive. The earthquake news was evaluated through two high-circulation national and local newspaper news. A total of 22 national newspapers with a daily circulation daily published in Turkey is 2,683,296 [12]. Hürriyet Newspaper [13] has the highest circulation with 321,490 [12]. Sabah Newspaper [14] follows this with 301,613 circulations [12]. Gazeteboğaz which is a regional newspaper was taken into consideration as an example of local press [15]. The news is classified in terms of text content, the scope of the visuals and the frequency of the news. The national and local press news have been studied under these topics; search and rescue activities, structural damage, emergency, and temporary shelter benefit, the public requests, state and NGOs aid announcements in first 72 hours and 30 day period of the disaster. By concentrating on news analysis, the frequency of the topics was evaluated. Similarly, earthquake-related news was also evaluated in terms of the information, caution and educational information they have.

While studying the newspapers with earthquake news, this research aimed at finding the answers to the following questions,

- Do the news in the printed press have informative or disaster risk reduction characteristics?
- Do the news in printed press involve the aim of disaster risk reduction?
- What could be steps to increase the number of news including disaster risk reduction in printed press?

Informative and having risk-reduction features have been investigated within the context of reports on expert opinions, insurance, disaster-related scientific disclosures, and measures of the earthquakes. The research on raising the contribution of the media to disaster-reduction has taken into account the variety of the news bureau, use of visuals and the general headings of the news after the earthquakes. In addition, the results related to general, structural elements, non-structural, preparedness measures, economic, recovery process, and responsibility issues in the media control list have been evaluated[11].

### **4. CASE STUDY**

#### **4.1. Çanakkale-Ayvacık Earthquake and Effects on Settlements**

In this study, the moderate earthquake sample news on media is analyzed. The news of the earthquake of 5.3 magnitudes which took place on February 6th, 2017 in Çanakkale's Ayvacık district is investigated. The earthquake was felt in Bursa, Izmir, Istanbul and especially Çanakkale [16]. In the region, more than four thousand aftershocks occurred in different magnitude within one month [16]. Aftershocks more than 800, following six days after main shock and five moderate earthquakes startled the people in the region. In this process, live broadcasts helped to circulate information from the region. The news took attention because of the closeness to the Marmara region -Istanbul- the city which carries the earthquake risk [16].

Ayvacık district is located on the west side of Turkey. The epicenter of the earthquake is Gülpınar/ Ayvacık/ Çanakkale, where is the region earthquake occurred, is in the first-degree seismic zone. There are 64 village settlements in Çanakkale Ayvacık District. The earthquake caused damage 24 settlement in total, especially in Yukarıköy [17]. Due to earthquake, 24 villages were affected and over a thousand of houses were damaged as seen as Table 1. According to the records, eight people were injured [17].

According to address-based population registration system, population of Çanakkale province is 519.793 people. Nearly %40 of the population (211.652 people) lives in towns and villages [18]. Ayvacık, which is one of the 12 districts of Çanakkale, has 31.345 populations. The only 6% of the Çanakkale population lives in Ayvacık. The population of the Ayvacık/Gülpınar which is the epicenter of the earthquake is 1378, and 642 people live in Yukarıköy which is heavily damaged due to the earthquake.

**Table 1.** Çanakkale Ayvacık Earthquake Damage Report, 12 February 2017 [17].

		Slightly damaged	Heavily damaged/Collapsed
1	House	392	480
2	Hot spring		1
3	Mosque		6
4	Barn		75
<b>Total damaged building</b>		<b>1008 building</b>	

The earthquake affected the rural area; it caused damage mostly on stone masonry single houses (Figure 1). These single houses in this region were built with local material as stone. The soil mortar has been used in the stone wall in traditional buildings. Wooden roof structure and tile roof covering are common. Domestic labor and construction techniques are important in the construction of masonry stone houses. The new houses built in the last period and the interventions to the old houses were made with new construction materials. Houses and barn structures made with traditional construction techniques and traditional materials by the owners of the houses. The buildings and craftsmanship are shaped like the traditional building culture in the region are transmitted. However, it is observed that the sustainability of the buildings is affected by the changes in the current needs, the economy, the available construction materials, the maintenance and repair of the existing constructions. It is observed that traditional materials and labor techniques are used with new materials. From this point of view, proper labor, technical and material support is important in repairing damaged old houses.



**Figure 1** Structural damage photo with news in newspapers **a)** “Çanakkale’de 5.3 büyüklüğünde bir deprem daha”, Hürriyet Gazetesi [23] **b)** “Ege’de Panik”, Sabah Gazetesi [24]



(a)

(b)

**Figure 2** Postdisaster emergency and temporary shelter **a)** Emergency shelter-tent structure in Ayvacık [19] **b)** Temporary shelter-container in Ayvacık [20]

After the earthquake, 478 tents, 3972 blankets, 2000 beds, 500 catalytic stoves, 5 stoves, 500 family kitchen sets and 8 portable toilets were sent to the region by Kızılay and AFAD Presidency in the first stage. 500 containers for using temporary sheltering which is planned to increase a total of 700 containers were set up at disaster area (Figure 2) [17].

#### 4.2. Çanakkale Ayvacık Earthquake News on Media

The earthquake news was evaluated in the first 72 hours and 30 day of period (06.02.2017-08.03.2017) after the earthquake. The news are classified in terms of text content, scope of the visuals and the frequency of the news. The national and local press news has been studied under the topics as search and rescue activities, structural damage, emergency and temporary shelter, benefit from the assistances, the public requests, state and NGO aid announcements.

Since the earthquake, news about the earthquake published mostly in two newspapers; first one is the national newspaper name is “Hürriyet” and the second one is the local newspaper called “Gazeteboğaz”. The news mostly published within the first month, but it drops noticeably from the end of a month. The three newspapers examined in terms of visual materials used in both reports (Table 2, 3).

**Table 2.** Çanakkale-Ayvacık earthquake news within three months according national and local press

Date	Newspapers (national & local)					
	Hürriyet[13]		Sabah[14]		Gazeteboğaz (Local)[15]	
	news	news with picture	news	news with picture	news	news with picture
06-28 February	103	51	33	17	89	38
01-31 March	17	8	6	3	15	9
01-30 April	2	0	0	0	3	1
<b>Total number of news</b>	<b>122</b>		<b>39</b>		<b>107</b>	

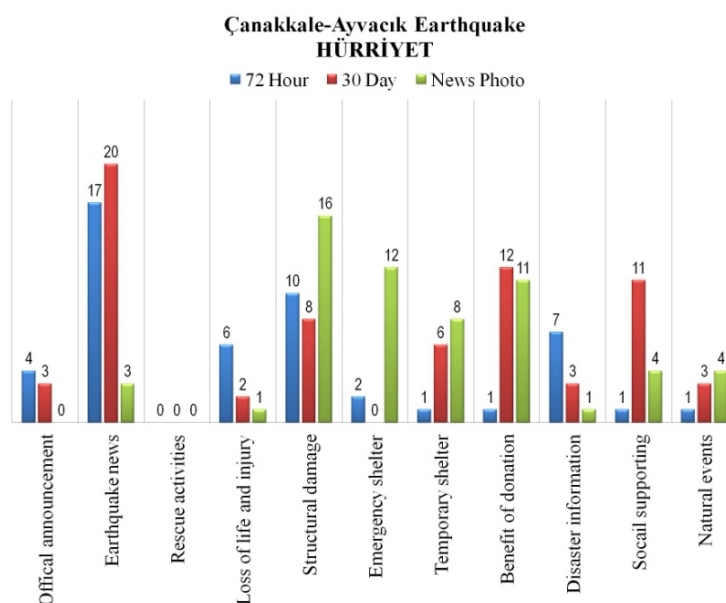
The news published in the first 72 hours after the earthquake is the intense period news released. After the first three days (first 72 hour), the national media and local press significantly reduced the number

of news related earthquake. It is observed that the number of news is two times more than the photo or visual material using in the news (Table 2).

**Table 3.** Çanakkale Ayvacık earthquake news analyze with in main topics (national and local newspaper Hürriyet [13], Sabah [14] and Gazeteboğaz [15])

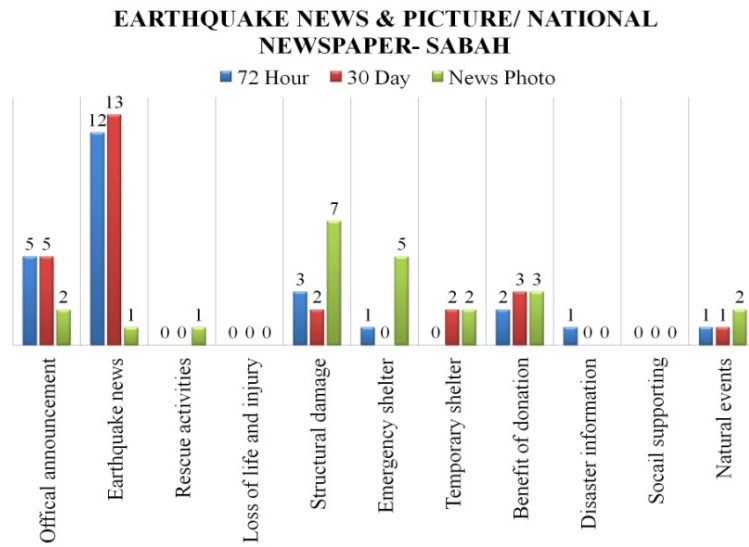
ÇANAKKALE AYVACIK EARTHQUAKE NEWS / NATIONAL AND LOCAL PRESS									
Earthquake News	72 Hour			30 Day			News Photo		
	Hürriyet	Sabah	Gazeteboğaz	Hürriyet	Sabah	Gazeteboğaz	Hürriyet	Sabah	Gazeteboğaz
Official announcement	4	5	8	3	5	10	0	2	12
Earthquake news	17	12	9	20	13	11	3	1	1
Rescue activities	0	0	0	0	0	0	0	1	0
Loss of life and injury	6	0	3	2	0	0	1	0	2
Structural damage	10	3	4	8	2	1	16	7	11
Emergency shelter	2	1	1	0	0	0	12	5	4
Temporary shelter	1	0	3	6	2	2	8	2	6
Benefit of donation	1	2	3	12	3	13	11	3	6
Disaster information	7	1	5	3	0	8	1	0	5
Social supporting	1	0	2	11	0	10	4	0	6
Natural events	1	1	2	3	1	2	4	2	3
<b>Total Number of News</b>	<b>50</b>	<b>25</b>	<b>40</b>	<b>68</b>	<b>26</b>	<b>57</b>	<b>60</b>	<b>23</b>	<b>56</b>

After the earthquake in the first 72 hours due to the aftershocks, the highest number of news is appeared in all three newspapers (Table 3) (Figure 2, 3, 4). While the second most frequently news in the national press is related with structural damage, official announcement news is reported in the local newspaper (Table 3) (Figure 2, 3, 4). News about disaster information has also been observed at national and local press. The social support news are also seen in the local press.

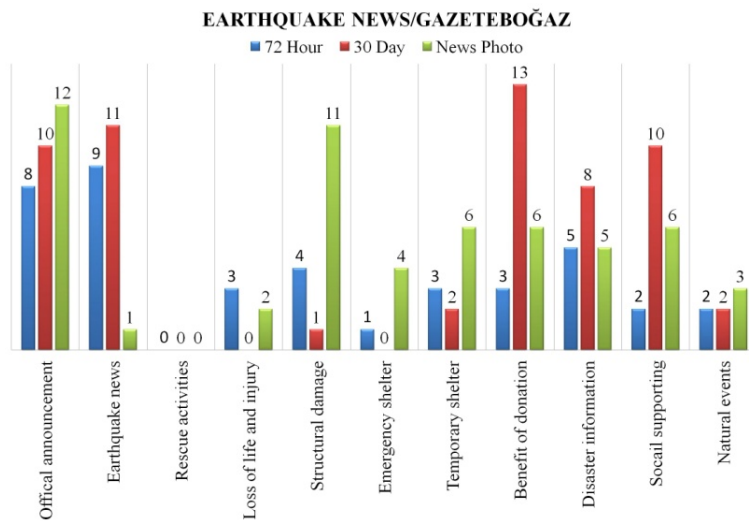


**Figure 2.** Earthquake news 72 hour and 30day period in Hürriyet [13] (national newspaper)

According to the evaluation of earthquake news including photo /visual material, the most commonly are used structural damage in the national press relates to post-earthquake sheltering and earthquake victims aids. In the local newspaper, the picture about the official announcement is more used than national newspapers (Figure 4). This is followed by structural damage images like as national press. The images used in news are more related with formal announcements and structural damages (Figure 3, 4, 5).



**Figure 3** Earthquake news 72 hour and 30day period in Sabah Gazetesi [14] (national newspaper)



**Figure 4** Earthquake news 72 hour and 30day period in Gazeteboğaz [15] (local newspaper)



(a)

(b)

**Figure 5** Emergency shelters photo with news a) Tent area with people, Hürriyet Gazetesi [21] b) Tent area with children, Sabah Gazetesi [22]

## **5. RESULTS**

According to photo content assessment, it is observed that the local newspaper used more photo in official announcement (local and national authority) and official visit news. But structural damage photo using level is the highest in Çanakkale earthquake news.

The way in which earthquake news taking place at the national and local press and the existence of the news that could be effective in public awareness was questioned. Two national newspapers and one local newspaper news with the related Ayvacık earthquake can be seen in Table 3 by grouping them for the first 72 hours and 30 day period.

The earthquake news is the highest level in Çanakkale earthquake in 30 day period. A structural damage photo has used Çanakkale earthquake news as the highest level. General disaster information (expert explanation, insurance, non-structural preventions) has occurred in national press *Hürriyet* and local press *Gazeteboğaz* for Çanakkale earthquake. Structural damage and emergency shelter photo are more used in news for earthquakes. But, media is not informative about rescue activities and disaster information with about news during Çanakkale earthquake. In this case, it can be shown as the reason why there are no missing persons under the collapsed building due to the earthquake.

The epicenter of the earthquake is located in Ayvacık district, Çanakkale. The significant damages were occurred stone masonry structure houses and agricultural buildings in the rural area due to the earthquake. Many of the aftershocks within a short period of time have attracted the attention of scientists to the region. It can be shown that the Çanakkale region is located within the Marmara region and that it is more vulnerable in terms of the probability of an earthquake.

It seems that there is no sufficient disaster awareness information within the earthquake news process in media. The news is mostly related to aftershock news and official announcements after the earthquake. It may be advised that media employees are informed of this issue in order to strengthen their usability as a tool to develop disaster awareness.

## **5. CONCLUSION**

In this study, moderate earthquake news in national and local media was evaluated. According to the study, most of the news within the first month period after the earthquake is related to aftershock news and structural damages. Official announcements are the most common news in the local newspaper. Although disaster-related informative news is in the newspaper, the frequency of them in other news is low.

Although there was a lot of structural damage news, there was no information about building repairing techniques in the rural area. Earthquake related news has informative and warning characteristics. It has been observed that educational news does not take place sufficiently.

Within the aim of using media as the disaster awareness tool, use and effects of different media tools can be examined together within this study. In the same way, comparative analysis of news about similar disasters living in different regions can be analyzed. The media reflex can be evaluated and the settlements with high disaster risk-media relationship can be investigated.

The mass media still can be used for disaster awareness. During the period when the public pay attention to the disaster news, informative news should be published more than before. Within the



disaster period, media workers should be informed about the issue to help them publish right news. News reporters should be informed to publish news which helps to raise public awareness disaster.

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