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A Study on Disaster Awareness and Knowledge among International University Students in Istanbul

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ABSTRACT

Istanbul is one of the largest metropole cities with more than thirteen million inhabitants. The city is also home to many foreign students from all over the world, studying in more than 30 universities. It is a known fact that Istanbul is prone to many risks including earthquakes, heavy rain and floods, landslides, forest fires, industrial explosions and fires, wind and snowstorms, heat wave, fog, transportation accidents and terrorist attacks. This study focused on foreign students attending eight universities in different parts of Istanbul. The survey is designed to collect information on the students' disaster awareness, knowledge of disasters and potential risks in the city and preparedness. 194 foreign students have participated in the survey and were interviewed. They are from 61 different countries. During disasters, foreign nationals who do not speak the native language may be considered among vulnerable communities, as they will not understand directives, other crucial information released during, and following a disaster. The results of the survey shows that the foreign students are not much aware of the potential risks, most of them do not know what do to during disasters and they do not have emergency plans. The exceptions are the students who have had personal disaster experiences in the past. Therefore, more research has to be carried on foreign nationals' needs before, during and after disasters. It is the opinion of the authors that the universities need to provide more background information on the topic and develop materials for foreign students on disasters for better orienting them.

INTRODUCTION

Two questions need to be answered first. The first one is “Why is disaster awareness important?” and the second one is “Are the international university students a part of vulnerable communities?” In today's world, it is widely recognized that the frequency of disasters and emergency events such as earthquakes, landslides, hurricanes, fires, floods, terrorist attacks, etc., is rising. There are millions of lives lost and a huge economic bill for all the countries. The following figure shows the disaster and related affected population trends in the past century (Guha-Sapir, Below, Hoyois, 2017). It can be clearly seen that the number of disasters as well as their impact are increasing. The increasing trend is evident.

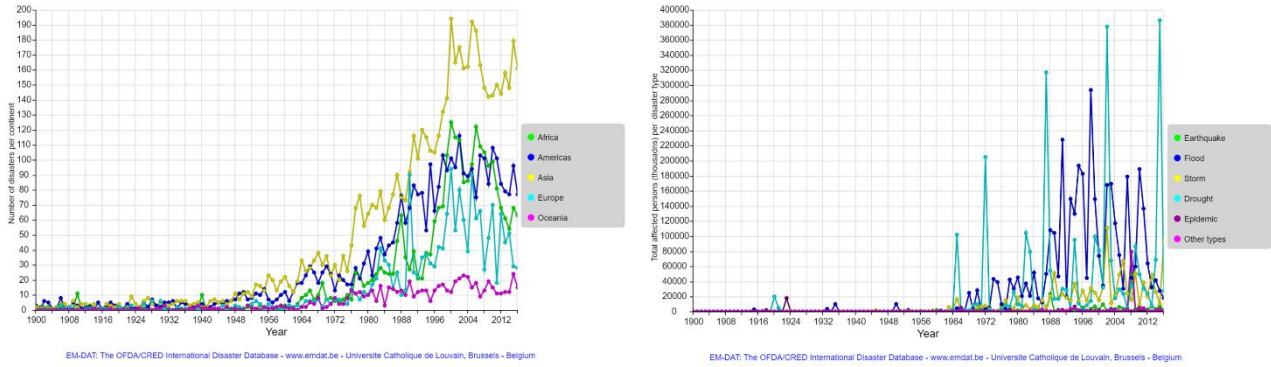


Figure 1 Impact of Disasters in today’s Disaster world and related affected population trends in the past century, uses the data from EM-DAT CRED/OFDA International Disaster Database

In disasters, human vulnerability is a result of lack of knowledge and planning in disaster and emergency management (DEM) and one of the reasons of human losses after a hazardous event. It is impossible to prepare for, respond to, recover from, and mitigate risks in short term only. Therefore, it is necessary to strengthen basic disaster and emergency knowledge awareness in communities in order improve the resilience of the society and countries, which directs to the second question.

It is eminent that the world is becoming a smaller place where more people are travelling, living and studying in different countries that they were born. The numbers shared by ÖSYM (Student Selection and Placement Center) shows that there are more than 20000 foreign university students in Istanbul in 2015-2016 academic year (ÖSYM, 2016). In other words, there are 20000 people are added to the population who do not speak the native language, are not familiar with the local culture, laws and regulations and do not know where to ask for help in the face of disasters as will be shown in the following sections.

A modern integrated disaster management cycle is adopted in the past couple of decades in the world that consists of 4 main phases (Akman Pek, 2016). These 4 phases can be handled in two parts: risk management and crisis management. Unfortunately, the more emphasis in on crisis management, which is post disaster. However, risk reduction phase has crucial importance since the number of casualties can be decreased even before the disasters strike. Once again, this facts point to creating resilient communities. The study presented in this work is an example of this type of efforts.

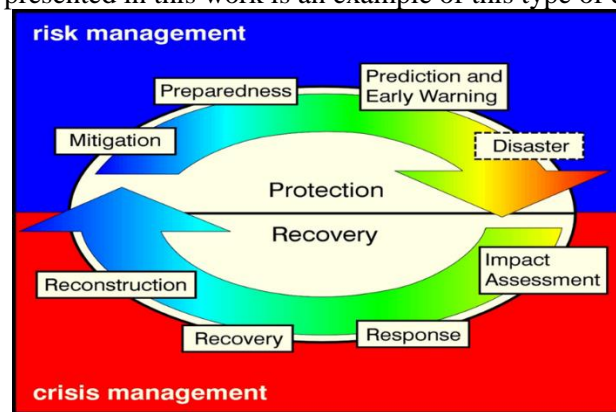


Figure 2 Modern integrated disaster management cycle

There is also another aspect of disaster management cycle: stakeholders. Disaster management is no longer is just an issue for governments. The figure below is a summary of the modern point of view in disaster management and show the stakeholders involved; namely everyone.

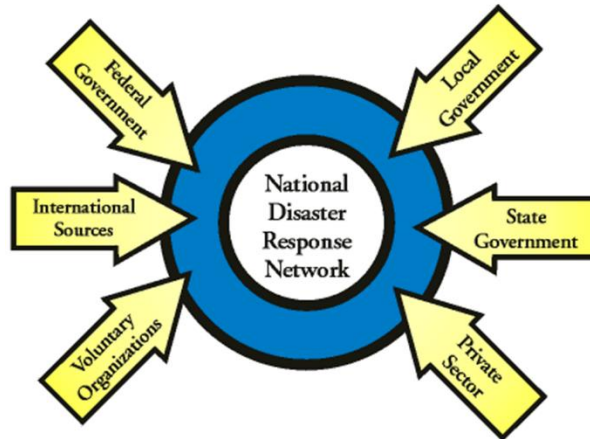


Figure 3 Stakeholders in integrated disaster management today

There are some studies carried out on foreign students that shows that they are an important and vulnerable part of the community in large cosmopolitan cities. (Sherry, Thomas, Chui, 2010)

Madde I. 1. Background

1.1. The City - Istanbul

Istanbul is one of the largest metropole cities, with highest population in Turkey (18,6 % of Turkey) which makes it the most populated city of Turkey. The population is 14 milyon 657 bin 434 according to TÜİK's (Turkish Statistical Institute) address based data (TÜİK, 2015).

It is a known fact that Istanbul is prone to many risks including earthquakes, heavy rain and floods, landslides, forest fires, industrial explosions and fires, wind and snowstorms, heat wave, fog, transportation accidents and terrorist attacks.

The devastating Marmara Earthquake hit the area on August 17, 1999 MW 7. Approximately 17,000 fatalities and 44,000 injuries occurred, with estimated 20,000-collapsed buildings displacing more than 250,000 people, making it one of the worst natural disasters in recent decades (The Marmara, Turkey Earthquake of August 17, 1999: Reconnaissance Report). The area faces a high probability of being exposed to seven-earthquake magnitude or more (Helmholtz Centre Potsdam - GFZ German Research Centre for Geosciences, 2013).



Figure 4 Istanbul Map, showing the earthquake prone areas (<http://urbanlogic.org>, 2011)

Currently, there are 51 universities in Istanbul; 11 of them are State and 40 are Private run universities. Based on the data Council of Higher Education there was 24260 international students registered in universities around Istanbul in 2015-2016 academic year (ÖSYM, 2016).

1.2. Rationale and Objectives of the Study

During disasters, foreign nationals who do not speak the native language are considered among vulnerable communities. They will not understand directives, other crucial information released during, and following a disaster. The international students in the universities are a part of this vulnerable community. Some international students live in dorms in campuses but the rest arrange their own accomodation.

This study is carried out on international students. The aim of the study is to quantify the disaster awareness and knowledge among international students in Istanbul through a survey. Analysis of the surveys and possible correlations can shed some light on future works and disaster resilience strategies for building disaster resilient communities.

The objectives are to describe demographic background of international students in Istanbul such as university background, program enrolled, campus location, gender, age, nationality, living duration and housing types, to obtain information on respondents' prior disaster experience, to obtain information on their knowledge on disasters and emergency preparedness readiness. Another important study outcome is to find out if there is a correlation between disaster experiences and preparedness for the next large earthquake. In order to find a description about future earthquake perception, the correlation between disaster experience and perception about future earthquake in the Marmara region has been analysed. Basic reaction skills during emergency are necessary in order to reduce number of victims in disaster; therefore, the correlation between types of disaster experience with the earthquake reaction skills is also discussed in this research. Correlating the knowledge about 1999 Marmara Earthquake with the level of frequency of disaster is also necessary and it might have a strong correlation.

2. Methodology

The research design is based on survey method. The survey took place at eight universities in Istanbul area. This study also uses an analysis method carried out to determine if there is a correlation between two or more variables (Karasar, 1994). Using the crosstab method, chi-square analysis has been applied in order to describe the results and the relational scanning model.

The survey form is designed for collecting primary information from international university students in Istanbul related to disaster and emergency basic knowledge, prior disaster experience, disaster awareness and demographical data of the respondents. The survey consists of 25 basic and closed questions. (Abidin, 2014)

Different means were used in the application of survey; campuses were visited and surveys were filled on site, one-on-one interviews were also carried out to include personal experiences and several international student social media groups were interacted and some of the surveys were filled online. The data consists of 194 students from eight universities. The distribution of the universities and campus locations are shown in Figure 5. The campuses chosen are mostly in the high-risk zone for earthquakes.

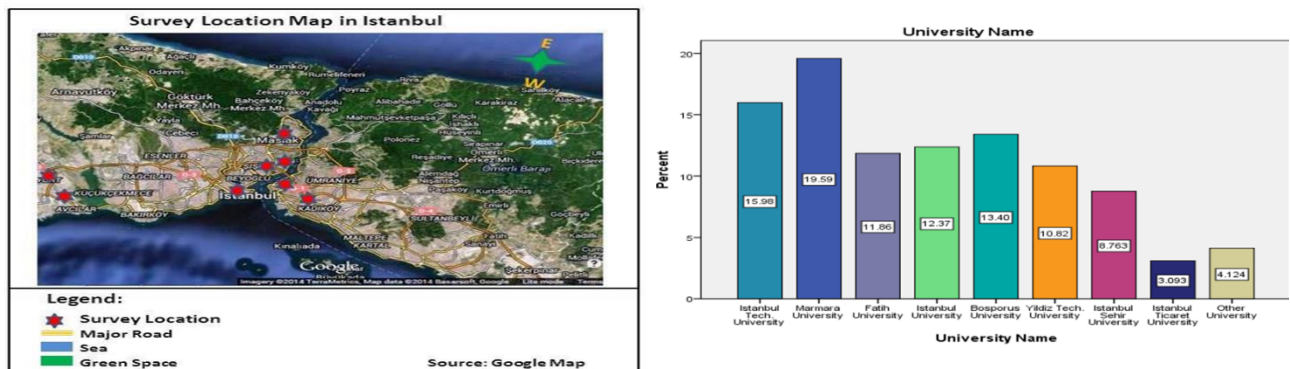


Figure 5 Distribution and locality of the universities (map source: Google Maps)

3. Results and Analysis of the Data

Data obtained from the survey data is processed by using statistical analysis method and is analyzed with SPSS and chi-square (crosstab) technique. Possible correlations were checked.

The following information is extracted from the answers given to the survey: demographic background of international students in Istanbul (university, program enrolled, campus location, gender, age, nationality, living duration in Istanbul), prior disaster experiences of these students, frequency of prior disaster experience, residence types (dorms and rental flats), emergency awareness skills.

Correlations were checked with SPSS tool. Existence of several correlations were sought as well, namely; correlation between disaster experience with preparation for the next large earthquake, correlation between living duration in Istanbul with knowledge about Istanbul as one of earthquake prone city, correlation between disaster experience and perception about future earthquake in Marmara region, correlation between type of disaster experience with earthquake reaction skills, correlation between disaster experience frequency with knowledge on the devastating 1999 Marmara Earthquake and correlation between disaster experience frequency with disaster preparation in the future.

3.1. Summary of the Information Obtained

Sample number in this research is 194 international students from eight universities in Istanbul. 64.9% of the students are undergraduate students, 27.3 % are graduate students. Only 7.7 % of the respondents are doctoral program students. 51.5% are male and 48.45 % female. The age distribution is as follows: 33.51% are less than or equal to 20 years old, 38.14% are between 21-24 years old and 28.35 % students are greater than or equal to 25 years old. Twenty respondents (10.3 %) are Bosnian. Bosnians are followed by Iranians (14), Azerbaijanis (11 respondents), Indonesians (10 respondents) and other nationalities. Students from 61 different countries participated in the survey.

64.9% have lived in Istanbul for a year or more, 27.8% have lived six months or less in Istanbul and 7.2% have a living duration 6 months to one year.

50.5% did not have any type of disaster experience in their lives whereas 49.5% had at least one disaster experience (34.5% had experienced an earthquake, 5.7% had fire disaster experience, 1.5% had tsunami experience, 3.1% had flood experience, 3.6% had experienced a terrorist attack and 1.1% had other types of disaster experience.)

47.4% know that Istanbul is an earthquake prone city and the rest were not aware of this fact. 33.5% have learnt this fact from television and internet, 13.9% from their friends, attending seminars and conferences, 7.7% from newspapers, magazines and books. 44.8% did not answer the question.

76.8% have not participated in any kind of earthquake and drill training. Most of respondents who did not have disaster experiences believe that earthquake preparation, or drills is not necessary. 8.2% have

self-disaster plan and only two respondents have an earthquake (emergency) bag. Ten respondents have mentioned that they have earthquake insurance and only one respondent have fixed their house furniture. Only five others respondents have attended first aid training. 82.5% did not have disaster preparation yet.

On the other hand, 66% have knowledge on the devastating 1999 Marmara Earthquake. 56.2% believe that large earthquake will hit Marmara region including Istanbul greater area in next few years. However, 87.1% do not have any preparation for next large earthquake. 11.3% have seen about Istanbul earthquake zone map and the rest (88.7%) have never seen Istanbul earthquake zone map.

Respondents who know about emergency call numbers are just 37.6%; the rest stated that they do not know about emergency call numbers in Turkey. 53.1% mentioned that they know the location of fire extinguisher. 62.4% stated that they know the location of emergency exit in their residence. Only 37.6% have not seen the emergency exit location in their flat or dormitory.

As for housing types; 55% are staying in dormitories and 45% are living in rented flats in the city. 90.2% have never inquired about building earthquake insurance. Only 17.5% know about evacuation area's location in their neighbourhood, which shows that most of students do not have enough awareness about meeting point or evacuation area. 40.2% know the basic behavior during earthquake (drop, cover, and hold). The rest said they would run outside immediately, would hide under the table or other types of behavior during earthquake. Drop cover and hold skills are basic self-reaction in terms of earthquake respond that are taught in elementary schools.

3.2. Correlations

There were not any strong correlations for most of the queries. However, there was a strong correlation between frequencies of prior disaster experience with knowledge on the devastating 1999 Marmara earthquake.

CONCLUSION AND RECOMMENDATIONS

It is a well-known fact that disasters are increasing in numbers and economic loss and number of lives lost are rising too. Apart from governments, institutions and other entities, society, individuals are also stakeholders in disaster management issues in today's world, which makes disaster awareness important so that people will be more involved in risk reduction and preparedness efforts. Foreign people that live in large cities constitute a part of vulnerable communities. This study focuses on investigating on the disaster awareness and knowledge of international students living in Istanbul. Data was obtained from a large data set of international students that have different backgrounds, different countries, living in different parts of the city.

The results of the survey show that more than 50% of international students are not aware of the current situation regarding the risks concerning disasters in Istanbul, which can be interpreted as there is not enough local media coverage on information about disasters to foreigners. Most of respondents have stated that they do not get enough information about disaster warning during their stay in Istanbul.

Even a higher majority do not know what to do during and after a disaster, they do not know where they can help or which number to dial in emergencies. However, a high percentage has been living in Istanbul more than 6 months. It can be assumed that this amount of time is adequate to adapt to a new environment compared to the new students. For people who have been staying in Istanbul for more than one year, they might expected to know general information related to major issues in emergency information such as emergency call number, information on the devastating 1999 Marmara Earthquake, and future earthquake risks and preparedness issues.

Most of the respondents do not believe the necessity of preparedness, which unfortunately prove that international students do form a vulnerable community in regard to disasters. More information should be disseminated to international students about their surroundings and precautionary measures to decrease their vulnerability. Universities need to provide this type of vital information to their students.

It must not be forgotten that university students will be the driving force of the future in the world. Therefore, their disaster awareness level is important and they will be taking it back to their home country and their way of living. Therefore, the authors would like to make some recommendations on future studies and programs. A more open questioned survey can be designed which would enable obtaining more information related to the perception about natural and non-natural disaster experiences. Questions must be developed about preparedness skills such as knowledge about first aid, self-disaster plan, and earthquake insurance perception. Retrieving similar information would also help transforming the vulnerable community into a resilient self-sufficient one. The survey method must be followed by direct interview rather than distributing questionnaire to incorporate personalized experiences and skills.

Further research should make use of social media; Facebook, Twitter, and other popular applications are very helpful in order to socialize the risk into community. The social media role is very important nowadays and people tend to update and regularly follow information online. If vital risk information can be conveyed to people faster, the risk can be better managed, resulting in a resilient and better-prepared community for future disasters.

Other than international students, there are other foreigners living and working in the city, and tourists. Future work can be expanded to include these other types of vulnerable communities.

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