

CHAPTER I

INTRODUCTION

1.1 Background

Indonesia is known as a disaster-prone country because this country surrounded by the Pacific Ring of Fire and is above three continental plate collisions, namely Indo-Australia from the south, Eurasia from the north, and the Pacific from the east (Nurhamidah, et.al 2020). This geographical condition makes this country will never escape from natural disasters such as earthquake and tsunami. According to the world risk report, Indonesia is rank 34 out of 171 countries in terms of risks to various hazards which points out that Indonesia had a "very high" risk and exposure, "high" vulnerability and susceptibility, and a lack of coping and adaptive capacities (M.W. Beck, Ed., 2014). Most Indonesian provinces and their coastal areas, in particular identified as "disaster-high risk," yet more than half of the total population live in and are dependent on these areas (BNPB, 2014).

West Sumatera is one of the disaster high-risk Province in Indonesia. This condition caused by its location in the collision area of two tectonic plates namely Indo-Australia from the south and Eurasia from the north which is marked by the presence of a tectonic earthquake center in the Mentawai islands and surroundings. West Sumatera since the earthquake and tsunami events that occurred in Aceh in the last 2004, started to pay more attention to earthquake and tsunami hazards, it is because this province also has enormous potential for earthquakes and tsunami. Shortly after the earthquake and tsunami that occurred in Aceh,

several earthquake events occurred in West Sumatera. That is an earthquake with 8.5 magnitudes that occurred in Nias on March 2005, 6.9 magnitudes around the Mentawai Sea on April 2005, 6.3 magnitudes around Singkarak Lake on March 2007, 8.4 and 7.9 magnitudes around Bengkulu and West Sumatera on September 12th and 13th 2007, and earthquake on September 30, 2009, that occurred only 50 km away from Padang City. This earthquake event in 2009 caused thousands of victims, buildings, and public facilities destroyed during the incident (Z. Alhadi., 2014). These tragedies leaving the community of Padang City in a traumatic condition.

On the other hand, Padang city that located near the Mentawai Island predicted to face a major Earthquake and Tsunami in the future. Based on past paleogeodetic, paleotsunami, and geodetic investigations (e.g., Nalbant et al., 2005; Sieh et al., 2008) indicate that the Mentawai segment of the Sunda subduction zone can host large tsunamigenic events with magnitude > 8.5 and recurrence period of about 200 years. The last major tsunamigenic earthquakes events in this area were in the 1797 and 1833 (Natawidjaja et al., 2006), while two recent events, Mw 8.4 and Mw 7.9, occurred near Bengkulu on 12 and 13 September 2007. On September 30th, 2009 an earthquake with magnitude 7.6 occurred on the Sumatran subduction, right in front of the Pariaman city. Ismail, F.A., Tanjung, J., Hakam, A., & Boen, T. (2017), stated that a segment about 300 km long between Nias segment and Bengkulu segment, called seismic gap as shown in a red-shading area in Figure 1.1, has potential to trigger a big earthquake in near future.

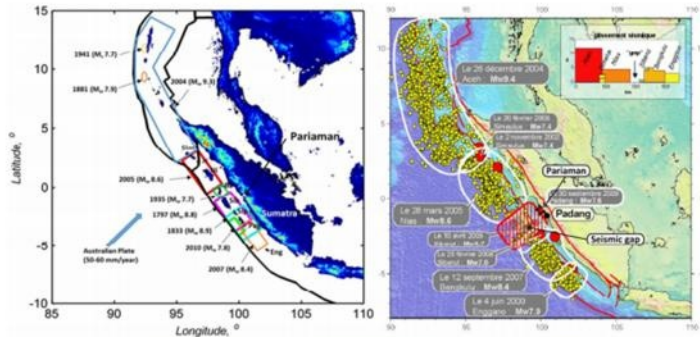


Figure 1.1 Historical seismic event in Mentawai segment

Source: Ismail, F.A., Tanjung, J., Hakam, A., & Boen, T. (2017) Plastered Wire-Mesh Bandaged: An Effective Alternative Technique For Seismic Strengthening Of The Unconfined Brick Masonry Housing In Pariaman City, West Sumatera, Indonesia

Realizing the high risk of disasters, the people of West Sumatera especially Padang city, must be ready and prepared to respond and accept the responsibility for any disaster especially to earthquake and tsunami. The importance of preparedness has stated in the Disaster Management Law Number 24 in 2007 and the Government Regulation Number 21 in 2008. Since the Tsunami that occurred in Aceh in 2004, The Indonesian government and the Indonesian National Board for Disaster Management (BNPB) started to take various initiatives to reduce the risk of the disaster. Increasing knowledge and raising awareness of hazards and the skills to manage emergencies become the main focus of disaster risk reduction (Deny Hidayati., 2018). However, the mitigation system still not capable enough to reduce the risk of the disaster. It can be seen from 2018, disasters occurred repeatedly in Indonesia. It started from Earthquake that occurred in Lombok on July 29th, 2018, and August 5th 2018, Earthquake followed by Tsunami and

liquefaction In Palu and Donggala on September 28th, 2018, and the last is Tsunami that occurred without warning in Selat Sunda on December 22nd, 2018. This tragedy in 2018 also caused severe damage, where thousands of people become the victims, and a lot of buildings and public facilities destroyed (Nurhamidah, et.al 2020). This event shows that after 9 years since the last big events in 2009, Indonesia still stuck in the same condition where the people still not ready to face the disaster.

Besides, by realizing the fact that Earthquake and Tsunami are unpredictable, the people of Padang City must be ready and prepared to face the risk of the earthquake and tsunami disasters. By 2019, the government and Regional Disaster Management Agency (BPBD) of Padang City already took various initiatives to reduce the risk of disasters. As stated in Republika 2019 several initiatives are:

1. They build 3 shelters for evacuation in Ulak Karang, Parupuk Tabing and Tabing with the capacity of about 5.000 people of each shelter and also with 58 building that can be used as a temporary evacuation site
2. Set up about 30 small billboards that consist of the information about what should people do in case of the earthquake and tsunami occurred, made posters about disaster preparedness and shared it to the community
3. Conducted counseling to 150 schools that located in the prone zone.
4. The last is a tsunami safe zone sign that already made on 22 roads in Padang.

Many of disaster risk prevention measures have been taken by the Padang city government, Then how about the community? Did they already prepare themselves to face the disaster? to reduce the risk of disaster the importance of Self-help and mutual-help can be the best way to help the people to know “what did they not do?” and “how can they do it?” to protect themselves from disasters.

As a comparison, in Japan self-help and mutual-help become the focus as one of the efforts to reduce the risk of disaster. Professor Akiyoshi Takagi from Gifu University Japan developed an application named “Disaster Reduction Class”. This application consists of several questions that help the people of Japan to do self-help and mutual-help to protect themselves from disaster. Besides, this application will help for not only the people who use it personally but also will help the government and people who are experienced in disaster prevention to analyze how ready a community or the people of a country to face the disasters.

Therefore, this research will use the self-help and mutual-help parameter to analyze the Padang city community preparedness to face the Earthquake and Tsunami disaster.

1.2 Research Aims

The aim of this research is:

To analyze the Padang city community preparedness to face the Earthquake and Tsunami disaster by using self-help and mutual-help parameter.

1.3 Scope and Limitation

To prevent the discussion become too broad, this research required to scope the problem into several items below:

1. The location of the research is Padang City, West Sumatera.
2. The community in this research is the common people of Padang City who live and stay in Padang.
3. To analyze the Padang City Community preparedness to face the earthquake and tsunami disaster, this research will collect the data by using 2 methods; direct survey (for the community that lives in Ulak Karang, Pondok, and Pantai Purus) and Online survey (for Padang city community in general).
4. This research will not use the Disaster Reduction Class application to analyze the Padang City community preparedness to face the earthquake and tsunami disaster but only adopted the question and scoring method from the application that consists of self-help and mutual-help parameter.
5. This research will not review what the government has done to improve community preparedness.

1.4 Systematic Writing

This research will be organized as a final project, which consists of five chapters below:

CHAPTER I Introduction

This chapter consists of four sub-chapter that presents the research foundation including background, research aims, the scope of the problem, and systematic writing.

CHAPTER II Literature Review

To keep the research validity and reliability, this chapter consists of a review of the literature related to the research. The literature review obtained from various scientific works and journals, which will be listed as references.

CHAPTER III Methodology

This chapter consists of a research design, samples, data collection, data instrument, and data analysis. It consists of systematically how this research will be done from the beginning to get the result of the research.

CHAPTER IV Result and Discussions

This chapter consists of the result and discussion from the research.

CHAPTER V Conclusions and Suggestions

The final results and a brief review of the research will be explained in this chapter.