

Disaster preparedness of Thai migrants living in Auckland: a qualitative descriptive study

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Abstract

Thai migrants are one of the diverse ethnic groups who live in New Zealand. Most Thai migrants live in Auckland, where faces heightened risks due to its exposure to natural hazards, such as flooding, storms, and tsunamis. Many studies indicate that migrants are generally more vulnerable in the face of natural hazards and disasters and they are less likely to prepare. On the other hand, several researches suggest that migrants are not without capacities in the face of such events. However, there is a small number of studies regarding the disaster preparedness of Thai migrants living in urban New Zealand. This study is a contribution towards filling this gap. A qualitative descriptive study was conducted with semi-structured interviews taking place in Auckland between September to December 2019. A total of seven Thai migrants, who have experience of natural hazards and/or disasters, were included in the study. The findings indicate that Thai migrants are vulnerable because of language and culture, low risk perception, socioeconomic status, and low preparedness. On the other hand, the study emphasizes that Thai migrants have capacities, including strong bonding social network and their experience of previous disasters in their home country. The research concludes that disaster risk management targeting Thai migrants can be promoted by communicating information in Thai language and using the Thai temples as focal points for conducting activities geared towards disaster preparedness. Moreover, the social media provide opportunities for sharing disaster-related information and promoting disaster risk education.

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ATTESTATION OF AUTHORSHIP

“I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the qualification of any other degree or diploma at a university or other institution of higher learning, except where due acknowledgement is made in the acknowledgements.”

Signed:

Date: 25/03/2020

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Chapter One: Introduction

1.1 Introduction

For the last few decades, there has been a significant growth of migration in many developed countries, such as the United Kingdom, the United States of America and New Zealand (Merwood, 2013). Currently, there are around 258 million migrants globally which impact the world complexly (Douglas et al., 2019). Migrant refers to “a person who moves away from his or her place of usual residence, whether within a country or across an international border, temporarily or permanently, and for a variety of reasons” (Althaus et al., 2019, p. 132). In addition, in the view of the destination country, the migrant who moves in the new country is called ‘immigrants’ (Althaus et al., 2019). Wohlfart (2017) indicated that there were some vulnerabilities in immigrants as a consequence of facing differences in economic systems, public service access, culture and language. Studies indicated that migrants are generally disproportionately affected by disaster and are less likely to prepare for disaster response and recovery (Bethel et al., 2013; Nguyen, 2014). Due to their vulnerabilities, migrants are likely to be affected more by a disaster compared to other groups (Bethel et al., 2013; Nguyen & Salvesen, 2014). For example, immigrants have a ten-time higher disaster risk compared to others in Canada (Yong et al., 2017). While vulnerable, people and groups always have some capacities (Gaillard, 2010). Vulnerability and capacity also play an essential role in the degree of disaster risk (Wisner et al., 2012)

In terms of disaster preparedness, the identification of vulnerability and capacity is vital. Vulnerability refers to “The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards” (United Nations Office for Disaster Risk Reduction, 2016, p.24). While capacity refers to “The combination of all the strengths, attributes and resources available within an organisation, community or society to manage and reduce disaster risks and strengthen resilience” (United Nations Office for Disaster Risk Reduction, 2016, p.12). Disaster preparedness allows a disaster-risk reduction (DRR) agency to understand the cause of vulnerability, while an understanding of capacity allows a DRR agency to enhance the pre-existing capacity. Consequently, people will be better prepared for a disaster (Manyena, 2006). Disaster preparedness refers to “the knowledge and capacities developed by governments, response and recovery organizations, communities and individuals to effectively

anticipate, respond to and recover from the impacts of likely, imminent or current disasters” (United Nations Office for Disaster Risk Reduction, 2016, p.21). Migrants’ vulnerabilities and capacities are significant factors to be understood for disaster risk reduction. This understanding can be relevant for policymakers to develop suitable policies and plans geared towards helping the migrants to prepare better for disasters (Nguyen & Salvesen, 2014).

Auckland is the city where the majority of migrants live in New Zealand. As a result, Auckland is a culturally diverse city with over 200 ethnicities. This diversity creates challenges for the Auckland disaster management agency to develop a disaster preparedness program tailored to migrants (Marlowe et al., 2018). The migrants from Asia increase in number every year. For example, 23 per cent of total migrants to Auckland were from Asia in 2013, and the number of Asian migrants is predicted to reach 30 per cent by 2021 (Auckland civil defence emergency management group, 2016). Thai migrants make up around one per cent of migrants living in New Zealand (Statistic NZ, 2013b). The Asian population in Auckland contains over 4,000 Thai migrants. Thai migrants have a unique language and culture (Rosa, 2015). The primary language is the Thai language, and based on a survey from 2013, half of Thai people living in New Zealand can speak the English language (Statistic NZ, 2013a). Moreover, the report stated that Thai migrants have low-income and a low-level of education. These vulnerability factors may inhibit Thai migrants, like other migrants, from preparing for a disaster or participating in a disaster preparedness program as indicated in the studies by Nguyen and Salvesen (2014), and Marlowe et al. (2018). Currently, there is some research concerning the vulnerabilities and capacities of migrants, but there are only a small number of studies focused on an understanding of the vulnerabilities and capacities specific to Thai migrants. This study will help to fill this knowledge gap.

In section 1.2, the explanation of disaster risk management will be provided. Following this, in section 1.3, migrants and disaster risk reduction will be explained. Next, section 1.4 will provide the research question and objective. Section 1.5 will explore a case study in terms of migrants and a disaster in New Zealand. Lastly, the outline of the dissertation will be described.

1.2 Disaster risk management

In the last decade, disasters occurred more frequently (Palttala et al., 2012). The magnitude and complexity of disasters can result in deaths, injuries, and economic losses (De Smet et al., 2012). Disaster refers to “A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts” (United Nations Office for Disaster Risk Reduction, 2016, p.13). For example, from 1900 to 2018, the number of disasters has been increasing, as shown in figure 1. Moreover, in the last decade, there were 350-400 natural hazard-related disasters occurring each year (Ritchie & Roser, 2014).

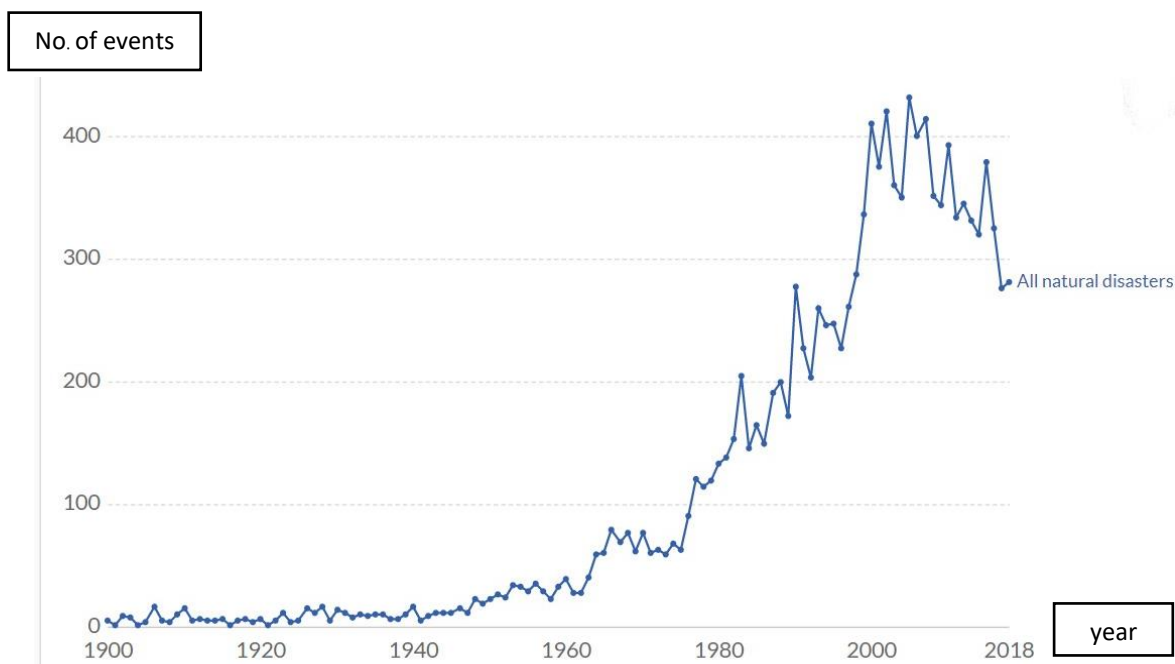


Figure 1: The number of disaster events in the world from 1900 to 2018. Source: EMDAT (2019): OFDA/CRED International Disaster Database, Université Catholique de Louvain – Brussels – Belgium

Despite the natural hazards, human development often expose people to the risk of disaster. An increase in the number of global populations, the expanding urbanization, the social system would cause people to be vulnerable and expose more to hazards. Consequently, there are more incidences of disaster (De Smet et al., 2012). The Centre for Research on the Epidemiology of Disasters (CRED) analysed 281 events, which were recorded in EM-DAT

(International Disaster Database). The analysis of data found that a severe-weather event was the main hazard that affected people, while an earthquake and tsunami were the main disaster-related cause of life lost in 2019 (Centre for Research on the Epidemiology of Disasters & United Nations Office for Disaster Risk Reduction, 2019). The recorded data illustrates an increase in disaster incidents over time. Each disaster will result in an impact on humankind. In addition, there were some small-scale disasters which were not reported as they were excluded due to the definition by CRED. The accumulation of the number of affected people in many small-scale disasters is also high. This under-reported impact also results in a significant effect on humankind (Pigeon & Rebotier, 2016).

The impacts of disasters disturb the global economy, life and property. Disasters do not only impact mortality, but they also cause homelessness, displacement and injury (Ritchie & Roser, 2014). Globally, there were around 700,000 deaths, 1.7 billion people's lives were disturbed in various ways, 155 million people were affected by displacement and around USD 1.4-trillion in economic losses have been recorded as a result of the disaster in the last decade (United Nations Office for Disaster Risk Reduction, 2015). For example, in the 2011 Japan earthquake, there were around 16,000 deaths, around 2,500 people missing and around 140 billion USD in economic loss, which made it the most costly disaster of all time (Okazumi & Nakasu, 2015). In 2018, Centre for Research on the Epidemiology of Disasters reported that globally, 315 natural disaster events were recorded with around 12,000 deaths, nearly 70 million people affected, and USD 131.7 billion in economic losses. It is clear that the devastating result from disasters will affect human society in several ways.

1.2.1 Disaster Risk Management: a brief overview

Disaster risk management has been focused more on disaster management. Recently, the paradigm of disaster management has been shifted from a top-down approach to a people-centred approach. The people-centred approach encourages the participation of all relevant stakeholders, especially the local community, to tackle complex disasters through disaster risk management. While the top-down approach encourages only the government response team to cope with disasters (Scolobig et al., 2015). Disaster management is a challenging responsibility for all disaster agencies. A complex disaster, which is shaped by globalisation and new

technology, might not only be solved by the traditional command-and-control response from government officer (external resource), it may also require cooperation with local people in the affected area (De Smet et al., 2012).

Disaster management consists of four main elements: mitigation, preparedness, response, and recovery (Blanchard et al., 2007). Healy and Malhotra (2009) indicated that the investment required for disaster preparedness could be a cost-effective solution compared with the cost of an emergency response operation. Disaster preparedness can be operated through various processes, such as disaster risk management, planning, resource management, information and early warning systems, and disaster education (Twigg, 2004). Disaster preparedness shall diminish the devastating impacts of disasters (Shaw & Goda, 2004). Therefore, the focus of disaster management was shifted from emergency response to prevention and mitigation for disasters (Blanchard et al., 2007; Scolobig et al., 2015; Swords et al., 2010; Uekusa & Matthewman, 2017). For example, disaster mitigation had been considered to be the main focus for the Federal Emergency Management Agency (FEMA) to manage disasters since the mid-1990s (Waugh & Streib, 2006). Importantly, in disaster risk management, the discovering of vulnerability will provide an understanding of disaster risk. Disaster risk management refers to “the application of disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk, contributing to the strengthening of resilience and reduction of disaster losses” (United Nations Office for Disaster Risk Reduction, 2016, p.15). Disaster risk management, in disaster preparedness, is a vital operation to address vulnerability and existing capacity.

Effective disaster risk management will identify vulnerability and capacity. Vulnerability is believed to be constructed by culture, economy, social status and politics (Gaillard, 2019). Wisner et al. (2004) explained that a high level of vulnerability could cause a hazard to turn into a disaster, while a high level of capacity provides greater abilities to cope with and recover from disaster effects. The concept of vulnerability and capacity is currently focused on disaster risk management. Notably, the focus on identifying the internal capacity, and then enhancing an internal capacity, is vital for addressing disaster risk reduction (Gaillard, 2010). Internal capacity may be found inside the community, including traditional knowledge; indigenous skills and technologies; and solidarity networks (Gaillard, 2010). Disaster

preparedness includes local people and identifies their existing capacity in order to assist them in preventing and mitigating disaster risks as well as enhancing the communities' capacity to cope with natural hazards (Yong et al., 2017). Local community preparedness is very important because the community is always at the frontline to face hazards and disasters (Gaillard, 2010). For instance, the participation of the community in disaster preparedness is a key element to make disaster preparedness successful as indicated in the priority action 3 and 4 of Sendai Framework 2015-2030 (Mutch & Marlowe, 2013a; The United Nations office for disaster risk reduction, 2015a). Therefore, the opportunities and the challenges, which may impact community participation in a disaster preparedness program, should also be investigated. It is important to understand the vulnerabilities and capacities of each unique community. The research indicates that disaster preparedness agencies who understood the culture and context of the community could develop a disaster preparedness plan that was suitable for that community (Yong et al., 2017). Notably, the migrant community is a unique community which requires the investigation of their vulnerabilities and capacities in order to understand them more.

1.3 Migrants and disaster risk reduction

1.3.1 Vulnerabilities and Capacities of Migrants

There are many kinds of migration which can be identified over ten categories (Douglas et al., 2019). A permanent migrant is identified when the migrants have stayed in the host country for more than one year (The United Nations, 2016). In other words, the migrants who live permanently in their new country are called 'long-term immigrant' (Douglas et al., 2019). Immigrants are often identified as particularly vulnerable to natural hazards and disasters (Uekusa & Matthewman, 2017). Several factors can make migrants/immigrants vulnerable to natural hazards and disasters which could limit their ability to participate in disaster prevention and preparedness programs. These factors generally include low income, language barriers, cultural difference, racial bias, and social exclusion (Bethel et al., 2013; Nguyen & Salvesen, 2014). As an illustration, poor migrants are often forced to work and live in hazard-prone areas, such as mobile homes, which cause them to be more likely to suffer from injuries, economic impacts, housing damage and adverse political impacts (National Research Council, 2006). For example, migrants in the Cayman Islands live in improper housing, which is not suitable for local hazards. They are low-income and prefer to send money back to their home country than

invest in disaster risk reduction (Tomkins et al., 2009). The factors that cause the vulnerability or the capacity in the migrants are required to be explored in order to develop a suitable disaster preparedness program.

While vulnerable, migrants also have capacities which they often display to overcome disasters. Wisner et al. (2012) indicate that there are capacities in every social group, even in vulnerable groups. Moreover, Gaillard (2019) also stated that vulnerable people are not helpless victims when they are confronted with a disaster. Immigrants have often experienced hazards occurring seasonally in their home countries, such as flooding or cyclones, and self-response to disaster because of poor disaster management in their country. These experiences enable them to cope with and adapt to disaster risk very well (Nguyen & Salvesen, 2014). Additionally, several researchers observed that Asian people had specific adaptive life skills such as cooking rice on an open fire post-disaster, while other immigrants had no idea how to cook in these constrained conditions. This skill made Asian people resourceful even they were vulnerable in other aspects (Nguyen & Salvesen, 2014). However, external assistance such as medicine, shelter, food and water could still be critical when disasters strike (Bethel et al., 2013). Some vulnerabilities can be discovered, but it may be impossible to reduce or eliminate them. On the other hand, the existing capacity could be enhanced in different ways (Manyena, 2006). Importantly, these internal capacities should be enhanced by involving them in disaster preparedness programs conducted pre-disaster (Nguyen & Salvesen, 2014).

1.3.2 Migrants in New Zealand

New Zealand is a country in Oceania in the southwestern Pacific Ocean. New Zealand is located on the Ring of Fire. As a result, the country is recurrently affected by several natural hazards, such as earthquakes, volcanoes, storms, tsunamis, and flooding (Marlowe et al., 2018). Auckland is the principal city of the country, located in the North Island of New Zealand. The area of Auckland is around 4,900 km², of which 70 per cent is a rural area. The remaining 30 per cent is an urban area, where the majority of the population live. Auckland's population is over one-third of the total population of New Zealand. Auckland is the most culturally-diverse city in New Zealand because there are more than 200 ethnicities and more than 40 per cent of the Auckland population was born overseas (Auckland civil defence emergency management

group, 2016). Auckland Civil Defence Emergency Management Group (2019) stated that Auckland is a fast-growing city which attracts many migrants who are immigrating from foreign countries. There are around 1.7 million citizens, 740 new residents per week, and over 175 languages spoken in Auckland. Auckland is located on an active volcanic field covering 360km² and contains at least 50 volcanoes.

Also, New Zealand was one of the top destinations for migrants. For example, Auckland is made up of nearly 40 per cent migrants, while migrants make up around 25 per cent of the total population of the country (Auckland civil defence emergency management group, 2016). The increasing number of migrants every year creates a challenge for the New Zealand government to prepare them for disasters (Marlowe et al., 2018). According to the recorded data, since 1900 New Zealand has lost around 1.6 billion NZD every year from natural hazards, nearly 1 per cent of GDP (Chukwudumogu et al., 2019; Insurance Council of New Zealand, 2014). The Canterbury earthquake in 2011 resulted in 185 life losses, thousands of affected people were injured and made homeless, including 70 international English language students (Immigration New Zealand, n.d.; Marlowe, 2015). Migrants were impacted significantly by the Canterbury earthquake in February 2011 because of the language barrier. Notably, the disaster impact destroyed businesses in the affected area and caused some migrants to lose employment which made them even more vulnerable. On the other hand, some skilled immigrants took advantage of the situation by taking a construction job in the affected area (Fussell et al., 2018). Moreover, the disaster impact caused everyday community bonding to break, as the affected residents may have had to help themselves before concentrating on the community (Mutch & Marlowe, 2013b). Community bonding is a vital function that provides some assistance to vulnerable migrants (Tomkins et al., 2009). For example, from June to December 2011 in the Canterbury earthquake, there were 12,000 shocks after the large earthquake, which triggered a disillusionment phase in people and also delayed the reconstruction of the city. This resulted in people concentrating on themselves rather than others.

New Zealand is also exposed to natural hazards, and there are some limitations for migrants to access resources regarding disaster preparedness. For example, the study by (Blake et al., 2017) indicated that migrants with low incomes are often excluded from disaster preparedness programs conducted in New Zealand. Furthermore, language barriers and

trustworthiness are factors that should be considered in terms of a disaster risk communication in a culturally diverse place such as Auckland. Additionally, there was a low rate of insurance for the properties of migrants living in New Zealand, which might make them more vulnerable in post-disaster events (Naylor et al., 2011). However, there is a small amount of research regarding migrants and disaster in New Zealand, especially on Thai migrants.

From the 1990s, Thai migrants came to New Zealand for educational purposes, but later, in 2013, half of the Thai migrants worked in commercial business, service and manual jobs (Rosa, 2015). Auckland city contains around 50 per cent of the Thai migrants in New Zealand, and 80 per cent of these Thai migrants in Auckland were born overseas (Statistic NZ, 2013a). In 2013, the overall income of a Thai migrant per year was half of that of a New Zealander, and around 10 per cent of Thai migrants were unemployed (Statistics NZ, 2013a). Additionally, 25 per cent of Thai migrants do not have any formal qualification of education and only 20 per cent of Thai migrants had a Bachelor's degree or higher (Statistic NZ, 2013a). Thai migrants are categorised in the low-income group, which means their median income is less than 60 per cent of the national median income according to the definition by Statistic NZ (2013). The low level of education may result in language barriers for Thai migrants. From this recent data, Thai migrants have some vulnerabilities such as low income, low education and language barriers. However, other factors that may be opportunities, and barriers regarding disaster preparedness will be explored more.

1.4 Research question and objective

Due to the cultural diversity of the Auckland population and the rising likelihood of the disaster incident, it is required to understand better factors that shape disaster preparedness capacities and constraints faced by ethnic minority migrant groups. Therefore, the research question in this study is “What are the factors influencing disaster preparedness in Thai migrants living in Auckland?”. This study aims to explore the factors that may affect the disaster preparedness of Thai migrants who live in Auckland. In order to address this research question, the study focuses on three objectives:

- To explore the vulnerabilities of Thai migrants living in Auckland.
- To explore the capacities of Thai migrants living in Auckland.

- To investigate the opportunities and challenges which foster Thai migrants living in Auckland to participate in the disaster preparation program.

1.5 The outline of dissertation

Chapter one has explained the significance of migrants and disaster preparedness. Then, it has introduced the concept of disaster risk management and how it relates to migrants. The research question and the objectives will be clarified, and next, general information regarding New Zealand and Auckland will be provided. Chapter two will review the academic literature regarding disaster risk reduction and migrants. The focus of the literature review will be migrants in disaster, and to identify the gap in the literature. Chapter three will describe the methodology and method used in this study, including the recruitment of participants, the data collection, the data analysis, and the ethical aspects of the study. The result of the study will be presented in Chapter four. Chapter five will then discuss the significance of the findings and compare these with the existing literature as well as the implications, limitations and suggestion for further study.

Chapter Two: Review of literature

2.1 Introduction

A literature review will explore the existing studies that relate to the objective of this study. The literature was searched by a literature search strategy, as shown in table 1. This chapter aims to review the literature associated with migrants, including those coming from Thailand, and disaster risk management (DRM), including vulnerability, capacities, and participation in disaster risk management initiatives. Section 2.2 will provide a little background in disaster risk management. Next, in section 2.3, the literature regarding migrants' vulnerabilities and capacities will be described to demonstrate the existing knowledge regarding migrants' disaster risk and the opportunity to enhance their capacity. Following, in section 2.4, the participation of the migrants in DRM will be explored. Finally, section 2.5 provides a summary of this information.

Search engine	Keywords	Type of article	Period
EBSCO	disaster, vulnerability, capacity, migrants, migrants, disaster preparedness,	Academic journal, report, press	June-July 2019
National Centre of Biotechnology Information (NCBI)	disaster, vulnerability, capacity, migrants, migrants, disaster preparedness,	Peer reviewed article	June-July 2019

Table 1: search strategy

2.2 Disaster risk reduction

2.2.1 Vulnerability, capacity and disaster risk accumulation

Disaster literature previously focused on the hazard paradigm. The uncontrollable and extreme magnitude of natural hazards was used to categorise them as a disaster (Gaillard, 2010). A hazard is defined as “A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or

environmental degradation” (The United Nations Office for Disaster Risk Reduction, 2016). Historically, it was believed that disasters were a natural phenomenon (Gaillard, 2010). On the other hand, experts had defined a hazard as a part of normal environmental processes (Perry, 2007). Although a natural ecological process may create hazards, it is, since the late 1970s, accepted that hazards are the leading cause of disasters. Research by Wisner et al. (2012) claimed that unsafe livelihoods and locations cause humans to be prone to be affected by hazards. It is clear that hazards alone cannot produce a disaster, but human activities always influence disasters (Wisner et al., 2012). However, another important factor is vulnerability. When vulnerable people face a hazard, a disaster is more likely to occur.

Vulnerability is a crucial concept to investigate disasters and disaster risk reduction. Inequalities create Socially disadvantaged groups in society (Bankoff et al., 2003; Cardona, 2004). Therefore, vulnerable social groups are more likely to suffer disproportionately from disaster impact (Palttala et al., 2012). A characteristic of socially disadvantaged groups is vulnerability, which can be induced by several factors such as gender, social class and ethnicity (Bankoff et al., 2003). These social determinants sometimes force some social groups to be more prone to disasters. For instance, people are vulnerable politically because political organisation ignore their voice. Secondly, they are vulnerable socially, because of ethnicity, gender and religion. Thirdly, they are economically vulnerable because of unequal economic opportunities (Wisner et al., 2012). This is demonstrated in figure 2.

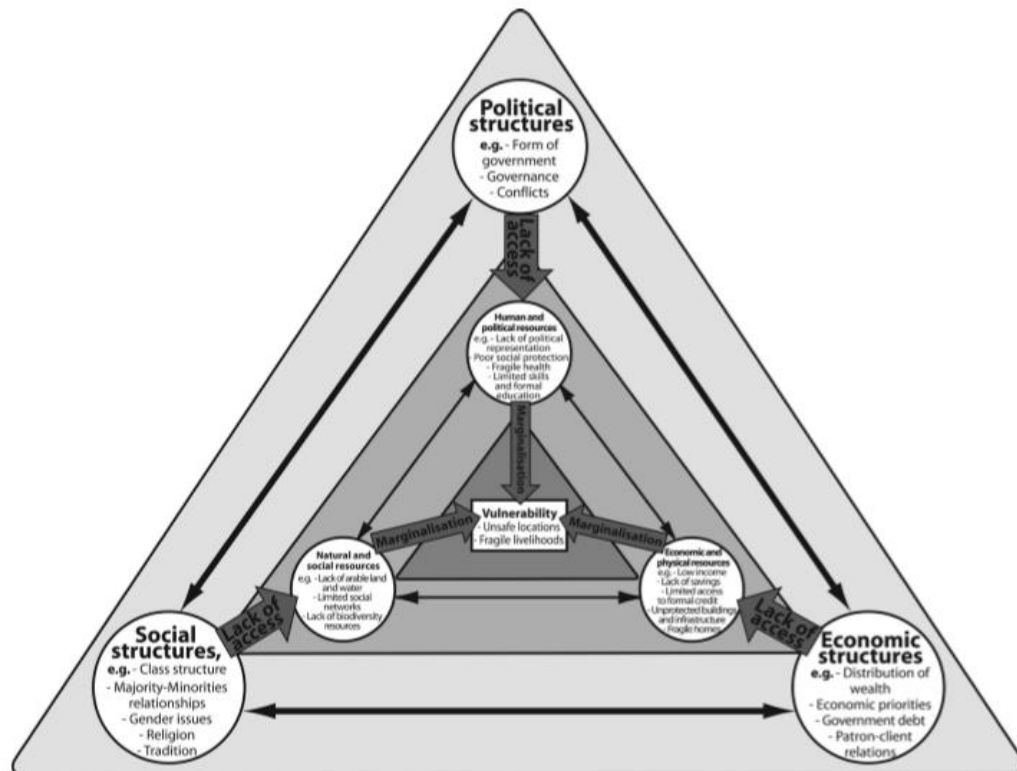


Figure 2: Triangles of vulnerability.

Source: Wisner et al. (2012)

Exposure is a critical factor that shapes people's vulnerability in the face of hazards. Exposure refers to "The situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas" (United Nations Office for Disaster Risk Reduction, 2016). Human activities always play some part in disaster creation (United Nations, 2004; Wisner et al., 2012). Human activity also exposes people to disaster risk, such as staying in a hazard-prone area. For example, some people live in dumpsites due to the opportunity to make a living by searching for something that they can sell for income, while some people prefer to live in floodplains due to the nutrient-rich soil for planting (Gaillard & Cadage, 2009). Another example is the overcrowded population in urban areas, which can result in a high number of deaths from a hazard event (De Smet et al., 2012).

Notably, the relationship between hazard, vulnerability, and exposure can create a disaster risk. Cardona (2003) stated the convolution of hazard and vulnerability could result in disaster risk, while Wisner et al., (2012) mentioned that exposure also caused disaster risk as humans bring themselves into hazard-prone areas. A disaster risk equation that illustrates the

relationship between hazards, vulnerability and exposure is disaster risk = hazard × vulnerability × exposure (Wisner et al., 2004). This equation should not be seen as a mathematical formula to calculate disaster risk but a way to memorise the different components of it (De Smet et al., 2012; Perry, 2007). Moreover, the Move framework also explained a similar concept of disaster risk which is created by the integration of vulnerability, exposure, and hazard as well as a lack of capacity. The Move framework demonstrates that the understanding of disaster risk accumulation will allow the DRR agency to manage the risk in order to reduce the devastating disaster result as the demonstration in figure 3 (Birkmann et al., 2013).

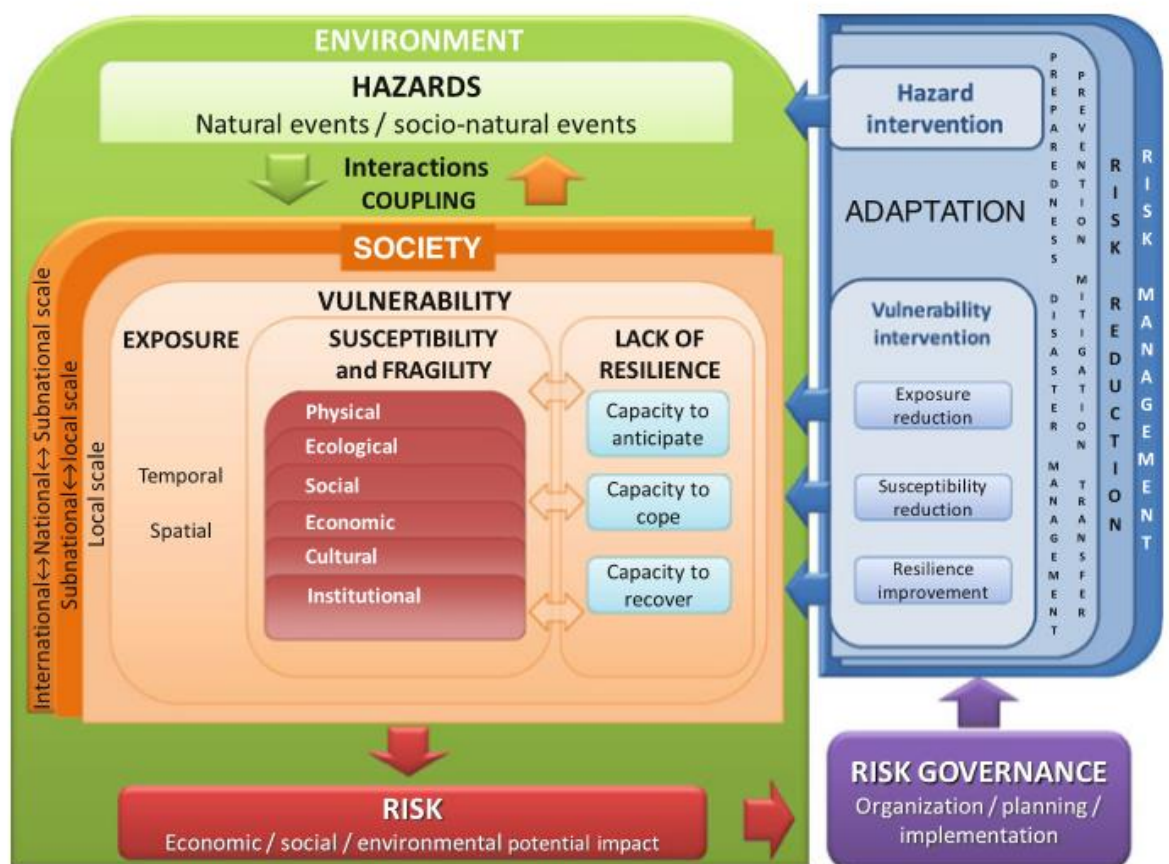


Figure 3: The Move framework

Source: Birkmann et al. (2013)

Capacities also play a vital role in disaster risk management. As an illustration in the study by Wisner et al. (2012) noted, “disaster risk = hazard × { [(vulnerability × exposure) / capacity] - mitigation }” which means that capacity can reduce disaster risk, while mitigation can also diminish the disaster impact as well as the Move framework. Some experts suggested that DRM worker should focus more on capacity than on vulnerability as the final goal is to increase

people's capacity to cope with natural hazards with their own resources (Manyena, 2006; Twigg, 2009). Moreover, research states that some social groups, which are often identified as vulnerable to disasters, can develop their capacities to help them cope with such events. Some argue that those capacities are induced by their vulnerabilities (Uekusa & Matthewman, 2017). For example, forced migrants may be vulnerable due to racism and economic status, but their hard life, as a result of their vulnerabilities, has made them stronger, increasing their capacities (Marlowe, 2015).

Gaillard (2010) stated that "Capacities are often rooted in resources which are endogenous to the community and which rely on traditional knowledge, indigenous skills and technologies and solidarity networks" (p.220). Therefore, capacities can be categorised in various ways, as shown in the illustration in figure 3. Notably, identifying people's existing capacities and enhancing them can diminish disaster risk (Manyena et al., 2011; Wisner et al., 2012). Additionally, the enhancement of people's capacities significantly decreases the disaster impact and the requirement of external assistance (Manyena et al., 2011). Capacity building also requires cooperation within a community and with local authorities. For instance, DRM workers need to pay attention to power relations, powerful institutions and existing advantages associating the activity in capacity-building projects. Thus, the understanding of these elements will ensure the sustainability of capacity building initiatives after the DRM workers leave by avoiding the disturbance of the existing advantages (Cannon, 2014). Furthermore, cultural aspects should be noted by any agencies involved in DRM to ensure the sustainability of projects conducted in a local community.

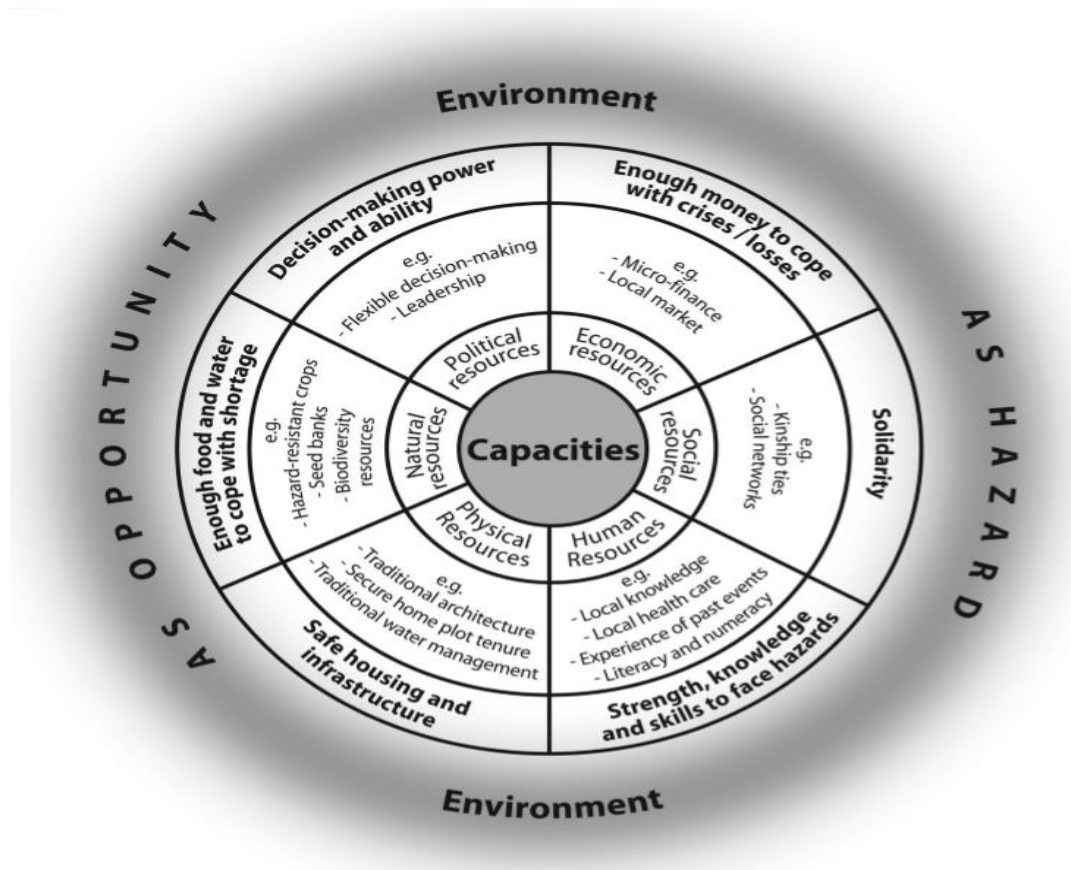


Figure 4: The circle of capacity.

Source: Wisner et al. (2008)

2.2.2 Disaster risk management

Several experts place their efforts in disaster risk management on the disaster preparedness phase. For example, United Nation Office for Disaster Risk Reduction (UNDRR) has issued the Sendai framework which aims to diminish disaster risk in order to reduce life losses significantly and the impact on economies, communities and the environment (The United Nations office for disaster risk reduction, 2015a). Disaster risk management is defined as “the application of disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk, contributing to the strengthening of resilience and reduction of disaster losses” (United Nations General Assembly, 2016). Additionally, disaster risk management is a critical process for managing the complexity of disasters (Scolobig et al., 2015). Currently, disaster impact is changed from the past due to the complexity of the globalised world. As a result, disaster risk management has to change from a traditional approach to a people-centred approach to be appropriate to the current context (De

Smet et al., 2012). This people-centred approach is applied into DRM agency such as the encouragement of community participation in the Sendai Framework (2015-2030) which will be explained more in section 2.4.

Disaster risk management manages the potential risk at the root cause by encouraging the internal capacities of affected people to develop a way to eliminate their disaster risk as well as to tackle disasters with their existing capacity. As a consequence, vulnerability and disaster impact can be reduced, while the capacities are strengthened (Shaw & Goda, 2004). Additionally, evidence shows that the prevention-mitigation process is cost-effective compared to emergency relief operations (Healy & Malhotra, 2009). Importantly, disaster risk management requires the collaboration of stakeholders at all levels, including local communities, the private sector, local government, NGOs, government agencies and international agencies (Blanchard et al., 2007). Moreover, Swords et al. (2010) suggested that all relevant agencies should work actively like a first-line responder. Notably, local community preparedness is vital because local communities are always at the frontline of hazards and disasters (Gaillard, 2010). In summary, DRM is a crucial activity in disaster preparedness. This activity helps to decrease vulnerabilities and enhance capacities. Significantly, this activity will be successful through cooperation between local people, communities and the DRR agency, which will be explored in section 2.4.

2.3 The vulnerabilities and capacities of migrants

2.3.1 Migrants' vulnerabilities

The vulnerability can be found in many people and groups, including the poor, children, and people with disability (Wisner et al., 2012). Those people or groups are vulnerable in many ways, geographically, socially, economically, physically and politically (Gaillard, 2010; Wisner et al., 2012). Migrants are generally identified as vulnerable people who have difficulty preparing for and coping with disasters (Thorup-Binger & Charania, 2019). Douglas et al. (2019) also explained that there were various types of migrant who may have different strength and weakness. For example, long-term migrants, who live in the host country for more than twelve months, would have a different experience in the host country from the short-term migrants. The research by Wohlfart (2017) stated that immigrants are often vulnerable in terms of personal, cultural, and economic factors because they have to adapt and learn a new

environment in the host country as well as the local natural hazards. In other words, migrants are also a racial-ethnic group who have difficulty coping with disasters because of several factors, including cultural and language barriers, a distrust of the official disaster warning message, the trust of potentially inaccurate information within their group, a low disaster-risk perception and less disaster preparation (Bethel et al., 2013; Fothergill et al., 1999). For example, migrants have to learn and adapt to a new language, environment and a different social and government system in a host country. They have limited socialisation and difficulty in accessing resources (Marlowe et al., 2018).

In terms of sociocultural vulnerability, language and cultural barriers can be a vital problem for disaster risk communication. Language is a tool to communicate disaster messages, which provides essential information concerning mitigation, preparedness, coping and recovery. Understandable and trustable messages can increase the audience's participation in DRM activities and also teach them to do self-immediate care (Marlowe et al., 2018). However, some communication gaps can be found in the migrant community. For example, in the Canterbury earthquake between 2010 and 2011, the inadequate disaster message in the English language resulted in an unfavourable effect on the migrant community, who have a different culture and language. The migrants could not understand the information from the disaster message issued by the government. As a result, migrants had limited access to information and received reduced assistance (Marlowe et al., 2018). In the same vein, research by Fussell et al. (2018) also reported difficulties in the non-English primary language immigrants' perception of the warning message due to all mass media broadcasts being only in English. The trustworthiness of government agencies also impacts how the ethnic groups, like migrants, follow evacuation instructions because they may be more trusting of the opinion of their community. For instance, some ethnic minority groups pay more attention to their social-network messages than the official disaster warning message. They confirm the reliability of the official message from many sources before following instructions (Fothergill et al., 1999).

Cultural barriers are another essential factor that shapes migrants' vulnerability. The study by Nguyen and Salvesen (2014) reported that Asians often indirectly communicate rather than directly explain what assistance they require. As a consequence, this can block them from

disaster-relief support. Another social vulnerability is social isolation (Eisenman et al., 2007; Fussell et al., 2018; Nguyen & Salvesen, 2014). For example, Korean migrants were scared to leave their homes due to language barriers and social exclusion after the Japan tsunami in 2011 (Uekusa & Matthewman, 2017). The study by Fussell et al. (2018) showed that migrants were only willing to seek assistance from within their network, which was small and resourceless, rather than accessing formal resources. Social isolation makes it challenging to access shelter, food, water and public services (Nguyen & Salvesen, 2014). The authors indicate that the lack of disaster-risk awareness could also influence disaster preparedness.

Risk perception is another factor that affects migrants' disaster preparedness actions as the illustration in figure 4 demonstrates. The level of perception relies on how important of the hazard in personal idea (Paton, 2003). Risk perception is shaped by multiple factors and also affects response behaviour in various ways (Yong et al., 2017). For example, research by Marlowe et al. (2018) indicates that there were low awareness and religious beliefs which inhibited the migrants' disaster preparedness. The authors argue that migrants would not prepare because they believed a disaster would not happen in their area, or they believed God would help them overcome such event. For these reasons, scholars say that migrants are generally less prepared in the face of hazards or disasters.

On the other hand, religious groups can create capacity through their social networks, which helps migrants to cope with disasters. For example, the earthquake in Padang city in Indonesia (2009) illustrated how the Muslim group helped others in the community to manage the disaster impact (Adisaputri & Le De, 2018). Moreover, the experience of annual hazards may cause migrants to get used to hazards, and think that it is not necessary to prepare for them (Eisenman et al., 2007). Ways of thinking and living may be affected by culture, which may result in different perceptions of disaster risk (Yong et al., 2017). Risk perception of each individual or group may be different. It depends on people's experience, attitude, culture, background and expectations (Palttala et al., 2012). Conversely, research demonstrates a high awareness of disaster risk from migrants due to previous experiences of disasters. For example, Mexican migrants in California illustrated a high-risk perception regarding the earthquake because they had experienced them before in Mexico (Fothergill et al., 1999). Significantly, the

studies report that the migrants are less likely to have a disaster preparedness education compared to others, which would increase their vulnerability to disasters (Eisenman et al., 2007; Fothergill et al., 1999).

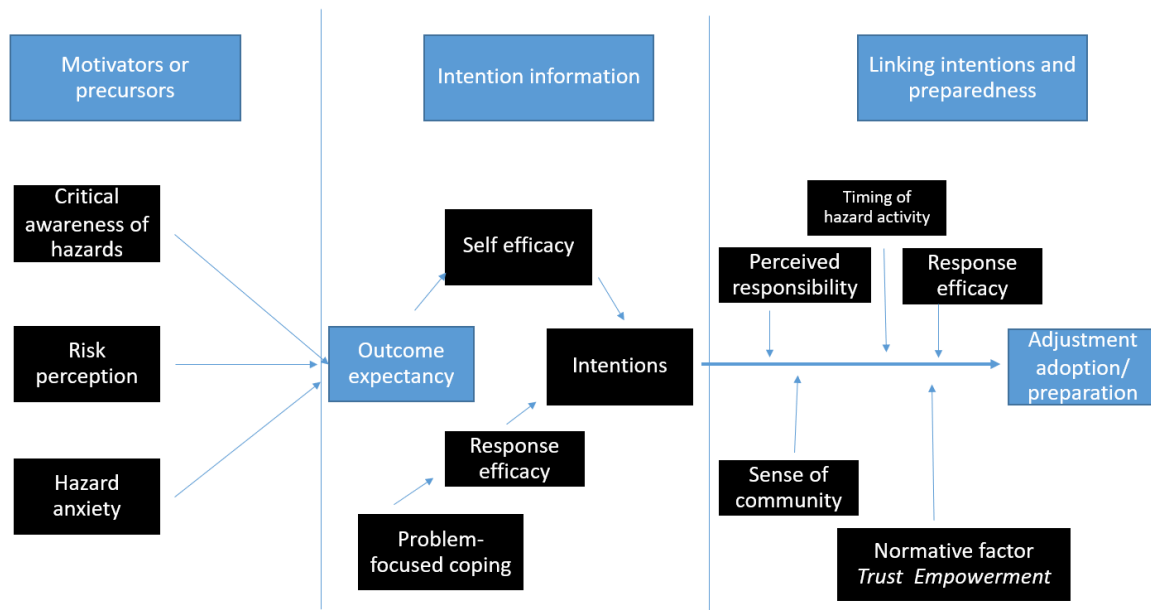


Figure 5: Risk perception and the process of behaviour development in disaster preparedness action. Source: (Paton, 2003)

In terms of economic vulnerability, low-income migrants can be affected disproportionately by disaster impact because their income and insurance plans influence their capacity to prepare for disasters (Nguyen & Salvesen, 2014). For instance, migrants are less likely to have a sufficient personal medical supply for three days due to low income, low education and their healthcare plans (Bethel et al., 2013). Their economic status can also impact their capacity to evacuate before hazards hit and create anxiety of losing a job if moving to other places. For example, some migrants refused to evacuate before Hurricane Katrina because they did not have a sufficient budget for gas, food and accommodation. In addition, other migrants were scared to lose their job (Eisenman et al., 2007). Inadequate standards of housing-related to economic status lead migrants to suffer more mortality and morbidity from collapsed housing in a natural hazard like a tornado or earthquake (Fothergill et al., 1999).

Other vulnerabilities, including physical and political vulnerability, also inhibit the migrants from disaster preparedness. Due to the low number in their group compared to other groups, their political voice is ignored. Both social and economic vulnerability also forces them to stay in inadequate housing, such as mobile homes, in hazard-prone areas. Temporary or low-income migrants usually live in rental properties. They may refuse to purchase their own homes to insure them or modify them to be ready for natural hazards (Tomkins et al., 2009). As a result, this limits the ways they can reduce their vulnerability and enhance their capacity to cope with disasters (Nguyen & Salvesen, 2014).

Overall, migrants' vulnerability often results from social, economic, cultural and political factors (Yong et al., 2017). The identification of these vulnerabilities and the understanding of the root cause of vulnerabilities shall enable relevant disaster management agencies to develop culturally suitable disaster preparedness actions (Nguyen & Salvesen, 2014; Wisner et al., 2012). There is one study regarding female migrants in Japan which claims that female migrants are also vulnerable because of Japanese social system, legal status and the negative image in the tourism industry of Thai women (Pongponranta & Ishiib, 2018). However, there is a small amount of literature regarding Thai migrants who have a unique culture. Even though there is some literature concerning Asian migrants (Nguyen & Salvesen, 2014), Thai migrants have a different way of perceiving, interpreting and reacting to disasters as their behaviour is constructed by cultural and social factors (Tomkins et al., 2009).

2.3.2 Migrants' capacities

The capacity of migrants is mentioned in several studies. There are no helpless victims in disasters because every person has some internal capacities (Gaillard et al., 2019). Moreover, Uekusa and Matthewman (2017) also mentioned that socially vulnerable groups could develop their capacity due to their difficult everyday experiences. Experience plays a major role in making migrants adaptable and tough to in the face of a disaster (Bethel et al., 2013; Fussell et al., 2018; Marlowe et al., 2018). Some migrants have faced civil war and annual disasters in their countries, which often make them mentally strong and able to cope with other kinds of disasters (Uekusa & Matthewman, 2017). For example, the study by Nguyen and Salvesen (2014) noted that migrants from Asian countries faced annual flooding and received inadequate

support from disaster management systems in their countries. This influenced them to develop self-care skills in during disasters. Some migrants, who live in hazard-prone areas, have experienced some hazards many times and developed coping mechanisms themselves, both mentally and physically (Bethel et al., 2013; Fothergill et al., 1999). For instance, in the survey study in the US, a greater proportion of migrants prepare preparedness items and evacuation plans (Bethel et al., 2013).

Furthermore, the research states that the psychological reaction of migrants to disaster is better compared to native residents. They have an adaptive capacity to build emotional resilience in facing obstacles because of the hard experiences in their life (Bethel et al., 2013). For example, Filipino immigrants stated that their difficult life in a developing country makes them strong enough to cope with a disaster (Uekusa & Matthewman, 2017). Furthermore, this belief helps them to react better to a hazard. For example, immigrants who suffered from the tornado in Mississippi, the US stated in 1959 that God makes the tornado affected equally among the human race (Fothergill et al., 1999). However, immigrants who have had a traumatic experience linked to a disaster will be more likely to panic when they face a disaster due to their previous experience (Uekusa & Matthewman, 2017).

Social capital is a unique capacity which is often discussed in the literature on migrants and DRR. Social capital is defined as “ the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition ” (Bourdieu, 2018, p. 248). There are three levels of social relation, including bonding (the relation within a community), bridging (the relation between community) and linking (the relation between community and institution)(Hanson-Easey et al., 2018). For instance, regarding bonding, Uekusa and Matthewman (2017) state that some socially vulnerable groups might overcome disasters better than other groups because of the resourcefulness in their social network, which supports food, shelter and information among their network. For example, younger migrants can translate disaster risk messages to those who may lack English competency within migrants' communities, and the younger migrant are more likely to access online media compared to older migrants (Marlowe et al., 2018). Also, social networks can link immigrants to access outside resources (Fussell et al., 2018). The study by Witvorapong et al. (2015) also indicated that socially isolated individuals are less likely to seek

assistance from a social support system than a socialised person. As an illustration regarding bridging, the Vietnamese migrant community demonstrated a strong community which provided support to their members before, during and after a disaster as well as helping to connect migrants to other ethnic communities after hurricane Katrina in New Orleans, America (Fussell et al., 2018). In this connected world, migrants could assist their family in their home country. As an illustration, the remittances from migrants could help disaster victims in affected countries (Le De et al., 2015).

Social capital is thus an important factor for DRM. In term of risk perception and preparedness action, social capital can also motivate members who share the same belief or experience, to perceive disaster risk and develop preparedness actions at the appropriate level (Witvorapong et al., 2015). Conversely, some studies report a negative impact of migrant social networks, which inhibited emergency evacuation during hurricane Katrina (Eisenman et al., 2007), while some literature claims that migrant social networks can be useful to connect to the migrants. As a result, it can help to promote risk perception, disaster preparedness and the participation in DRM programs (Witvorapong et al., 2015).

Both understanding and building on migrants' internal capacities are essential for effective disaster risk management (Nguyen & Salvesen, 2014). The literature mostly mentions the migrants' vulnerabilities, while there are few studies that illustrate the capacity of migrants. Each migrant community may have different resources, skills, knowledge and thus, capacities to build on (figure 3).

In accessing all information in this section, there are several dimensions of vulnerabilities and capacities which are discovered in the literature, as shown in table 2.

Aspect	Vulnerability	Capacity	References
Social and culture	-Language barrier -Indirect expression -Social isolation from predominant society -Racism	-Strong migrant social network -Experience from past disasters -Better psychological reaction	-Bethel et al. (2013) -Nguyen and Salvesen, 2014) -Marlowe et al. (2018) -Fothergill et al. (1999)

	-Low-risk perception -Distrust an official warning message	-Better English language competency in the younger generations	-Uekusa and Matthewman (2017) -Fussell et al. (2018)
Economic	-Low income -Improper housing	-Ability to send remittances	-Nguyen and Salvesen (2014) -Le De et al. (2015) -Thorup-Binger and Charania (2019)
Geographic	-Living in a hazard-prone area -Unfamiliar with local hazards		-Nguyen and Salvesen (2014) -Thorup-Binger and Charania (2019)
Political	-Low political power		-Nguyen and Salvesen (2014)

Table 2: The summary of migrants' vulnerabilities and capacities.

Source: Ratrawee Pattanarattanamolee

2.4 The participation of migrants and migrants' communities in disaster risk management

The participation and cooperation of local people and community are crucial for DRM. The importance of community involvement is also indicated in priority action 3 and 4 of the Sendai Framework (2015-2030). These actions aim to encourage the participation and cooperation of the community to build up their coping capacity, which is also the key component of effective disaster risk management and disaster response (Mutch & Marlowe, 2013b; The United Nations office for disaster risk reduction, 2015a). Different scholars also support that people should be at the centre of disaster risk reduction strategies. The participation of local people and community do not only create successful DRM outcomes but also contribute to the sustainability of DRM initiatives (Witvorapong et al., 2015). Therefore, organisations involved in DRM have to encourage local people and communities to participate in DRM initiatives and programming as much as possible (Guadagno et al., 2017).

The participation of local citizens relies on multiple factors. The study by Valibeigi et al. (2019) reported that knowledge, skill, awareness, enabling environments, and organisational development affect community participation. For example, public awareness can create a risk reduction culture as well as knowledge constructed by information, which would help the audiences to understand better risk (Valibeigi et al., 2019). The perception of the risk message is crucial for action regarding participation. Therefore, message development should be based on an understanding of how people perceive and interpret messages. It is essential to learn the background, values, culture, and experiences of the audiences (Palttala et al., 2012). Social capital also plays a vital role in participation in DRR programs. Witvorapong et al. (2015) claimed that “Social participation (social capital) allows people to interact, create networks to disseminate information and provides a venue to create trust among group members” (p.2). Therefore, the people, who are a part of these social circles, will be encouraged to participate in the DRM program through social norms.

The participation of local people and communities in DRM can help people to cope with the disaster in their ways (Gaillard and Dellica-Willison, 2012). In line with this, Community-Based Disaster Risk Reduction (CBDRR) approaches encourage communities to cope with hazards using their intrinsic resources and learning how to live with risk on an everyday basis if the community is located in a hazard-prone area (Gaillard, 2010). Furthermore, CBDRR fosters local people to develop disaster preparedness plans, which are accepted by the community and are suitable for them culturally, socially and economically (Twigg, 2004). For example, CBDRR, in the Philippines, has developed since the early 1990s with cooperation between local NGOs and the Citizens' Disaster Response Center (CDRC). This strategy helps to decrease social vulnerabilities and provide assistance in the response and recovery phase in a series of powerful typhoons. It is accepted by the government and officially used to cope with disasters in the Philippines (Delica & Andaya, 2001).

DRM should include all community members in the program, as shown in the statement “leave no one behind”. Migrants are also vulnerable to disaster and hold some capacities that can benefit the host country. Therefore, the inclusion of migrants in DRM activities is highly recommended by Sendai Framework for Disaster Risk Reduction 2015–2030 (Guadagno et al.,

2017). The engagement of migrants in DRM projects provides benefits to the agencies involved in DRM. These benefits include addressing risk and overcoming obstacles, overcoming language barriers, cultural barriers, trust issues and the isolation of the migrant community as well as helping to identify resources and capacities (Guadagno et al., 2017). Migrants' participation may be inhibited by limitations in accessing information due to cultural and language barriers which need to be addressed to enable their capacity to prepare for and respond to disasters (Marlowe et al., 2018). In this case, translated, understandable, and culturally suitable disaster messages will help to increase access to information (Guadagno, 2016).

Moreover, multiple message dissemination strategies should be applied to ensure access to the information by all age groups because the community is a heterogeneous group. For example, the radio and TV may be suitable for older people, while Social media would be better for younger groups (Marlowe et al., 2018). This can contribute to increased participation of the migrants because they are able to understand more. The trustworthiness of the host country's disaster organisation is another factor that should be considered. Therefore, the relationship should be created prior to the disaster occurring (Guadagno et al., 2017). In addition, cooperation between the migrant community leader and the agency involved in DRM can encourage trustworthiness among the migrants' communities (Marlowe et al., 2018). It would seem that the advantage, from the engagement of the migrants and the migrants' communities, benefits not only the migrants but also the agencies involved in DRM.

2.5 Summary

DRM is engaged with the vulnerability and capacity of local people, including migrants. Understanding these elements helps prepare a community to cope with hazards and disasters. The vulnerability relates to social, economic, political and cultural issues. Failing to reduce vulnerability, increases the probability that those with high levels of vulnerability will suffer more from disasters. Migrants/Immigrants are vulnerable to disaster due to socioeconomic, political and geographical issues. These barriers result in less preparation, low awareness, delayed evacuation, and a greater level of suffering from disaster impact. However, internal capacities can help affected people to cope with disasters by using their resources. The literature suggests that there are some capacities in every person, even in vulnerable people. There are

several capacities in migrants which can be identified, such as experiences of a hard-life and disaster in their home country, the assistance from migrants' social networks, and their robust mental health. The understanding of the factors which make the migrants different can help the disaster planner to generate culturally suitable disaster actions. Therefore, the engagement of migrants in the disaster planning process is crucial.

Chapter Three: Methodology

3.1 Introduction

This chapter details the methodology and the method applied in this study. Tools and techniques for data collection and analysis were applied to ensure that the research process was executed effectively. The study aims to evaluate the experience of Thai migrants living in Auckland regarding disaster preparedness. A qualitative descriptive approach was chosen to explore migrants' experiences regarding a natural hazard. Section 3.2 will describe the research methodology, including philosophical, epistemology, ontology, and methodological assumptions. Next, section 3.3 will explain the research design, such as the participants and recruitment. Following, section 3.4 will explain data collection. Data analysis will be described in section 3.5. Then, ensuring the rigour of the study, and ethical consideration will be explained in section 3.6 and 3.7, respectively.

3.2 Research methodology

Research paradigm in this study is pragmatism which is flexible in the research method to solve the problem (Shaw et al., 2010). This paradigm's ontology is based on the belief that reality is shaped by individual experiences (DeForge & Shaw, 2012). The knowledge which is shaped by different participants' experiences in this study will be studied according to this paradigm. This research uses a qualitative descriptive approach to address the research question. Sandelowski (2000) explained that qualitative descriptions aim to describe a human experience or a phenomenon using simple language with minimal interpretation. Bradshaw, Atkinson, and Doody (2017) stated that "qualitative description research studies are those that seek to discover and understand a phenomenon, a process, or the perspectives and worldviews of the people involved" (p.1). This approach investigates the knowledge in its natural state, the naturalistic approach. Therefore, it is not necessary to choose any variables prior to the study (Lambert & Lambert, 2012). In other words, this approach is used to directly describe the target phenomenon (Bradshaw et al., 2017). A qualitative descriptive approach does not force the researcher to move as far from the data because of a low-level of data interpretation, compared to interpretive descriptive study (Lambert & Lambert, 2012). Additionally, because of the clear

description of the phenomenon, this methodology is suitable for a poorly understood phenomenon (Bradshaw et al., 2017)

The ontological position of this approach is relativism, a position that states that reality is subjective, and the reality is different in each person depending on their experiences and perspectives (Parahoo, 2014). The reality will come from participants' interpretation of the experience and will be explained in their own words (Bradshaw et al., 2017). The epistemology of this approach is subjectivism which accepts each individual's interpretation of their experiences. In addition, the knowledge of reality may be influenced by individual, social and researcher construction (Bradshaw et al., 2017).

The methodology assumption in the qualitative description is flexible. The researcher can use various techniques in sampling, data collection and analysis (Colorafi & Evans, 2016). Notably, the researcher might choose techniques which can provide a detailed description of the participants' experiences and then explain these experiences in the every-day language (Bradshaw et al., 2017). However, Hsieh and Shannon (2005) suggested that in order to learn the experience of the participants, an effective form of sampling is purposive sampling. Purposive sampling will assist in identifying participants who have experienced an interesting phenomenon. (Palinkas et al., 2015). In other words, purposive sampling can help a researcher who aims to explore a particular experience, which can be modified by many factors, such as culture (Robinson, 2014). Moreover, the analysis technique should be qualitative content analysis due to the focus of communication, language, and its flexibility (Hsieh & Shannon, 2005).

In summary, a qualitative descriptive study fits the research question and is suitable to explore the vulnerabilities, capacities, and disaster preparedness of Thai migrants as well as the opportunities and the challenges affecting participation in disaster preparedness actions.

3.3 Research Design

3.3.1 the study location

The study was conducted in Auckland, New Zealand, where half of the Thai migrants in New Zealand live (Rosa, 2015). In Auckland, there are also some natural hazard risks, such as storms, flooding, tsunamis, and volcanic eruptions, which Thai migrants are at risk of

Source: NZ Herald/Vector company



30

There are three main Thai temples in Auckland, including Dipadhammarama temple, Yarnprateep Buddhist temple, and Vimutti Buddhist Monastery, as shown in figure 7. Thai temples are a place of cultural community for Thai migrants. They meet each other there every week or on Buddhist cultural days. Some Buddhist people come to the temple every day to take care of the monks. These community places are the areas where the recruitment was conducted. Therefore, Auckland was chosen to be the study site because of the density of Thai migrant and the Thai community, which is useful for recruitment.

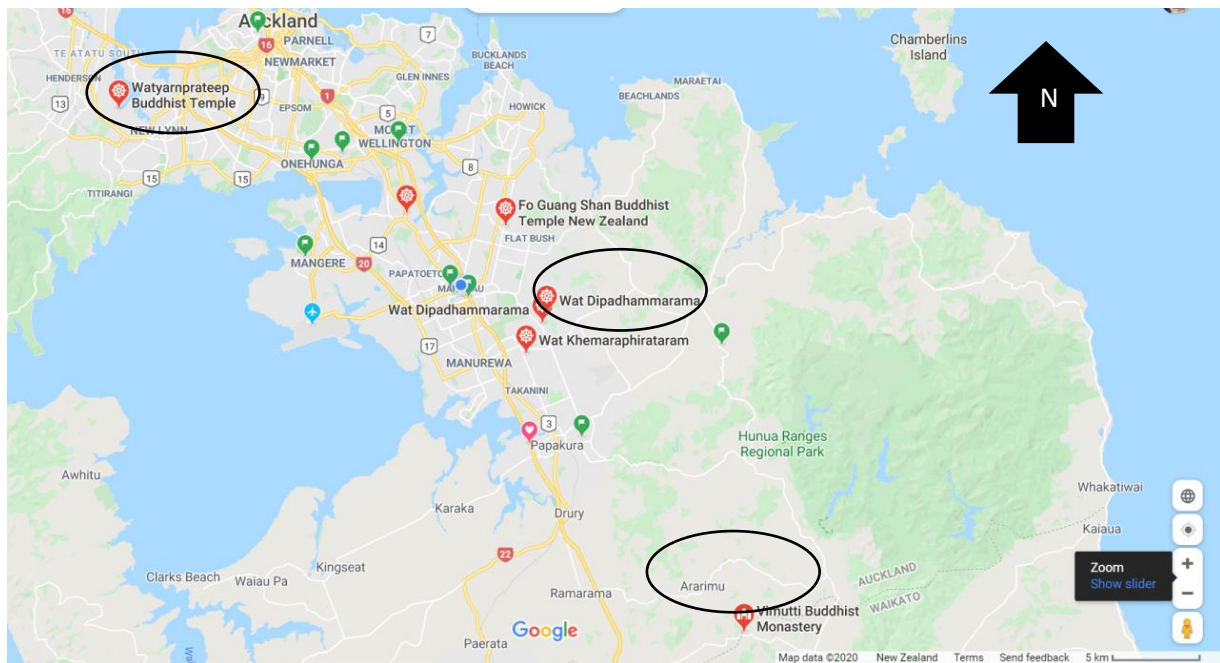


Figure 8: Research area including three main Thai community place- Dipadhammarama temple, Yarnprateep Buddhist temple and Vimutti Buddhist Monastery.; source: Google Map.



Figure 9: Yarnprateep Buddhist temple-Thai community place (19 November 2019)
source: Ratrawee Pattanarattanamolee



Figure 10: Food donation for monks
source: <https://www.facebook.com/pg/WatYarnprateep-Buddhist-Temple>

3.3.2 Recruitment of participants

The selection criteria

The selection criteria are the first step in defining the target population for the study (Robinson, 2014). Before the data collection, the population was identified as Thai people who have direct experience with a natural hazard in Auckland, and thus, this criterion was used to create inclusion and exclusion criteria.

The criteria were developed according to the objective of this study. The main aim is to explore the vulnerabilities and capacities of Thai migrants. As a result, the primary inclusion criteria used will be Thai migrants, who have lived in Auckland for more than one year according to the definition of a permanent migrant by the United Nation (The United Nation, 2016). Secondly, the direct experience of a natural hazard in Auckland is added to the inclusion criteria. Thirdly, the participant's age is more than 20 years old will be selected due to they have not required a parenting agreement according to AUT ethical protocol. In summary, the inclusion criteria will be as follows:

- Thai migrants who are aged more than 20 years old.
- Thai migrants who have lived in Auckland for more than one year.
- Thai migrants who have experienced a natural hazard in Auckland.

The recruitment process:

A variety of recruitment methods were used to ensure the effectiveness of the recruitment process. The recruitment methods, including letters, posters, media and social media each have benefits in different ways. For example, social media may be suitable for teenagers and young adults, while posters and letters would be more suitable for older people (Patrick et al., 1998). This research used posters for advertisement (see Appendix A), which were presented at each of the Thai temples' notice boards after permission was granted from the Thai temples. The poster was written in Thai, to avoid jargon and technical terms in order to make it easier for the Thai migrants to understand. In addition, as the researcher is a member of the Thai community, the recruitment could be done directly through the community leader,

who helped identify potential participants. The social media was not used in this study due to the difficulty to develop the relationship before the recruitment process.

Potential participants who were willing to take part in the study were encouraged to contact the researcher or ask for permission to provide a phone number to the researcher. They were given an information sheet (see Appendix B), which provided brief essential information concerning the study, including the objective, research methodology, and ethical considerations. A consent form (see Appendix C) was obtained before the interview. The interview location was chosen by the participants. The researcher evaluated the character of the participant's chosen place according to the criteria of a good location. The location of interview was assessed based on the following criteria: accessibility, lack of noise and distractions, safety, privacy, comfort and the availability of the infrastructure required for collecting the data (Tracy, 2013). The temple was the preferred place for participating in the interview for most participants.

The social networks between the Thai temples was an opportunity for the recruitment process. The staff of the three Thai temples know each other, and they were willing to introduce the researcher to the staff in other temples. Most of the participants undertook their interview on their duty day (a set day that has been arranged for individuals to come to the temple). Some participants (participant 2 and 6) joined in the middle of another participant's interview because they heard the conversation and were willing to share their experience. This was an advantage of the interviews taking place in the temple.



Figure 11 : Dipadhamraram temple-Thai community place (1 January 2020)

source: Ratrawee Pattanarattanamolee



Figure 12: Dipadhamraram temple-Thai community place-overnight prey in a new-year eve day (31 December 2019).

Source: Ratrawee Pattanarattanamolee

A challenge of the recruitment process was that some participants who met the selection criteria felt uncomfortable providing their phone number before the meeting. The researcher had to make an appointment via a community leader. However, after interviewing them, all participants were comfortable providing their contact details. Secondly, the concern of their

privacy and sharing of their details was noted, such as whether their name would appear on the research. The inform-consent process was undertaken, which helped the participants to feel comfortable about their privacy.

3.3.2 Participants

According to the principle of a qualitative study, as stated in the previous section, purposive sampling was used in this study. In this case, the special knowledge of participants is the experience in a natural hazard in Auckland. Due to the fact that the qualitative method relies on the saturation of data principle, the number of participants was flexible until the researcher found the saturation of data (Miles & Huberman, 1994). Because of the limitations of the study period and budget, there are seven participants being included. However, the saturation of data was found at this number. Notably, there was one participant without any experience of a natural hazard because she had valuable knowledge concerning the interesting phenomenon.

Most of the participants were female because most Thai Buddhists who were able to come to the temple during the day were women. Most male Buddhists go to work on working days, while female Buddhists take care of the house and children. However, female participants can be representative of their household. One male participant is a monk from the temple. All participants have lived in Auckland for over one year. Four participants, who were unemployed, were living on the elderly pension. Unemployed female Buddhists could come to the temple on their duty day. They were also happy to be the interviewee.

3.4 Data collection

There are various techniques for collecting data in qualitative research. The main data collection technique was a semi-structured interview. Then, the data was transcribed into written text (Polkinghorne, 2005). Interview technique is a common method that is used in qualitative research. A semi-structured interview is mostly used to explore the experience of participants as its format assists the interviewee in identifying the area of study, and it provides flexibility to investigate undiscovered knowledge which may be outside the expectations of the researcher (Gill et al., 2008). The development of the interview questions consisted of the open-ended question, generative question, directive question, and catch-all question (Tracy, 2013). The interview questions were tested with two Thai people prior to the official interviews to ensure

the questions were appropriate. Two temple staff, who were tested by the interview questions, are also the migrant, but they have not a direct experience to a natural hazard. They provided a significant suggestion to make the language to be easier to understand by Thai migrant. The list of interview question is provided in Appendix D.

At the beginning of the interview, the interviewer explained general information regarding the research objectives. The interview was conducted in relaxed conditions. In this study, six participants chose the temple as the location of the interview. Only participant 7 chose her house to be the interview location. The interview time was around 45-60 minutes and was conducted in the Thai language in order to reduce the language barrier and increase the chance to understand more of each participant's experience. The description of the participant's experience was noted in the question-answer form, as shown in Appendix D. An audio recorder was used with permission. The date of interview for each participant is demonstrated in table 2.

Date of the interview	Participant
09/11/2019	Participant 1
19/11/2019	Participant 2
19/11/2019	Participant 3
30/11/2019	Participant 4
17/12/2019	Participant 5
17/12/2019	Participant 6
29/12/2019	Participant 7

Table 3: The date of the interview

3.5 Data analysis

All audio recordings were transcribed into the Thai language and then translated to the English language by the researcher. In order to execute an effective analysis, the researcher should be familiar with the content by rereading until the researcher understands all the data. According to a qualitative descriptive study principle, Bradshaw et al. (2017) state that “Qualitative description design then moves beyond the literal description of the data and attempts to interpret the findings without moving too far from that literal description” (p.3). The

content analysis also focuses on the communicative language, especially the meaning of the text. Moreover, the main aim of content analysis is to understand and provide knowledge that has been extracted from the study (Hsieh & Shannon, 2005). Vaismoradi et al. (2013) suggested that content analysis is fitted to a qualitative descriptive study. There are three subtypes of content analysis, including conventional, directed and summative content analysis. The directed content analysis can be useful when there is some incomplete existing knowledge, and this knowledge may need further description. In other words, the aim of this technique is validation or an in-depth explanation of the existing theory (Hsieh & Shannon, 2005).

This study used a directed content analysis, which derives the initial coding category from the identification of a variable from within the existing research (Hsieh & Shannon, 2005). The existing knowledge can be clarified as well as the new knowledge can be discovered by this technique for this study. In this study, the identifying variables from the prior research, such as cultural and language barriers, distrust of warning message developer, lower perceived risk from emergencies, and lack of preparation, are the initial categories. Emerging data which could not be categorised into an initial category was categorised in a new theme. The coding technique was performed in the guide by Miles and Huberman (1994) as shown in table 3

1	Coding of data from notes, observations or interviews
2	Recording insights and reflections on the data
3	Sorting through the data to identify similar phrases, patterns, themes, sequences and important features
4	Looking for commonalities and differences among the data and extracting them for further consideration and analysis
5	Gradually deciding on a small group or generalisations that hold true for the data
6	Examining these generalisations in the light of existing knowledge

Table 4: Analytic strategies.

Source: Miles and Huberman (1994)

3.5.1 Reflexivity

Ensuring the accuracy and trustworthiness of the results in qualitative research requires reflexivity. Darawsheh and Stanley (2014) claimed that “reflexivity can be employed to establish criteria of rigour, which increases the confidence, congruency and credibility of

findings" (p.560). Reflexivity also promotes the rigour of research for the improvement of the quality of qualitative research, as well as providing a logical decision in the research (Darawsheh & Stanley, 2014). Reflexivity is defined as "the constant awareness, assessment, and reassessment by the researcher of the researcher's own contribution/influence/ shaping of inter-subjective research and the consequent research findings" (Patnaik, 2013, p.100). Darawsheh and Stanley (2014) also stated that reflexivity helps researchers to be aware of bias, personal ideas and feelings, which may alter the research process.

Reflexivity assists the researchers in identifying their position and reminding them where they have come from (Cloke et al., 2000). In this study, a researcher is a Thai person who has lived in the Thai-Buddhist culture and within a Thai environment. Therefore, the culture may be subjectivity to the analysis of the study, which is done by the researcher. The researcher kept reminding himself that the researcher must conduct the research fairly and avoid interpreting or emotionally reacting to findings on culturally sensitive issues. For example, Buddhist and Thai temples are highly respected by Thai Buddhists. However, there may be some Thai people who may respect other religions. The researcher must conduct the study equally. Some techniques may help the researcher, such as being empathetic towards the interviewee. This empathy will lead the researcher to have an appropriate response to sensitive and in-depth data as well as having self-awareness for controlling his subjectivity (Darawsheh & Stanley, 2014). Trustworthiness will be ensured by the member checking process. The audio verbatim was sent back to some participants, who indicated the requirement to check the content of the interview record. There was only one participant who indicated.

3.6 Ensuring the rigour of the study

Lincoln and Guba (1985) demonstrated the way to illustrate the trustworthiness of qualitative research. They claimed that there were four elements to qualify the research, including credibility, transferability, dependability, and confirmability; called 'the Four-dimension criteria (FDC)' (Forero et al., 2018). Consequently, FDC has become the standard tool to evaluate the rigour of qualitative description (Cypress, 2017; Kivunja & Kuyini, 2017). According to FDC, the first element is credibility. Credibility refers to "the extent to which data and data analysis are believable, trustworthy or authentic" (Kivunja & Kuyini, 2017, p.34). The

main aim of this element was to ensure the results that were derived from participants could be trusted to be true (Forero et al., 2018). In this study, credibility was constructed through several techniques as following: prolonged engagement, pre-test of interview questions, and establishing a trusting relationship in order to achieve effective information exchange (Bradshaw et al., 2017; Forero et al., 2018).

Secondly, transferability is defined as the effort of the researcher to describe the research context so that the reader is able to compare it to their context (Kivunja & Kuyini, 2017). This element aimed to illustrate that the results could be generalised or transferred to another situation (Forero et al., 2018). In this study, transferability was constructed using several techniques, including purposive sampling, data saturation, maintaining a reflexive journal, and rich description (Bradshaw et al., 2017; Forero et al., 2018).

Thirdly, dependability refers to “the ability to observe the same outcome or finding under similar circumstances” (Kivunja & Kuyini, 2017, p.34). This element aimed to illustrate that the findings of the research would be repeatable in the same environment and situation (Forero et al., 2018). This element was dependent on the researcher’s ability to interpret the meaning of human behaviour, which would be different in each participant depending on their experiences.”. Therefore, the repetition of phenomena or meaning might be accounted for if the researcher interpreted it similarly (Kivunja & Kuyini, 2017). In this study, dependability was constructed through several techniques, including a rich description of the study methods, stepwise replication of the data, and accounting for any changes that occurred within the study (Bradshaw et al., 2017; Forero et al., 2018).

Fourthly, confirmability is defined as “the extent to which the findings of your research project can be confirmed by others in the field” (Kivunja & Kuyini, 2017, p.34). This element aimed to ensure that the bias was reduced or eradicated in the research process and to demonstrate confidence in results that are able to be confirmed by other investigators (Forero et al., 2018; Kivunja & Kuyini, 2017). The research method should be investigated and designed to ensure that the results would come from the participant’s experience rather than the investigator’s experience (Kivunja & Kuyini, 2017). Thus, it is essential for the researchers to refrain from the judgment in order to decrease the bias in the interpretation. This process could

be called “epoche” (Cresswell, 2008; Merriam & Tisdell, 2016). In this study, confirmability was constructed through several techniques, including findings that represent the data gathered and are not biased by the researcher (evidenced by the inclusion of direct quotations from participants), description of the characteristic of participants, and notes recorded in a reflective journal (Bradshaw et al., 2017; Forero et al., 2018).

3.7 Ethical considerations

This study is approved by the AUT ethical committee as the reference number 19/335

3.7.1 Voluntary participation and informed consent

All participants were provided with an information sheet (refer to Appendix A) in the initial step of the research project. The information sheet provides essential information including the purpose of research, research method, the possible risks that could occur, the benefits of the research, what to do if there are uncomfortable conditions occurring during participation, the compensation regarding the possible risk, and the privacy protection. The participant can ask any questions they may have regarding the research after reading the information sheet. They were provided with an additional explanation on anything that may have been unclear. After the participant decided to participate, the researcher provided a consent form (refers to Appendix B) to the participant to sign. The researcher confirmed the participant's understanding of the research information, especially the possible risk, before continuing.

3.7.2 Privacy and confidentiality

In term of privacy, the participants had a right to deny to provide information that they did not want to reveal. Each participant's privacy was protected by using a code number instead of their name, and there is no information in the research that could identify a particular participant (Cresswell, 2008). In addition, the participant was informed who would be the owner of the research document, in this case, Auckland University of Technology (AUT), and was advised that their personal information would be destroyed after the researcher completed the research paper (Cresswell, 2008; Walliman, 2011). The information which is kept by AUT will be destroyed after six years according to the AUT ethical committee protocol. In terms of confidentiality, all information was kept in a safe place which only the researcher could access.

3.8 Conclusion

This chapter outlined the methodology. The methodology is based on a qualitative descriptive study. Purposive sampling was the main technique for recruitment. The semi-structured interview was the data collection technique which was conducted in the Thai language. The Thai language encourages the participant to provide an in-depth explanation of their experience. Tools and techniques which were used to make a rich description of the result will be demonstrated in chapter 4. Ethic and rigour processes were applied to ensure an appropriate research process. The findings and discussion will be explained in chapter four and five, respectively.

Chapter Four: Findings

4.1 Introduction

This chapter illustrates the findings from the interviews with the seven participants who live in Auckland, New Zealand. Six participants had experiences of and were affected by a natural hazard which occurred in Auckland. One participant had no direct experience, but this participant has lived in Auckland for 30 years and knew the experienced of other Thai people during natural hazards. Table 4 displays general information about the participants. Disaster preparedness is a critical step for disaster management. The understanding of the factors that shape the vulnerabilities and capacities of local people is vital for disaster risk reduction. This study aimed to explore the vulnerability and the capacity regarding disaster preparedness of Thai migrants as well as the opportunities and the challenges to encourage them to participate in disaster preparedness initiatives. Section 4.2 will describe the findings regarding the vulnerabilities of Thai migrants. Next, the capacities of Thai migrants will be explored in section 4.3. Following, section 4.4 explains the opportunities and the challenges in encouraging Thai migrants to participate in disaster preparedness programs. Finally, a conclusion will be provided to summarise the information.

Participant	Gender (M/F)	Experience natural hazard in Auckland	The period of living in NZ (year)	Place of birth	Education level (Primary/Secondary/Tertiary)	Work status (Full-time/Part-time/unemployed)
1	F	Yes	19	Thailand	Secondary	Full-time
2	F	Yes	28	Thailand	Secondary	Unemployment
3	F	Yes	24	Thailand	Secondary	Unemployment
4	M	Yes	7	Thailand	Tertiary	Full-time
5	F	Yes	34	Thailand	Secondary	Unemployment
6	F	Yes	31	Thailand	Secondary	Unemployment
7	F	No	30	Thailand	Secondary	Part-time

Table 5: The general information of the participants in this study.

4.2 Coding and theme development

This section will demonstrate the process of coding and theme development from the interview information. The coding and theme development will illustrate in table

Code	Theme
<ul style="list-style-type: none"> ➤ Lack of English studying. ➤ Need translated message. ➤ Unconfidence to communicate in English. ➤ The one who has the English competency has more confidence to participate in the community. 	Cultural and language barriers
<ul style="list-style-type: none"> ➤ The belief that hazard incidence in New Zealand is lower than in Thailand. ➤ Underestimate of the risk message regarding hazard. ➤ No significant hazard in Auckland ➤ New Zealand government is good at disaster management. ➤ Trust in a government officer 	Lower perceived risk from emergencies, but trust in New Zealand government
<ul style="list-style-type: none"> ➤ Remittance is more important than pay for disaster preparedness. ➤ Working hard to earn more money limits perception and preparedness. ➤ Response when the hazard occurs ➤ Lack of preparedness 	Socioeconomic level and disaster preparedness
<ul style="list-style-type: none"> ➤ Hardship experience in Thailand ➤ The good psychological reaction to a disaster ➤ Living skill in a constraint condition. 	Their experiences in the past increasing their strength
<ul style="list-style-type: none"> ➤ Thai temple is a main community place. ➤ A strong relationship among monks and Thai people. ➤ Monk as a community leader. ➤ Thai embassy also connects the Thai community via the Thai temple. ➤ Helping each other in community. 	The social network in Thai migrants' communities
<ul style="list-style-type: none"> ➤ Be willing to join the activity at Thai temple ➤ Buddhist day as a community day 	The disaster preparedness program would be conducted at the Thai temple in the Thai language by official instruction and support from the Auckland council.
<ul style="list-style-type: none"> ➤ Official social media of Thai temple ➤ Easily access the information ➤ Translation function ➤ Convenience 	Social media is a new way to access information

Table 6: Code and Theme development.

4.3 Vulnerabilities in Thai migrants

This section will explain the findings regarding vulnerabilities, including cultural and language barriers, lower perceived risk from emergencies, socioeconomic level, and disaster preparedness, which are key themes that emerged during the interviews.

4.3.1 Cultural and language barriers

Thai migrants who were born overseas have used the Thai language as a primary language since they were born. Even after immigrating to New Zealand, the Thai language remains their primary language. Moreover, some migrants who have low education, lack the opportunity to learn the English language in Thailand. Research findings indicate that Thai migrants who have low English-language skills require assistance from Thai friends who can speak English to translate English messages. For example, Participant 2, who has lived in Auckland for twenty-three years, reported that she always helps her friend (Participant 3), who has lived in Auckland for twenty-four years, to communicate in the English language.

“My friend does not speak English well because she did not have any basic English-language skill. I always help her to communicate when she needs to contact the English-speaking person as well as when I hear some important news from TV, I will ring her to let her know.” (Participant 2).

Participants explained that there are many Thai migrants who lack English proficiency and thus need a translation of English warning messages. Participant 5 indicated that the Thai embassy is aware of the low English proficiency of most Thai migrants and therefore regularly helps to translate official messages from the New Zealand government, including disaster warning messages, as shown in the following quote:

“Some Thai people do not understand the message from TV or radio. If there is a disaster warning message, the Thai embassy will translate to Thai language and disseminate the message via Thai temple.” (Participant 5).

Furthermore, language barriers inhibit Thai migrants from fully participating in community activities. At times they will inactively participate, for example, they will attend, but maybe unwilling to ask a question because they struggle to generate English sentences.

Results indicate that if Thai migrants participate in a community activity, they will generally be silent and learn by observing, as described by Participant 5.

“I am not sure that I will understand all they said, but I think I can observe and I may understand from what they demonstrate.” (Participant 5).

Willingness to participate in DRR activities is found, but because of the language barrier, Thai migrants will not participate actively. For example, Participant 4 described that he was happy to participate but was not willing to talk in the meeting.

“I always go to participate in community activity when I was invited, but I have just listened to the conversation. I would not have discussed any words.” (Participant 4).

However, some participants who are competent in the English language are happy to participate in a community activity. The confidence in communication helps them to participate in the local community activity comfortably. Like this participant explained:

“I always join a community activity. I also won a good citizen award from the community.” (Participant 2).

They believed that their English language skills would benefit the wider Thai migrant community.

“I will participate if there is a disaster preparedness program because I can learn and share what I learnt to the Thai community.” (Participant 5).

Thai culture has some inspirations from the Buddhist religion. Their religious belief may block them from seeking help from the government agency. Thai temple is a cultural centre for Thai migrants. They may prefer to ask for help from the Thai temple which is a miracle place where they will be safe from any harms like the explanation by participant 7:

“In my opinion, I will ask for help from the temple before the government agency. I am sure that I will get help from the temple” (Participant 7).

Interviews reveal that cultural and language barriers play a major role in the vulnerability of Thai migrants, for whom the English language is not a primary language.

However, Thai migrants are willing to help each other. The social connection in Thai migrant communities will be explored in sub-section 4.3.3.

4.3.2 Lower perceived risk from emergencies, but trust in New Zealand government

Low-risk perception and risk ignorance are other factors affecting the disaster preparedness of Thai migrants. Their experience plays a vital role in their perception and interpretation of hazard and risk. Interviewees stated that some Thai migrants who have lived in Auckland for less than ten years had not faced many devastating natural hazards. Furthermore, they have only some experience of short-term flooding in some areas, which is less widespread and less severe than the flooding in Thailand that they had faced previously. As an illustration, Participant 4 stated that his experience of natural hazards in Thailand was more severe than his perception of natural hazards and their impacts in New Zealand. Comparing flooding in Thailand with the April Storm of 2016 in Auckland, he argued:

“I lived in the southern part of Thailand. The storm and flooding always occur where I lived. Typhoon Gay, in 1989, there was no electricity, no water and no assistance. It was terrible than what happens in New Zealand. The storm in Auckland was not a big problem.” (Participant 4).

Thai migrants who were interviewed think that Auckland is a safe place, and no serious hazards will impact them. Furthermore, Thai migrants explained that they trust the official agency issuing warning messages, but findings indicate that they generally interpret the message as low risk. It seems to be related to their previous experiences of hazards and disasters in their home country, which shape their understanding of hazard and risk. For example, Participant 1 explained:

“Sometimes, we think it will be not as bad as the news said or it will not as bad as we met in Thailand.” (Participant 1).

Thai migrants are not proactive in disaster preparedness. It is caused by their interpretation of the severity of the hazard. According to interviewees, this is different from New Zealanders, whom they thought maybe more concerned. Participant 1 indicated that she and her

mother did not panic before the April storm in April 2016, unlike New Zealanders, who according to her explanation were stockpiling food.

“I was surprised that many Kiwis bought all the stuff from the supermarket when they heard a warning message from News. I think they were panicking, but I was not.” (Participant 1).

Overall, low-risk perception is shaped by their experiences in their home country and every-day life in Auckland. Low-risk perception is a reason for inadequate preparedness, which will be described in 4.2.3. Despite the low-risk perception, all participants are willing to believe warning messages from the official source if they can understand the message. They believe in the New Zealand government's management because New Zealanders have more experience of natural hazards in New Zealand, as one participant emphasised:

“Basically, New Zealand is an active country for natural hazards, such as earthquake and volcano, due to the country is in the Ring of fire. I believe the government would have a lot of experience of natural hazards, and they know what to do. When I hear a warning message from TV, I always follow the instruction, and I will ring my Thai friends to let them know what the reporter said.” (Participant 7).

In the 2016 April storm, Participant 1 explained that she trusted the message from the government. A big tree was broken by the storm and fell down on her property. A fallen tree blocked her driveway and cut the electric line. Participant 1 and her neighbour helped to cut the tree themselves. Moreover, the broken electric line was submerged in floodwater. Her father wore gumboots and took the electric line out of the water. Although she had not got any help from a government agency, she still believed that the government was triaging the assistance they were providing. She also stated that the messages provided on the progression of recovery work made her feel comfortable that someone was working to restore everything.

“I heard the message from the government agency that they had a more-serious case to rescue first. The message told us to help ourselves as much as possible. I believed that they would have some more serious cases to do. They also sent a message to tell about what they have done and let us know the progression of recovery work.” (Participant 1).

Thai migrants mostly trust in the management system of New Zealand. The creditability of the New Zealand government is high in Thai migrants' perspectives. However, the main problem is that sometimes they do not understand the message that has been issued.

4.3.3 Socioeconomic level and disaster preparedness

There are many studies which demonstrate that the impact of low-economic status affects the disaster preparedness of migrants (Bethel et al., 2013; Nguyen & Salvesen, 2014; Uekusa & Matthewman, 2017). Conversely, the findings in this study show a different view of this economic factor. Some participants explained that Thai migrants earn enough money to live and to send money back to their family in Thailand. Due to the low perception of risk, they would make a choice to spend their money in other ways, including remittances, rather than investing in disaster preparedness. For example, one participant explained:

“Thai migrants have enough money for living. Their income is better than Thailand, and they are economically well. They would have some money for spending on disaster preparedness, but the problem is they would have a low-risk perception.” (Participant 7).

Sometimes, warning-message ignorance was a consequence of Thai migrants' day-to-day work. Most Thai migrants are willing to work as much as possible. They are receiving a salary better than they had in Thailand. They have no time to pay attention to news or participate in a preparedness program.

“Thai people work very hard every day. They have no time to watch TV or listen to the radio. Some people work from early morning until late night for seven days a week.” (Participant 7).

The willingness to work hard means that Thai migrants earn enough money for living, but it consumes time which could be spent participating in a disaster preparedness program or preparing for a disaster.

The lack of preparedness for natural hazards comes from many factors, such as low-risk perception and socioeconomic status. For example, the content from the interviews indicates that the Thai migrants did not prepare an emergency kit for an emergency. As demonstrated by

the explanation from Participant 1 who lived in West Auckland and faced the April storm in April 2016. It happened in the night, and she did not have any emergency supplies for the power outage. This unpreparedness resulted in a lack of food, hot water, light and power for mobile phones.

“I did not spare any candle, lighter or ready-to-eat food. In my culture, I do not like cooked food. I always cook food from fresh materials. In that night the storm came, there is no electricity. Therefore, I did not have hot water. I cannot cook by an electric stove. I knew I had a picnic gas stove, but I did not spare a gas can. My battery of my phone was low because I did not charge it. I had to wait until the next morning. So I could buy some gas cans for cooking, candle and lighter.” (Participant 1).

Participant 2 provided her opinion, which is similar to what actually happened with Participant 1.

“In my opinion, Thai people will react when it occurs. They do not usually prepare for it.” (Participant 2).

Most study participants live in a rental property. They are reluctant to pay for the adaptation of the rental house to be ready for a local natural hazard. House insurance is the responsibility of the house owner. The damage of a rental property will be fixed by the house owner. As Participant 5 explained:

“The damaged fence was fixed by the house owner. The house may have some insurance compensation. I did only clean the house.” (Participant 5).

Conversely, some participants stated that they prepared essential kits for disasters according to the warning message from the official agency. These participants demonstrated a higher awareness compared to others. Participant 7 also heard the message to prepare from her son's school. The young generations, who are in the official education, also disseminate warning messages.

“Since I had heard from the reporter said that the earthquake is happening around the world, such as Nepal and Japan. New Zealand is also risky. My son also told me how school

taught them to prepare. I started to pack food, water, candle, gas and lighter. Water has to be changed every month, and I kept doing that.” (Participant 7).

Lack of preparation is caused by many factors. Risk perception plays a vital role in disaster preparedness. As demonstrated in the example above, there are two groups of Thai migrants. One group is aware and prepares well, while the other prepares less

4.4 The capacities of the Thai migrants

The data from the interviews demonstrate that Thai migrants have some capacities which can help them cope with disasters. This section will explain the findings regarding these capacities, including their experiences in the past increasing their capacities, and the social networks in Thai migrants' communities.

4.4.1 Their experiences in the past increasing their strength

Some Thai migrants who were born in Thailand lived their lives in conditions of constrained resources. Some participants were born in a low-income family and lived in a rural area in Thailand where infrastructure was not available. For instance, one participant indicated that:

“My childhood life was not easy. I lived in a rural area where drought usually happens. I worked very hard for living before moving to New Zealand. When I faced the storm in New Zealand, I had no hot water, but I still had water to drink. It is not a big deal for me.” (Participant 1).

Some participants learnt how to live without electricity. One participant stated that:

“I know how to make a fire without a lighter. I can cook without a stove. I believe I can do that when I have to do.” (Participant 1).

The study findings indicate that their experience in life and with natural hazards provide Thai migrants with an opportunity to build up their capacities in a different way. These capacities make them strong physically and mentally. The mental strength helps them to have a good psychological reaction to a natural hazard. The participants indicated that:

“I lived in the southern part of Thailand. There were storm and flooding annually. The intensity is more severe than what happened in New Zealand. Therefore, I was not panic when the storm came.” (Participant 4).

“My life faced some hard time before. I will survive in whatever happens.” (Participant 1).

Their experiences also increase their mental strength, which helps them to cope with disasters well. These experiences from the past are a valuable capacity of Thai migrants for disaster risk reduction.

4.4.2 Social network in Thai migrants' communities

Thai migrants have social connections via the Thai temples in Auckland as they would have in Thailand. Buddhist temples are culturally a part of the Thai community, and this also applies to the Thai community in Auckland. The Thai temple is the community centre for Thai migrants. For example, some participants said:

“Thai migrants, all around the world, will search for the Thai temple when they immigrate to the destination country.” (Participant 7).

“The morning after the storm is gone, the Thai Buddhist people came to clean up the temple and took care of the monks. No one told them to come, but they knew they had to come and check their community.” (Participant 4).

Thai migrants help each other in various ways. This social network provides an opportunity for new migrants or migrants who need help to move on with their lives. One participant said:

“I (Participant 2) met her (Participant3) at this temple. We became a close friend. I always help her because she could not speak English well and she cannot drive.” (Participant 2).

“When I hear some important news, I will disseminate the message to my friends at the temple.” (Participant 5).

The Thai temple is also a translator and disseminator for important messages, including disaster warning messages and disaster-education messages. For example, some participants indicated that:

“The head monk translated the warning message that announced in TV and talked to Thai migrants every morning activity. The message is about how to be ready for the upcoming hazard at that time.” (Participant 5).

The monks are trusted in the Thai migrant community; therefore, they can act as a community leader. The Thai royal embassy also understands the position of the monks and always communicates with the Thai community via the monks.

“Thai embassy in New Zealand also disseminates the Thai government news via Thai temple community, and some official activity, such as a renewal of Thai passport will be conducted in the temple.” (Participant 6).

A Thai temple is a community place for Thai Buddhists, where a social network is developed among Thai Buddhist migrants. It provides an opportunity to communicate and link with Thai migrants in DRR.

4.5 The opportunities and the challenges to foster Thai migrants participation in a disaster preparedness program

4.5.1 The disaster preparedness program would be conducted at the Thai temple in the Thai language by official instruction and support from the Auckland council.

Due to cultural and language barriers, and the working situation of Thai migrants, they have no time to participate on a working day. Therefore, the official disaster instruction for preparedness would be translated into Thai language and disseminate to Thai migrants on the day that they come to the temple, such as Buddhist day. This will encourage the participation of Thai migrants and will increase their preparedness for disasters. As one participant said:

“If the training is conducted in the Thai temple with the official instruction from Auckland council, I would rather go to train at the temple because I can join with my friends and have got a correct knowledge from Auckland council.” (Participant 7).

The community network is also an opportunity for Thai migrants to participate in a disaster preparedness program at a community location, such as the Thai temple. They prefer to train and be educated within the Thai community. It is also a challenge for DRR agency to adapt to this preference.

4.5.2 Social media is a new way to access information

Social media is currently becoming an increasingly important part of the social community. Thai migrants in Auckland also connect through Social media. For example, the Thai temple has a Facebook account for communication with Thai migrants, as shown in figure 12.

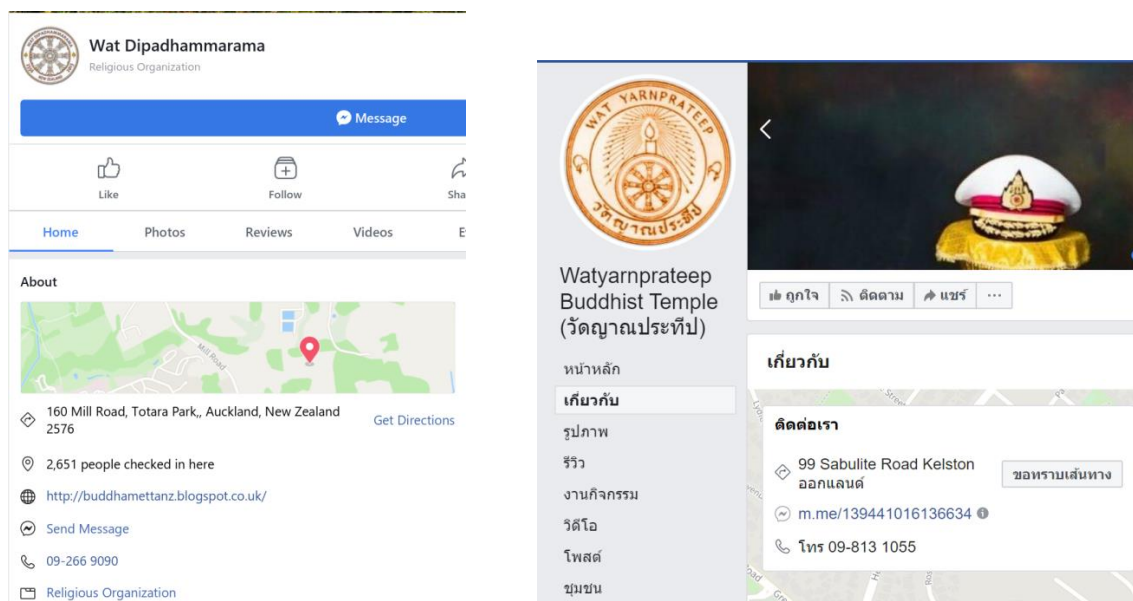


Figure 13: The Facebook page of Wat Dipadhammarama and Wat Yarnprateep.

Source: Facebook.com

Some participants commented that Social media allows them to access information in their free time. As stated above, some migrants lack time due to their long working hours. Online media can be reviewed when it is required. Media should issue information in the Thai language or add Thai subtitles. It would help many Thai migrants, who may not have time to watch the news or participate in a disaster preparedness program, to learn in their own time. For example, the participants said:

“If there is some clip on YouTube, I could watch it anytime I can. It will be very convenient.” (Participant 1).

“At present, some people stick on social media more than TV. It will be a good idea to disseminate the message via social media, such as Facebook or Line.” (Participant 4).

New technology increases the opportunity for Thai migrants to access information easily. Moreover, all interviewees emphasised that it could be another communication channel in the response and recovery phase. It is also a challenge for DRR agencies to adapt to this change.

Vulnerability	Capacity	Opportunities & Challenges
<ul style="list-style-type: none"> • Cultural and language barriers • Low-risk perception • Low socioeconomic level causes a lack of preparedness 	<ul style="list-style-type: none"> • Experience increases strength • Social network (religious) • The role of the temples 	<ul style="list-style-type: none"> • DRR in Thai temples (a community centre) • DRR via Social media, including disaster education and warning messages.

Table 7: The summary of the findings

4.6 Conclusion

The results showed that there are vulnerabilities and capacities in Thai migrants. The vulnerabilities were induced by their culture, socioeconomic status, and their attitude towards disasters. Migrants' experiences in the past play a vital role in shaping their awareness and attitude, as well as providing an opportunity to build up their capacities. Their vulnerabilities led to a lack of preparedness. Language barriers and low-risk perception are a critical factor affecting disaster preparedness. Various capacities were found in Thai migrants, including their previous experiences of disasters, their hard lives that increase their strength, and their social ties and network. Vulnerabilities, such as language barriers, and working long hours to make a living, can inhibit their participation in a disaster preparedness program, while some capacities, (i.e. social capital) can assist them in participating in a disaster preparedness program. The study indicates that it would be beneficial if disaster education or training could be conducted in the

Thai temple and conducted in the Thai language to overcome the language barrier and build on cultural and social practices. Moreover, Social media is another way to help Thai migrants to access information quickly. Social media provides some Thai migrants, who lack time, the opportunity to be included in disaster preparedness education.

Chapter Five: Discussion

5.1 Introduction

This chapter will answer the research question “What are the factors affecting disaster preparedness in Thai migrants living in Auckland?”. The study aims to explore the vulnerabilities and capacities of Thai migrants living in Auckland as well as the opportunities and challenges to foster Thai migrants to participate in DRM. It will compare the findings from chapter 4 with the existing literature and discuss similarities and differences. Further, it will discuss implications for increasing Thai migrants’ preparedness in the face of hazards and disasters. Section 5.2 will address the vulnerabilities of Thai migrants. Next, section 5.3 will discuss the capacities of Thai migrants. Following, in section 5.4, the opportunities and the barriers which affect the participation in disaster risk reduction (DRR) programs will be discussed. Then, section 5.5 will provide suggestions for DRR policy according to the related findings. Finally, the limitations of the study and recommendations for further research will be examined.

5.2 The factors causing vulnerabilities in Thai migrants living in Auckland

Vulnerability is constructed by social, economic and political factors (Wisner et al., 2012). This study presents that Thai migrants are vulnerable in various ways. In terms of social vulnerability, this study shows that culture and language are the main factors of their vulnerability. Thai migrants, whose English language competency is low, are directly negatively impacted by language barriers. This finding is relevant to the existing studies which indicate that language barriers inhibit them from preparedness, response and recovery in a disaster (Fussell et al., 2018; Nguyen & Salvesen, 2014). Disaster risk communication is the key to ensuring people understand the risk and learn how to minimise and cope with disaster risk (Marlowe et al., 2018). A language is also a tool for perceiving information or seeking assistance (Fussell et al., 2018; Nguyen & Salvesen, 2014; Yong et al., 2017). Additionally, this finding is relevant to the study by Marlowe (2019), which claimed that some non-dominant language speaking groups were affected disproportionately by disaster impact because of a lack of essential disaster information. Thai migrants, who lack English language proficiency, face problems understanding disaster risk messages. Findings indicate that they often need Thai

migrants whose English language competency is higher to translate information, including hazard and disaster-related messages.

At the same time, some migrants manage to speak English well, and they tend to help each other with translations and thus overcome language barriers. However, the study reveals that Thai migrants who can understand risk messages, prepare for disaster better than those who cannot understand the messages. This finding shows that Thai migrants are not always vulnerable. Disaster education can pass through Thai migrants via their children who study in formal education. The children can bring the message to their parents. This provides their parents with an opportunity to understand disaster risk more and to prepare better for disasters according to the message delivered by their children. This finding is related to the study by Marlowe et al. (2018) which indicates that the young generations access more disaster information and can help the older generations to access disaster information.

Significantly, language and culture also shape Thai migrants' interpretation of disaster risk. The findings indicate overconfidence or ignorance of risk from Thai migrants. This finding is similar to the study by Yong et al. (2017) which stated that immigrants would interpret a disaster risk differently from native people. In addition, the experience also affects their attitude to disasters (Paton, 2003; Yong et al., 2017). The findings also show that the Thai migrants interpreted disaster risk in Auckland as lower than in Thailand, while some Thai migrants perceived the disaster risk oppositely. This finding is similar to the study by Fothergill et al. (1999), which reported that people would have a high awareness if they had already lived through a disaster experience. On the other hand, the result is related to the findings from the research by Yong et al. (2017) which claimed that low-risk perception is associated with knowledge of local hazards and the inequality of hazard exposure.

Beyond different perceptions and conceptions of risk, the findings in this study are different in regards to the trustworthiness of the message provider. The Thai migrants trust the New Zealand government and are willing to follow instructions if they can understand them properly. Conversely, many studies report distrust of the host country government by migrants, which impact the interpretation and action of the warning message negatively (Eisenman et al., 2007; Marlowe et al., 2018). The participants explained that the New Zealand government could

offer correct instructions because they know the local natural hazards well and have experience dealing with them.

The economic status of Thai migrants also seems to make them vulnerable. Thai migrants head to New Zealand for the opportunity to work and generate higher income than in their home country. In some cases, migrants also migrate in order to support their kin back home through remittances (Le De et al., 2015). The findings indicate that they work very hard and long working hours. The working hours also limit the time they have available to access information or participate in any community activities. Sometimes this can result in social isolation from other New Zealanders. The existing studies claimed that social isolation could develop as a result of language barriers, small networks, migration status, racial isolation, and cultural differences (Bethel et al., 2013; Fussell et al., 2018; Uekusa & Matthewman, 2017). In this study, language barriers and low-economic status are significant factors that isolate Thai migrants from New Zealanders. Many studies indicate that social isolation is a significant factor that makes migrants vulnerable. It blocks them from accessing information and any assistance in any phase of a disaster (Bethel et al., 2013; Fussell et al., 2018; Nguyen & Salvesen, 2014). Overall, it seems that economic status does not only affect the ability to invest in disaster preparedness, but also affects the opportunity to access disaster information as well as impacting migrants' active participation in the DRM program.

5.3 The factors leading Thai migrants living in Auckland to have capacities

Capacities are a set of knowledge, skills and resources. Capacity can be found in every social group, and it is an essential factor to help people to cope with a disaster (Gaillard, 2010). The Thai migrants also have capacities, such as human and social resources. The findings from this study show that the experience of natural hazards, annual flooding and storms in their home country, and the hardships of life living in constrained conditions in rural areas in their home countries, are other factors that provide the migrants with coping capacities. The hardships of life before moving to New Zealand (as discussed by Participant 1) increases their coping skills, both physically and mentally. This finding is relevant to the study by Uekusa and Matthewman (2017), which reported that the experience of natural hazards and the hardships of life help to develop their strength. In the same vein, the research by Nguyen and Salvesen (2014) claimed

that the migrants have life skills in constrained conditions because of their experiences in their home country. These experiences motivate response actions by shaping understanding, risk perception, and precautionary measures.

Furthermore, the frequency and severity of the experience of hazards impacts self-protective behaviour (Witvorapong et al., 2015). For mental strength, the findings show that the Thai migrants have a positive attitude to cope with natural hazards. This is related to the study by Uekusa and Matthewman (2017), which indicated that the experience of previous disasters, every-day inequality and the hardships of life can develop mental strength. For example, Filipino immigrants, based on the study by Uekusa and Matthewman (2017), who live in the Philippines where the context is similar to Thailand, described that their difficult life makes them more resilient. Therefore, the previous experiences of Thai migrants are a valuable factor in building up their capacity.

Buddhism is a dominant religion in Thailand. For example, there are temples in every village or city. Moreover, the Buddhist temple has a social function as a core of the community's life, and the monk is also a community leader, especially in rural areas (Visser, 2008). This aspect of traditional culture can be discovered in the majority of Thai people, including Thai migrants. The Thai migrants in this study mostly participate in the Thai Buddhist community in Auckland. The Thai temple is a community place for them. The social bonds in the Thai Buddhist community provide the opportunity for the Thai migrants to seek assistance in many aspects, including help with disasters. This finding is related to the study by Fussell et al. (2018), which claimed that the migrant community could support the migrant during the pre-disaster, disaster and recovery phase. Importantly, the community also impacts risk perception and preparedness action by providing disaster information (Witvorapong et al., 2015). This finding also illustrates that the Thai Buddhist community encourages access to disaster preparedness information by providing a translated message, as well as the opportunity to use the temple as an assembly place for disaster education. The social bonding found in this study is similar to the study by Uekusa, and Matthewman (2017); and Marlowe et al. (2018) which both indicated the resourcefulness within the community that was turned into the capacity. Moreover, the monks can take an action as community leaders because Thai Buddhists trust them as stated in findings

by the Thai royal embassy and as communicated by the Thai migrants via the monks. This also demonstrates the social linking between Thai royal embassy and Thai migrant's' community. Furthermore, this finding is relevant to the study by Visser (2008), which claimed that monks take a high status position in the Thai community. This finding is also similar to the studies which indicate that the religious community provides assistance to members and helps the community pass through hard times together (Adisaputri & Le De, 2018; M. Bradshaw & Ellison, 2010). The research by Marlowe et al. (2018) also stated that the bonds within the community, which underpin the social community, provided community with resources, trust and networks. The social network in the Thai migrant community is a vital capacity to increase the ability of Thai migrants to cope with disasters. These capacities are valuable for fostering their disaster preparedness. They will be explained further in the implication section.

5.4 How to foster Thai migrants to participate in a disaster risk management program.

5.4.1 The social network in Thai migrant community

The strong bonds within the Thai migrant community can benefit the Thai migrants in terms of participation in a disaster preparedness program, such as disaster education, and/or a disaster evacuation drill. The findings report that if the DRM program is conducted in the Thai language and in the Thai temple, this could increase the opportunity to include Thai migrants in DRM. The willingness to help each other in the community can be identified in the Thai migrant community. The social network can help to decrease cultural and language barriers. The importance of social networks or social capital is also mentioned in the studies by Marlowe et al. (2018); and Nguyen and Salvesen (2014). Moreover, social networks can induce preparedness behaviour among Thai migrants (Witvorapong et al., 2015). Social participation, individual character, community character and unobserved behaviour can shape DRR behaviour as demonstrated in figure 13.



Figure 14: The relationship among individuals and community characteristics, social participation and disaster risk reduction behaviours.

Source: Witvorapong et al. (2015)

Disaster communication for Thai migrants should be adapted according to their background, culture, experience, and attitude (Palttala et al., 2012). A translated message would benefit Thai migrants. It can help to ensure the understanding of the warning message by the Thai migrants. The translation can be done by the Thai migrant community or an official Thai agency, such as the Thai royal embassy. The findings also indicate the importance of the disseminator, which is the Thai temple, that can increase access to information among the Thai migrants. Additionally, the effectiveness of disaster communication will benefit disaster education. This finding is relevant to the study by Hanson-Easey et al. (2018) which indicated that to convey a risk message through a social network is not only for an effective dissemination but also for promoting the interpretation and action to the message.

Disaster education and risk messages can pass through the migrant family because younger migrants often have better English competency and study in the formal education system. This finding is relevant to the study by Marlowe et al. (2018), which indicated that the young generations could support the old generations in terms of language translation.

Moreover, they can understand the organisation system, local hazards, and local culture via disaster education. However, multiple communication methods are also recommended in many studies in order to ensure that the message can reach as many people as possible (Marlowe et al., 2018). Online media is more important at present. It could be another option to disseminate messages to the audience effectively. The benefit and function of online media will be explored in the next subsection.

From all information in this subsection, disaster communication can be processed through a social network to provide an effective way to make Thai migrants access the information regarding a disaster, including disaster education, and warning messages. This can also improve Thai migrants' awareness of disaster risk.

5.4.2 Social media and disaster communication

Social media is another option to connect people from around the world, including migrants. The findings from this study indicate the preference of the Thai migrants to access disaster information via Social media, such as Facebook and YouTube. Social media provides them with an opportunity to access the information anytime. The ability of Social media can help overcome barriers to disaster preparedness. For instance, automatic translation of online media or manual translation by the Thai migrant community can diminish the language barrier as well as the long working hours that may block Thai migrants from mainstream media (TV and Radio). They can access Social media after work. The usefulness of Social media also helps Thai migrants, such as Thai migrant men who come to the temple less than women and cannot participate in DRM activities in the temple, to receive the disaster message. Moreover, other research stated that social media could increase the probability of young migrants to receive disaster education (Hanson-Easey et al., 2018). This finding is also related to the research by Niles et al. (2019) which claimed that social media is an essential tool for disaster management. For example, In Hurricanes Irene and Sandy, Twitter was used effectively for preparedness and recovery procedures. Furthermore, social media also provides two-way communication via app chat, such as Facebook messenger or Line application. Two-way communication is crucial in disaster risk management because it can be used to evaluate people's perception and response (Palttala et al., 2012). It also increases participation in DRM through interactive communication,

providing disaster education, providing disaster-warning messages, and providing emergency instruction messages.

However, some studies reported that some level of fake news on Social media is unavoidable, which can induce public panic (Khan et al., 2017). Given this, a trustworthy message provider must be used, such links to the official government agency website, where the receiver can investigate additional details (Niles et al., 2019). The results of this study point out that the Thai temple also has a social media account to communicate with Thai migrants. This can be a reliable media outlet for Thai migrants and also provide two-way communication, thus increasing Thai migrants' participation in DRR. Additionally, traditional communication methods must be maintained due to older migrants needing to access information traditionally. Social media can provide an excellent opportunity to communicate and disseminate DRR messages in order to increase Thai migrants participation in DRR.

5.5 Implication of the study

This study explores the factors influencing the disaster preparedness of Thai migrants living in Auckland. The elements, including vulnerability, capacity, and the opportunities or challenges to foster participation in a DRR program are described in the results section. The findings emphasise that the vulnerabilities, such as cultural and language barriers, low-risk perception, socioeconomic level and lack of preparedness, affect the disaster preparedness of Thai migrants. However, the capacities, including previous experiences and social networks, can enhance their ability to cope with a hazard or disaster. Both vulnerabilities and capacities affect participation in DRM. This research will suggest a way to foster Thai migrants to prepare better for disasters and to increase their participation in DRM.

Firstly, culture and language barriers are a significant concern based on the results of this study. An effective method to understand the culture is to involve local people, Thai migrants, in the planning process (Nguyen & Salvesen, 2014). The involvement of local people can overcome several barriers: first, the development of a culturally suitable disaster plan, with an understanding of the background, belief and a current situation of Thai Migrants. Second, a relationship with the Thai migrant community must be built prior to the disaster. Third, the communication hub of the Thai migrant community can be identified in order to execute

effective disaster communication in all phases of a disaster. Fourth, the enhancement of existing capacity can be done with a community leader's assistance and by utilising the identified capacity from this study. Finally, the disaster education will be effective through translation and assistance from a community leader, whom Thai migrants trust, such as the monks.

In the existing literature, there are many suggestions and operations which attempt to eliminate culture and language barriers, but disaster warning messages should be conducted in various languages (Bethel et al., 2013). For instance, multi-language disaster educational material should also be created to increase the opportunity for more people to access the information (Fussell et al., 2018). Multiple communication streams should be considered to reach all age groups. For example, social media will be effective with teenagers (Marlowe et al., 2018) and a trusted person in the migrants' community should be involved in the development and dissemination process (Eisenman et al., 2007). The social connection between the migrants' community and disaster agencies should be built before a disaster to build trust as well as to identify a community representative to be a contact person to communicate with. Consequently, there will be benefits for the dissemination of information, assessment of needs and assistance for the migrants (Fussell et al., 2018). This bond could also help to foster the participation of Thai migrants in DRR (Nguyen & Salvesen, 2014; Uekusa & Matthewman, 2017).

Furthermore, the social network is a strong point of the Thai migrant community. Social networks can help Thai migrants to prepare for and respond to disasters better. Currently, the way to connect in the social network of Thai migrants is not only through face-to-face contact in a cultural location like the temple, but connection via Social media is also important. The use of Social media provides several advantages such as disseminating information faster, the availability of information anytime, it is a common form of communication in the younger generations, improving understanding of the information through the use of audio-visual media, and the language translation function.

Various practices and policies are developed to overcome the vulnerabilities and enhance the capacities of the migrants. Different migrant communities should have different ways to decrease their vulnerabilities and build up their capacities. It is essential to investigate these factors and develop a culturally-suitable policy for each migrant community. The National

Disaster Resilience Strategy of New Zealand (2019) also stated the importance of culture and the involvement of local people in disaster planning (Ministry of Civil Defence and emergency management., 2019). Additionally, the participation of local people is stated in the priority action 3 and 4 of the Sendai Framework for disaster risk reduction (2015-2030) (United Nations Office for Disaster Risk Reduction, 2015). In terms of economic vulnerability, some migrants with low incomes live in an unsuitable property, either their own house or a rental property, which causes them to suffer more from disasters. In order to overcome the disaster impact from the inadequate housing, there is a study which suggests that the government should enforce a standard of property which should also cover rental properties (Fothergill et al., 1999). In terms of risk perception, disaster education may not be the only factor required to change their attitude and risk perception. Risk perception does not rely solely on knowledge, but also on personal awareness, hazard anxiety, personal belief, personal interpretation, intention, and community expectation. These factors shape the migrants' preparedness action significantly (Paton, 2003). Moreover, the participation of migrants and the community will be a vital factor for disaster risk reduction. The literature suggests that migrants should be engaged in disaster risk management (Nguyen & Salvesen, 2014). The migrants will help the disaster planner to understand the disaster risk at its root cause and to find out a feasible way to resolve problems regarding cultural barriers, language barriers and risk perception attitudes (Fothergill et al., 1999; Nguyen & Salvesen, 2014; Thorup-Binger & Charania, 2019). In addition, the maintenance of social bonding in migrants' communities should be supported by government policy because migrants' social networks will be an essential tool for disaster management (Uekusa & Matthewman, 2017).

Based on the information in this section, DRM should be developed by involving the migrants or a community leader in order to establish DRM based on the relevant culture and background. The social network in the migrant community should be noted as an important capacity. Some vulnerabilities of migrants are impossible to eradicate, but several capacities can be enhanced. New communication technology should be considered to increase access to information, including the application of social media as another form of disaster communication.

5.6 Conclusion

This research aims to explore the factors influencing disaster preparedness in Thai migrants living in Auckland. The factors, including vulnerability, capacity, and the opportunities and challenges to foster participation in DRM were focused on in the study. Semi-structured interviews and content analysis were applied in this qualitative descriptive study. The findings indicate that the vulnerabilities, such as culture and language barriers, low-risk perception, low socioeconomic level and lack of preparedness, are present in the Thai migrants. Limited English language skills affect access to information, which can affect risk perception and preparedness. Experiences in the migrants' home country can cause a negative impact and lead to low-risk perception and lack of preparedness. The low socioeconomic level forces Thai migrants to work long hours, which also affects access to information and social isolation, which can lead to low awareness and lack of preparedness.

However, there are several capacities in Thai migrants. Another side of the Thai Migrants previous experiences is that they make them more resilient both physically and mentally to cope with disasters. Notably, the social network within the Thai migrant community is a great resource for the Thai migrants to seek help in terms of language barriers and accessing disaster information and education in order to increase their disaster preparedness. The findings also illustrated the factors influencing the participation of the Thai migrants in DRM. The existing capacities of the Thai migrants, such as a social network, is a gateway to communicate disaster risk information and education. Thai representatives can be identified within the community to work collaboratively with the agency involved in DRM in order to develop culture-suitable initiatives. Importantly, the findings revealed another communication method to convey disaster information. Social media could be an effective method to communicate with Thai migrants. The benefits of translating language, the compatibility with younger generations, and the fast dissemination of information are illustrated in these findings. Finally, the researcher suggests the involvement of Thai migrants in DRM planning and encourages the application of social media in DRM. This study could be used as material for further study in the DRM area.

5.7 Limitations of the study and future studies

Although the research was conducted using a planned procedure in order to ensure the effectiveness of the study, some limitations were discovered. Firstly, Buddhism is a major religion of Thai migrants living in Auckland. However, there are some Thai migrants who believe in other religions (24%), such as Christianity, Islam, or those who have no religion (Rosa, 2015). The smaller community, such as Thai Christian and Islamic community, may have more difficulty to access the resource like the other smaller community in the study by Hanson-Easey et al.(2018). However, the bridging social connections among Buddhist, Christian and Islamic Thai migrants may provide more advantages for disaster preparedness, response and recovery as similar as a result from the study by Aldrich, and Meyer (2015) which indicated the benefits in disaster preparedness and recovery from the bridging connection. These Thai migrants are not involved in the study as the main part of the study was conducted in a Thai Buddhist temple. Therefore, there is a gap in the study to explore more. Secondly, six out of seven of the participants in the study are women who come to the temple regularly. There is a small number of men who come to the temple regularly, and these men had no experience of a natural hazard. These two limitations result in an unequal selection of the participants and consequently, may not represent all Thai migrants. It would be better to conduct the research on the Buddhist cultural day, which the probability to include men participants may increase. Thirdly, the Auckland area has not had a devastating natural hazard involving a large area in the last decade. Therefore, the vulnerabilities and capacities of the migrants have not been demonstrated in a severe real-life hazard situation. Lastly, this master dissertation was conducted in a short-time period. It limited the researcher's time to explore other religions and find participants who had direct experiences in natural hazards. Fortunately, the one participant, who had not had experience in a natural hazard, also provided interesting findings from her experience in disaster preparedness, which is useful for this study.

These limitations provide some guides for further research in the area of DRM. Further research will provide a more accurate overview by increasing the number of participants, extending the field of study in non-Buddhist and non-religious Thai migrants, and studying Thai migrants in disaster-affected areas such as Christchurch or areas that have experienced flooding in the South Island of New Zealand. The research can be done in a research group which will

provide an opportunity to have more triangulations within the group to increase the credibility of the results. Also, the research group should include the local people in order to take a benefit of social connection as well as in-depth exploration their knowledge. Lastly, further research should include the government agency who has experience working with Thai migrants in disasters to explore different views.

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APPENDICES

Appendix A: Advertisement poster

INTERVIEW SUBJECTS NEEDED FOR A STUDY ON

Disaster preparedness in Thai migrants

To collect data for my dissertation towards a Master of Emergency Management I am interested in interviewing with Thai migrants about disaster preparedness.

Interviews will be held over the next few months and will take 45-60 minutes each. You must be a Thai migrant and have an experience with a natural hazard.

If you'd like to participate, or you want to find out more before you decide, please ring me and I'll send you an Information Sheet. Thank you.

Ratrawee Pattanarattanamolee 02108434338

Thai version

ขอเชิญผู้ที่สนใจเข้าร่วมในงานวิจัย เรื่อง การเตรียมความพร้อมสำหรับสาธารณภัยในคนไทย

การเก็บข้อมูลสำหรับงานวิจัยนี้เป็นส่วนหนึ่งของการศึกษาระดับปริญญาโทหลักสูตรการจัดการในภาวะภัยพิบัติ

ผู้วิจัยมีความสนใจในการสัมภาษณ์คนไทยเกี่ยวกับการเตรียมความพร้อมสำหรับสาธารณภัย

การสัมภาษณ์เพื่อเก็บข้อมูลจะจัดขึ้นในสองสามเดือนข้างหน้าและใช้เวลาในการสัมภาษณ์ประมาณ 45-60 นาที

ผู้ที่สนใจเข้าร่วมต้องมีสัญชาติไทยและเคยมีประสบการณ์ในภาวะภัยพิบัติ

หากท่านสนใจเข้าร่วมงานวิจัยหรือต้องการข้อมูลเพิ่มเติม

กรุณาโทรหาผู้วิจัยและผู้วิจัยจะได้จัดส่งเอกสารชี้แจงงานวิจัยแก่ท่าน ขอขอบคุณมาใน ณ ที่นี้

นายรัฐระวี พัฒนรัตนโมฬี **02108434338**

Appendix B: Information sheet

Participant Information Sheet – Migrants

Date Information Sheet Produced: 11 May 2019

Project Title

Disaster preparedness in Thai migrants living in Auckland: a qualitative descriptive study

An Invitation

Kia ora, my name is Mr Ratrawee Pattanarattanamolee, and I am a student at the Auckland University of Technology (AUT). I am inviting you to participate in a research initiative being undertaken by AUT that aims to understand the vulnerabilities and capabilities of migrants in the disaster context. This information will be used to identify any issues or challenges that may prevent migrants from participating in and benefiting from disaster policies and processes. It will also be used to provide suggestions and strategies to the government to help with creating better plans and policies to reduce the impact of disasters on migrants and their communities.

Your participation in this study is completely voluntary and you may stop participating at any time prior to the analysis of data, for any reason, if you so decide. Your decision to stop participating, or to refuse to answer particular questions, will not affect your relationship with the researchers or AUT. As a migrant, your decision to participate will not affect your immigration status or employment in any way. In the event you withdraw from the study, all associated data collected will be immediately destroyed wherever possible. It is not expected that any issues related to conflicts of interest will arise.

What is the purpose of this research?

Integrating migrants in disaster risk reduction activities, policies, and planning is particularly critical in New Zealand (NZ) given the recent surge in migration numbers. The findings from this research will be used to produce various outputs, such as research reports, journal articles, and presentations to help guide national strategies and civil defence efforts.

How was I identified and why am I being invited to participate in this research?

You have been invited to participate in this study because you are 18 years or older, are of Thai ethnicity, and have some experience about hazard or disaster.

To participate and be included in this study, you must sign a Consent Form please. Anyone who chooses not to sign the consent form will not be included in this research.

What will happen in this research?

This research involves an in-person interview that will be held at an agreed venue at a time that is most convenient for you. In this interview, I will ask you a range of questions related to your perceptions of natural hazards in New Zealand, your experience with disaster and any issues or challenges you or your family in New Zealand face in accessing support, communications or services before, during and after a disaster. With your permission, the interview will be audio-recorded and notes will be taken.

We will send you a copy of your interview transcript for you to review for accuracy prior to data analysis if you indicate (on the Consent Form) that you would like a copy.

What are the discomforts and risks?

It is not anticipated that you will experience any notable risks or discomfort from your participation in this study.

However, if you experience any discomfort from participating in this study, AUT Health Counselling and Wellbeing is able to offer three free sessions of confidential counselling support for adult participants in an AUT research project. These sessions are only available for issues that have arisen directly as a result of participation in the research, and are not for other general counselling needs. To access these services, you will need to:

- Drop into our centres at WB219 or AS104 or phone 921 9992 City Campus or 921 9998 North Shore campus to make an appointment. Appointments for South Campus can be made by calling 921 9992
- Let the receptionist know that you are a research participant, and provide the title of my research and my name and contact details as given in this Information Sheet

You can find out more information about AUT counsellors and counselling on <http://www.aut.ac.nz/being-a-student/current-postgraduates/your-health-and-wellbeing/counselling>.

What are the benefits?

A koha will be offered in recognition of your time.

It is anticipated that your comments will provide important insights to guide national strategies and public efforts in improving local and national hazard risk management policy and practices. Importantly, this study aims to create practical, community-informed strategies for migrant-inclusive disaster risk reduction thereby providing relevant information to improve policies and practices in New Zealand. Please note that some information will be used to fulfil the requirements to obtain my post-graduate qualification (Master of Emergency Management).

How will my privacy be protected?

If you agree to participate in this research, all of the information you supply during the interview will be held in confidence and your name or any personally identifiable information will not appear in any report or publication of the research. Your input from the interview will be coded to

remove any personally identifiable information, safely stored using password protection, and only members of the research team will have access to this information. Where someone is employed to assist with transcribing the interviews, they will be required to sign a confidentiality agreement to protect your information. All research materials will be stored in a locked cabinet in a restricted access office at AUT and archived for six years following completion of the study. After the six year retention period, all related information will be permanently deleted from research computers, and any hard copies will be shredded and destroyed. Confidentiality will be provided to the fullest extent possible.

What are the costs of participating in this research?

There is no cost for you to participate in this research. We kindly ask you to participate in an interview that will take approximately one hour of your time.

What opportunity do I have to consider this invitation?

We kindly ask you to consider our invitation to participate in this study and provide a response within four weeks please to the researcher, Mr Ratrawee Pattanarattanamolee, cqy2429@autuni.ac.nz, 02108434338.

How do I agree to participate in this research?

If you agree to participate in this study, please review and sign the attached Consent Form.

Will I receive feedback on the results of this research?

After the study has finished, we will send a summary report of the findings to the address you have provided if you indicate (on the Consent Form) that you would like a copy of this report.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Loic Le De, loic.le.de@aut.ac.nz, 09 921 9999 ext 7499.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, Kate O'Connor, ethics@aut.ac.nz, 09 921 9999 ext 6038.

Whom do I contact for further information about this research?

Researcher Contact Details:

Dr Loic Le De, loic.le.de@aut.ac.nz, 09 921 9999 ext 7499 [Project Supervisor]

Approved by the Auckland University of Technology Ethics Committee on [13 September 2019]

AUTEK Reference number [19/335]

Thai version

เอกสารอธิบายข้อมูลวิจัยแก่ผู้เข้าร่วมงานวิจัย

วันที่เอกสารถูกเขียนขึ้นคือ 11 พฤษภาคม 2562

ชื่องานวิจัย

การเตรียมความพร้อมสำหรับภัยพิบัติในผู้อพยพชาวไทยที่พำนักในเมืองโอ๊คแลนด์ ประเทศนิวซีแลนด์

คำเชิญ

เรียนผู้เข้าร่วมงานวิจัย ข้าพเจ้า นายรัฐระวี พัฒนรัตนโมฬี นักศึกษา ณ มหาวิทยาลัย Auckland University of Technology (AUT) ข้าพเจ้าขอเรียนเชิญท่านเข้าร่วมงานวิจัยภายใต้การกำกับของ AUT ที่มีวัตถุประสงค์ศึกษาเกี่ยวกับ ความเปราะบางและโอกาสพัฒนาของผู้อพยพในภาวะภัยพิบัติ

งานวิจัยมุ่งเน้นที่จะค้นหาปัจจัยต่างๆที่ส่งผลกระทบต่อการมีส่วนร่วมและการได้รับประโยชน์จากนโยบายที่เกี่ยวข้องกับภาวะภัยพิบัติ ผลการศึกษาสามารถแนะนำแนวทางการกำหนดนโยบายการแนวทางปฏิบัติเกี่ยวกับภาวะภัยพิบัติแก่ รัฐบาลนิวซีแลนด์ เพื่อการกำหนดนโยบายการจัดการภัยพิบัติที่จะลดผลกระทบจากภัยพิบัติต่อผู้อพยพและชุมชนผู้อพยพ

การเข้าร่วมในงานวิจัยครั้งนี้ของท่านสามารถทำได้โดยสมัครใจและสามารถยกเลิกการเข้าร่วมในงานวิจัยได้ตลอดเวลาในช่วงก่อนการวิเคราะห์ข้อมูล การตัดสินใจยกเลิกการเข้าร่วมงานวิจัยจะได้ไม่ส่งผลกระทบต่อความสัมพันธ์ระหว่างผู้วิจัยและท่าน การเข้าร่วมงานวิจัยจะไม่ส่งผลกระทบต่อสถานะผู้อพยพและการจ้างงานของท่าน เมื่อไรก็ตามที่ท่านยกเลิกการเข้าร่วมในงานวิจัย ข้อมูลงานวิจัยที่เกี่ยวข้องกับท่านจะถูกทำลายทันที

วัตถุประสงค์งานวิจัย

การผสมผสาน กิจกรรมลดความเสี่ยงเกี่ยวกับภัยพิบัติในผู้อพยพ นโยบายและแผนการจัดการ จัดว่ามีความสำคัญอย่างยิ่งในประเทศนิวซีแลนด์ ที่การอพยพเข้ามามีจำนวนมาก ผลจากงานวิจัยนี้ อาทิเช่น รายงานการวิจัย วารสารงานวิจัยและกานำเสนอองวิจัยสามารถใช้เป็นแนวทางในการทำงานของหน่วยงานที่เกี่ยวข้องในการจัดการภัยพิบัติได้

การคัดเลือกและเชิญเข้าร่วมงานวิจัย

ท่านจะได้ถูกเชิญเข้าร่วมงานวิจัย หากท่านมีคุณสมบัติดังนี้ อายุ 18 ปี ขึ้นไป เป็นคนไทย และเคยมีประสบการณ์ในภาวะภัยพิบัติ

ในการเข้าร่วมงานวิจัย ท่านจะต้องให้ความยินยอมเป็นลายลักษณ์อักษร

การดำเนินการวิจัย

งานวิจัยจะดำเนินการด้วยการสัมภาษณ์ส่วนบุคคล ในช่วงเวลาที่ท่านสะดวก ในการสัมภาษณ์ท่านจะถูกถามเกี่ยวกับประสบการณ์ที่ท่านประสบในภาวะภัยพิบัติในนิวซีแลนด์ ปัญหา อุปสรรคและปัจจัยส่งเสริมเกี่ยวกับการเตรียมตัวเพื่อตอบโต้ภัยพิบัติ บทสนทนาในการสัมภาษณ์อาจได้รับการบันทึกหากท่านอนุญาต

ข้อความที่บันทึกจากการสัมภาษณ์จะถูกส่งให้ท่านตรวจทานหากท่านต้องการก่อนการนำข้อมูลมาประมวลผล

ผลกระทบที่อาจเกิดขึ้นในงานวิจัย

ผู้วิจัยหวังเป็นอย่างยิ่งที่จะระงับไม่ให้เกิดผลกระทบทางลบใดๆแก่ผู้เข้าร่วมงานวิจัย อย่างไรก็ตามหากท่านรู้สึกว่าได้รับผลกระทบจากงานวิจัยทางหน่วยงานให้คำปรึกษา สามารถให้คำปรึกษาแก่ท่านได้จำนวนสามครั้งโดยไม่มีค่าใช้จ่ายหากผลกระทบนั้นเกิดขึ้นจากงานวิจัยโดยตรง ในการขอรับบริการมีขั้นตอนดังนี้

- ติดต่อที่สำนักงาน WB219 หรือ AS 104 หรือ โทรศัพท์ 9219992 (สาขาในเมือง) หรือ โทรศัพท์ 921 9998 (วิทยาเขตเหนือ) หรือ โทรศัพท์ 921 9992 (วิทยาเขตใต้) เพื่อนัดหมาย
- กรุณาแจ้งแก่ เจ้าหน้าที่ต้อนรับ ว่าท่านเข้าร่วมงานวิจัยใดและชื่อของข้าพเจ้าผู้ดำเนินงานวิจัยดังปรากฏในเอกสารนี้

หากท่านต้องการข้อมูลเพิ่มเติมเกี่ยวกับการขอรับคำปรึกษา สามารถศึกษาเพิ่มเติมได้ที่

<http://www.aut.ac.nz/being-a-student/current-postgraduates/your-health-and-wellbeing/counselling>.

ประโยชน์ที่ได้รับจากการเข้าร่วมงานวิจัย

ท่านจะได้รับของชำร่วยตอบแทนเพื่อเข้าร่วมในงานวิจัย

ข้อมูลที่ได้รับจากท่านนั้นจะก่อประโยชน์ต่อการกำหนดนโยบายและการขับเคลื่อนเพื่อปรับปรุงการจัดการความเสี่ยงเกี่ยวกับภัยพิบัติทั้งในระดับท้องถิ่นและระดับชาติ ยิ่งไปกว่านั้นงานวิจัยยังมุ่งหวังที่จะพัฒนาแผนการจัดการที่ผู้อพยพมีส่วนร่วม เพื่อพัฒนาแนวทางปฏิบัติในประเทศนิวซีแลนด์ ผลการวิจัยจะถูกเผยแพร่ทางวารสารวิชาการ เอกสารงานประชุมและการนำเสนอบนเวที อนึ่ง ส่วนหนึ่งของผลการวิจัยจะถูกนำไปใช้เป็นส่วนหนึ่งของงานนิพนธ์ระดับปริญญาโทของหนึ่งในผู้ร่วมวิจัย (Ratrawee Pattanarattanamolee)

การรักษาความเป็นส่วนตัวของผู้เข้าร่วมงานวิจัย

หากท่านเข้าร่วมในงานวิจัย ผลการสัมภาษณ์จะถูกปิดเป็นความลับ ชื่อและข้อมูลส่วนตัวของท่านจะไม่ได้รับการเปิดเผย

บทสนทนาจะถูกปรับเปลี่ยนเพื่อไม่ให้สามารถระบุตัวตนของผู้ให้ข้อมูล ผลการวิจัยจะถูกเก็บรักษาในที่ปลอดภัย สื่อดิจิทัลระบบรักษาความปลอดภัยและอนุญาตเฉพาะทีมวิจัยที่สามารถเข้าถึงข้อมูลได้

ในกรณีที่มีการแจ้งการถอดถอนบทสนทนา ผู้รับจ้างจะต้องให้สัญญาในการรักษาความลับ

ข้อมูลงานวิจัย เอกสารต่างๆจะถูกเก็บรักษาในตู้ที่ปลอดภัยในสำนักงานของ AUT เป็นเวลา 6 ปี หลังจากนั้นเอกสารทั้งหมดจะถูกทำลาย

ค่าใช้จ่ายในการเข้าร่วมงานวิจัย

ไม่มีค่าใช้จ่ายใดๆ ท่านจะถูกเชิญให้คำสัมภาษณ์ 45-60 นาทีโดยประมาณ

ช่วงเวลาการตอบรับงานวิจัย

ท่านสามารถให้การตอบรับงานวิจัยภายใน 4 สัปดาห์ โดยการติดต่อ นายรัฐระวี พัฒนรัตน์โมฬี , cqy2429@autuni.ac.nz, 02108434338.

วิธีการตอบรับเข้าร่วมวิจัย

หากท่านตัดสินใจเข้าร่วมงานวิจัย กรุณาลงชื่อในเอกสารการให้ความยินยอมเข้าร่วมงานวิจัยดังเอกสาร แนบท้าย

ท่านจะได้รับผลการวิจัยเมื่อจบงานวิจัยหรือไม่

ท่านจะได้รับผลการวิจัยจัดส่งไปตามที่อยู่ที่คุณไว้ในเอกสารหากท่านระบุว่าต้องการผลการวิจัย

การจัดการหากท่านมีความกังวลเกี่ยวกับการวิจัยนี้

ข้อกังวลต่างๆที่เกิดขึ้นกรุณาแจ้งผู้ทำการวิจัย

หากท่านมีความกังวลเกี่ยวกับขั้นตอนการดำเนินงานวิจัย กรุณาแจ้ง Dr Loic Le De , loic.le.de@aut.ac.nz, 09 921 9999 ext 7499 [Project Supervisor]

Kate O'Connor, ethics@aut.ac.nz, 09 921 9999 ext 6038.

ใครสามารถให้ข้อมูลอื่นๆเพิ่มเติมแก่ท่านได้

Dr Loic Le De , loic.le.de@aut.ac.nz, 09 921 9999 ext 7499 [ผู้ทำการวิจัย]

Approved by the Auckland University of Technology Ethics Committee on [13 September 2019] AUTECH Reference number [19/335]

Appendix C: Consent form

Consent Form

Date: 11 May 2019

Project title: Engaging Thai migrants in disaster risk reduction in New Zealand

Project supervisor: Dr Loic Le De

Researchers: Ratrawee Pattanarattanamolee

☐ I have read and understood the information provided about this research project in the Information Sheet dated _____.

☐ I have had an opportunity to ask questions and to have them answered.

☐ I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.

☐ I understand that information I supply during the interview will be held in confidence and personally identifiable information will not appear in any report or publication of the research.

☐ I understand that research findings may be used for publications and presentations.

☐ I understand that research findings may be used to fulfil the requirements for the researcher to obtain a post-graduate qualification (Master of emergency management).

☐ I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.

☐ I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.

☐ I agree to take part in this research.

☐ I wish to review a copy of my interview transcript (please tick one):
Yes ☐ No ☐

☐ I wish to receive a summary of the research findings (please tick one):
Yes ☐ No ☐

Participant's signature:

Participant's name:

Participant's Contact Details (if appropriate):

.....

.....

Date:

Approved by the Auckland University of Technology Ethics Committee on type the date on which the final approval was granted AUTECH Reference number type the AUTECH reference number

Note: The Participant should retain a copy of this form.

Thai version

เอกสารให้ความยินยอมเข้าร่วมงานวิจัย

วันที่: 11 พฤษภาคม พ.ศ. 2562

ชื่อเรื่องวิจัย : การมีส่วนร่วมในการจัดการความเสี่ยงสำหรับภัยพิบัติในประชากรไทยที่พำนักในประเทศนิวซีแลนด์

ผู้ควบคุมงานวิจัย: Dr Loic Le De

นักวิจัย: Dr Loic Le De, Ratrawee Pattanarattanamolee

- ☐ ข้าพเจ้าได้อ่านและเข้าใจข้อมูลที่ได้รับเกี่ยวกับงานวิจัย ณ วันที่
- ☐ ข้าพเจ้าได้รับโอกาสในการตั้งคำถามและได้รับการตอบคำถามนั้นๆ
- ☐ ข้าพเจ้ายอมรับให้มีการจัดบันทึกบทสัมภาษณ์ การบันทึกเสียงสัมภาษณ์และการถอดเทปบทสัมภาษณ์
- ☐ ข้าพเจ้าเข้าใจว่าข้อมูลต่างๆที่ข้าพเจ้าให้ไปนั้น จะถูกรักษาเป็นความลับและข้อมูลส่วนตัวของข้าพเจ้าจะไม่ปรากฏในวารสารหรือสิ่งพิมพ์ใดๆ
- ☐ ข้าพเจ้ารับทราบว่า งานวิจัยจะถูกนำไปเผยแพร่ในวารสารหรือการนำเสนอในที่
- ☐ ข้าพเจ้ารับทราบว่าส่วนหนึ่งของงานวิจัยจะถูกนำไปใช้เป็นส่วนหนึ่งของการศึกษาระดับปริญญาโทของหนึ่งในคณะนักวิจัย
- ☐ ข้าพเจ้ารับทราบว่าการเข้าร่วมการวิจัยเป็นไปด้วยความสมัครใจและข้าพเจ้าสามารถยกเลิกการร่วมงานวิจัยได้ตลอดเวลาโดยการยกเลิกนี้จะไม่ส่งผลกระทบใดๆแก่ข้าพเจ้า
- ☐ ข้าพเจ้ารับทราบว่า หากข้าพเจ้ายกเลิกการเข้าร่วมวิจัย ข้าพเจ้ามีสิทธิ์เลือกที่จะให้ข้อมูลที่ได้ให้ไปแล้ว คงอยู่ในงานวิจัยหรือให้ลบทิ้ง อย่างไรก็ตามหากข้อมูลได้ถูกนำมาวิเคราะห์แล้วจะไม่สามารถลบข้อมูลของท่านได้
- ☐ ข้าพเจ้ายินยอมเข้าร่วมงานวิจัย
- ☐ ข้าพเจ้ามีความประสงค์ขอรับสำเนาเอกสารถอดเทปบทสัมภาษณ์

(กรุณาเลือก): ใช่ ☐ ไม่ ☐

- ☐ ข้าพเจ้ามีความประสงค์ขอรับเอกสารสรุปผลการวิจัย (กรุณาเลือก): ใช่ ☐ ไม่ ☐

ลายมือชื่อผู้เข้าร่วมวิจัย:

ผู้เข้าร่วมวิจัย

ที่อยู่ผู้เข้าร่วมวิจัย

.....

.....

.....

วันที่ :

รับรองโดยคณะกรรมการวิจัยของ the Auckland University of Technology ตามวันและหมายเลขการรับรองที่ปรากฏใน
เอกสารอธิบายข้อมูลงานวิจัย

หมายเหตุ : ผู้เข้าร่วมวิจัยควรเก็บสำเนาใบยินยอมไว้ด้วย

Appendix D: List of interview questions

1. Could you please explain what is disaster preparedness?
2. Do you think that Auckland is at risk for some hazard events?
3. Have you ever experienced any hazard event?
4. What did happen to you in that event?
5. How did you cope with that event?
6. How did you recover from that event?
7. Did you have any support from any organisations to cope with that event?
8. Before or after that event, have you participated in any disaster preparation program?
9. If you participated in some disaster preparation program, how did you get information about it?
10. If you have never participated any disaster preparation program, could you give some reasons for that?
11. What is the positive points in Thai migrant to prepare for or cope with disaster?
12. What are the obstacles for preparation for disaster in your perspective?
13. In your opinion, how can Thai migrants prepare better for the disaster?
14. In your opinion, how can we foster Thai migrants to participate the disaster preparation program?
15. Is there anything else that you want to share regarding disaster preparedness?

Thai version

รายการคำถามสำหรับการสัมภาษณ์

1. กรุณาช่วยอธิบาย การเตรียมพร้อมรับภัยพิบัติตามความเข้าใจของท่าน
2. ท่านคิดว่า โอ๊คแลนด์มีความเสี่ยงต่อภัยพิบัติไหม
3. ท่านเคยประสบกับภัยพิบัติไหม
4. เหตุการณ์นั้นส่งผลกระทบต่อท่านบ้าง
5. ท่านจัดการกับเหตุการณ์นั้นอย่างไร
6. ท่านฟื้นฟูหรือเยียวยาอย่างไรจากเหตุการณ์นั้น
7. ท่านได้รับความช่วยเหลือใดๆจากองค์กรใดๆหรือไม่
8. ก่อนหรือหลังเหตุการณ์นั้น ท่านเคยเข้าร่วมกิจกรรมเตรียมความพร้อมสำหรับภัยพิบัติหรือไม่
9. หากเคยเข้าร่วม ท่านทราบข่าวหรือไปเข้าร่วมได้อย่างไร
10. หากไม่เคยร่วม กรุณาให้เหตุผลที่ไม่เคยเข้าร่วม
11. อะไรคือจุดแข็งของคนไทยสำหรับการเตรียมตัวหรือตอบโต้ภัยพิบัติ
12. อะไรคือ อุปสรรคของคนไทยในการเตรียมตัวสำหรับภัยพิบัติ
13. ในความเห็นของท่าน ทำอย่างไรคนไทยจะสามารถเตรียมตัวสำหรับภัยพิบัติได้ดีมากขึ้น
14. ในความเห็นของท่าน ทำอย่างไรคนไทยจะสามารถเข้าร่วมกิจกรรมเตรียมตัวสำหรับภัยพิบัติได้มากขึ้น
15. ท่านมีความเห็นอื่นใดที่ต้องการจะเล่าหรือแบ่งปันประสบการณ์เพิ่มหรือไม่