TAILORING EMERGENCY AND DISASTER PREPAREDNESS ENGAGEMENT APPROACHES FOR CULTURALLY AND LINGUISTICALLY DIVERSE (CALD) COMMUNITIES

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ABSTRACT

The impacts of emergency and disasters pose greater challenges to Culturally and Linguistically Diverse (CALD) communities. Several barriers prevent CALD communities from adequately preparing for such events, thus contributing to increased vulnerability. Queensland has a heightened risk of experiencing disasters, therefore it is vital that all Queensland residents understand their local disaster risks and take steps to prepare. However, disaster preparedness information is rarely tailored to meet the specific needs of CALD communities. This qualitative study examined the emergency and disaster preparedness information needs of CALD communities in Queensland with a view to identify better ways of delivering disaster preparedness initiatives through tailored engagement approaches. Three focus groups were conducted with 16 CALD community leaders within the Gold Coast, Logan and Ipswich Local Government Areas. The data gathered emphasised that CALD communities in Queensland possess low levels of awareness of emergencies and disasters and low levels of preparedness for such events. The study reiterates the need for tailored engagement approaches. Identifying and utilising suitable communication channels and information formats and partnering with trusted sources, including CALD community leaders and places of worship, were found to be critical factors to successfully engaging CALD communities in disaster preparedness.

CERTIFICATION OF THESIS

I, Hailey Hayes, declare that the Thesis entitled "*Tailoring Emergency and Disaster Preparedness Engagement Approaches for Culturally and Linguistically Diverse (CALD) Communities*" is not more than 100,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references, and footnotes. The thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

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ABBREVIATIONS

CALD - *Culturally and Linguistically Diverse*

IELTS - *International English Language Testing System*

LGA - *Local Government Area*

PPRR - *Prevention, Preparedness, Response and Recovery*

SES - *State Emergency Service*

QFES – *Queensland Fire and Emergency Services*

CHAPTER 1: INTRODUCTION

Chapter 1 provides an overview and rationale for the research and begins by outlining key terminology used throughout the thesis. The chapter briefly introduces key concepts of the disaster management arrangements in Queensland, such as the 'comprehensive approach', importance of 'preparedness', and 'shared responsibility', to provide context for the research. The research problem, research questions and the researcher's interest in the topic will also be outlined in this chapter.

1.1 Terminology

The term *Culturally and Linguistically Diverse (CALD)* is a broad term that refers to communities with diverse languages, nationalities, cultural backgrounds, traditions, societal structures and religions (Ethnic Communities' Council of Victoria, 2012, p. 22).

The term *disaster* is defined as a serious disruption in a community caused by the impact of an event that requires a significant coordinated response by the state and other entities to help the community recover from the disruption (*Disaster Management Act 2003* (QLD s. 13). The term *emergency* is often used interchangeably with the term *disaster* (Al-Dahash et al., 2016).

The term *disaster management* describes the arrangements put in place to manage the potential impacts of an event, including arrangements for preventing, preparing for, responding to, and

recovering from a disaster (Queensland Disaster Management Committee, 2018). The term *emergency management* is often used interchangeably with the term *disaster management* (Al-Dahash et al., 2016).

The term *disaster information* refers to official information relating to the prevention, preparedness, response or recovery of a present or potential disaster event (Liu & Ni, 2021).

The term *emergency* is an actual or imminent event which endangers life, property and the environment, and which requires a significant and coordinated response (Australian Institute of Disaster Resilience, 2019).

Queensland is exposed to a range of *natural hazards*. The term encompasses hazards such as cyclones, severe storms, flooding, coastal inundation, heatwaves, bushfires, earthquakes and tsunamis (Queensland Fire and Emergency Services, 2017).

The term *preparedness* refers to the taking of preparatory measures to ensure that, if an event occurs, communities, resources and services can cope with the effects of the event (*Disaster Management Act 2003* (Qld) s. 4).

The term *resilience* indicates the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a disaster in a timely and efficient manner (Australian Institute of Disaster Resilience, 2019).

The term *shared responsibility* describes the collective efforts of individuals, communities, business and government agencies to achieve disaster resilience (Queensland Reconstruction Authority, 2017).

The term *vulnerability* is defined as the degree to which a population, individual or organisation is unable to anticipate, cope with, resist and recover from the impacts of a disaster (World Health Organisation, 2002).

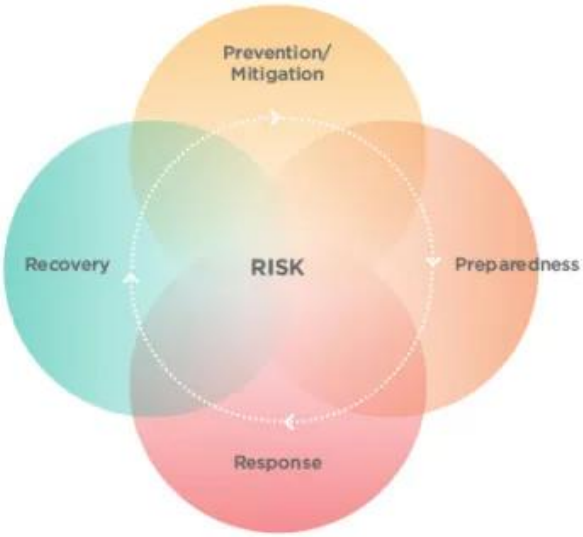
1.2 Focus of the study

The aim of this study was to explore the emergency and disaster preparedness information needs of Culturally and Linguistically Diverse (CALD) communities in Queensland in order to identify better ways of delivering preparedness initiatives through tailored engagement approaches. Queensland takes a comprehensive approach to managing disaster risks which is comprised of four phases that integrate and support each other: Prevention, Preparedness, Response and Recovery (PPRR) (Queensland Disaster Management Committee, 2018). The prevention phase involves regulatory or physical measures designed to reduce or eliminate the potential consequences of a disaster. Examples include hazard mapping, bushfire mitigation burns, levee construction, land use planning and building codes. The preparedness phase is essential to reducing emergency and disaster impacts on a community. Disaster management planning, training and exercising, Community engagement and education and business continuity planning are critical components of

this phase. Successful preparedness ensures an effective response and recovery and community participation in these activities greatly increases resilience. The response phase refers to the coordinated operational effort to save lives and protect property. Warnings and alerts are issued in this phase and evacuations may occur. Lastly, the recovery phase is the process of supporting disaster affected communities to rebuild and recover from the impacts of the event. It includes emotional, social and mental health support, economic recovery, restoration of the environment, reconstruction of buildings and infrastructure and re-establishing roads and transport networks. The 'comprehensive approach' is depicted in Figure 1.

Figure 1

The 'comprehensive approach' to disaster management (Queensland Fire and Emergency Services, 2018)



Although all disaster management phases are significant and overlap, this study emphasised the preparedness phase due to its ability to influence positive outcomes in response and recovery (Ramsbottom et al., 2018; Teo, Goonetilleke, et al., 2018).

In addition, the study concentrated on CALD communities as they are widely considered to be more vulnerable to the impacts of emergencies and disasters (Uekusa, 2019). This is due to a range of complex and interconnected factors such as a lack of knowledge about local disaster risks, limited social connectedness, insufficient household preparedness, language barriers, and inaccessible information and resources (Ogie et al., 2018). Queensland has the greatest disaster risk profile in Australia (Deloitte, 2021), therefore it is vital that all Queenslanders understand their local disaster risks and take steps to prepare. However, disaster preparedness information is rarely tailored to meet the specific needs of diverse communities.

Through effective community engagement CALD communities have the potential to achieve high levels of emergency and disaster preparedness. Therefore, this study aimed to contribute to a greater understanding of the disaster preparedness information needs of CALD communities, including the enablers and barriers to accessing information, and it has the potential to inform the development of tailored engagement approaches.

1.3 Background and context

Under the *Disaster Management Act 2003* (QLD), disaster management agencies in Queensland have a responsibility to ensure communities receive appropriate information about preparing for, responding to, and recovering from a disaster. A broad range of education and engagement programs, awareness campaigns, information and resources are delivered to fulfil this responsibility at state, regional and local levels. These initiatives are largely delivered in English and through mainstream communication channels; however, many Queenslanders, due to reasons such as language proficiency and cultural diversity, receive and interpret information differently. Language barriers (Ogie et al., 2018) and a lack of accessible information and resources (Atun & Fonio, 2021) can exacerbate vulnerabilities within CALD communities during times of emergencies and disasters.

Community engagement is increasingly recognised as a critical component of disaster management and it has great potential to positively influence community resilience (Australian Institute for Disaster Resilience, 2020). However, community engagement programs, initiatives and resources can only be considered effective if they can be accessed, understood, and acted on by the target audience.

The 2021 Australian Census results show that more than one in 10 Queenslanders (13.2%) spoke a language other than English at home and that cultural diversity is increasing, with 22.7% of Queenslanders being born overseas, an increase from 21.6% in 2016 (profile.id, 2021). In

2021, 27.9% of Queensland residents reported both of their parents being born overseas (Australian Bureau of Statistics, 2021). This shows that the cultural and linguistic diversity of Queensland is increasing.

The severity and frequency of disasters is also rising, with Queensland expected to incur the largest increase in disaster-related costs of any state in Australia (Deloitte, 2021). Ogie et al. (2018) consider the simultaneous escalation of multiculturalism and disaster events a "duality" that "poses a significant challenge for governments and emergency agencies who must devise effective ways of communicating the risks posed by natural disasters" (p. 1).

Queensland Fire and Emergency Services (QFES) has a vision for a connected and capable Queensland with a commitment to "connect people with the right knowledge, practical skills and resources to strengthen their community's capability and adaptive capacity" (Queensland Fire and Emergency Services, 2020, p. 1). It is widely accepted that this is most effectively achieved when the community is involved in the process and engagement is tailored to meet the needs of distinct communities (Australian Institute for Disaster Resilience, 2020). This has been further emphasised in The Royal Commission into National Natural Disaster Arrangements Report (Commonwealth of Australia, 2020) which states: "education and engagement programs are key to informing and empowering individuals and communities, and they should be fit for purpose – accounting for changing risk profiles and community demographics (p. 246)."

Disaster management agencies must work with CALD communities to adapt the way emergency and disaster information is delivered to ensure all Queenslanders have equal access to the resources they need to effectively prepare for, respond to, and recover from a potential disaster. Achieving disaster resilience is a shared responsibility requiring a collective effort from individuals, communities, business and governments (Queensland Disaster Management Committee, 2018). However, when disaster information is not equally accessible, disaster management agencies are inadvertently sending a message for which certain communities do not have a role.

This study is conducted in QFES' South Eastern Region, which is vulnerable to a range of natural hazards, including bushfires, floods, severe storms, cyclones and coastal inundation. Locations such as the Gold Coast, Logan and Ipswich have experienced many significant disaster events over the past decade (Queensland Reconstruction Authority, 2022). For example, in February and March 2022, South East Queensland experienced an extreme multi-day rainfall event, causing significant flooding across the region (Office of the Inspector-General of Emergency Management, 2022). Several locations recorded more than one metre of rainfall in a week and major flood levels were reached in multiple river catchments (Office of the Inspector-General of Emergency Management, 2022). Sadly, 13 lives were lost during the event, more than 9,000 homes and businesses were damaged, and the cost to

Queensland has been estimated to be over $7 billion (Office of the Inspector-General of Emergency Management, 2022).

In October 2020, severe thunderstorms, often referred to as the "Halloween Hailstorm", impacted much of South East Queensland. Suburbs within Ipswich and Logan were among the most severely affected where reports of giant hail up to 14cm in diameter were received (Australian Institute for Disaster Resilience, 2021). The State Emergency Service (SES) received more than 2,900 requests for assistance in the Ipswich and Logan Local Government Areas (LGAs) alone, and 95,000 homes across South East Queensland were without power (Australian Institute for Disaster Resilience, 2021).

These recent severe weather events serve as a reminder about the risks faced by South Eastern Region communities and the importance of disaster preparedness. According to the *Special Report: Update to the economic costs of natural disaster in Australia* (2021), South East Queensland is expected to face the greatest increase in costs from disasters due to the impacts of climate change and predicted population growth, thus highlighting the need for greater action to strengthen disaster resilience in South Eastern Region communities.

1.4 Research problem and research questions

It is interesting to note that "Queensland is the most disaster-affected state in Australia having experienced more than 97 significant disaster events since 2011" (Queensland Reconstruction Authority, 2022,

p. 6), including bushfires, storms, floods and cyclones. The impacts of these events have complex and long-term effects on the community, environment, infrastructure and economy; however, CALD communities are disproportionately affected due to the exacerbation of existing vulnerabilities (Ogie et al., 2018).

Furthermore, the ability of CALD communities to effectively prepare for emergencies to reduce these vulnerabilities, is hindered by an inability to access and understand disaster information (Benavides et al., 2020). Failing to adapt the way we engage with people from CALD backgrounds and keep up with community need will lead to increased vulnerability and growing reliance on emergency services during times of emergencies and disasters.

Based on this problem, the aim of the study was to examine the emergency and disaster preparedness information needs of CALD communities in Queensland. Its objective was to identify appropriate ways to tailor engagement approaches. Furthermore, it responded to calls for further research relating to the need for tailored disaster information for CALD communities (Fountain et al., 2019; Ogie et al., 2018; Teo, Goonetilleke, et al., 2018). The study sought to answer the following research questions:

RQ1. What are the attitudes of CALD communities toward emergency and disaster preparedness in Queensland?

RQ2. What are the enablers and barriers to accessing and understanding disaster preparedness information in CALD communities in Queensland?

RQ3. How can disaster preparedness engagement approaches be tailored to meet the needs of CALD communities in Queensland?

1.5 Researcher's interest in the topic

I have worked in the community engagement field for over 15 years, undertaking various community engagement roles in youth, homelessness, family support and emergency services organisations. I have worked in the disaster management field for six years, at present with Queensland Fire and Emergency Services (QFES), which encompasses the Fire and Rescue Service, Rural Fire Service and the State Emergency Service (SES).

My current role as a Regional Community Engagement Coordinator in the South Eastern Region combines both the community engagement and disaster management fields and I work collaboratively with community stakeholders to develop engagement strategies that focus on building community resilience across the prevention, preparedness, response and recovery phases of disaster management. I am passionate about building the community engagement capability within QFES and coordinating proactive and targeted initiatives to contribute to QFES's vision for a connected and capable Queensland.

Undertaking this study has given me the opportunity to do a deep dive into the needs of CALD communities and establish meaningful connections with leaders and organisations throughout the process. I am confident that the findings of this study should lead to the development of informed engagement approaches that will enable CALD communities' greater access to the information they need to keep themselves and their families safe in an emergency or disaster.

1.6 Structure of thesis

Chapter 1 of this thesis outlines the focus and rationale of this study and serves as an introduction to the research problem, its background and context. Chapter 2 contains the literature review, providing an overview of recent research relating to the research problem and common themes which are summarised in a conceptual model. Chapter 3 outlines the research design, including the methodological approach, participant recruitment and ethical considerations. Chapter 4 describes the results of the research, including key themes to emerge from the data. Chapter 5 discusses the research findings in relation to the research questions and the literature review. Finally, Chapter 6 summarises the research and its significance, and provides recommendations for practice.

CHAPTER 2: LITERATURE REVIEW

Chapter 1 has provided an overview and rationale for the research by outlining key concepts and introducing the research problem and research questions. This chapter includes a review of literature relating to the disaster preparedness information needs of Culturally and Linguistically Diverse (CALD) communities. It begins by explaining the factors that contribute to the vulnerability of CALD communities in emergencies and disasters and continues to discuss the low levels of disaster awareness and preparedness within CALD communities. The literature review discusses the inaccessible nature of disaster information disseminated by disaster management agencies, and it explores the communication channels that are considered suitable by CALD communities to receive such information. Finally, the literature review discusses the critical role of trusted sources in the successful dissemination of disaster preparedness information. The chapter concludes with a summary of the literature and a conceptual framework.

2.1 CALD communities and disaster vulnerability

It is widely accepted that CALD communities are more vulnerable to the impacts of emergencies and disasters, which are often more intense and longer lasting for them than for the general population (Howard et al., 2018; Petraroli & Baars, 2022). Low literacy levels and limited proficiency in the dominant language (Ogie et al., 2018) are understood

to be among the major factors contributing to the disproportionate vulnerability of CALD communities.

A study in New Zealand and Japan found that linguistic minorities confront unique disaster vulnerability, partly due to linguicism, which is described as "language-based discrimination at multiple levels" (Uekusa, 2019, p. 353). For example, during the 2011 Great East Japan earthquake and tsunami, the New Zealand 2010 Canterbury earthquake and the 2011 Christchurch earthquake, disaster warnings and announcements were only made available in the dominant languages (Uekusa, 2019). This created barriers to obtaining critical disaster information and resulted in residents failing to evacuate, increased panic and anxiety, and people not knowing where to access relief such as food, water, and shelter (Uekusa, 2019). During the 2014 Washington wildfires, Hispanic farm workers did not receive evacuation notices due to language barriers, and the single Spanish radio station in the region did not receive emergency information in order to broadcast an interpreted warning (Davies et al., 2018).

In addition to language barriers, limited social networks (Guadagno et al., 2017), a lack of knowledge about local risks (Marlowe et al., 2018), limited access to information and resources (O'Brien & Federici, 2019) and low socio-economic status (Ogie et al., 2018) are commonly cited as factors that influence CALD communities' disaster vulnerability. A study examining the risk perceptions and risk management capabilities of Filipino migrants in New Zealand discovered that vulnerability levels were

higher among migrants who were not involved in their community, were only somewhat conscious of disaster risks, and had access to few sources of information. (Ikeda & Garces-Ozanne, 2019). Howard et al. (2018) studied the effect of social isolation on disaster preparedness in five "at-risk" groups in New South Wales, including people from CALD backgrounds. CALD participants indicated a significant reliance on others, often unfamiliar services, resources and neighbours, to inform them when danger was imminent and provide direction (Howard et al., 2018). In addition, Howard et al. (2018) found that a combination of factors such as being from a CALD background, having a low income, and experiencing social isolation, rather than those characteristics by themselves, increase vulnerability to emergencies and disasters (Howard et al., 2018). These findings are consistent with Uekusa's (2019) research, which showed that vulnerability to disasters was due to a lack of language skills and resources as well as other social factors such as race, gender and class. Donner and Lavariega-Montforti (2018) also concluded that the vulnerability of ethnically diverse individuals was the result of multiple influences.

In contrast, however, Chandonnet (2021) examined the complex factors that shape the resilience and vulnerability of CALD communities and observed that although CALD communities remain highly vulnerable to the impacts of disasters, "many migrants and refugees display high levels of resilience, knowledge and coping capacities" as a result of overcoming the significant challenges of migration and settlement

(Chandonnet, 2021, p. 5). Studies by Thorup-Binger and Charania (2019), Ikeda and Garces-Ozanne (2019) and Uekusa and Matthewman (2017) have also acknowledged that capabilities and vulnerabilities exist simultaneously in communities, and although these capabilities do not cancel out vulnerabilities, recognising and building upon them can lead to positive outcomes (Atun & Fonio, 2021; Grossman, 2013).

The importance of including the needs of CALD communities in disaster planning has become increasingly recognised (Thorup-Binger & Charania, 2019) and many state, federal and international frameworks acknowledge the need for a tailored approach to reducing disaster risk and increasing resilience for vulnerable communities. For example, the Queensland Strategy for Disaster Resilience (Queensland Reconstruction Authority, 2017, p. 10) has recognised that "the adverse effects of disasters are felt first and most significantly by people with vulnerabilities" and has stated that the Queensland Government is responsible for "ensuring all sectors of the community are aware of the options available for effective risk reduction" (Queensland Reconstruction Authority, 2017, p. 20). The Queensland Strategy for Disaster Resilience also highlights that a one size fits all approach will not be effective in strengthening resilience, and that successful implementation will instead be tailored, taking into consideration the diverse nature of Queensland communities (Queensland Reconstruction Authority, 2017).

The Sendai Framework for Disaster Risk Reduction 2015-2030 is a global framework pursuing the goal of preventing and reducing disaster

risk. Seven global targets have been adopted, one of which is to "substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments" (United Nations Office for Disaster Risk Reduction, 2015, p. 12). To achieve this, people-centred disaster communication must be developed that is tailored to the needs of users, including social and cultural needs (United Nations Office for Disaster Risk Reduction, 2015).

Strategies such as these highlight the importance of a tailored approach; however, few studies have explored how best to achieve this. The limited research that does exist in this field points to increased accessibility of information (Abunyewah et al., 2019), linguistic diversity in disaster education (Teo et al., 2019), connecting with community leaders (Chandonnet, 2021; Nagler, 2017), and translation (O'Brien & Federici, 2019) as suitable methods to reduce vulnerability.

2.2 Low levels of disaster awareness and preparedness

Disaster preparedness occurs at the individual, household, business, community and government levels. It is defined as "the taking of preparatory measures to ensure that if a disaster event occurs, communities, resources and services are able to cope with the effects of that event" and is considered a "critical element in minimising the consequences of an event on a community and ensuring effective response and recovery" (Queensland Disaster Management Committee, 2018, p. 37).

Disaster management agencies in Australia deliver a broad range of emergency and disaster preparedness programs and initiatives in the community that aim to foster a greater understanding of community risks and responsibilities (Hanson-Easey et al., 2018). Recommended preparations often include developing an emergency plan, creating an emergency kit and preparing the home by trimming trees, clearing gutters and securing loose items outdoors. Despite these efforts, research continues to show that CALD communities have lower levels of disaster awareness and preparedness. For example, a survey conducted in Logan, Queensland in 2017 sought to understand the challenges of engaging CALD groups in the preparedness phase of disasters (Teo et al., 2018). Despite the high frequency of natural hazard events in Logan, only 38% of CALD populations perceived themselves as being "prepared" or "very well prepared" for an emergency (Teo, Lawie, et al., 2018). CALD community leaders who attended a Queensland disaster management workshop in 2022 indicated disaster preparedness was not a priority for their communities until a disaster was seen as imminent (Office of the Inspector-General of Emergency Management, 2022). In addition, Petraroli and Baars (2022) have recently studied the disaster risk perceptions of foreign students in Japan and observed that a lack of communication with authorities was an obstacle to achieving disaster preparedness.

During the Great East Japan Earthquake and Tsunami in 2011, a small group of Thai women were living in a heavily affected area.

Japanese people living in this region had been trained in tsunami-evacuation drills; however, the group of marginalised Thai women were further disadvantaged having never been included in such drills (Pongponrat & Ishii, 2018). Due to a lack of accessible disaster preparedness information prior to windstorms in Washington, many Latin American immigrants died from carbon monoxide poisoning after bringing generators and grills indoors when electricity was lost (Nagler, 2017). In researching the risk awareness of people living in flood-prone communities in Austria, Weber et al. (2019) concluded that levels of risk awareness were lower among people with a migration background.

The task of engaging and educating diverse communities is profoundly complex (Hanson-Easey et al., 2018), and there are many social and cultural reasons that prevent CALD communities being prepared. Howard et al. (2018) have identified financial restraints that prevented some participants from being able to buy items for an emergency kit, such as torches and spare food. Marlowe et al. (2018) and Sun et al. (2018) found that some people were less likely to take preparedness action because of their belief that God would protect them if a disaster occurred. Others may minimise the level of danger in comparison to their forced migration journey (Marlowe et al., 2022). Moreover, Chandonnet (2021) discovered that preparing for disasters was not considered a priority due to the more immediate pressures of settling in Australia such as learning English and finding employment. Some CALD communities fail to understand their disaster risks or to take steps in

being prepared due to a false sense of security that they are living in a safe country. For example, Thorup-Binger and Charania (2019) discovered that eight out of 10 international students living in Auckland believed the city was a safe place to live and trusted the government's disaster management capabilities. Furthermore, newcomers to Australia often perceive the country to be a safe place to live and have experienced shock and distress when disasters occur (Chandonnet, 2021).

These challenges demonstrate some of the barriers CALD communities encounter which prevent them from adequately preparing for potential disasters, as well as the complexity of developing salient engagement approaches. However, despite the many challenges, proactively engaging CALD communities in disaster preparedness and ensuring access to disaster information is crucial to strengthening resilience (Teo, Lawie et al., 2018) and reducing disaster vulnerabilities (Marlowe et al., 2018).

2.3 Inaccessible disaster information

Previous research has indicated a significant increase in demand for disaster information (Gultom, 2016), and increasing cultural and linguistic diversity creates further demand for disaster information to be accessible in multiple languages (O'Brien et al., 2018). In order for the community to fulfill their information needs, media, government and community members are predominantly turned to as key information sources (Gultom, 2016). Problems, such as confusion, reliance and inaction, occur

when this information cannot be accessed and understood by the community seeking it.

Literature shows that the barriers faced by CALD communities in accessing disaster information are complex; however, many researchers agree that a tailored approach is essential (Campbell et al., 2017; Hanson-Easey et al., 2018; Seale et al., 2022b; Weber et al., 2019). There is still a lot to uncover about how CALD communities access, interpret and act on disaster information (Howard et al., 2017) with calls for further research to address the communication barriers with CALD communities (Ogie et al., 2018).

Teo, Goonetilleke, et al. (2018) have observed participants who experienced language difficulties, and struggled to find a relevant and relatable disaster information source. Hanson-Easey et al. (2018) have examined the role of social connectedness in delivering disaster information and found tailored information that met the cultural and communication needs of some new migrant communities was not available. Nieves (2019) has studied the implications of language in preparedness among Latino immigrants in New Jersey and noted that while adequate emergency information was available to the general public, information accessible in languages other than English was insufficient. Chandonnet (2021) has mentioned the challenges of culturally appropriate emergency communication in Australia, based on respondents reporting significant barriers to accessing preparedness information due to low English proficiency.

Substantial barriers to accessing critical information and instructions can have devastating consequences in the response phase of an emergency or disaster. Due to a lack of translated messages in the 2011 Queensland Floods, many CALD communities underestimated the risks and failed to heed warnings or take appropriate actions (Ogie et al., 2018). CALD communities impacted by the 2010-2011 Canterbury earthquakes were left uninformed about the status of ongoing aftershocks (Marlowe, 2019) and did not receive information about boiling contaminated drinking water to avoid illness (Campbell et al., 2017). During the COVID-19 pandemic in Australia, CALD communities had difficulty accessing "culturally tailored resources in relevant modes of delivery" (Seale et al., 2022b, p. 7), and widespread outbreaks in Victorian public housing towers with large CALD populations have been attributed to CALD communities not receiving and/or understanding critical health messages (Healey et al., 2022; Wild et al., 2021).

When there is a lack of accessible disaster information, the role of translating and interpreting often falls to community members who have reasonable English proficiency and an understanding of Australian culture; however, research shows there are both benefits and pitfalls to be aware of. Due to inaccessible information during the COVID-19 pandemic, CALD communities turned to international news they streamed from their country of origin, which did not reflect the situation or health advice in Australia (Seale et al., 2022b). During the 2010 Merapi volcanic eruption, the absence of official government information and inaccurate reporting

by mass media forced Javanese speaking residents to seek alternative information sources and they turned to their inner social networks as a result (Gultom, 2016). For some residents, information that was communicated through 'local actors' was considered to be more trustworthy than the government or media (Gultom, 2016). However, others argued that information delivered in this way was more susceptible to being misinformation or informed by rumours (Gultom, 2016).

Furthermore, Gultom (2016) observed that those with strong relationships within the community were more effective in facilitating and contextualising information but that there was also a risk of 'collective blindness' to new information coming from outside of the community. Hanson-Easey et al. (2018) has noted that large and more established CALD communities have the ability to access and appropriately translate information for newer members but that some remain isolated due to age or gender, and that smaller or emergent communities do not have these same resources to draw from.

Information transmitted between community members enables messages to be shared, yet it can easily lose some degree of meaning. In addition, an over reliance on young people to fulfill this role in their community may occur as a result of their higher levels of English proficiency and technological literacy (Hanson-Easey et al., 2018).

For disaster information to be effective, it needs to not only be accessed, but it also needs to be understood. At the Emergency Media and Public Affairs' Australian Disaster and Communications Conference,

Hua (2022) discussed the use of the term "household" in relation to COVID-19 restrictions and the implications of its use for CALD communities. For people from CALD backgrounds, the term "household" can refer to "family", regardless of whether or not they live in the same house, demonstrating that different cultural meanings can be attached to words resulting in unintended outcomes (Hua, 2022). Similarly, Ogie et al. (2018) have observed that "cultural and linguistic differences may distort the meaning of emergency warnings, which are often riddled with conflicting jargon" (Ogie et al., 2018, p. 2).

A New South Wales study into collaborative translation of emergency messaging engaged CALD focus groups to translate and consider six frequently issued disaster messages, for example "*Never enter floodwater. Never drive, ride or walk through floodwater. If it's flooded, forget it*" and "*Prepare an emergency kit with essential items"* (Ogie & Perez, 2020, p. 6). Many of the safety messages were found to be ambiguous, misleading or incomprehensible by participants. Some of the messages could not be easily translated, for example the word "ride" does not have a direct translation in Arabic. Mandarin and Spanish participants struggled to understand the meaning of the message, whereas Macedonian participants believed the informal tone of "if it's flooded, forget it" was impolite and therefore would not resonate (Ogie & Perez, 2020). Many participants did not understand what an emergency kit was (Ogie & Perez, 2020). The meaning of "emergency" and "disaster" can

also vary greatly, with many refugees associating these terms with violence and conflict based on their past experiences (Chandonnet, 2021).

The dissemination of timely, accurate and relevant information to the public is critical to successful incident management. For many CALD communities, the accessibility of disaster information requires translation from one language to another (O'Brien et al., 2018). In assessing the degree to which five countries address language translation across the 4-A rights-based standards of availability, accessibility, acceptability and adaptability, O'Brien et al. (2018) determined that while there is an evolving awareness of the need for translated information, the provision of it is not a focus in national disaster management approaches (O'Brien et al., 2018).

In exploring the role of technology in disaster communication in CALD communities, Ogie et al. (2018) have explained that due to various constraints, disaster management agencies in Australia aim to send the same message to as many people as possible in the shortest possible timeframe and in the dominant language, which does not take into account the language and cultural needs of CALD populations. Campbell et al. (2017) and Petraroli and Baars (2022) have recommended that disaster preparedness information should be provided in accessible and tailored formats. Ogie et al. (2018) have suggested that translated information would allow individuals to be more engaged, "with a greater tendency to personalise the risks and take appropriate actions (p. 4)." In the United States, disaster information is usually issued in the dominant

language, making non-English speaking individuals more vulnerable to disasters (Benavides et al., 2020), and while improvements have been made to include information in some languages, the majority of detailed guidance remains only available in English (Uekusa, 2019). Including translation as a key component of disaster management would have many benefits (O'Brien & Federici, 2019) but despite the widely acknowledged need for translation in the emergency and disaster context, there continues to be a lack of action in both research and practice (Ogie & Perez, 2020).

While it can be a very effective communication tool, many researchers agree that language translation alone will be inadequate in meeting the complex disaster information needs of CALD communities. Information that fails to consider the social and cultural context will be insufficient (Howard et al., 2017) as these factors influence how information is received, interpreted and shared (Hanson-Easey et al., 2018). Uekusa (2019) has argued that translated information is useful; however, the underlying issues need to be addressed. Additionally, inaccurate translation can create confusion and undermine an organisations credibility (Ooi & Young, 2021). If these factors are not considered in the construction and dissemination of disaster information, inequitable access will continue (Hanson-Easey et al., 2018). Translation also has other limitations. For example, it is not possible to translate disaster information into every language spoken in Queensland, while some communities rely more on verbal communication (Chandonnet,

2021). Furthermore, it cannot reach those who do not have literacy in their spoken language (Pyke, 2018).

In order to overcome some of these barriers, Chandonnet (2021) has recommended using translation in conjunction with other communication strategies. Hua (2022) has emphasised the importance of attaching culturally relevant stories and context to safety messages and multiple sources recommend the use of simplified language (Healey et al., 2022; Weber et al., 2019). In addition, Seale et al. (2022b) have highlighted the risk of focussing on translating materials in languages that cater for "high volume" community groups rather than "high need" groups, as newly emerging migrant and refugee communities are at a greater risk of missing out on critical information.

2.4 Communication channels

Effective communication between CALD communities and disaster management agencies is vital to building trust, improving understanding of risks, and encouraging community preparedness to strengthen resilience (MacDonald, 2020). It is therefore important to consider the communication channel preferences of diverse communities in the context of emergencies and disasters (Wild et al., 2021; Wolkin et al., 2019).

In 1997, Mileti and Darlington discovered that CALD communities prioritised social networks and interpersonal communication when seeking disaster information (Mileti & Darlington, 1997). This theme has continued to be evident in more recent literature. For example, a study by Weber et

al. (2019) has indicated that CALD communities would be more likely to seek information about flooding from family, friends or colleagues, whereas people without a migration background indicated that fire brigades, local government and internet sources would be their main sources of flood information. Using "low threshold channels such as door-to-door informational visits and personal contacts" to communicate tailored flood risk information to CALD communities have been recommended (Weber et al., 2019, p. 22). Cadwell (2019) has studied the relationships between translation, trust and distrust in relation to the 2011 Great East Japan Earthquake and discovered that word of mouth communication was the preferred channel for CALD communities. Liu (2020) has examined the linkages between communication resources and individual recovery from Hurricane Harvey and discovered that the exchange of information through interpersonal communication (word of mouth), government, and in some cases local organisations, were considered significant. Teo et al. (2019) have also noted that word of mouth is a preferred communication channel for CALD communities to obtain information during a disaster; however, participants of this study also reported a preference for mainstream channels, including television, FM radio and the Bureau of Meteorology website. Hanson-Easey et al. (2018) have discovered that mainstream channels such as television and radio were a useful mechanism for broadcasting disaster information because members of the community with better English proficiency would

receive information in this way and disseminate it through their social and cultural networks.

For Pacific Island leaders in New Zealand, community radio was considered an important communication channel, yet young participants preferred social media and participants across age groups acknowledged the importance of working with churches to deliver disaster information (Marlowe et al., 2018). Pyke (2018) conducted three case studies across three Australian states to identify barriers and opportunities for community engagement in disaster management and discovered that different communities had different communication and engagement preferences. For example, Muslim representatives emphasised the importance of ethnic radio, whereas African representatives preferred word of mouth communication (Pyke, 2018).

CALD communities have reported a variety of communication channel preferences for obtaining up to date information in a disaster. Word of mouth communication within social networks has been shown to be significant in the literature; however, a shift toward social media and online platforms is also emerging. For example, in a study investigating COVID-19 communication efforts with CALD communities, participants reported a preference for smartphone-based group messaging platforms such as WhatsApp, Facebook Messenger and Viber (Seale et al., 2022b). Marlowe et al. (2022) have found that social media platforms, as well as text messages, language radio programs and places of worship are the preferred communication channels among refugee groups in New

Zealand. Thorup-Binger and Charania (2019) have also discovered that mobile devices and social media platforms are central to communicating disaster information. In addition, a recent Red Cross study has reported that online platforms, including WhatsApp, play a critical role for many CALD communities in sharing information. Multimedia materials such as videos, audio clips and animations were also considered by participants to be effective (Chandonnet, 2021).

Research regarding the emergency and disaster communication channel preferences of CALD communities predominantly focuses on the response phase, and limited research exists in relation to other phases of disaster management. Existing research suggests that local community channels may be more effective than a reliance on mainstream media channels (Seale et al., 2022b). In addition, communication channel preferences for CALD communities can differ depending on the type of emergency (Wolkin et al., 2019), the locality, ethnic community (Pyke, 2018), literacy levels, IT skills (Chandonnet, 2021), age (Ogie et al., 2018) and the disaster management phase. It is therefore recommended that a multi-pronged communication approach is used to reach CALD communities (Campbell et al., 2017; Chandonnet, 2021; Healey et al., 2022; Marlowe et al., 2022; Pyke, 2018). Furthermore, Ogie et al. (2018) have emphasised the importance of emergency management agencies working with multicultural organisations to understand the different profiles of local CALD communities in order to identify the most appropriate communication channels.

2.5 Trusted sources

The importance of trust and relationships when engaging with CALD communities is a recurring theme throughout the literature, which demonstrates that a lack of trust in disaster management agencies is a barrier to people seeking disaster information (Teo, Lawie, et al., 2018) and prevents an effective disaster response (Gultom, 2016). Marlowe et al. (2022) have discovered that refugee communities are unlikely to read disaster information sent out by the local council due to a lack of trust in outside organisations. Furthermore, the management of the COVID-19 pandemic in Australia is believed to have caused a decline in trust (Duckworth, 2022), due to inconsistent and frequently changing messages (Healey et al., 2022) and incorrectly translated materials (Dalzell, 2020).

Building trust with CALD communities can only be achieved through the development of long-term partnerships (Ooi & Young, 2021) and reciprocal relationships (Duckworth, 2022). Once achieved, there are many benefits to disaster management agencies and CALD communities, including a better understanding of community needs, improved access and safety, innovative decision-making and effective communication (Ooi & Young, 2021).

Liu and Ni (2021) have studied the ways in which relationships between government and CALD communities impact disaster recovery outcomes and have found that building and maintaining quality relationships motivates people from CALD backgrounds to proactively

seek information from official sources, and directly contribute to enhanced coping abilities. Benavides et al. (2020) have noted that trust and credibility are essential to influence attitudes toward disaster risk. Failing to establish relationships can alienate CALD groups and leave a significant gap in their unique disaster information needs (Liu & Ni, 2021). Ramsbottom et al. (2018) have emphasised the importance of engaging CALD communities throughout all phases of disaster management and have recommended establishing supportive, collaborative and culturally sensitive relationships from the outset to generate more efficient responses during emergencies. Teo, Lawie, et al. (2018) w suggested early proactive engagement with vulnerable groups will help build trust that can be tapped into during an emergency or disaster. This notion is reiterated by Chandonnet (2021) who stated that building trusting relationships ahead of emergencies is the most powerful way to ensure CALD communities are informed.

In contrast, Armstrong et al. (2020, p. 3) have implied that trust is a balancing act, warning that "excessive trust in authorities could have a negative effect on preparedness." Armstrong et al. (2020) have stated that if people put too much confidence in governmental protection, there would be little motivation for disaster preparedness action at an individual level. This concept is evident in a New Zealand study where some international students did not concern themselves with disaster preparedness because of the high level of trust they had in the local government's ability to respond (Thorup-Binger & Charania, 2019).

In order for disaster information to be received and perceived as credible by the community, it must be delivered by a trusted source (Wild et al., 2021). As Chandonnet (2021) has explained, emergency and disaster information originating from trusted sources "will generally be perceived as reliable and important and is therefore more likely to lead to the adoption of preparedness actions (p. 111)." Hua (2022) has also concluded that key messages are more likely to be actioned by CALD communities when delivered by trusted sources.

CALD leaders hold a trusted and influential position in their communities (Chandonnet, 2021). They are often educated, multilingual and well-connected and they support their communities through advocacy, distributing information and linking people with services and resources (Shepherd & van Vuuren, 2014). Research regarding the role of community leaders in supporting community preparedness in Australia has however, until recently, been limited. Nevertheless, during the COVID-19 pandemic in Australia, CALD community leaders were instrumental in bridging the gap between the government and CALD communities, by supporting the delivery of important health information (Seale et al., 2022a). As a result, new research has since emerged that highlights the success of collaborating with community leaders to ensure emergency information is accessible, meaningful and effective for CALD communities (Seale et al., 2022b).

In October 2020, a COVID-19 outbreak occurred in Lakemba, a highly multicultural suburb of Sydney, New South Wales (NSW). In

response, the NSW Health and the Sydney Local Health District (SLHD) launched a rapid public health campaign where community and religious leaders were engaged to act as 'COVID Safe' champions (Ioannides et al., 2022) to support the objectives of the campaign, which were to raise awareness in a culturally competent manner, establish local in-language pop-up COVID-19 testing clinics, and support local businesses to comply with safety requirements (Ioannides et al., 2022). The campaign resulted in an 87% increase in COVID-19 testing, while education and advice was provided to 127 local business, and verbal and written in-language resources were developed (Ioannides et al., 2022). Chandonnet (2021) has also highlighted the benefits of a "community champions" model, which is designed to enable the delivery of culturally appropriate messages, increase the uptake of information, and provide opportunities for involvement in community preparedness.

In studying the communication of COVID-19 information amongst a refugee community in rural Australia, Healey et al. (2022) observed that trusted services and individuals were critical to the uptake of health messages. Wild et al. (2021) have sought to better understand the role of community leaders in shaping health behaviours in the context of the COVID-19 pandemic, and they discovered that partnerships between government, CALD leaders and communities were critical for prompt and effective health communication. Seale et al. (2022a) explored the role of community leaders during COVID-19 and found that CALD leaders and other information intermediaries were key to ensuring information would

reach all community members due to their in-depth understanding of the community and their strong networks and links into the community. In addition, Hanson-Easey et al. (2018) have noted the valuable contribution of community leaders in contextualising and tailoring messages for CALD communities.

While there are many benefits to partnering with community leaders to deliver trusted information, the literature also identifies some concerns with this approach. For example, community leaders and trusted community services have reported feeling under-supported by government agencies (Healey et al., 2022). There is also the potential for "burnout" to occur for community leaders (Seale et al., 2022a), who have described the role as a 24/7 commitment which is taken on in a voluntary capacity on top of their other responsibilities (Shepherd & van Vuuren, 2014). Furthermore, research shows that community leaders can filter and place their own bias through information (Shepherd & van Vuuren, 2014) and that interpretation by unofficial interpreters can result in errors, distorted messages or potentially blocked messages if the content does not align with the leaders' own beliefs (Seale et al., 2022b). This indicates that adequate training and support is needed to facilitate successful partnerships with CALD community leaders.

2.6 Summary and conceptual model

The literature review has discussed the issues of vulnerability, lack of disaster awareness and preparedness among CALD communities and

the inaccessible nature of current disaster preparedness information. The literature review has also provided insight into the preferred communication channels of CALD communities and the sources they trust to deliver such information.

The literature review has further emphasised the urgent need for disaster management agencies to adapt and tailor their approaches to meet the unique and complex information needs of CALD communities. Only information that is accessible and understandable can be actioned and shared, thus strengthening individual, household and community resilience.

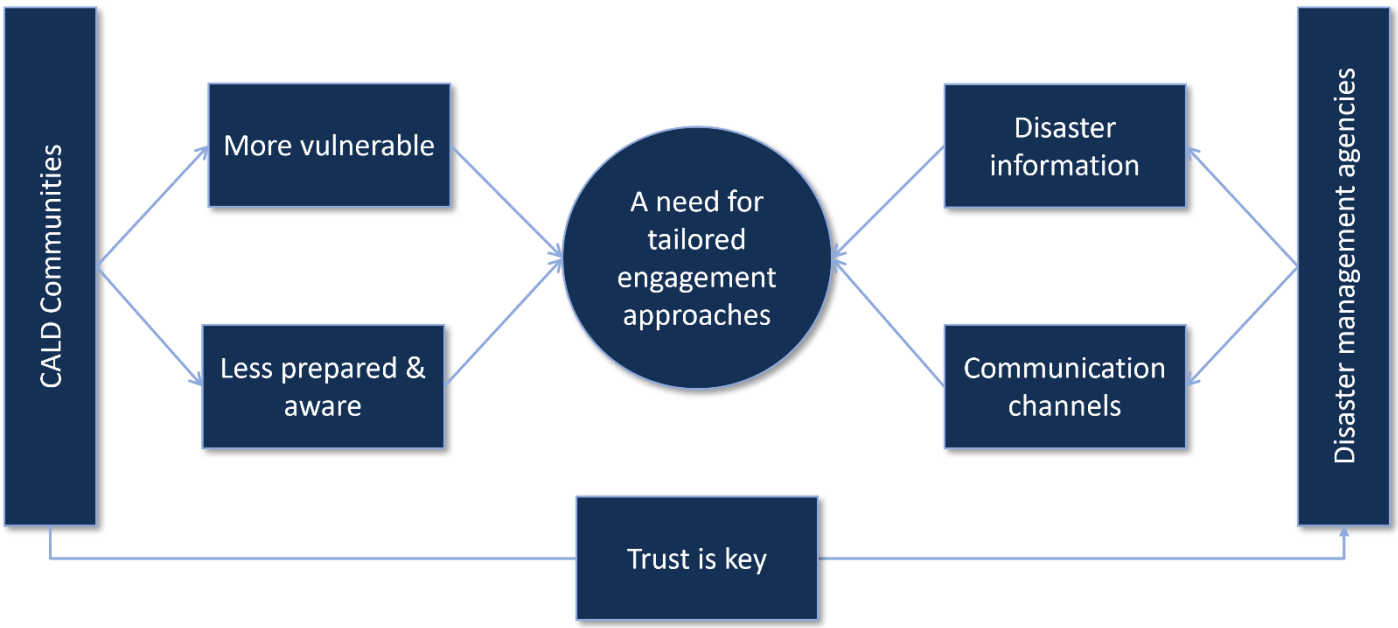
Existing research primarily focuses on the information needs of CALD communities during the response phase of emergencies and disasters. Preferred communication channels during emergency response and the need for tailored warnings is well documented; however, equal attention should be given to tailoring the development and delivery of disaster preparedness information.

The conceptual framework presented in Figure 2 underpins this research project. Itreflects the key topics identified in the literature review and the research problem. As evidenced in the literature review, the conceptual framework depicts CALD communities as being more vulnerable to the impacts of emergencies and disasters (Howard et al., 2018). It also highlights the low levels of awareness of local risks and low levels of preparedness for emergencies and disasters evident in CALD

communities (Teo et al., 2018). The conceptual framework outlines the responsibility of disaster management agencies to deliver disaster information to communities. Literature shows that this information is often delivered through communication channels that fail to reach CALD communities. The urgent need for tailored engagement approaches is emphasised and the conceptual framework illustrates that it is essential for disaster management agencies and CALD communities to work together to achieve this goal. Furthermore, this process must be built on trusting relationships (Chandonnet, 2021)in order for CALD communities to effectively receive, understand and act on disaster preparedness information, and strengthen their disaster resilience.

Figure 2

Conceptual framework



CHAPTER 3: METHODOLOGY

Chapter 2 provided a review of existing literature relating to the disaster preparedness information needs for Culturally and Linguistically Diverse (CALD) communities. It discussed the issues of vulnerability, preparedness and inaccessibility, and highlighted the need for a tailored approach to engaging CALD communities in disaster preparedness through suitable communication channels and trusted sources.

Chapter 3 describes the research design adopted to address the research questions, and it provides an overview of the location in which the research has taken place as well as the research participants. The collection, management and analysis of data are detailed, as are ethical considerations relevant to the study.

3.1 Research design

The research paradigm selected for the study was Constructivism. Constructivism projects the view that multiple realities exist (Mackenzie & Knipe, 2006); and that reality is socially constructed and subjective rather than objective (Mackenzie & Knipe, 2006). The research explored the attitudes, opinions and experiences of individuals from CALD backgrounds to construct knowledge relating to the disaster preparedness information needs of CALD communities. This viewpoint aligns with Constructivism, which considers that knowledge is established through the meanings attached to investigated phenomena by the research participants (Krauss, 2005; Mackenzie & Knipe, 2006). This research adopted an exploratory

approach, which was considered appropriate for the subjective and qualitative nature of this study. Exploratory research is useful for investigating open-ended research questions that have not previously been studied in depth (George, 2023).

Qualitative approaches were common among the literature reviewed in Chapter 2 and align well with Constructivism. Krauss (2005) explained that the construction of meaning is complex, partly because something may have common meaning to a group of people, but an individual member of the group may view it differently. For example, community attitudes toward the accessibility of disaster information may differ for individuals who have experienced a significant disaster event compared to those who have not. For this reason, focus groups were selected as an appropriate qualitative data collection method for the research. Focus groups stimulate a greater level of in-depth dialogue (Howard et al., 2018), which is not found in other methods (Smithson, 2000), and are therefore suitable for determining patterns or themes regarding feelings, attitudes and perceptions (Krueger & Casey, 2000) toward a particular topic.

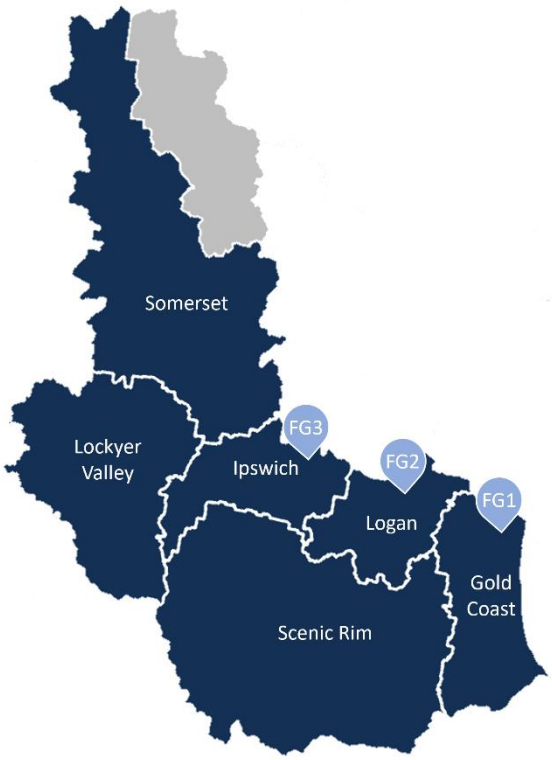
3.2 Research locality

This study was conducted as a work-based research project, and as such it was necessary for it to be conducted within the researcher's work area of QFES' South Eastern Region (see Figure 3). This is a highly multicultural region, consisting of the fastest developing urban and rural

communities in Queensland, and it encompasses the Local Government Areas (LGAs) of the Gold Coast, Logan, Ipswich, the Scenic Rim, the Lockyer Valley and part of Somerset (Queensland Fire and Emergency Services, 2023).

Figure 3

QFES – South Eastern Region focus group locations



Three focus groups were conducted in the South Eastern Region in the LGAs of the Gold Coast (FG1), Logan (FG2) and Ipswich (FG3). These research localities were selected due to their rich diversity profiles (see Table 1).

Table 1

The percentage of people born overseas and who speak a language other than English (profile.id, 2021)

Region	Population born overseas (%)		Population who speaks a language other than English at home (%)	
	2021	2016	2021	2016
Australia	27.7	26.3	22.3	20.8
Queensland	22.7	21.6	13.2	11.8
Gold Coast City	29.1	28.2	13.7	12.2
Logan City	27.9	27.3	18.1	15.9
Ipswich City	21.7	20.1	14.1	11.6

3.3 Research participants

CALD community leaders were recruited to participate in three focus groups in the Local Government Areas (LGA) of Gold Coast, Logan and Ipswich. For this study, it was important that participants were recruited based on their ability to provide insight into the research topic (Halcomb et al., 2007), and to articulate not only their own experiences, but also express the perspectives of their community. For this reason, CALD community leaders were recruited to participate in the study. To be eligible to participate, community leaders were required to be aged 18 or older and have an English proficiency level similar to the Level 5 International English Language Testing System (IELTS) band, so that their English would be relatively fluent and they would be able to clearly understand the consent process. The study included no more than one

member of an immediate family to ensure diversity of opinions and experiences.

A convenience sampling method was applied to recruit participants as the researcher had existing connections with multicultural agencies within the three identified LGAs. These agencies assisted with the recruitment process by identifying eligible community leaders and sharing the research invitation and information with them. Contacts within the multicultural agencies were also able to advise of culturally sensitive considerations and suitable times and venues for the focus groups to take place.

Despite existing relationships with the multicultural sector in the South Eastern Region, recruiting participants proved to be challenging and low participant numbers were achieved for the focus groups held on the Gold Coast and in Logan. The researcher received feedback that the formal aspects of the recruitment process, including providing an information sheet with technical, but necessary, information and a consent form created a barrier that prevented CALD community leaders from being willing to participate. For example, the information sheet was not written in plain English. This resulted in some of the information being misinterpreted which is discussed in further detail in this Chapter. In addition, some may have been uncomfortable signing a form issued by a government agency they are unfamiliar with.

3.4 Data collection

Focus groups are a common research method used to generate rich qualitative data relating to the opinions, values and beliefs about a research topic (Halcomb et al., 2007) and they were therefore selected as an appropriate data collection method for this study. Focus groups are characterised by facilitated discussions among a participant group that is small enough to allow all participants to share insights and contribute to a discussion, yet large enough to provide diverse views (Krueger & Casey, 2000). In addition, focus groups are commonly used in studies that aim to derive new knowledge (Halcomb et al., 2007), and they therefore align well with the Constructivist paradigm.

3.4.1 Focus groups

A total of 16 community leaders participated in three focus groups which were held in the LGAs of the Gold Coast (FG1), Logan (FG2) and Ipswich (FG3). Participants represented communities from a broad range of backgrounds including Kenyan, Tongan, Burmese, Qatari, Sudanese, Samoan, Nigerian, South Sudanese, Chinese and Indian. Due to small focus group numbers within FG1 and FG2, the cultural backgrounds of participants have not been specified for each focus group to prevent identifiability of participants. A focus group schedule is provided in Table 2.

Table 2

Focus group schedule

Focus group	Code	Location	Date	No. Participants	Duration
1	FG1	Gold Coast	10/08/2022	4	1hr 46m
2	FG2	Logan	25/08/2022	3	1hr 10m
3	FG3	Ipswich	30/11/2022	9	1hr 36m

The researcher facilitated the focus groups in face-to-face settings and followed a pre-determined question route, which was developed to guide focus group discussions and enhance the consistency of data obtained across the three focus group locations (Halcomb et al., 2007). Time was spent at the beginning of each focus group to provide an overview of the research, explain key terms and establish guidelines for the conduct of the focus groups, to encourage open and respectful dialogue. The researcher explained the consent process, provided opportunities for participants to ask questions, and informed participants when audio recording of the discussion commenced.

At the beginning of FG3, after the researcher provided an overview of the research project and an outline of how the focus group would run, some participants indicated confusion about the purpose of the focus group and explained they were under the impression they were attending a training session. Participant three (FG3.3) advised that she had forwarded the focus group invitation to other community leaders and in doing so re-worded some of the information provided to sound less

formal, and she had used the word 'training'. The researcher apologised for the confusion, explained the intended purpose of the focus group, and gave the group additional time to read through the information sheet and consent form and to ask any questions. It was reiterated that participation was voluntary and that participants were under no obligation to continue. All nine participants of FG3 indicated they were comfortable to continue with the focus group and provided their consent. During transcription of the audio recordings, participants were de-identified and names were replaced with unique codes, for example FG1.1 refers to Focus Group 1, participant 1.

3.4.2 Transcription of focus groups

Focus groups were recorded using a digital audio recorder and recordings were transcribed using the automatic transcription program, Otter.ai. The researcher listened to the focus group recordings and reviewed the transcripts to ensure accuracy. In addition, identifiable data, including names, references to cultural backgrounds, and places of work or volunteering were removed from the transcripts during this process. Participant names were replaced with unique codes.

3.5 Data management

Data obtained during the study, including audio recordings and transcripts, were stored electronically using primary and secondary password protected storage methods. Hand-written notes taken by the

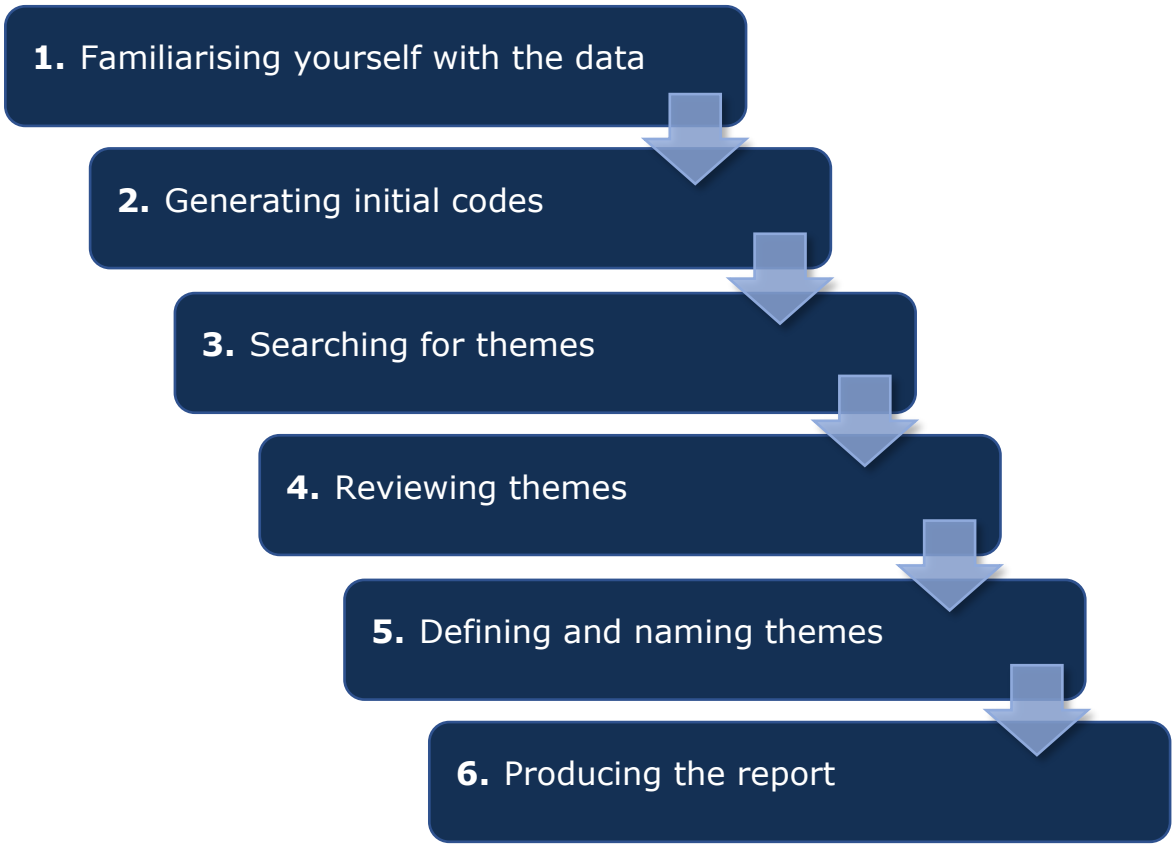
researcher during the focus groups were scanned and also retained electronically. Data was de-identified and managed using the data management software program, NVivo 12 (QSR International).

3.6 Data analysis

A thematic analysis of the data obtained from the focus groups was carried out using Braun and Clarke's (2006) six phases of thematic analysis, which are outlined in Figure 4.

Figure 4

Phases of thematic analysis (Braun & Clarke, 2006)



These six phases were systematically followed beginning with the first step of becoming familiar with the data through repeatedly and actively reading it. .The researcher read the verbatim transcripts multiple times while searching for meaning.Patterns and potential codes were identified and recorded. Once familiar with the data, the researcher commenced phase two of the thematic analysis, whereby initial codes were generated by organising the data into meaningful groups. The data management software program, NVivo 12 (QSR International) was used to assist with the coding process. Phase three involved searching for themes The researcher considered the various codes and grouped them into central themes. In phase four, themes were reviewed through a thorough re-examination of the complete data set to ensure they formed coherent patterns. Phase five involved the process of defining and naming themes and includedthe researcher connected central themes with the research questions. Finally, in phase six, the analysis was completed and the thesis was written (Braun & Clarke, 2006).

3.7 Ethical considerations

The issues of informed consent, confidentiality and risk of harm were identified as relevant ethical considerations for the study and were addressed in an ethics application (H21REA273) that was submitted to the University of Southern Queensland Human Ethics Committee. Approval to proceed with the study was granted by the USQ Human Ethics Committee on 20 December 2021.

The first ethical consideration taken into account pertained to the issue of informed consent. To enable potential participants to make an informed decision about whether or not to participate in the study, they were provided with information about the purpose and conduct of the research project, how their personal information would be managed, and any potential risk of harm (Connelly, 2014). Participants were informed that their participation in the study was voluntary and that they were able to withdraw from the study at any time (Ketefian, 2015). Only those with a level of English similar to the Level 5 International English Language Testing System (IELTS) band were recruited to participate in the study, to ensure participants had the necessary English language proficiency to clearly understand the consent process.

The second ethical consideration related to participant confidentiality. Due to the nature of focus groups where information is disclosed in a group setting, the researcher is unable to guarantee complete confidentiality (Halcomb et al., 2007); however, strategies were put in place to minimise potential issues. During the focus groups, participants were encouraged to use first names only, yet some participants chose to disclose their full name when introducing themselves. CALD community leaders are part of small tightly knit networks and as such, many participants knew one another outside of the focus group and were comfortable sharing information about themselves in the focus group setting. Identifiable information was removed from transcripts, including names, references to cultural backgrounds, and

places of work or volunteering. Participant names were replaced with unique codes.

Finally, risk of harm was considered as a potential ethical concern. The topic of emergencies and disasters can be a sensitive one for some people and cultures, and there is potential for the topic to cause distress to those who have previously been impacted by a disaster event or who have experienced trauma (Chandonnet, 2021). Participants were informed of this risk and of the nature of the focus group discussions in advance (Ketefian, 2015). Participants were advised of their right to withdraw at any time and contact details for support services were provided in the information sheet. In addition, local multicultural organisations were engaged by the researcher to assist with participant recruitment and to provide advice relating to culturally sensitive practices. Despite these potential risks, none of the above occurred as a result of participation.

3.8 Chapter summary

This chapter has included a detailed discussion of the qualitative research methodology adopted in the study to explore the disaster information needs of CALD communities, including a description of the research design, locality and participants. The chapter has provided an overview and justification for the data collection method and has detailed the thematic data analysis process. Ethical considerations in relation to the study have also been discussed. The next chapter provides a detailed

analysis of the data and discussion of the themes to emerge from the data.

CHAPTER 4: ANALYSIS AND RESULTS

Chapter 3 has described the research design, including an overview of participant recruitment, the data collection method, data management, and data analysis processes. It has also outlined the ethical considerations relevant to the study.

Chapter 4 provides an in-depth analysis of the themes that emerged following the thematic analysis discussed in Chapter 3. Three distinct themes have been identified through the thematic analysis process which are discussed in detail in this chapter. It is common practice to develop a thematic map when analysing data using the Braun and Clarke (2006) method, which is presented throughout the chapter.

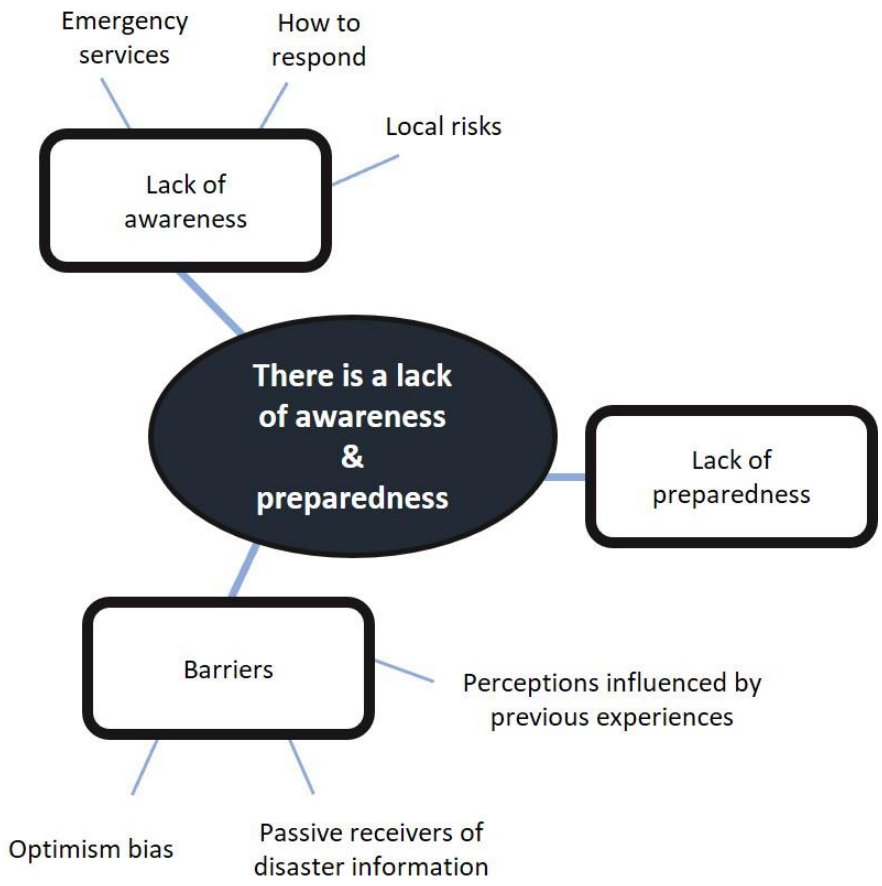
4.1 Theme 1 – Low levels of awareness and preparedness

The first theme to emerge from the focus groups related to low levels of awareness of emergencies and disasters and low levels of preparedness for such events. Data collection took place within five to nine months after the South-East Queensland rainfall and flooding event of February and March 2022. This event significantly impacted the research locality and some participants reflected on their experience during this event and other disasters when describing their community's levels of awareness and preparedness for disasters. Participants also shared varied reasoning for the lack of awareness and preparedness in their communities. English proficiency, optimism bias, previous experiences with disasters in other countries, and a reliance on others to

provide information were believed to hinder awareness and preparedness. A thematic map summarising Theme 1 and relevant sub-themes is provided in Figure 5.

Figure 5

Theme 1 thematic map



4.1.1 Emergency and disaster awareness

Participants indicated that Culturally and Linguistically Diverse (CALD) communities lacked knowledge of their local risks and how to respond during an emergency or disaster. Participant FG1.2 stated that her community is not aware of their local disaster risks and believed this

is partly because they rarely occur on the Gold Coast. This participant reflected on the South-East Queensland rainfall and flooding event of February and March 2022:

> But I think this last year was probably the first time that it was very real. Like the disasters are very, very real … it actually hit home to a lot of people that, wow, this was on our doorstep. (FG1.2)

Despite the widespread impacts of this event, participant FG1.2 believed the community are quick to forget about how they were affected and remain unaware and unprepared for similar events in the future.

FG1.1 agreed that local CALD communities lacked awareness of their disaster risks but questioned whether those born in Australia had adequate awareness either. FG3.4 was familiar with the bushfire risk in parts of Ipswich but commented that his community lacked awareness:

> When you ask people about bushfire and what they know about bushfire, you'd be very surprised. A lot of them don't really know. (FG3.4)

Some participants believed CALD communities lack knowledge of how to appropriately respond in an emergency or disaster. This concern was expressed by participant FG1.4:

> Most of us don't know what to do in case of disaster … In case of emergency, people are confused. (FG1.4)

Participant FG3.1 reflected on his experience of the "Halloween hailstorm" event in 2020 and recalled that the community was disconnected and did not know how to respond:

> For our community, we didn't know each other, for example, there was someone living just down the street and I didn't know that he belongs to the same community … we didn't have a hub … where we could come and connect and help each other. People lost their roofs on their houses and they didn't know what [to do]. (FG3.1)

Notably, the majority of participants in the Gold Coast (FG1) and Logan (FG2) focus groups (FG1.1, FG1.2, FG1.3, FG1.4, FG2.1, FG2.2) reported that their communities were unsure about the roles of emergency services and how to contact them for assistance before, during and after an emergency or disaster, including when to call triple zero. Participant FG1.2 stated that in the event of a flood, she did not know how to get sandbags or who to call for assistance if water was entering her property. Participant FG2.2 was not aware of the SES and how they assist storm- and flood-affected communities, and stated "If I don't know, how are others meant to know?"

Participant FG2.1 explained that there is confusion among the community about which services are responsible for the different types of emergencies and disaster, and about how to contact them for help or information:

> Let's say, for example, an incident with flooding. So, who's involved with flooding? Like which department, you know? … Who's involved in fire, you know? And who to call? Contact name? And then it could be COVID. (FG2.1)

This confusion was echoed by participant FG1.1:

> We don't know. Even I don't know … In a normal time or emergency during disaster, who do you call? (FG1.1)

Participant FG1.3 was aware that the local council was an appropriate source of information in a disaster and believed that those with a "certain level" of English would be able to find the information if they needed it.

4.1.2 Emergency and disaster preparedness

Participants indicated that CALD communities are not adequately prepared for a potential emergency or disaster. Participant FG1.2 described being caught off guard by the South-East Queensland rainfall and flooding event of February and March 2022, and was not prepared for the impacts:

> I was one of those people that go "oh, I live in an apartment, and nothing was going to happen to me", but even the balconies flooded … For me, it always seemed like a distant thing and I think that's the same with a lot of people. It happens, but it happens around me. So, am I prepared? No, I'm not prepared at all … I don't think anyone's prepared, and I don't think anyone actually knows anything about it. (FG1.2)

This participant noted that a person's level of preparedness was influenced by factors such as the level of English proficiency within the household and length of time residing in Australia:

> They might not even be aware that you can be prepared. And that depends on how long ago did you come into the country … it depends if people are alone or live in a family…with one English speaking person at least … sometimes we might not even have that one proper English speaking person so there's probably not even an awareness. (FG1.2)

FG3.1 reflected on a previous bushfire incident in the area. He reported that his community was panicked and unprepared when they received a bushfire warning advising residents to prepare to evacuate:

> And all of a sudden people in that street [had] gotten a message to get ready for evacuation and it was like a shock for everyone that we were evacuating … we don't live somewhere where there are lots of bushes … they didn't know what to do. (FG3.1)

This participant went on to highlight the importance of increasing community awareness of emergencies and disasters:

> Generally, we are not prepared for these things … There is definitely a big gap … we definitely need to do more, and we need to raise awareness around such things … maybe if these discussions are there, then people are not as shocked and as unprepared as they are today. (FG3.1)

In contrast, participant FG2.1 reported that she and her community had taken steps to prepare for a potential emergency or disaster event. She explained that her place of worship had discussed the issue of

disaster preparedness and encouraged its members to create an emergency kit by providing a checklist of items to prepare.

> From our church perspective with my community, we have a 72-hour pack, which we are encouraged to have for each family, and then that's what we do in preparation. So, when he says, "okay, you have to go", you just bring your bags for each of your children and yourself and go. That's from my church community. (FG2.1)

4.1.3 Barriers to awareness and preparedness

Participants discussed the reasons for the low levels of awareness and preparedness among CALD communities. The issue of optimism bias was discussed predominately by the Ipswich (FG3) focus group. Optimism bias is the tendency to overestimate your chances of experiencing positive events and underestimate the likelihood of experiencing negative events (Sharot, 2011). Five participants (FG3.1, FG3.2, FG3.3, FG3.4, FG3.9) highlighted this as a barrier that hinders preparedness in the community:

> There is enough information, enough means of obtaining information. But if the attitude is "well, that's not gonna happen to me. My family and I don't need to know these things"; unless that changes, we're not going to be able to filter information down to everyone. (FG3.3)

Gold Coast participant FG1.2 also believed optimism bias to be linked to low levels of awareness and preparedness:

> I also think there is an element of "it doesn't happen to me, it happens to everyone else". (FG1.2)

Participant FG3.9 emphasised how religious beliefs can prevent people from preparing for emergencies and disasters:

> There is another mindset, you know people including myself, that I'm being protected by God … I don't need to do anything. (FG3.9)

Participants in the Gold Coast (FG1) and Ipswich (FG3) focus groups described their communities as passive receivers of disaster information and believed this has contributed to low levels of awareness and preparedness:

> I don't think that people generally go out and do any fact finding … This was not talked about and this has not been discussed previously. (FG3.1)

Gold Coast participants FG1.1 and FG1.4 noted that disaster management agencies had not 'sat down' with their community to discuss the issue, resulting in a lack of community action:

> So far nothing has been done. First of all, because nobody has come and approached us, sat with us, held a seminar at the [place of worship]. (FG1.4)

Ipswich participants FG3.1 and FG3.7 explained that their community members are often too busy to seek out such information, due to their work obligations, and therefore rely on their community leaders to relay important messages.

Some participants indicated that perceptions of risk and levels of preparedness amongst their communities were influenced by their experiences with emergencies and disasters in other countries. Participant FG3.7 explained that bushfires in Australia are rare in comparison to his country of origin where they occur frequently; therefore, it was difficult for the community to see it as a serious issue. Participant FG2.2 described how his ceiling unexpectedly collapsed during the South-East Queensland rainfall and flooding in March 2022. He explained why he was not concerned when his ceiling began leaking and a wet patch appeared:

> Because where we live there, we don't have this sort of house, it's just like very simple. The roof is leaking but that's normal for us … I didn't see it was a big deal before it fell off. But when it fell off and I have to ask someone to fix it and have to spend lots of money because it was half of my ceiling. (FG2.2)

Participant FG1.3 explained that the concept of preparedness may be unknown to many people because such information is not available in their country of origin:

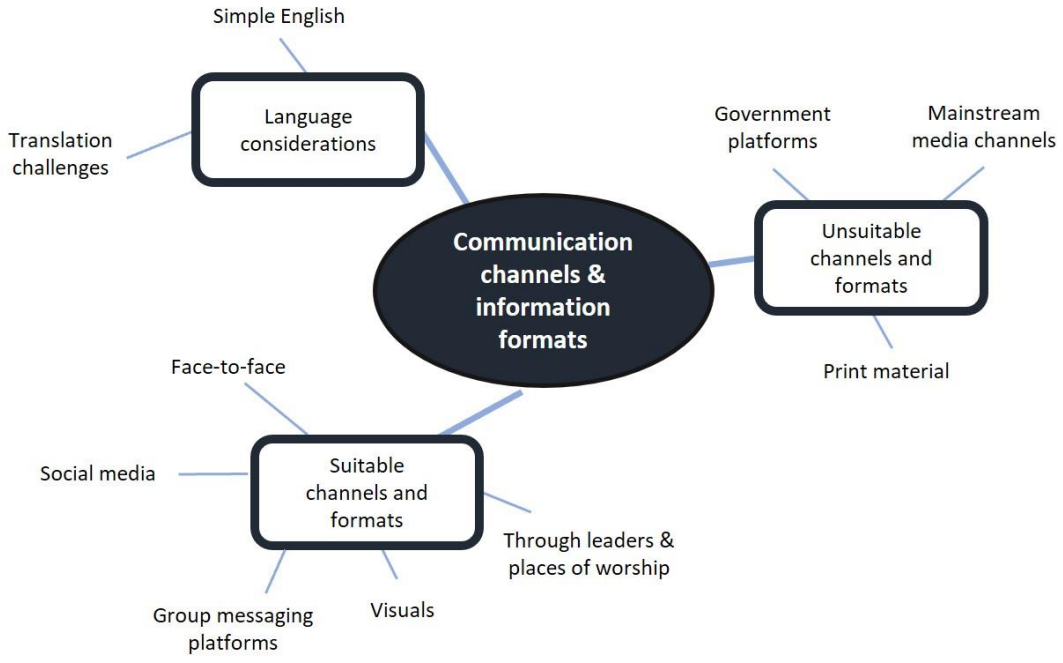
> We might not even know that it's available because it's not available back home. In some of the countries they come from, it's not. You look after yourself … Preparedness might not be something that they're aware of, so that awareness needs to be created. (FG1.3)

4.2 Theme 2 – Communication channels and information formats

The topic of communication channels through which disaster information can be disseminated, and the formats of such information, were discussed in depth during each focus group and this emerged as a key theme. Participants also provided insight into various language considerations that impact the effectiveness of disaster communication and engagement approaches. A thematic map summarising Theme 2 and relevant sub-themes is provided in Figure 6.

Figure 6

Theme 2 thematic map



4.2.1 Suitable channels and formats

Participants in all focus groups (FG1.1, FG1.3, FG1.4, FG2.2, FG3.1) described the well-established communication methods and networks that

exist within Culturally and Linguistically Diverse (CALD) communities, and they recommended the use of free group messaging platforms such as WhatsApp, Viber and WeChat as suitable channels for reaching the community with emergency and disaster information.

> Set up a WhatsApp group and then if there's information you want to [pass] on, you have leaders in your list and send to them, and we will send it out to our respective members. (FG1.4)

The process of disseminating information to the community through group messaging platforms was also discussed by participant FG2.2:

> We have Viber Group, Facebook Group … if something happens, or something is going to happen, whether it be about weather or COVID…we try to send it to the group so that everyone can see it in our mother tongue. (FG2.2)

Participants FG1.1, FG1.4 and FG2.2 noted that this process had worked well for circulating official health information to their communities during the COVID-19 pandemic. Participant FG2.1 emphasised group messaging platforms as a useful channel for reaching young people, as they can access the information from their smart phones.

Social media, in particular Facebook, was mostly considered by participants (FG1.1, FG1.3, FG1.4, FG2.1, FG2.2, FG2.3, FG3.1) as a suitable communication channel for CALD communities. This point was expressed by FG1.4 and FG2.2:

> Nowadays you must use the services of social media. (FG1.4)
>
> People are generally dependant on Facebook. (FG3.1)

Participant FG2.2 described how Facebook was used by the community to disseminate COVID-19 information:

> Facebook we use a lot of, especially with COVID-19 for the past few years, Queensland Health Facebook page. So, I'm sure many, 90% of our community they 'like' that Facebook page because they want to know so we use that a lot. And what we normally do, we get that information, then we translate it to … my language. And I share it to Viber group or Facebook group ... so it's helped them to understand. (FG2.2)

Participants FG2.1 noted that some people are not connected to social media platforms such as Facebook and therefore they could not be solely relied on.

> But don't forget, it's only those that have Facebook and [internet] access. (FG2.1)

Participant FG3.7 shared similar observations:

> He [FG3.1] mentioned Facebook. Some people have no contact, no information connected to Facebook, so it is not easy for them to get information. (FG3.7)

FG3.5 agreed with this statement, adding that social media is a useful communication method for younger people; however, it is not suitable for older audiences:

> It is good for young people, young people are okay with it, so anytime they can go there. But the older ones, they listen to their community leaders. (FG3.5)

Participants in the Gold Coast (FG1) and Ipswich (FG3) focus groups agreed that face-to-face engagement opportunities were suitable for CALD communities, including information displays at community events such as multicultural festivals (FG3.8, FG1.3), the presence of emergency services at social gatherings (FG1.1, FG3.1, FG3.5, FG3.8), and information sessions held in places of worship or other common meeting places (FG1.1, FG1.2, FG1.3, FG1.4, FG3.1, FG3.2, FG3.5).

Significantly, all participants agreed that the most appropriate communication channel for delivering emergency and disaster information is by word of mouth through community leaders and places of worship:

> Most of my community here don't speak English very well … so we do encourage them just to get the information through the church where they can relay a message from one to another. (FG2.3)

This topic emerged as a distinct theme from the focus group discussions and will be discussed in further detail later in this chapter.

Participants described information formats that are visual in nature as the most suitable option for CALD communities, with an emphasis on formats that can be easily shared through group messaging and social media platforms. Six participants (FG1.1, FG1.3, FG2.1, FG2.2, FG3.3, FG3.9) shared that pictorial-based posters, factsheets or PDF documents were useful. Participants FG2.1, FG2.2 and FG3.8 described how they have used videos in the past to deliver important information to their communities:

> In my community, especially with Covid vaccine when that started coming up, we did a short video clip that we asked one of the community leaders to present … and we post them to our Facebook group and that video got like, over 1,000 views and people share it (FG2.2).

Participant FG3.5 suggested that demonstrations can be a useful for conveying key messages:

> At least they have some idea by showing them physically…Some people may not understand the language, but they do understand the vision. So, by seeing the demonstration, it's a lot easier to sink into some people instead of listening to the information. (FG3.5)

4.2.2 Unsuitable channels and formats

Participants described the communication channels and information formats they believed were not appropriate for engaging CALD communities. Participants in all focus groups discussed mainstream media channels such as newspaper, radio and television. The majority of participants agreed that these channels are not suitable for CALD communities. Participants FG1.4, FG2.3, FG3.5 and FG3.7 stated that their communities do not listen to mainstream radio channels. However, participants FG1.3 and FG2.1 suggested that SBS radio and ethnic radio stations are an appropriate method of communication, as they are broadcast in diverse languages. Participants FG1.1, FG1.2, FG2.3, FG3.5

shared that their communities do not watch Australian TV channels and prefer to watch channels from their country of origin.

> None of them listen to this TV, the channel for Australia here … they watch the channel from home and those ones do not talk about, you know, the disasters that we have here … so it is very difficult when we rely on only this TV or radio … we can miss out a lot of people. (FG3.5)

Conversely, participants FG2.1 and FG3.1 shared that their communities watch mainstream news channels; however, participant FG2.1 emphasised the importance of critical information being interpreted.

Information available on government websites and information delivered through government facilities were considered to be unsuitable communication channels for CALD communities. Participants shared that their communities will not approach government sources for information due to language and cultural barriers.

> If we say "oh you go to the community centre, you go to the Queensland Government website, you go to the City of Gold Coast, they will not do it. It's not in their language and not in their news. (FG1.1)

This participant specifically discussed government websites, stating CALD communities do not access information in this way:

> You have your website, you have all the information. Is any of you [other participants] going through your website to study? No, right?

Who has the time? ... I'm sure you have a lot of information there. But we don't know … it's not much use for us (FG1.1)

Participant FG1.3 described how many people will only access information and services through their place of worship and find it unnecessary to seek outside assistance:

If we say, "Queensland Fire Service is having this this thing", no one's going to take that time out to drive to your place, even if you give them free food, I'm telling you. Because it's about their petrol, their parking, their time away from home. (FG1.3)

Participant FG1.2 shared similar cultural observations:

And most of the women that come to the [place of worship], only go to the [place of worship] … they don't go anywhere else. So, if the Council were to have an information session, somewhere, they wouldn't go, they wouldn't see that it's something they need to go to. There would be an element of "nah it's fine I'm happy in my home, I'm not going". (FG1.2)

Emergency and disaster preparedness information is often provided in printed formats such as brochures, booklets and factsheets; however, participants believe these formats are unsuitable for CALD communities, even if they are translated. For some community members, this is due to low literacy in English and in their own language:

Even if you give them a language translated thing, they might not even be able to read that (FG1.3)

For other community members, printed materials are considered unsuitable as they do not like to read and prefer other forms of communication:

> My community would prefer someone to talk to them. No booklets, they won't read it (FG3.8)

4.2.3 Language considerations

The topic of print materials led to broader discussions about various language considerations that participants believed disaster management agencies should be aware of when designing disaster communication and engagement approaches. Challenges with translation were raised by participants, providing further explanation as to why translated print materials can be ineffective. For example, participants (FG1.3, FG1.4, FG2.2, FG2.3, FG3.7) spoke about the many languages, dialects and scripts that exist within different countries. Translated material may be found in the official national language but not in others.

> We have so many different languages. We have our own script for every language, so you can't read and write, you know, the next state's script or language. (FG1.3)

Participant FG2.2 also noted that translating information on social media is challenging:

> But the thing is, the information that we put there [Facebook] … there's so many different languages, there's no way that we can cover all of them. (FG2.2)

Gold Coast participants (FG1.1, FG1.3) stated that the use of word-for-word translation is problematic:

> If you say, "oh my god, the tsunami is coming". Like, what is tsunami? … We don't have that word. (FG1.1)

Logan participants (FG2.1, FG2.3) spoke about challenges with Australian slang, stating its use should be avoided. The tagline *If it's flooded, forget it* was discussed and participant FG2.1 highlighted the importance of using plain English.

> Just say "don't drive". Simple English which everyone can read and understand … People from CALD communities, we have to spend time trying to figure it out and by the time we figure it out, we might be drowning. (FG2.2)

Participant FG3.9 also considered plain English to be appropriate:

> I think pictures with simple English would serve almost everyone … People that can, you know, have a very good understanding [of English] will read in English. And people with less, they can see the picture. (FH3.9)

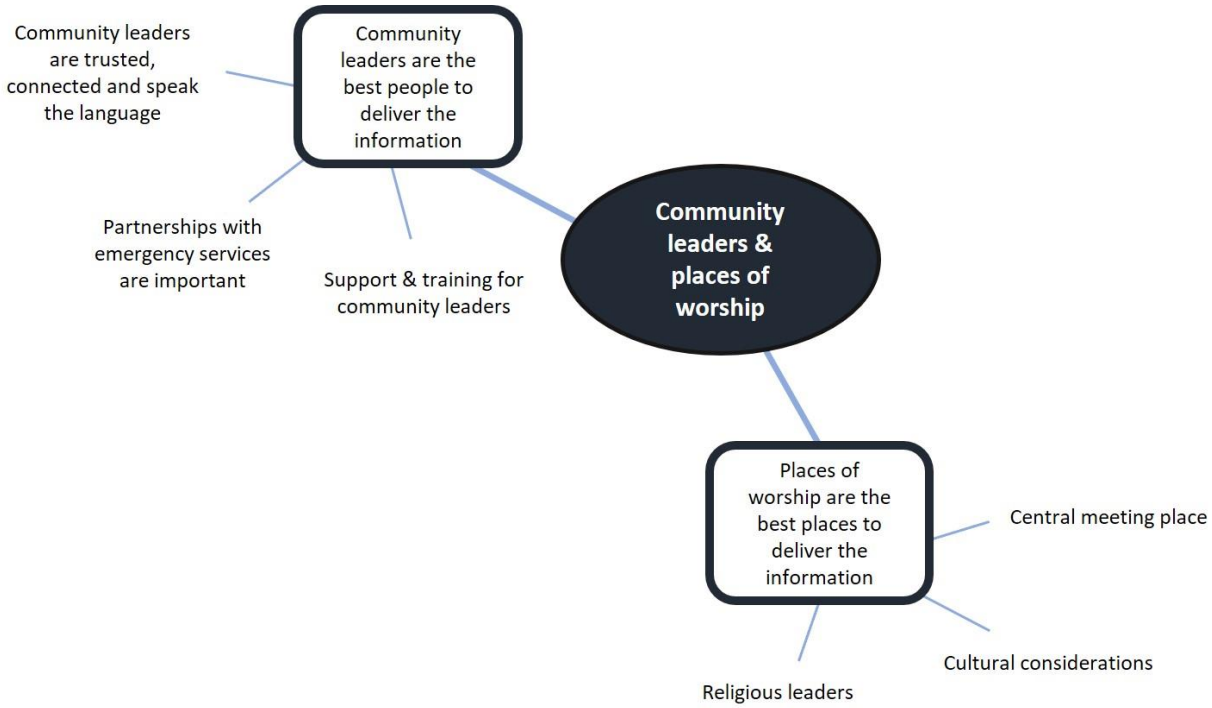
4.3 Theme 3 – Community leaders and places of worship

The third theme to emerge from the data related to the role of Culturally and Linguistically Diverse (CALD) community leaders and the significance of places of worship to CALD communities. Participants strongly agreed that engaging community leaders and places of worship is critical if emergency and disaster information is to be effectively received,

understood, and acted upon by CALD communities. A thematic map summarising Theme 3 and relevant sub-themes is provided in Figure 7.

Figure 7

Theme 3 thematic map



4.3.1 Community leaders

Participants across all focus groups defined community leaders as people who are trusted, respected, connected, and who speak the language, and they are therefore considered by participants to be the best people to deliver important information about emergencies and disasters. This notion was reflected in comments by participant FG3.5

who described the role that community leaders play in connecting with their communities with information and services:

> This community is basically structured around authentic community leaders … The leaders can speak the language; leaders can even contact service providers … The best way is [to] go through community leaders … they can take you directly to the community, or you deliver them the information and they deliver it to the community. (FG3.5)

Participant FG1.4 explained that there are existing communication systems that have been established by community leaders for effectively sharing information among their diverse network of community members from various cultural backgrounds:

> We have appointed representatives from major groups, for example Pakistan, we've got Bangladeshi, Bosnian, Africa … when we need to disseminate information we go to these people and their responsibility is to convey the message to the respective members of the community. (FG1.4)

In addition, this participant emphasised that community leaders have credibility within the community, and they should therefore be engaged in delivering important safety information:

> They don't tend to accept what the authority says, or what they hear from the radio. They don't give a damn about [that], they only listen to their leader. (FG1.4)

This concept was consistent with comments by participant FG3.3:

It doesn't matter what you say if [my leader] didn't say that to me (FG3.3)

While participants agreed that community leaders are the most appropriate people to deliver important information to their community, and expressed a willingness to assist disaster management agencies in this work, participants FG1.4, FG2.2 and FG3.3 raised concerns about the burden of responsibility on community leaders:

We all volunteer, I work … pretty much work Monday to Sunday. So, Monday to Friday will be our paid job, but Saturday and Sunday will be just as a volunteer in [the] community. That's very, very busy sometimes … with our role, we wear too many hats, and we want to help everyone, but sometimes, most of the time, we're not [able to]. (FG2.2)

Participants therefore discussed the types of support required from disaster management agencies in order to successfully engage their communities in emergency and disaster preparedness. The importance of educating and training community leaders was highlighted by participants in the Gold Coast (FG1) and Ipswich (FG3) focus groups (FG1.1, FG1.3, FG1.4, FG3.8, FG3.2). Participants FG1.4 and FG3.8 offered the following comments:

The leaders have to be educated first. (FG1.4)

We need to train our leaders. (FG3.8)

Funding support was referenced by participants in all focus groups. Gold Coast (FG1) and Ipswich (FG3) participants (FG1.1, FG3.1, FG3.3,

FG3.6, FG3.7) considered funding for grassroots community engagement initiatives essential. Participant FG1.1 suggested funding be provided to community leaders to deliver community information sessions:

> Your guys probably have to apply more funding for community leaders to run the information session … We all think that's the best tool to pass the information (FG1.1)

Participant FG3.7 made a similar suggestion:

> Maybe deliver funding to organisations so organisations can take responsibility [and] organise group discussion. (FG3.7)

Logan participants (FG2.1, FG2.2) also noted the need for funding support; however, they highlighted the benefit of funding community leaders to become certified interpreters. Participant FG2.1 explained this would enable community leaders to relay emergency and disaster to their communities in an official capacity:

> I think there should be more funding in relation to people like us … that government can pay for them to do the NAATI interpreting courses because they cost a lot to become accredited. And that way we can help, you know, when it comes to interpreting … it would be very beneficial for the government as a whole, you know, that we help. (FG2.1)

Participants identified the benefit of ongoing communication, cooperation and partnerships between disaster management agencies and community leaders. Participant FG1.4 explained how a combined presence will have a greater impact:

It's very important for your presence, to come and do a presentation. We can talk to you, but they like to see you there as well … We can emphasise later, but you have to put in the key point and then after you guys have left, we'll follow it up (FG1.4)

This participant highlighted the importance of disaster management agencies engaging leaders and communities on a regular basis:

You need to organise quite regularly, not once in 10 years because when people come and go, they forget … You need to have it periodically. (FG1.4)

Participant FG1.1 also described how a combined effort can result in greater reach into the community:

Good cooperation together with the government [and] community leaders. Together we reach wider information, all communities, all different languages. (FG1.1)

4.3.2 Places of worship

Participants across all focus group locations described places of worship as the most appropriate location to deliver information about emergency and disaster preparedness:

If your organisation wants to pass this message "how to prepare in case of disaster", start at the religious place. Place of worship. That's where you should start. (FG1.4)

Some participants observed that places of worship are suitable for engaging with CALD communities due to the language connection found there.

> Information from within the church is also effective because majority don't understand English … those who understand English in the church can relay the message. (FG2.3)

Participant FG1.3 discussed members of her community, particularly older women, who do not speak English and primarily spend their time in their home and at their place of worship, where their language is spoken:

> Their English is very low. And they're the ones probably that need to be targeted to disperse this information to. And they go to religious places only … because that's where they find people of the same language. (FG1.3)

Places of worship are a common meeting place for community members and therefore considered by participants as an effective location to deliver emergency and disaster information. Participant FG1.2 emphasised the importance of taking information to where the community already gathers:

> It's probably best to take the information to where they are, then they will probably take it seriously. (FG1.2)

In addition, participants reiterated that their communities listen to their leaders, thus reinforcing places of worship as suitable locations for engaging with CALD communities.

> Everybody will listen to the minister…so in my culture, definitely number one [is] through churches. (FG2.1)
>
> Participant FG3.9 shared similar observations:
>
> The credibility is there for this person. You get what I mean, when they are talking to everyone, just listen, sit down, and follow whatever they say … if those leaders … that mindset of getting prepared, in a way that will flick out through to the members as well, and they will have that mindset of getting prepared. (FG3.9)

4.4 Chapter summary

Chapter 4 has provided a detailed analysis of the research data, including an in-depth overview of the three distinct themes identified through the thematic analysis process. Theme one indicated that low levels of emergency and disaster awareness and preparedness exist within CALD communities. Reasoning for this was discussed and issues such as optimism bias, the influence of previous disaster experiences, and communities passively receiving information were highlighted. Theme two related to communication channels and information formats, including those that were considered by participants to be suitable and unsuitable for CALD communities. Theme three referred to the role of community leaders and the significance of places of worship in successfully engaging with CALD communities.

The next chapter discusses these results in relation to previous research and the research questions. It also includes recommendations

concerning disaster preparedness engagement approaches for CALD communities.

CHAPTER 5: DISCUSSION

Chapter 4 has provided an analysis of the qualitative results that emerged from the focus groups. Three themes were identified through the thematic analysis process and were analysed in detail.

Chapter 5 provides an explanation of how the resulting themes contribute to answering the three research questions and discusses the findings in relation to the literature review and conceptual framework. The chapter concludes with the limitations of the research.

5.1 Research questions and intent

The aim of the research project was to examine the emergency and disaster preparedness information needs of Culturally and Linguistically Diverse (CALD) communities in Queensland. Its objective was to identify appropriate ways to tailor engagement approaches, by answering the following research questions:

RQ1. What are the attitudes of CALD communities toward emergency and disaster preparedness in Queensland?

RQ2. What are the enablers and barriers to accessing and understanding disaster preparedness information in CALD communities in Queensland?

RQ3. How can disaster preparedness engagement approaches be tailored to meet the needs of CALD communities in Queensland?

5.2 Discussion of the results

5.2.1 Research question 1

The first research question sought to understand the attitudes of CALD communities toward emergency and disaster preparedness in Queensland. The results presented in Theme 1 of Chapter 4 indicate that CALD communities possess low levels of awareness of emergencies and disasters and low levels of preparedness for such events. This includes a lack of knowledge about local disaster risks, how to respond in an emergency or disaster, the roles of emergency services and how to contact services for assistance. This result is consistent with findings of previous researchers (Marlowe et al., 2018; Teo, Lawie, et al., 2018; Weber et al., 2019; Uekusa, 2019) who observed that CALD communities were not well informed about disasters and lacked adequate preparedness, thus contributing to higher levels of vulnerability to the impacts of emergencies and disasters (Uekusa, 2019, Marlowe et al., 2018.; Ikeda & Garces-Ozanne, 2019; Pongponrat & Ishii, 2018).

In Theme 1, research participants described various reasons for the low levels of awareness and preparedness among their communities. Some participants described their communities as passive receivers of emergency and disaster information, meaning they are unlikely to proactively seek out information and instead rely on emergency services and their community leaders to deliver important information directly to them. This finding aligns with research by Howard et al. (2018) who

found that CALD communities relied on others to provide information about disasters and direct them to take action.

The issue of optimism bias (Theme 1) was considered by participants to be a factor that hinders awareness and preparedness efforts. Some participants believed their communities held an "it won't happen to me" attitude, while others believed that God would protect them, thus negating the need to prepare or seek information. Similarly, Marlowe et al. (2018) and Sun et al. (2018) found that some people were less likely to take preparedness action because of their belief that God would protect them if a disaster occurred.

People's previous experiences with emergencies and disasters in other countries was also linked to low levels of awareness and preparedness among CALD communities (Theme 1). In some cases, participants noted that disasters are more prevalent in their country of origin in comparison to Australia, while in other cases, the concept of preparedness is unfamiliar because it is not promoted in other countries. Such cultural influences can prevent CALD communities from preparing for emergencies and disasters. Previous researchers (Chandonnet, 2021; Thorup-Binger & Charania, 2019) have studied similar phenomena and observed that some CALD communities minimise the risks or fail to prepare due to a false sense of security that they live in a safe country in comparison to others.

A person's level of English proficiency was considered by participants to be a factor that influences awareness and preparedness levels (Theme 1). This finding is also evidenced in the literature review where language

proficiency and literacy levels were commonly cited as factors that prevent CALD communities from accessing disaster preparedness information (Chandonnet, 2021; Nieves, 2019; Teo, Goonetilleke, et al., 2018) and contribute to disaster vulnerability (Ogie et al., 2018).

The findings of this study and previous literature have found that CALD communities possess low levels of emergency and disaster awareness and preparedness. CALD community attitudes toward preparedness are complex and relate to multiple interconnected factors, including a lack of knowledge of emergency and disaster concepts, low language proficiency, religious beliefs, a reliance on others, previous experiences, and cultural influences.

5.2.2 Research question 2

The second research question sought to understand the enablers and barriers to accessing and understanding disaster preparedness information in CALD communities. In Theme 2 of Chapter 4, research participants described a range of suitable communication channels and information formats that would enable CALD communities to access and understand disaster preparedness information and resources.

The study found that free group messaging platforms such as WhatsApp, Viber, Facebook Messenger and WeChat are widely used by CALD communities in Queensland and information disseminated through these platforms was considered by participants to be easy to access (Theme 2). This is consistent with recent research by Seale et al. (2022b)

who discovered group messaging platforms were a preferred communication channel for CALD communities during the COVID-19 pandemic in Australia. In addition, a report by the Red Cross exploring the emergency resilience in CALD communities also found that group messaging platforms, such as WhatsApp, were a critical information sharing tool (Chandonnet, 2021).

Social media, such as Facebook, were considered by many participants to be a suitable communication channel to reach CALD communities (Theme 2). Some participants noted that not all community members access Facebook and therefore, other forms of communication would also be required. Thorup-Binger and Charania (2019) and Marlowe et al. (2022) further discovered that social media platforms were useful for communicating disaster information to CALD communities. These findings support recent studies by researchers (Chandonnet, 2021; Marlowe et al., 2022; Seale et al., 2022b) who have demonstrated that there has been a shift toward social media and smart-phone based platform preferences.

Participants referred to interpersonal communication in face-to-face settings as another suitable method for engaging CALD communities in Queensland (Theme 2). They suggested disaster management agencies attend community events, social gatherings, and places of worship as a way of enabling CALD communities to access information about emergency services and disaster preparedness. A study by Weber et al. (2019) noted that face-to-face engagement was a suitable method for informing CALD communities about flood risks. Many previous researchers

(Cadwell, 2019; Liu, 2020; Mileti & Darlington, 1997; Pyke, 2018; Teo et al., 2019; Weber et al., 2019) have observed that CALD communities have a preference for word-of-mouth communication, typically between friends, family members and colleagues. Participants of the present study also described word of mouth (Theme 2) as a prevalent means of communication within their social and cultural networks, including through community leaders and within their places of worship (Theme 3).

Previous research has indicated that radio is preferred by some CALD communities. Both mainstream (Hanson-Easey et al., 2018; Teo et al., 2019) and ethnic (Marlowe et al., 2018; Pyke, 2018) radio stations have been cited in previous literature. Two participants referred to SBS or ethnic radio broadcasts in diverse languages as useful channels; however, mainstream radio was not considered by participants to be a significant communication channel used by CALD communities.

Participants described resources that are written in plain English and presented visually, such as pictorials, videos and demonstrations, as formats that would enable greater access to disaster information for CALD communities (Theme 2). Similarly, Chandonnet (2021) found that videos and animations were considered by CALD participants to be effective.

The important role of trusted sources in delivering disaster information to CALD communities was a recurring theme throughout the literature and was identified as a significant enabling factor by participants in the present study (Theme 3). Previous researchers have discussed the benefits of government agencies building ongoing trusting relationships

with CALD communities, including effective communication (Ooi & Young, 2021), communities proactively seeking disaster information, enhanced coping abilities (Liu & Ni, 2021), and opportunities to influence attitudes toward risk (Benavides et al., 2020). The literature (Gultom, 2016; Liu & Ni, 2021; Teo, Lawie, et al., 2018) has also considered the poor outcomes for CALD communities in emergency and disaster events if trust is not established. Teo, Lawie, et al. (2018) and Chandonnet (2021) emphasised the importance of building trusting relationships with CALD communities well before an emergency or disaster event occurs.

The results presented in Theme 3 of Chapter 4 highlighted the trusted role of CALD community leaders and the importance of engaging them to enable greater access for CALD communities to emergency services, information and resources. Participants consistently identified CALD community leaders as the most appropriate people to deliver disaster information to CALD communities due to the high level of trust and respect for these positions, as well as their English proficiency and connection to services. This finding is consistent with recent research (Healey et al., 2022; Ioannides et al., 2022; Seale et al., 2022a, 2022b; Wild et al., 2021) regarding the role that CALD community leaders played during the COVID-19 pandemic to connect CALD communities with vital health information. Seale et al. (2022b) discovered that CALD community leaders ensured that health messages were accessible and meaningful to the community. In addition, Wild et al. (2021) emphasised that partnerships between government, CALD leaders and communities were

critical to delivering prompt and effective information. Prior to the COVID-19 pandemic, research relating to the role of CALD community leaders in supporting emergency and disaster preparedness was limited. Findings from the present study further demonstrate the benefit of disaster management agencies engaging CALD community leaders to deliver trusted information, and they indicate that the engagement approaches successfully applied to COVID-19 can be replicated in the context of other emergencies and disasters.

Importantly, while participants indicated an eagerness to support emergency and disaster preparedness in their communities, they also raised concerns about the level of responsibility community leaders carry and the need for support from disaster management agencies. Existing literature showed similar concerns. For example, Seale et al. (2022b) highlighted the potential for "burnout" of community leaders to occur, and Healey et al. (2022) reported that local community services supporting CALD communities felt under-supported by government agencies.

Participants widely described their places of worship as the most appropriate location for CALD communities to access and understand emergency and disaster preparedness information (Theme 3). Places of worship were considered suitable as they are common meeting places for the community where they hear from their community and religious leaders, and it is a place where they can speak their own language. Chester et al. (2019) and Sheikhi et al. (2021) noted the importance of religion to CALD communities and reported that religious leaders can

enable community uptake of key messages by promoting and modelling desired behaviours. Similarly, Marlowe et al. (2018) noted the importance of working with churches to deliver disaster information.

Places of worship have a long history of supporting local communities during times of disasters (Cheema et al., 2014; Chester et al., 2019) and CALD communities have indicated that places of worship would be one of the first places they would seek assistance in an emergency (Chandonnet, 2021; Sheikhi et al., 2021). The role of places of worship in supporting emergency and disaster preparedness has not been widely researched in Australia; however, the findings of the present research and international studies (Sheikhi et al., 2021) indicate that there is great potential for places of worship to play a significant role in supporting their community across all phases of disaster management, including the preparedness phase.

This study has identified multiple enabling factors that can improve the accessibility and understandability of emergency and disaster preparedness information for CALD communities. Communication channels such as group messaging platforms, social media and interpersonal communication were found to enable access to information. Information that is delivered through face-to-face engagement, written in plain English, or presented in visual formats was found to be suitable for CALD communities. Disaster preparedness information delivered in places of worship and by trusted sources, such as CALD community leaders, was

significant in sharing emergency and disaster information with CALD communities in a way that is easy to access and understand.

As evidenced by Guadagno et al. (2017), it is important to identify the specific barriers CALD communities face in order to address them appropriately. Some of the barriers to accessing and understanding disaster preparedness information for CALD communities have been discussed in relation to Research Question 1 and relate to attitudes toward emergency and disaster awareness and preparedness. Optimism bias has also been identified as a factor that prevents CALD communities in Queensland from accessing information; however, it is important to acknowledge that this barrier is not unique to CALD communities (Theme 1). Optimism bias has been widely researched across various fields, including disaster management, and studies consistently report that the majority of the population, regardless of nationality, gender or age, display an optimism bias (Sharot, 2011). Findings of this study have shown that CALD communities are unlikely to proactively seek disaster preparedness information (Theme 1). In addition, some people from CALD backgrounds are unfamiliar with emergency services and disaster management concepts, creating additional barriers to accessing and understanding disaster preparedness information (Theme 1).

Research participants described a number of communication channels and information formats as unsuitable for CALD communities, indicating that information disseminated in these ways would create a barrier to CALD communities accessing and understanding disaster preparedness

information (Theme 2). For example, participants explained that their community members generally do not access mainstream media channels such as television, radio and newspapers, for information.

Information about preparing for emergencies and disasters is often published on government websites and delivered through government facilities. Research participants agreed that this is a barrier to CALD communities accessing disaster preparedness information, as they are unlikely to seek out government sources for information (Theme 1). CALD communities prefer to receive information through the sources they trust, which have been identified in this study as CALD community leaders and places of worship. Previous literature has discovered that CALD communities often lack trust in government agencies (Gultom, 2016; Marlowe et al., 2022; Teo, Lawie, et al., 2018) and has discussed the importance of CALD communities receiving disaster information from trusted sources (Chandonnet, 2021) if it is to be understood and actioned. Liu and Ni (2021) highlighted the importance of trusting relationships between government agencies and CALD communities as it has been shown to motivate CALD communities to proactively seek information from official sources.

It is common for disaster management agencies to produce emergency and disaster preparedness information in printed formats, such as brochures and factsheets. They are often translated into a range of community languages. Participants reported that print materials are unsuitable for CALD communities, even if they are translated (Theme 2).

Low literacy levels and a preference for other formats, such as videos and interpersonal communication, were cited by participants as reasons for this. In addition, the limitations associated with translation were considered a further barrier for CALD communities accessing disaster preparedness information in the form of print materials. This includes inaccurate translation and materials not being available in less prevalent languages in Queensland (Theme 2). Similar concerns about a reliance on translated print materials have been reported in previous literature. Chandonnet (2021) and Seale et al. (2022b) have noted that materials are not able to be translated into every language and there is risk of newly emerging CALD communities missing out on critical information. In addition, translated print materials cannot reach CALD communities members who have low literacy in their spoken language (Pyke, 2018) or those who rely on verbal communication (Chandonnet, 2021).

This study has identified some of the barriers that prevent CALD communities from accessing and understanding emergency and disaster preparedness information. Optimism bias, a reliance on others to deliver the information to them, and being unfamiliar with emergency services and disaster preparedness concepts have been cited by research participants as contributing factors. Unsuitable communication channels and information formats that are often utilised by disaster management agencies have been identified as further barriers to CALD communities accessing and understanding disaster preparedness information.

5.2.3 Research question 3

Engaging communities in emergency and disaster preparedness is most effectively achieved when the community is involved in the process and engagement approaches are targeted and tailored to meet the needs of distinct communities (Australian Institute for Disaster Resilience, 2020). However, earlier research has indicated that disaster preparedness information is rarely tailored to meet the unique needs of CALD communities (Hanson-Easey et al., 2018; Nieves, 2019; Ogie et al., 2018; Seale et al., 2022b), and previous researchers have called for further research into tailoring disaster information for CALD communities (Fountain et al., 2019; Ogie et al., 2018; Teo, Goonetilleke, et al., 2018). Therefore, the third research question sought to understand how disaster preparedness engagement approaches can be tailored to meet the needs of CALD communities in Queensland.

The results presented in Theme 2 of Chapter 4 highlighted that some of the communication and engagement strategies commonly utilised by government agencies create barriers for CALD communities. Information published on government websites, made available at government facilities, broadcast through mainstream media, or disseminated in printed formats may be effective for reaching the general public, but the study reiterates that a one-size-fits-all approach is not suitable for CALD communities. It emphasises what has been widely recognised in the literature, namely that tailored engagement approaches are necessary for

supporting CALD communities to strengthen their disaster resilience (Queensland Reconstruction Authority, 2017).

Working in partnership with CALD community leaders and places of worship to engage with CALD communities has been found in this study to be a key factor in effectively disseminating disaster preparedness information that can be accessed, understood and actioned (Theme 3). Recent literature relating to COVID-19 showed that tailored engagement approaches that involved CALD leaders were successful in delivering accessible and understandable health information to CALD communities (Guadagno et al., 2017; Ioannides et al., 2022; Seale et al., 2022a, 2022b). The findings of the present study extend on this knowledge and indicate that this approach can be successfully replicated in other emergency and disaster management contexts. As evidenced in this study and previous literature, it is essential that trusting relationships (Chandonnet, 2021; Marlowe et al., 2022; Ooi & Young, 2021) are established for this approach to be successful, and consideration should be given to ongoing support, guidance, resources and training for community leaders and local services involved in disaster preparedness engagement (Healey et al., 2022; Nagler, 2017; Seale et al., 2022b).

Disseminating information using preferred communication channels has been identified in this study (Theme 2) and by previous researchers (Chandonnet, 2021; Marlowe et al., 2022; Seale et al., 2022b; Thorup-Binger & Charania, 2019; Weber et al., 2019; Wild et al., 2021) as an effective way to tailor engagement approaches for CALD communities.

Social media, group messaging platforms, word of mouth and face-to-face engagement opportunities, for example at community events and social gatherings, or holding information sessions in common meeting places, can be effective. Incorporating suitable information formats into tailored community engagement approaches can also be useful. For example, developing materials that are picture-based and written in plain English, or conveying key messages through video, can be more appropriate than conventional print materials (Theme 2). Translation materials may be useful for some communities; however, it is not suitable for people with low literacy in their spoken language, emerging communities, or those that rely on verbal communication (Chandonnet, 2021; Pyke, 2018; Seale et al., 2022b). Communication channels and information format preferences in CALD communities can depend on factors such as English proficiency, literacy levels, age, technology skills (Chandonnet, 2021), locality, ethnic community (Pyke, 2018), type of disaster, and phase of disaster management (Wolkin et al., 2019). Therefore, when developing tailored engagement approaches, it is important to understand the local community (Australian Institute for Disaster Resilience, 2020; Office of the Inspector-General of Emergency Management, 2022; Ogie et al., 2018; Wild et al., 2021) and deliver a multi-pronged approach (Campbell et al., 2017; Chandonnet, 2021; Healey et al., 2022; Marlowe et al., 2022; Pyke, 2018).

5.3 Research limitations

The first limitation of this study relates to the small sample sizes of the Gold Coast (FG1) and Logan (FG2) focus groups. The optimum size of a focus group is generally considered to be between five and ten individuals (Halcomb et al., 2007); however, FG1 had four participants and FG2 had three participants. Despite the researcher working with local multicultural organisations to recruit participants and to identify suitable times and venues for the focus groups, low participant numbers were achieved for two of the three focus groups. The researcher received feedback from multicultural organisations and some participants that the formal aspects of the recruitment process, including providing an information sheet with technical, but necessary, information, as well as a consent form, created a barrier that prevented CALD community leaders from being willing to participate. Although the groups were smaller than expected, participants represented different cultural backgrounds and generated robust discussions about the research topic.

Secondly, the study was conducted as a work-based research project and therefore took place within the researcher's work area of QFES' South Eastern Region. Research participants resided in the Local Government Areas of the Gold Coast, Logan and Ipswich, which are all part of the South East corner of Queensland. Therefore, results may not be generalisable to the whole state.

Lastly, there are limitations associated with focus groups as a data collection method. For example, power imbalances in a group dynamic

can result in participants being unwilling to offer alternative views and dominant personalities can prevent other participants from being heard (Halcomb et al., 2007). However, there are strengths and limitations associated with all data collection methods and the limitations of focus groups can generally be mitigated through skilled facilitation (Halcomb et al., 2007).

5.4 Chapter summary

Chapter 5 has discussed the research findings in relation to the research questions and previous literature. It has also included an outline of the limitations of the research. Chapter 6 concludes this thesis by providing an overview of the research project, recommendations for practice, and an overview of the "Triple Dividend" outcomes of study.

CHAPTER 6: CONCLUSION

The aim of the research project was to examine the emergency and disaster preparedness information needs of Culturally and Linguistically Diverse (CALD) communities in Queensland in order to identify better ways of delivering disaster preparedness initiatives through tailored engagement approaches. Previous research has shown that CALD communities are less prepared for emergencies and disasters (Howard et al., 2018) and more vulnerable to their impacts (Uekusa, 2019). Furthermore, the ability for CALD communities to effectively prepare for potential events is hindered by a lack of accessible and understandable disaster information (Benavides et al., 2020). Delivering disaster preparedness information that meets the unique information and communication needs of CALD communities provides an opportunity for CALD communities to access, understand, act on and share information, thus reducing their risk and strengthening their disaster resilience.

The study took place within the Local Government Areas of the Gold Coast, Logan and Ipswich in Queensland where 16 CALD community leaders participated in three focus groups. Participants represented communities from a broad range of culturally diverse backgrounds including Kenyan, Tongan, Burmese, Qatari, Sudanese, Samoan, Nigerian, South Sudanese, Chinese and Indian. Participants discussed their own experiences in relation to the research topic and provided valuable insights into the perspectives of their community.

The research has emphasised that CALD communities in Queensland possess low levels of awareness of emergencies and disasters and low levels of preparedness for such events. This includes a lack of knowledge about local disaster risks, how to respond in an emergency or disaster, the roles of emergency services, and how to contact services for assistance. English proficiency, optimism bias, previous experiences with disasters in other countries, and a reliance on others to provide information were found to be factors that hinder awareness and preparedness among CALD communities.

This study has demonstrated that identifying and utilising suitable communication channels and information formats can improve the accessibility and understandability of emergency and disaster preparedness information for CALD communities. Communication channels such as group messaging platforms, social media, and word of mouth communication were identified as an effective way to tailor engagement approaches for CALD communities. Information that is delivered through face-to-face engagement, written in plain English, or presented in visual formats were also found to be suitable.

The research has highlighted that the role of CALD community leaders is a critical factor in effectively disseminating disaster preparedness information that can be accessed, understood and actioned by the community. Community leaders were described as people who are trusted, respected, connected and who speak the language, and they are therefore considered by participants to be the best people to deliver important

information about emergencies and disasters. The study has also discovered that places of worship can be a significant enabling factor for disseminating disaster preparedness information. Places of worship were described as a common meeting place for the community, a place where they receive messages from the community and religious leaders, and a place where they can speak their own language. Places of worship were therefore identified by participants as most suitable for the dissemination of disaster preparedness information.

6.1 Recommendations

Overall, the research project has demonstrated that tailored engagement approaches are required to successfully engage CALD communities in emergency and disaster preparedness. The research project offers the following recommendations for emergency management agencies:

- Form connections with trusted sources, including community leaders, multicultural organisations and places of worship, to exchange knowledge, develop relationships, build trust and disseminate information.
- Collaborate with community leaders and multicultural organisations to understand the unique profile of local communities, as well as their communication channels and information format preferences.

- Provide adequate support, guidance and training for CALD community leaders involved in disaster preparedness initiatives.
- Consider using multiple communication channels and platforms to account for varying preferences.
- Consider publishing information in plain English as well as in visual and translated formats to account for various language considerations.
- Reflect the unique information and communication needs of CALD communities in the development and delivery of community engagement strategies, initiatives and materials.

6.2 Triple dividend outcomes

This research project has contributed to a greater understanding of the emergency and disaster preparedness information needs of CALD communities in Queensland, including community attitudes toward preparedness and the enablers and barriers to accessing disaster preparedness information. In addition, the study has led to "triple dividend" contributions. The "triple dividend" is a critical component of the Master of Professional Studies program, resulting in a significant contribution to the researcher's development, to their workplace, and to the field of study at the completion of the program.

The researcher completed this study as a work-based research project at Queensland Fire and Emergency Services (QFES) within their role of Regional Community Engagement Coordinator. Undertaking this study

has resulted in the researcher identifying existing community-led disaster preparedness initiatives at the grassroots level, as well as valuable connections with government, non-government and community stakeholders. In addition, the researcher has gained many research skills in the areas of problem solving, objective judgement, academic writing, group facilitation, and data collection and analysis.

A meaningful contribution has been made to QFES' vision for a connected and capable Queensland (Queensland Fire and Emergency Services, 2020). As a result of this research project, subsequent meetings have been held with government, non-government and community stakeholders to strengthen relationships, and discuss key linkages and opportunities for collaboration. Focus group insights have been requested by, and shared with, internal and external stakeholders to inform community engagement and education initiatives or to supplement their own research. The study was a contributing factor to the establishment of a new CALD Disaster Management Collaboration Network. The group commenced meeting bi-monthly and progressed to work on mapping the relevant stakeholders, existing projects and initiatives, and available resilience funding. This will assist with identifying gaps and opportunities, as well as the support needs of local community groups delivering CALD emergency and disaster resilience initiatives. A QFES Multicultural Engagement Plan for the South Eastern Region has been developed, which was informed by this research and ongoing stakeholder collaboration.

Lastly, the study has contributed to knowledge by building on recent Australian research in this field, such as the *Emergency resilience in culturally and linguistically diverse communities: Challenges and opportunities* report by the Australian Red Cross (Chandonnet, 2021), which examines a range of topics that influence the resilience and vulnerability of migrants and refugees, including the challenges of culturally appropriate emergency communication (Chandonnet, 2021). It also extends recent research regarding the importance of engaging with CALD community leaders in the COVID-19 context, by demonstrating that this approach can be successfully applied to other emergency and disaster management contexts. The transdisciplinary nature of the study has resulted in a contribution of knowledge to the field of community engagement within the disaster management context, in Queensland and more broadly.

6.3 Further research

This study was undertaken as a work-based research project and as such it was restricted to a small geographical area in South East Queensland. The disaster information needs and preferences will vary from one community to another, therefore future research in this area should focus on additional localities in Queensland and other Australian states and territories. In addition, further research to assess the outcomes of implementing the recommended approaches, including their effectiveness and areas for improvement, would be valuable.

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