

Resilience in discourse and in practice

A study on resilience for natural disasters among communities and emergency management agencies in the Yarra Ranges municipality, Victoria, Australia



Thesis Report

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ABSTRACT

The federal government of Australia adopted a resilience-based approach for emergency management in 2009, in order to deal with the growing disaster threats on Australian communities. Thereby, the responsibility for people's security shifted from a government level towards the lower, local level. However, due to the more effective and predictive emergency service responses, community expectations of the government's role in emergency management have increased over the past years. Key in the resilience-based approach is the shared responsibility for disaster management across the different levels of government, agencies, communities and individuals. Because there is no consensual definition of resilience in Australia, the interpretation of this approach differs across all levels in emergency management. On the one hand, this research informs the Yarra Ranges Council in their development of a municipal community resilience building framework to work with disaster-prone communities. On the other hand, the conclusions of this research project gain further insight into the concept of resilience in relation to disaster management, whereby theories on community resilience and discourse are central.

This research project explores the meaning given to the concept of resilience for natural disaster among communities and emergency management agencies in and around the Yarra Ranges municipality in Victoria, Australia, both in discourse and in practice. The main data was collected through semi-structured interviews with community leaders, emergency management agencies, state government agencies and local governments.

Results show that the meaning given to resilience by communities and emergency management agencies in discourse often corresponds with their actions or role in practice. The differences in interpretation between communities can be explained by the size and location of communities, as well as their disaster history. Small and isolated communities have good community connections and are more self-reliant than large communities, who often focus more on risk awareness and disaster preparedness. Important is that communities can learn from each other, which is a task that most likely has to be taken up by the local government.

Keywords: resilience, community resilience, discourse, communities, agencies, emergency management, shared responsibility

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ABBREVIATIONS

CFA – Country Fire Authority

DEPI – Department of Environment and Primary Industries

DHS – Department of Human Services

EWS – Early Warning System

FCBAS – Ferny Creek Bushfire Alert System

MECC – Municipal Emergency Coordination Centre

MEMPC – Municipal Emergency Management Planning Committee

MFB – Metropolitan Fire Brigade

MoU – Memorandum of Understanding

SCRA – Strathewen Community Renewal Association

SES – State Emergency Service

Vicpol – Victorian Police

YRC – Yarra Ranges Council

CHAPTER 1. INTRODUCTION

Australia has dealt with natural disasters for many centuries and they are seen as part of the natural weather cycle in Australia. The most common natural hazards are bushfires, floods and cyclones, which are seasonal threats and often confined to specific areas (Abrahams, 2001).

In the past, indigenous communities used fire as tool for the regeneration of forests. Nowadays this controlled burning is still used in many parts of Australia, mostly to burn off underbrush to prevent the accumulation of fuel in bushfire-prone areas (Australian Government, 2014). Some indigenous species, such as the Eucalypt tree, depend on occasional burns for their regeneration. At the same time, these species, contain large amounts of oil which causes fires to reach very hot temperatures and burn very fast (Australian Government, 2014). Australia's vulnerability for bushfires comes from this easily flammable natural vegetation and the extended periods of dry and hot weather. The severity of bushfires has increased over the last century, partly because of human management factors such as changing from fire prevention to firefighting measures and extensive building in bushfire-prone areas (Australian Government, 2014). Bushfires that had the greatest impact on the state of Victoria were the 1983 Ash Wednesday bushfires and the 2009 Black Saturday bushfires. The 2009 fires caused the highest loss of life from a bushfire ever in Australia: 173 people died and 414 people were injured as a direct result of the fires (Australian Government, 2014).

Flooding is a frequent natural disaster. Australia faces different kinds of floods, such as local flash floods because of severe thunderstorms, or more widespread floods in catchment areas of rivers as a result of heavy rain during an extended period of time (Australian Government, 2014). The most recent large impact floods in Victoria occurred in 2011, whereby more than 50 communities were affected (Australian Government, 2014). Cyclones are another common natural disaster in Australia. From November to April the northern, western and eastern parts of Australia are very prone to cyclones (Australian Government, 2014). However, as a southern state, Victoria does not face cyclones.

Due to the frequency and severity of natural disasters in Australia over the past years, the concept of resilience has come up and is nowadays often used in Australia's emergency management. Previously resilience was mostly used to refer to the environment, nowadays this concept is inextricably linked with the social side of disasters. Today, community resilience is often used as a concept to look at how well communities are prepared for and recover from natural disasters. However, defining the meaning of resilience turns out to be very difficult. Federal government, state government, local councils, communities and individuals all have their own interpretation of what resilience means and how useful it is. The Shire of Yarra Ranges (often referred to as Yarra Ranges Council) is a municipality on the eastern outskirts of Melbourne in Victoria (Yarra Ranges Council, 2014b). The Emergency Management team of the council is working towards developing a community resilience building framework. The goal is to ensure that communities, agencies and the council are on the same page with regard to emergency management and that expectations can be accomplished. This will be further explained in chapter 1.2.

This research project explores the meaning given to the concept of resilience for natural disasters among communities and emergency management agencies in and around the Yarra Ranges municipality. The meaning of resilience in both discourse and in practice will be explored, as there might be a difference between what they say resilience is and what they actually do in practice.

In 2009, the federal government of Australia adopted a resilience-based approach for emergency management, and a year later a supporting document, the 'National Strategy for Disaster Resilience', was developed (COAG, 2011). In this strategy, the importance of a good relationship and shared-responsibility between all parties involved in emergency management is highlighted: "Effective community resilience will rely on good working relationships within communities, between communities and those who support them on a professional or voluntary basis, and between agencies and organisations engaged in this work. It is, therefore, important that all parties are clear about their roles, and the linkages and interdependencies between them" (COAG, 2009: 6). This might seem straightforward, but the process is much more complicated. In the Yarra Ranges municipality alone, there are more than 55 different communities (Yarra Ranges Council, 2014a). At the same time, there are multiple emergency management agencies that interact with these communities, as well as local governments and the state government. Each stakeholder has its own idea about resilience and their role in it. This idea does often not fully correspond with the ideas of other stakeholders, which makes fostering resilience a complex process. This research project looks at what initiatives are taken by different communities to foster resilience and what the reasoning is behind these initiatives. At the same time, it will be explored what emergency management agencies and local councils are doing with regard to resilience.

What is the importance of this research project and what is the underlying problem? Since the Australian government took on a resilience-approach, the responsibility for people's security has shifted from a government level towards the lower (local) levels, like communities and individuals. However, there is no consensual definition of resilience in Australia, and the interpretation differs between all levels in the emergency management sector. The problem is that while emergency management agencies, local councils, communities and individuals have to share responsibility and be more resilient with regard to people's security for natural disasters, no one knows exactly how to achieve this. Within the resilience-approach, the responsibility for people's security has shifted away from governments towards communities and individuals. At the same time, community expectations of the governments' role in emergency management has increased over the past years (Rothery, 2010). Technological advances, especially in communication, have allowed emergency services to be more effective and predictive and according to Rothery (2010: 2), "this success has also raised expectations that communities can be absolutely protected from hazards". At the same time, demographic changes has led to urbanisation into higher disaster-risk areas, while the expectations of people with regard to governments' protection and support services has remained the same (Rothery, 2010). While the government shifts the responsibility away from themselves, Australian citizens actually rely very much on the government to protect and help them.

The objective of this research is two-fold: both societal and scientific. The societal objective of this research projects relates to the current work of Yarra Ranges Council. This study can be seen as part of Yarra Ranges' wider goal to develop a framework to work with communities that might be or are affected by disasters. This study informs on the development of a community resilience building

framework for the Yarra Ranges municipality, by getting insight into initiatives taken by both communities and emergency management agencies to foster community resilience.

The scientific objective for this research project is to gain further insight into the concept of resilience in relation to disaster management. The gained data will be linked to the existing theory on community resilience of Norris et al. (2008) in order to test the relevance of the theory in practice, in this case communities in Victoria, Australia. This study hopefully will add to the existing body of knowledge on community resilience along with opening up new aspects for further research.

To gain a better understanding on the background of this research project, I will first explain more about emergency management in Australia and in Victoria and about the area where the field research was conducted, the Shire of Yarra Ranges.

1.1 EMERGENCY MANAGEMENT IN AUSTRALIA

Australia faces natural disasters very often. In the tables below an overview is given of the number of people killed and affected by natural disasters over the past 10 years in Australia. These tables show that Australia is struck by natural disasters almost every year, and that the number of people affected is quite high.

Table 1: Number of people killed by natural disasters over the past 10 year in Australia (Source: "EM-DAT: The OFDA/CRED International Disaster Database")

Disaster	Date	No. Killed
Extreme temperature	January 2009	347
Wildfire	February 2009	173
Flood	December 2010	35
Wildfire	January 2005	16
Flood	June 2007	9
Flood	January 2009	7
Storm	January 2013	6
Flood	November 2008	4
Flood	June 2005	3
Wildfire	January 2006	3

Table 2: Number of people affected by natural disasters over the past 10 years in Australia (Source: "EM-DAT: The OFDA/CRED International Disaster Database")

Disaster	Date	No. Total Affected
Flood	December 2010	175000
Storm	May 2009	15000
Flood	January 2012	13000
Storm	November 2008	12000
Flood	September 2010	10000
Wildfire	February 2009	9954

Flood	January 2009	9000
Storm	January 2013	7500
Storm	February 2011	7300
Storm	March 2006	7030

These natural disasters also caused a lot of economic damage. Each disaster differs from another, and they differ greatly in costs. However, on average, the insured costs between 2000 and 2012 were calculated to be around 16.1 billion Australian dollars (Deloitte Access Economics, 2013). Figure 1 shows the insured costs of natural disasters in Australia over the period 1980 – 2012, as calculated by the Insurance Council of Australia (Deloitte Access Economics, 2013). Currently, the average economic costs for natural disasters in Australia are estimated at around 6.3 billion dollars per year (Deloitte Access Economics, 2013).

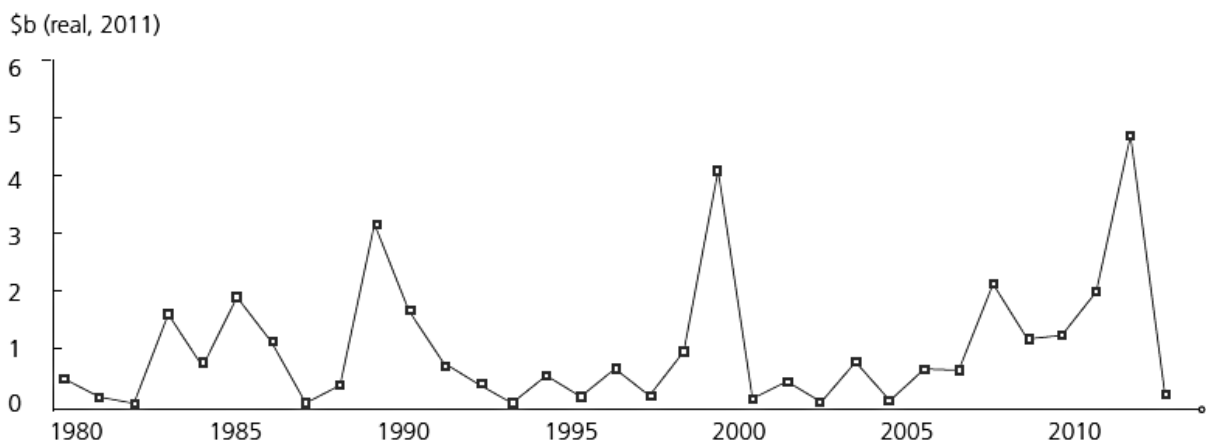


Figure 1: Insured costs of natural disasters in Australia of the period 1980 – 2012 (Acquired from Deloitte Access Economics, 2013: 17)

As a country with frequent natural disasters, Australia has developed a system to deal with the different hazards, the so-called emergency management system. This system not only deals with natural disasters, but also with human-generated disasters, from small hazards such as car crashes and house fires to larger hazards such as terrorism (Abrahams, 2001). Within the overarching emergency management system in Australia, all the arrangements of governments and organisations are brought together to be able to carry out a well-coordinated emergency management system for all hazards (Emergency Management Australia, 2009). The emergency management system of Australia can be seen as “the set of arrangements, procedures, resources, personnel and relationships aimed at reducing the impact of hazards, emergencies and disasters on Australian communities” (Abrahams, 2001: 167). All sectors and individuals working with communities play a role in emergency management, which includes agencies from the federal, state, and local level, but also other international organisations such as the Red Cross (Abrahams, 2001). The policies for emergency management are written by a national committee, and state governments are responsible for implementing these policies. The most important responsibility of state government is to preserve and protect citizens’ lives and properties (Abrahams, 2001). In order to comply with this responsibility, most states have emergency management agreements in place (Abrahams, 2001).

Local government is seen as a very important stakeholder in emergency management. They work with communities on a daily basis by providing all sorts of services. Their relationship with the local communities is strong and they have a lot of knowledge of the resources available at the local level (Abrahams, 2001; Emergency Management Australia, 2009). Their role increases when communities are affected by disasters or emergencies (Abrahams, 2001). All municipal governments are obliged to have emergency management regulations in place, as one of their responsibilities is to help ensure the safety of the communities (Emergency Management Australia, 2009). Alongside the different levels of government, many emergency and non-emergency organisations play an important role in emergency management and in the different phases of a disaster (Abrahams, 2001). The responsibility not only lies with governmental and non-governmental institutions, communities also have certain responsibilities. As Abrahams (2001: 170) writes in his article on disaster management in Australia: “A prepared community is one which has developed effective emergency and disaster management arrangements at the local level, resulting in an alert, informed and active community”.

1.1.1 Towards a resilience-based approach

The adoption of the ‘resilience-based approach’ in 2009 did not come as a sudden change. A series of events throughout the previous decade has gradually led to this change. Between 1900 and 2000 the focus was mainly on natural disaster response rather than on preparedness or prevention (Smith, 2012). In her article on National Disaster Preparedness in Australia, Smith (2006) mentions that the terrorist attacks of 9/11 in the United States were an important turning point for Australia’s disaster management. In June 2001, the COAG requested a review on Australia’s approach to natural disasters. This review concluded that Australia would benefit from placing more emphasis on preparedness and mitigation instead of primarily focusing on response and reaction (Smith, 2012). This conclusion, along with the terrorist attacks of 9/11, led to the review and update of disaster plans in Australia. The Bali bombings in October 2002, where a large group of Australian’s were killed and injured, led also to a large review of Australia’s disaster preparedness and response capabilities (Smith, 2012). A year later in 2003, there was a large threat of SARS (Severe Acute Respiratory Syndrome) in several countries, which led to further reforms in the disaster planning, whereby planning and preparing for health-related disasters in Australia became important (Smith, 2012). Other important events, such as the Madrid bombings in 2004, the London bombings in 2005 and the outbreak of the Avian Influenza Pandemic in 2005 were also of importance for Australia’s emergency management and led to the development of different plans and policies. In 2006, Cyclone Larry crossed north Queensland and caused major damage to houses, businesses and crops (Smith, 2012). This was another reminder for Australia to be prepared for all kinds of hazards and disasters. Even though many of these events throughout the years did not directly impact Australia, the threats were high enough to result in changes to disaster management, especially with regard to preparedness and planning for emergencies (Smith, 2012).

Disasters become more frequent in Australia nowadays, especially natural disasters and terrorist attack threats (Rogers, 2011). Therefore, a first National Security Statement was developed in 2008, which outlined several new principles and priorities of national security. That same year the National Disaster Resilience Framework was established, to ensure a more integrated relationship between agencies responsible for national security and agencies responsible for emergency management (Rogers, 2011). In 2009, the Council of Australian Governments agreed that a “whole-of-nation

resilience-based approach to disaster management” should be adopted (COAG, 2011: III), and therefore a National Emergency Management Committee was established (Rogers, 2011). This committee had the task to offer leadership in the development of new policy frameworks in emergency management and security and to enhance a shared understanding of risks (Rogers, 2011). The new approach and the established committee resulted in the development of a series of supporting strategic documents, like the National Disaster Resilience Strategy at the end of 2010 (Rogers, 2011). Key in this strategy is that disaster resilience must be seen as a “shared responsibility between governments, communities, businesses and individuals” (COAG, 2011: 3).

One explanation for the resilience approach is given by Rothery (2010). He mentions that this change towards focusing on resilience is, among others, a result from pressure on emergency management agencies. Hazards risks are likely to increase over the coming years, and Australians have the ever-increasing demand for services of emergency management agencies (Rothery, 2010). Rothery (2010) also mentions that the responsibility for protecting citizens from the impacts of disasters cannot be carried by emergency management agencies alone. The resilience approach can therefore be seen as a way for Australia to be better able to adapt to changes, reduce risk exposure and to be able to bounce back from disasters (Rothery, 2010).

Even though the need for resilience might seem evident, the question remains what this approach should look like. According to the National Strategy for Disaster Resilience, the focus should be on “action-based resilience planning to strengthen local capacity and capability” (COAG, 2011: 2). Higher community engagement is listed as important for strengthening local capacities, as well as a better comprehension of communities’ strengths, vulnerabilities, needs and diversity (COAG, 2011). If these factors are taken into account and emergency management is built into the strategic planning of communities and governments, the expectation is that there will be higher levels of disaster resilience (COAG, 2011).

The overall aim of the resilience approach is to have a greater shared responsibility across all levels that deal with the impact of disasters. This means that responsibility for emergency management and resilience has to be shared between different levels of government, businesses, NGO’s, non-profit organisations and communities (COAG, 2011). While governments and agencies need to adopt a greater advisory role, communities and individuals need to take greater responsibility to ensure their own safety (COAG, 2011). The difficulty in this process is the fact that there is no clear developed outcome of what disaster resilience looks like. Most likely this will differ for each community and individual. Because of the long-term focus, all sectors need to accept the fact that disaster resilience will require a long-term commitment (COAG, 2011). As said before, disaster resilience and shared responsibility require a change in behaviour, and it will most likely take several years before results can be achieved.

1.1.2 Emergency management arrangements in Victoria

The state of Victoria has dealt with numerous natural disasters over the last years. The 2009 bushfires had a great impact on the area and its inhabitants, as well as the floods in 2010-11 and 2012 (Department of Premier and Cabinet, 2012). Before these events, the framework for emergency management in Victoria had not significantly changed for several years, as the last reform was made after Ash Wednesday in 1983 (Department of Premier and Cabinet, 2012). The 2009 bushfires

resulted in the establishment of the Fire Services Commissioner and the Fire Services Reform Action Plan (Department of Premier and Cabinet, 2012). At the same time, multiple arrangements of state command and control were improved. After the 2010-11 floods in Victoria, improvements have been made on flood planning and adequate information for communities and agencies for responses to floods. The biggest change happening in 2014 is the change from Fire Services Commissioner towards Emergency Management Victoria, which instead of solely focusing on fire, now takes an all-hazards, all-agencies approach. The vision for Victoria is outlined as “a sustainable and efficient emergency management system that minimises the likelihood and consequences of disasters and emergencies on the Victorian community” (Department of Premier and Cabinet, 2012: 3). In the Victorian Emergency Management Reform paper, three principles are explained which are key to this vision: ‘community, collaboration and capability’ (Department of Premier and Cabinet, 2012). The importance of community is that the community level is central to emergency management and that resilience, community participation and shared responsibility are key features on which emergency management should be established. Collaboration reflects the clarification of the roles and responsibilities of all the stakeholders and should ensure that agencies cooperate across the sector. The last principle, capability, means that the new all-hazards, all-agencies approach should be established on ‘networked arrangements’. This means that the different agencies should operate more successfully together and that there will be a greater significance to risk mitigation.

1.2 THE SHIRE OF YARRA RANGES

The Shire of Yarra Ranges is a local government area in Victoria, located on the eastern part of Melbourne. Originally, the area consisted of four different municipalities: Healesville, Lilydale, Sherbrooke and the Upper Yarra Shires. In 1994, the municipalities were merged, now forming the Shire of Yarra Ranges (Yarra Ranges Council, 2014b). The area is about 2,500 square kilometres and is home to a population of approximately 149,000 people (Yarra Ranges Council, 2014b). Most residents, around 70%, live in the urban areas on the western part of the Yarra Ranges. More to the east there are agricultural valleys, forest areas and foothills (Yarra Ranges Council, 2014b). Within the urban and rural areas of the Shire of Yarra Ranges there are over 55 townships, suburbs and smaller communities (NIt consulting, 2012). The location of the Shire of Yarra Ranges is indicated on the map in figure 2.

The Yarra Ranges municipality has a diverse economy. The largest employment industry is the retail trade, which accounts for 13.4% of the employment in the Yarra Ranges. Other large employment industries are education and training, manufacturing, construction, tourism and agriculture. All the industries together account for about 35,800 local jobs in the Yarra Ranges (REMPLAN, 2012). Looking at the most valuable industry, manufacturing generates the highest regional output, approximately \$2.9 billion per year. According to the Business Register of 2013 there are 13,175 local businesses in the municipality (Economic Profile, 2013). The Yarra Valley is nationally and internationally well-known as a fine food and wine producing area. Over 2 million tourists visit the wineries of the Yarra Valley each year (Yarra Ranges Council, 2014a).



Figure 2: The Shire of Yarra Ranges, located on the eastern outskirts of Melbourne (Source: Yarra Ranges Council, 2014b).

1.2.1 Black Saturday

One of the most recent natural disasters which caused enormous damage in the Yarra Ranges and resulted in loss of life and properties were the 2009 bushfires, often referred to as Black Saturday. On 7 February 2009 the state of Victoria faced one of the hottest days ever recorded, whereby Melbourne reached temperatures of around 46°C (Cameron et al., 2009). Many small bushfires started all over the state and intensified severely due to strong winds in the afternoon. Fourteen different regions were affected by fires that lasted several weeks, and a total of over 350,000 hectares were burnt (Cameron et al., 2009; Nlt consulting, 2012). 173 people died as a result of the fires, and even more people were injured and displaced. In the Yarra Ranges municipality, 13 people lost their lives (Nlt consulting, 2012). The eleven communities that were directly impacted by the fires were Steels Creek, Chum Creek, Dixon's Creek, Yarra Glen, Coldstream, Yering, Healesville, Toolangi, Gruyere, and Belgrave South (Nlt consulting, 2012). In percentages, this meant that about 20% of the municipality of Yarra Ranges was burnt (Nlt consulting, 2012). In figure 3 the bushfire affected area is shown. Figure 4 shows the location of the communities affected by the 2009 bushfires.

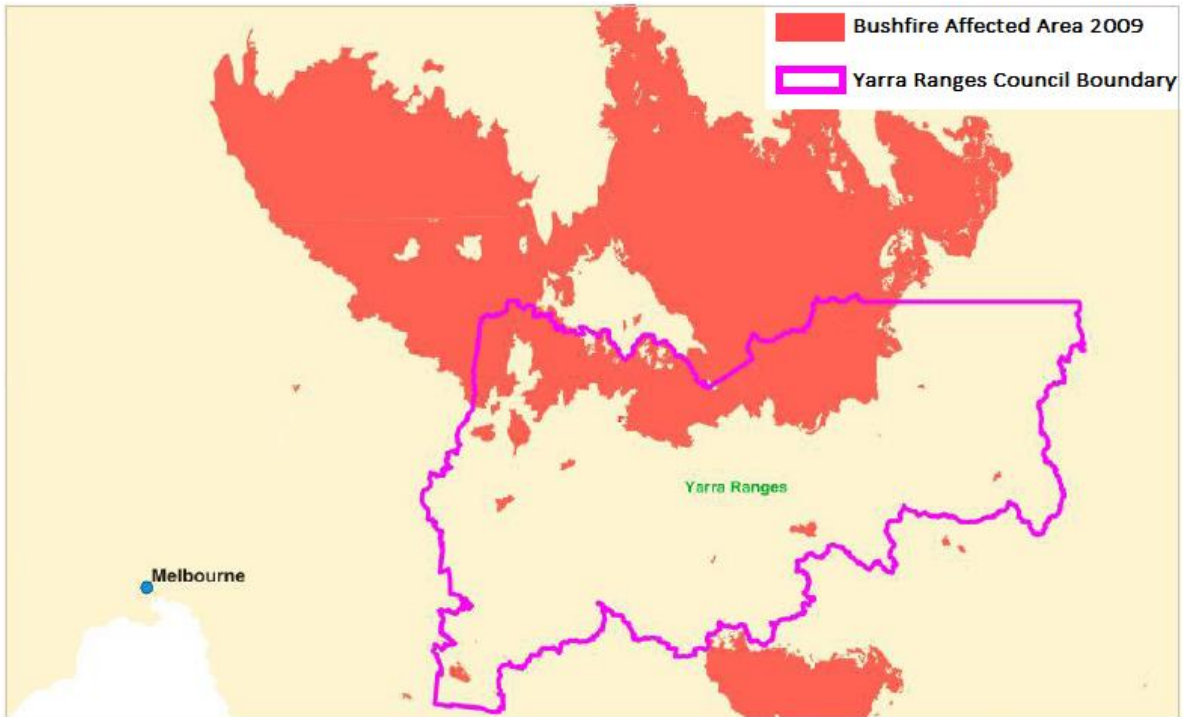


Figure 3: The bushfire affected area in 2009 (Acquired from NIt consulting, 2012).

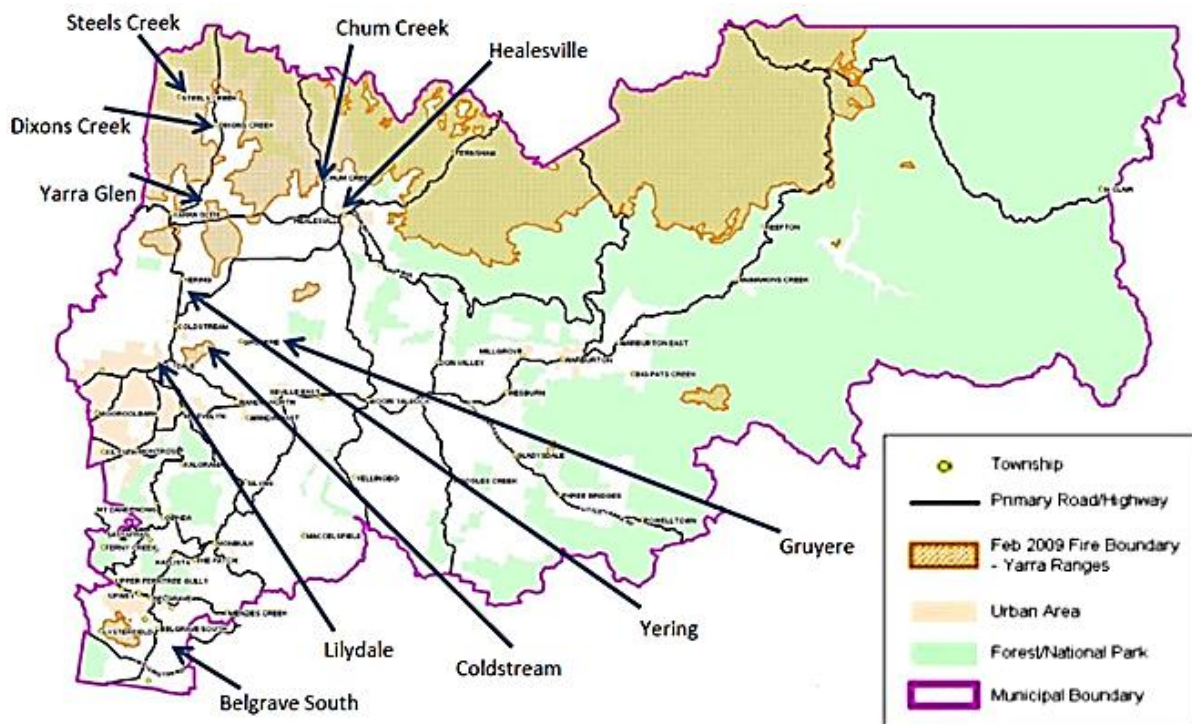


Figure 4: Location of the communities affected by the 2009 bushfires (Acquired from NIt consulting, 2012).

The Yarra Ranges municipality has faced multiple natural disasters over the past years, such as the 2012 floods and the 1983 bushfires of Ash Wednesday. However, the 2009 bushfires had the deepest and most intense impact, not only on the communities and individuals living in Yarra Ranges, but also on the local council. Therefore, Yarra Ranges Council is nowadays working towards developing a community resilience building framework. This framework has to be developed through a series of workshops with different members of emergency management agencies. The idea is that the different stakeholders first have a clear indication and understanding of resilience, before an outreach is made to communities. This is done to minimise possible ambiguities in later stages. Through the workshops it should become clear 'who does what' with regard to resilience, but they also want to be clear about what different concepts mean, such as resilience, community and emergency. One of the goals with these workshops is to identify the current resilience building initiatives within the communities. The overall goal is to develop some sort of municipal framework, in which it becomes clear for everybody – individuals, communities, agencies and local council – what they can expect with regard to emergency management. In the end, the aim is that the process of developing this framework and the framework itself should lead to strengthened relationships between all stakeholders, that communities feel safer and more comfortable and that they have a better understanding of the role of agencies and local councils. The aim is to work together with a range of emergency management agencies, like the Metropolitan Fire Brigade (MFB), State Emergency Service (SES), Victoria Police, Country Fire Authority (CFA), Red Cross, Ambulance Victoria, Salvation Army, and other individuals like various decision makers or practitioners and community representatives. Together, they should be able to identify what agencies and communities can expect from each other and to articulate a long-term vision with respect to resilience in the Yarra Ranges municipality.

CHAPTER 2. THEORETICAL FRAMEWORK

2.1 RESEARCH QUESTIONS

The objectives for this research were outlined in the first chapter. On the one hand, the societal objective is to inform Yarra Ranges Council on the development of a community resilience building framework, by getting insight into initiatives taken by both communities and emergency management organisations to foster community resilience. On the other hand, the scientific objective is to gain further insight into the concept of resilience in relation to disaster management. In order to reach these objectives, several questions were developed. The central question is formulated as: *How do communities and emergency management agencies in the Yarra Ranges municipality, Victoria, Australia, give meaning to the concept of resilience for natural disasters, in discourse and in practice?*

The sub-questions to support the central question are:

- What initiatives are taken by disaster-prone communities to foster resilience for natural disasters and what do these initiatives look like?
- Which stakeholders operate in the field of community resilience in the Yarra Ranges municipality and what is their role in fostering community resilience?
- How do communities and emergency management agencies interpret the concept of resilience?
- Which partnerships exist between the different emergency management stakeholders and between the emergency management stakeholders and communities?
- What does the connection between policies from emergency management agencies and the needs and demands of the local communities look like?

2.2 THEORETICAL CONCEPTS

2.2.1 Resilience

Over the last couple of decades, the word ‘resilience’ has showed up in many fields. Originally the resilience theory was used for ecology, nowadays it is also often used in areas such as economics, medicine, engineering, defence, law and business (Cork, 2010). According to Cork (2010: 3), the popularity of the resilience concept comes partly from recognising that “attempts to predict and control the future have been largely unsuccessful, in whatever field of human endeavour they have been attempted. There is comfort to many in the idea that they can do something tangible about preparing for the future by building the capacity of people, societies and ecosystems to deal with whatever emerges”. However, because of this idea, the concept has been used too easily in many disciplines (Cork, 2010). Therefore the question is whether resilience is actually important for some disciplines, and what exactly is meant with this concept. In this study, the focus lies on ‘community resilience’ for natural disasters. It is interesting to look at the importance of this concept for disaster-prone communities in the Yarra Ranges and whether or how much value people attach to this concept, as it has become a very popular word in Australian emergency management policies. That

resilience is definitely important in emergency management policies is stated by Cork (2010, p. 186): “without resilience, communities are not likely to recover after disaster”.

Even though disaster resilience is an often used concept, it is still the question what the process of resilience exactly looks like. Different authors have explained the process of resilience in a model (Cutter et al., 2008; Norris et al., 2008). One example is the ‘disaster resilience of place’ (DROP) model of Cutter et al. (2008), as shown in figure 5. This model shows the different stages of a disaster and the effects of resilience on the different stages. From this model can be derived that when there is a certain level of resilience before an event, here referred to as inherent resilience, the direct effects of the event are moderated. People will be better able to cope with and respond to the disaster, with as result that the impact of the disaster is moderated. Even when the absorptive capacity is exceeded, if there is resilience the degree of recovery will be higher. If people have a high level of recovery, this will reflect back on their mitigation and preparedness levels for a possible next disaster.

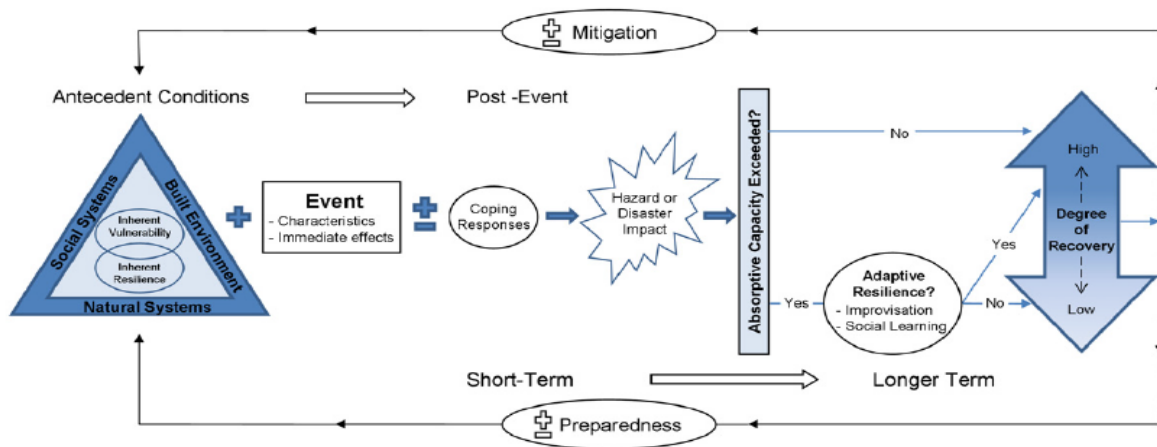


Figure 5: The Disaster Resilience of Place model (DROP) (Acquired from Cutter et al., 2008).

Looking at the model (figure 5), it becomes clear that if there are high levels of preparedness and mitigation, the inherent vulnerability will be less while the inherent resilience will be higher. Therefore, initiatives to build or foster resilience within a community might have the largest effects when they are aimed at the antecedent conditions, such as the social and natural systems and the built environment. Also Norris et al. (2008) identify the factors that are part of resilience. They mention that “resilience occurs when resources are sufficiently robust, redundant, or rapid to buffer or counteract the effects of the stressor such that a return to functioning, adapted to the altered environment, occurs” (Norris et al., 2008: 130). They see resilience as the process that produces adapted outcomes. The quicker communities are able to return to levels of pre-disaster functioning, the more resilient these communities are (Norris et al., 2008). An important note that Norris et al. (2008) make, is the fact that being resilient does not automatically mean that there is no distress or dysfunction. It is normal to perceive some level of distress after an uncommon or unexpected event (Norris et al., 2008). Resilience means that this distress after an event only lasts for a short period of time and is followed by a return to levels of ‘normal’ functioning, even though this might not be the same as it was before the event. This changed situation can be considered as a ‘new normal’ (Norris et al., 2008).

While resilience is seen as a very valuable concept for disaster management, the question remains whether resilience actually leads to a better approach for addressing disaster risk reduction (Sudmeier-Rieux, 2014). Sudmeier-Rieux (2014) mentions the importance of distinguishing “passive resilience” and “transformational resilience” (p. 75). Passive resilience focuses mainly on the aftermath of a disaster (the recovery and reconstruction phase) and has a limited value for disaster management. Transformational resilience, on the other hand, focusses on addressing the underlying risks and vulnerabilities of communities and individuals (Sudmeier-Rieux, 2014), and can be seen as most valuable in emergency management. If resilience is used as an important concept in emergency management, then the root causes of the risks and vulnerabilities should be addressed first, instead of focusing on the aftermath.

In literature, there are several factors mentioned that are seen as enabling resilience. There are three types of factors, known as physical, procedural and social characteristics of a community (Price-Robertson & Knight, 2012). Physical characteristics can be the local infrastructure or emergency services in a community. Procedural characteristics are the local policies, plans and knowledge that are present in a community which help to respond to or recover from disasters. At last, the social characteristics are for example the community leaders, cohesion and social connectedness in a community (Price-Robertson & Knight, 2012).

2.2.2 Community resilience

The definition of resilience is increasingly applied to communities instead of only individuals. This is referred to as ‘community resilience’. By looking at community resilience, a greater importance is placed on what communities are able to do for themselves and how their capacities can be strengthened (Twigg, 2009). Resilience is not a ‘one solution fits all’, it is a complex process. Resilience needs to have different features to deal with the variety of environmental risks, stresses and shocks (Twigg, 2009). It might be obvious that no community is ever completely safe from either natural or man-made hazards. The central theory of community resilience that is used in this research project is derived from Norris et al. (2008). In their article, they consider community resilience as a broadened version of individual resilience. It emerges out of a “set of networked adaptive capacities” (p. 135), consisting of “economic development, social capital, information and communication, and community competence” (p. 136). These different capacities and their linkages are shown in figure 6.

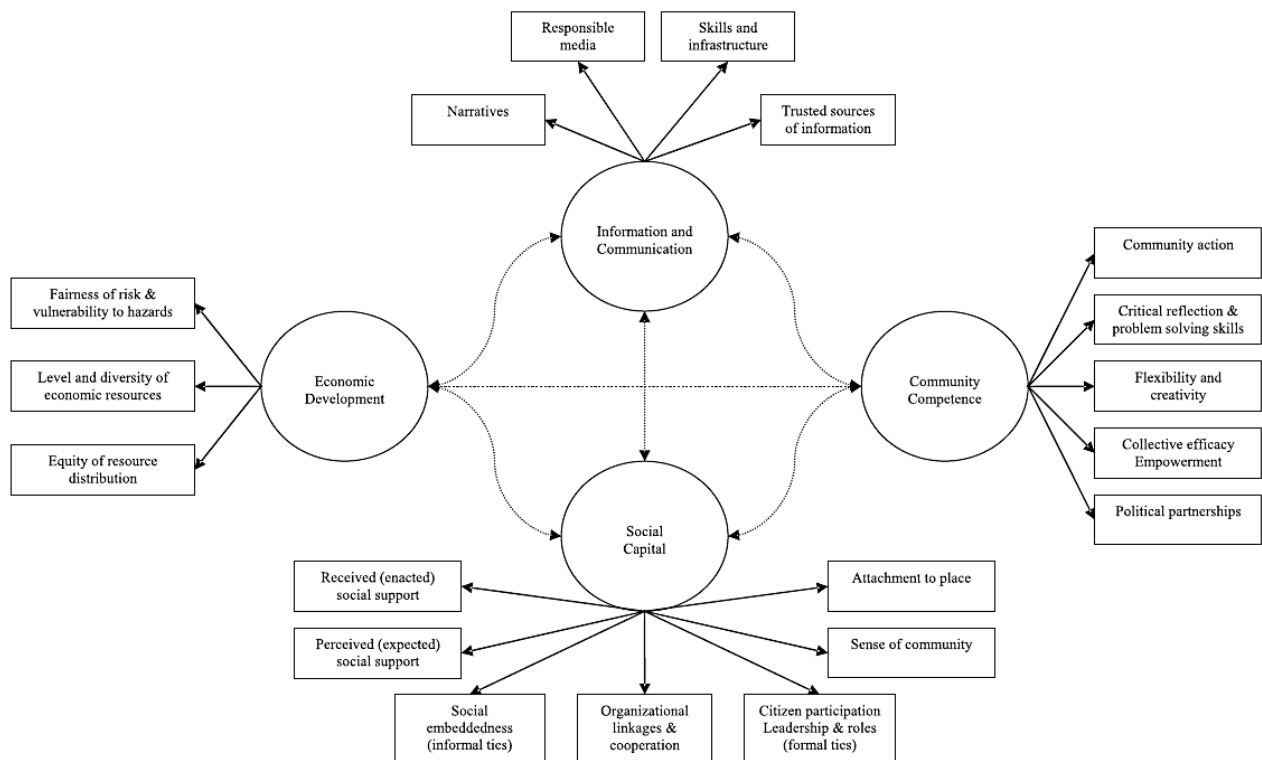


Figure 6: Community resilience displayed as networked adaptive capacities and their linkages (Acquired from Norris et al., 2008).

This figure shows that resilience has many features and linkages. Looking at the adaptive capacities, it can be seen that they are not isolated features. Each adaptive capacity interacts with and depends on other capacities. For example, social capital is deeply intertwined with community competence. To illustrate, one of the linkages of social capital is citizen participation and leadership and roles. These linkages are partly defined by community competence, because community action, collective efficacy and empowerment all contribute to the level of participation in a community. Even though this figure shows what capacities and features might contribute to community resilience, it does not mean that a resilient community should show all of these characteristics. This diagram can be used to analyse characteristics of community resilience. It is however important to understand what is meant with the different networked adaptive capacities in relation to community resilience.

First, economic development is important for community resilience as resilience depends on the amount, size and the diversity of economic resources (Norris et al., 2008). Previous research on disasters has shown that individuals with a higher socio-economic status might experience less psychological impacts than individuals with a lower socio-economic status (Norris et al., 2008). This difference is especially visible when looking at developing countries.

Second, social capital is seen as a very relevant concept in community resilience and emergency response. Social capital matters not only directly after a crisis, but also in the long term recovery phase (Aldrich, 2010). Communities with strong social networks, a lot of trust, and community involvement are better able to bounce back after disasters in comparison to more fragmented communities (Aldrich, 2010). Social networks can secure some sort of informal insurance for people,

for example by giving information or financial help. At the same time, these social connections also ensure that with collective action in a well-organised community, problems can be overcome more easily (Aldrich, 2010). Norris et al. (2008) define several key dimensions of social capital. Sense of community is seen as one of the characteristics of resilient communities. It implies that members of a group bond with other members, and share values and mutual concerns (Norris et al., 2008). Place attachment is also important, as people might often feel an emotional connection to a neighbourhood or city (Norris et al., 2008). The last dimension is citizen participation, which is believed to be a crucial element for community resilience. Citizen participation is defined as the involvement of community members in all kind of formal organisations, such as resident organisations, religious congregations and neighbourhood watches (Norris et al., 2008).

Third, information and communication are both seen as vital means in emergencies. Information can increase survival in emergencies, therefore it is important that the transmitted information is correct and that the source of information can be trusted (Norris et al., 2008). Also communication infrastructure is seen as an important asset for the resilience of communities, as these systems can be called upon when a disaster strikes (Norris et al., 2008).

The fourth set of adaptive networked resources, community competence, plays a large role in resilience, as it shows the level of human agency in a community. Central are collective decision-making and collective action, which may result from “collective efficacy and empowerment” (Norris et al., 2008: 141). Other important aspects in community competence are for example problem solving skills, critical reflection, creativity, flexibility and political cooperation (Norris et al., 2008).

The importance of the four adaptive capacities differs for this research project, and therefore not all are used to analyse the gathered data. Of less importance in this study is economic development. Even though it is an essential part of community resilience, it seems to be especially important for developing countries (Norris et al., 2008). Of greater importance for this study are the three other networked adaptive capacities; social capital, information and communication and community competence. Given the fact that I mainly looked at community resilience initiatives and the relation between all the players in the field of emergency management in Australia, I consider these three as most valuable for this research project.

It should be mentioned here that even though I use the model of Norris et al. (2008) to analyse the gathered data, it is only one of many different ways to analyse resilience. In this model it also seems like all adaptive resources are of equal importance and all are beneficial to resilience. However, as Norris et al. (2008) also mention themselves, these resources might also have a danger within themselves. They use the example of place attachment in their article. A strong attachment to a certain place might actually decrease the resilience, for example when a disaster has affected an area in such a way that people have to relocate (Norris et al., 2008). What also should be kept in mind is that even though resilience is an often used concept nowadays, it is not the answer to all problems. Communities might seem very resilient, but there is always a chance that a disaster might have such great impact that even the most resourceful or resilient community would struggle to recover from it. As Norris et al. (2008) state: “No community is always vulnerable, for how would it survive, and no community is always resilient” (p. 146).

2.2.3 Discourse

The importance of the meaning given to the concept of resilience is central in this research project. This concept is complex and diverse and people give different meanings to it. The different ways of talking about resilience can be seen as discourses. Governments, emergency management agencies and communities might all interpret resilience differently. While the meaning might not be the same between these different stakeholders on different levels, the interpretation can also vary between stakeholders on the same level. Discourse is therefore a very useful concept to look at the way people talk about resilience. Discourse “provides a set of possible statements about a given area, and organises and gives structure to the manner in which a particular topic, object, process is to be talked about” (Kress, 1985 in Cheek, 2004: 1142). Other ways of referring to the ideas of discourse are for example frames or interpretive repertoires (Tuler, 1998). The way people give meaning to a certain matter depends largely on the ‘frames’ people have (Dewulf et al., 2009). It seems that these frames cause actors to perceive and interpret things differently, as frames influence actors’ interpretation of problems, causes, consequences and possible solutions (van Buuren & Warner, 2010). It is very likely that the idea people have of resilience is formed by their frames. In this research project, the discourse will be illustrated by the way people talk about resilience. By looking at both the discourse and the practice, it will be made clear how they influence each other.

2.2.4 Communities

Communities are central in this research project, and therefore it is important to understand what is exactly meant with the concept of a community. In literature, there are many ideas about what a community is or how it is created. The ties that create a community can be organised around different links between people. People can also be organised around a common residence or common interests, or be linked by shared experiences (Crow & Allen, 1994). Often, when people are organised around these certain links, a sense of community is created. This sense of community can be explained by the fact that it entails individuals who are linked in social networks (Crow & Allen, 1994). It is important to realise that communities are not static entities. They are rather dynamic, as communities keep on developing, growing, declining and altering as a result of internal and external tensions throughout time. This results in a constantly changing set of relationships (Crow & Allen, 1994). However, even though the concept of community has many different meanings, community is most often referred to as a local community, which implies a neighbourhood or locality in which relationships are developed and where inhabitants are involved in common activities (Crow & Allen, 1994).

Community is a central concept in Australia’s bushfire preparedness plans. The idea of community often incorporates different dimensions of social life at a local level (Fairbrother et al., 2013). These networks of friendship and neighbourhood stimulate the emergence of social trust (Fairbrother et al., 2013). Because disaster policies are often aimed at communities, it is important to understand what policies mean with the word community. If policies for example aim at geographically located communities, but the social ties inside the community are not based on their geographical location but on other networks, it might be better to aim at those networks. Often the geographical location and social networks in a community intertwine. For example, Cork (2010: 182) define community as: “a social grouping that interacts, albeit inconsistently, on a number of levels – often but not necessarily bounded by geographic commonality but bounded by the effects of the disaster – and is

characterised by a self-recognised and self-defined commonality of experience which changes over time.” This definition shows that communities are often self-identifying. However, this self-identifying of communities is also how they are often labelled and addressed in policies. The identification of communities from the inside (how they see themselves) and from the outside (how agencies or government see them) might not always match each other, and can influence each other. Before any effort is made to work with a community, it might therefore be important to first find out how the community sees itself and what is best for that community, instead of holding on to what policies aim at.

From a disaster perspective, it is important to look at the geographical location of communities that are at risk, as disasters often strike specific areas (Twigg, 2009). However, it should be kept in mind that within these communities, people have their common values, interests, structures and activities (Twigg, 2009).

It is also important to note that the resilience of communities not only depends on their ‘inside’ construction. Their level of resilience is also greatly influenced by outside capacities, such as emergency management services, public infrastructure, social services, and their socio-economic and political status (Twigg, 2009). Most communities, especially in developed countries such as Australia, depend on external capacities and influences. Therefore, looking at communities does not only mean looking at the internal community structures; their connections with the outside world are equally important.

2.3 METHODOLOGY

2.3.1 *Gaining access*

This research project started with the idea that I wanted to do research in the field of natural disasters, preferably bushfires and the recovery of people after a bushfire. While reading literature on this topic, I found that in Australia a lot of research is conducted on this topic. I was interested in conducting fieldwork, however I did not have any contacts in Australia. I therefore decided to send e-mails to some large research institutions in Australia, to find out whether they were willing to assist me or whether they were aware of research opportunities for fieldwork. Among others, I sent an e-mail to the ‘Fire Recovery Unit’ that assists the ongoing recovery of communities affected by the 2009 bushfires. An employee of this Unit brought my attention to the ‘Beyond Bushfires’ project. This is a five-year study that explores the medium to long term impact of the 2009 bushfires on communities and individuals (The University of Melbourne, 2014). I contacted the researcher of the University of Melbourne who is leading this project. Even though she was not able to help me directly with my research, she did refer me to another member of this project, who works for the Department of Human Services (DHS) in Melbourne. He worked closely with Yarra Ranges Council in the aftermath of the 2009 bushfires. He was aware of the fact that the council was looking at a range of ways to build community resilience within their communities, in order to better prepare both the communities and the council for a possible next fire. He contacted Kym Mallamaci from the Emergency Management team of Yarra Ranges Council. Yarra Ranges Council was willing to assist me in my project, and after several e-mails I was welcomed to Australia with the guarantee of help and assistance.

2.3.2 Literature review

To gain background knowledge, especially when writing the proposal for this research project, a literature review was conducted. The literature review was done to learn more about Australia, the natural disasters that take place, especially bushfires, and about the topic of resilience and the concepts that are related to resilience. Also during the field work in Australia and the writing stage of the thesis, literature was used as an important source of background knowledge.

2.3.3 Interviews

The main source of data for this project was gathered with the use of semi-structured interviews. A list of topics was used to structure the interview. The questions asked to the participants were open-ended questions, which gave me the opportunity to explore certain responses further and ask additional questions. The interviews lasted on average between 45-50 minutes. I've conducted interviews with 10 community members from different communities, mostly people who work on certain community initiatives or projects. Twice I've interviewed a group of people who were part of such a project. I also interviewed 5 people who work at emergency management agencies in Victoria, 2 people of the state government of Victoria and 3 employees of local governments in and around Yarra Ranges. Finally, as an important source of background information on resilience and how this is implemented in Victoria, I've conducted interviews with 2 researchers from different universities in Victoria and one clinical psychologist.

When I arrived in Australia, a list of possible interview candidates was provided to me by staff members of the Emergency Management team of Yarra Ranges Council. The main reason for this help was that I did not have any contacts in the field of community resilience prior to my field research and they had some valuable suggestions. By interviewing people and attending workshops and a forum I got the chance to talk to people and create an additional network of my own, through which I got many references to other people who could provide me with new information.

2.3.4 Participant or direct observation

At the very beginning of my field research in Australia, I've joined two Yarra Ranges staff members on their field trip to a few communities as part of their project. This project engages and supports communities in a certain postcode area to determine and develop community emergency plans which reflect local needs and priorities. The trip was done as a first introduction for the project, to introduce themselves to key contacts in the communities and to familiarise with the area and the people. Observing them and the people they talked to, gave me a good insight in the initial responses of people to this project. Another useful source of information was participating in a workshop organised by Yarra Ranges Council, which focused on 'supporting and sustaining community resilience in Yarra Ranges'. Representatives from different emergency management agencies, such as the Red Cross, SES, Victoria Police, and several members of community houses and projects, attended this workshop to discuss, together with Yarra Ranges Council staff, how communities and resilience initiatives can be supported and sustained. By attending a forum organised by the Monash University Disaster Resilience Initiative, I've learned a lot about the concept of resilience and how different people and organisations think about this it. At this forum, not only the concept of resilience was discussed, also the characteristics of a 'disaster resilient Victoria' and different community resilience building activities across Victoria were outlined.

2.3.5 Informal conversations

Not all the information I've gained during my field research came from organised meetings or interviews. I've learned a lot through informal conversations, for example with the people I've worked with at the council offices in Lilydale and people I met at the workshops and the forum.

2.3.6 Analysing data

With the use of the qualitative data analysis program Atlas.ti., the interviews and other data were analysed. By using this program it was possible to code the collected data and therefore identify meaningful concepts or phenomena in the data.

2.3.7 Beyond limitations: focus on community leaders

One important note that should be made here is the fact that most of the people I have interviewed and spoken to during my field research can be identified as 'community leaders'. They are the people that initiated programs or projects, they run neighbourhood houses in the communities, and they are often the ones that try to make a difference within the community. This should not be seen as a bad thing, on the contrary. However, it should be kept in mind that community leaders comprise often around 20% of the community residents (Gordon, 2009). This means that about 80% of the community is not heard very often, either because they do not want to associate with the projects, or because they have no knowledge about it. Therefore the question raises to what extent the community interests are represented. The main reason why I have mainly talked to these community leaders, even though they might not see themselves as such, is because of the size of the Yarra Ranges municipality. Only the municipality consists already of about 55 communities. At the same time, community leaders are often more approachable and easier to contact, which was, because of time limitations, beneficial for this research project.

Talking to community leaders also has an advantage. These community leaders are often the people who talk and think about, in this case, resilience, and know a lot about it. They can be seen as the conduit between policies from government and the community members. This means that they might be faced with possible contradictions or ambiguities in policies or between policies and the local reality within the community. Community leaders therefore have a very strategic place when looking at the concept of resilience in the emergency management sector.

CHAPTER 3. AGENCIES IN EMERGENCY MANAGEMENT

Shared responsibility across all levels of emergency management is the main idea in the changed policy. So what does this shared responsibility look like in practice? In the National Strategy (2011) shared responsibility is explained as: “increased responsibility for all. It recommends that state agencies and municipal councils adopt increased or improved protective, emergency management and advisory roles. In turn, communities, individuals and households need to take greater responsibility for their own safety and to act on advice and other cues given to them before and on the day of a bushfire” (COAG, 2011: 2). This shift of greater responsibility towards communities and individuals who live in disaster-prone areas is not only seen in Australia, but also in other Western countries (McLennan & Handmer, 2012). This means that responsibility is shifted from central government towards greater self-reliance of communities and individuals (McLennan & Handmer, 2012). McLennan and Handmer (2012) argue that this shift comes from the assumptions that people in risk-prone areas are aware of this risk, are able to respond to it and therefore have the choice to take it or not.

It can be questioned whether communities and agencies are aware of the changed policies and act according to it. In this chapter, the emergency management agencies will be central. I will look at the ideas around community resilience and what roles and responsibilities the various agencies on different levels take on. Also the relationships between agencies and between agencies and communities will be outlined. The expectations from agencies and communities with regard to resilience will be outlined, and I will look at the role of local government in emergency management.

3.1 DIFFERENT VIEWS ON COMMUNITY RESILIENCE

The meaning that people give to the concept of resilience is a central focus point in this study. As explained in the introduction, not only what people say resilience is matters, also what they do in practice and how this relates to the idea of resilience is important. In this first part of this chapter, the ideas of community resilience are discussed. Using quotes from different respondents gives an idea about how people talk about and interpret community resilience.

A division is made between the responses of community members, agencies, local government and state government. The different views of community members on what community resilience is are indicated in this chapter, however, they will be further used and analysed in chapter 4. I have included them in this chapter to give a better overview of the conceptualisation of the concept of community resilience between the different stakeholders and different levels of emergency management in Australia. Some of the ideas around community resilience according to community members are:

“Community resilience is how people can best cope with an emergency situation.”

“It is about being able to bounce back well, it’s about minimising the amount of hurdles we have to overcome over time. We would be more resilient if we don’t have to overcome those hurdles.”

“If you want to recover from something you need to be prepared for what is going to happen.”

“Having the networks and local trust in place to keep going and share a vision.”

It becomes clear that each individual has their own idea on what community resilience is. The ideas of coping, bouncing back and preparedness are all linked to each other. When people or communities are prepared, they are better able to bounce back and cope with the situation. Social capital features, as also mentioned by Norris et al. (2008) such as networks and sharing a vision, are valued as important.

The same question about community resilience was asked to employees of different agencies in the emergency management field:

“It’s people ability to fend for themselves, as much as they can. To be able to spring back to normal, whatever normal is prior to the incident. It’s having the tools and the capacity to help themselves as much as they can.”

“I think that resilience is really our community being prepared with all of the information they need. And being able to make conscious decisions without an emergency service having to be there to make that decision for them.”

“To bounce back as a community and support themselves and others in building that township and lives back and not purely relying on us.”

Looking at the interpretation of agencies, also here preparedness and bouncing back are mentioned. Additionally, getting back to ‘normal’ is mentioned, but it is not exactly clear what normality is.

Some examples of local government responses are:

“Community resilience is that if you are part of an organised, well-supported network to community, and if you put in, it will come back and support you in your time of need.”

“A resilient community is one that, I guess, gets back to a sense of normal. Not the same as previous to the emergency, but at a level that they are comfortable that things are normal. Being able to get back to normal operations and normal functioning.”

One of the answers of a member of a state government agency was:

“Whatever happens within a community, that the community has the ability and the capabilities to do what they need to do to continue at least functioning, but hopefully flourishing.”

In the responses of the different government levels, networks and a ‘sense of normal’ are mentioned, just as in the previous responses of communities and agencies. However, it is mentioned that ‘normal’ is not the same as prior to a disaster, but normal as a level when people feel comfortable and be able to keep on functioning. This sense of normal is supported by Norris et al. (2008), who mention that the ‘new normal’ can be seen as an capacity to adapt.

While people all have their own interpretation of community resilience, there are some recurrent themes, such as bouncing back, being prepared and sense of normal. During the forum at Monash University, I learned that the conceptualisation of resilience not only differs within communities and agencies, but also between the other levels in emergency management in Australia. One of the researchers at this forum explained that there are similar conceptualisations between some sectors within emergency management, but that there are also differences between the various sectors. Four different conceptualisations were identified by the Monash researchers. First, the federal government and the emergency sector have a similar conceptualisation of resilience. Second, local governments and community groups often have a similar conceptualisation. The third group which differs from the others is state government and not-for-profit organisations. The fourth group that has a different conceptualisation of resilience are university research groups.

There is a difference in how resilience is conceptualised between the three levels of government (federal, state and local). It can be questioned whether this is because of the different roles they play in emergency management or whether there are incompatibilities within the emergency management sector. The fact that local government is the closest actor to communities, might explain why their conceptualisation of resilience is similar to the one of communities. The difference in conceptualisation between communities and state government might be explained because state government works on a higher government level, further away from communities and more on a policy level. This might also explain why the federal government has a different conceptualisation of resilience, as the federal government stands even further away from communities and is even more remote from the everyday concerns of communities.

The question rises where these differences in conceptualisation come from. While the federal or state government develops policies with regard to emergency management, local government has to implement these policies at the local level. Therefore, while it may be stated in the policies how resilience should be created or fostered, this might not correspond with the implementation at the local level. The difference in conceptualisation might come from the fact that communities, governments, agencies and businesses all work on a different level and have different roles. However, according to some of the researchers from Monash University, there is one overlap between all the conceptualisations, which is that they all consider resilience as an ability (that is developed over time and is under constant change) rather than an outcome. This ability is linked to the three phases of disaster management: preparedness, response and recovery. This means that even though there might be many different conceptualisations of resilience in the emergency management sector in Australia, when looking at the bigger picture, they are all working towards the same goal: to help Australian communities prepare for, respond to and recover from disasters.

3.2 ROLES OF EMERGENCIES MANAGEMENT STAKEHOLDERS

The roles and responsibilities of the various emergency management stakeholders will be outlined in this paragraph. This data was mainly gathered through semi-structured interviews with employees of these agencies. The roles of agencies in emergency management at the state, organisational and local level will be discussed.

3.2.1 State level

Department of Human Services - Victoria

The Department of Human Services (DHS) is a large organisation responsible for social services in Australia. Looking at emergency management in Victoria in combination with natural disasters, DHS coordinates recovery at a state and regional level. They provide different kinds of support, primarily financial and housing support. DHS works closely with local governments, mainly to provide social support for communities.

At the local level, DHS provide support for local governments and agencies to ensure that they are providing programs that focus on helping communities in the long-term, which includes working on community planning and local government planning. One of the DHS employees mentioned that he sees it as their moral or philosophical responsibility to act as advocates for communities and individuals. There is an expectation that communities and individuals have a say in their recovery process, and DHS works very closely with council, agencies and other government departments to make sure that the voice of these communities and individuals is known, heard and taken into account. On the one hand they are working with local government and agencies to influence them to engage with communities, and on the other hand they are supporting communities on how they can influence decisions that are being made.

Fire Services Commissioner's Office

At the time I was conducting research in Australia, the Fire Services Commissioner's Office officially changed to Emergency Management Victoria (EMV). This change meant that instead of solely focusing on fire and working with fire services and agencies, EMV takes an all-agencies and all-hazards approach. I will however in my research project refer to the Fire Services Commissioner's Office, as the change was not yet made when I interviewed an employee of the Office. The Fire Services Commissioner's Office supports the work of the Fire Services Commissioner. The establishment of a Fire Services Commissioner was recommended after the 2009 bushfires, and the Commissioner's task is to "streamline the chain of command across all the fire authorities on days of extreme fire danger and during disasters" (Willingham, 2010). He needs "to coordinate the fire responses of the different fire services, the CFA, MFB and the Department of Sustainability and Environment" (Willingham, 2010). This role is now expanded to the coordination and control responsibilities over all major emergencies in the state of Victoria (Emergency Management Victoria, 2014).

At the Fire Services Commissioner's Office, they run multiple projects and conduct research with regard to emergency management. I will use my interview with an employee of the Fire Services Commissioner's Office as one of the examples of the work they are doing. His work at the Fire Services Commissioner's Office is organised around community emergency management planning. This includes looking at how communities in a local community sense and in a broader community can work together to understand how to make more informed decisions. One of their goals is to get emergency organisations to see themselves as part of the community, rather than seeing themselves as a purely advice-giving service. The aim is to have agencies participating as an equal player and not using a top-down approach on communities. Therefore the Fire Services Commissioner's Office conducts projects that work with communities and agencies to create a platform where everyone who deals with or is part of the community is able to collaborate and work through issues together.

The ultimate goal is to enhance understanding on the part of all parties, to learn and change not only local systems, but also agency and organisational systems at the same time. However, it should be noted here that this project is still in its initial stages, and is currently only focused on one community in Victoria. The aim of the project is clear, but it cannot be said yet whether it will actually work in practice, as the goal of changing agency and organisational systems is not an easy task and will probably take several years.

3.2.2 Local level

In literature it is often mentioned that local governments play a very important role in emergency management. This was also often mentioned during interviews with state government and emergency management agencies. To include local government in my research, I've conducted interviews with staff from Yarra Ranges Council and a neighbouring council, the Manningham City Council.

Yarra Ranges Council

Within the emergency management team of Yarra Ranges Council, one of the positions is the Relief and Recovery Coordinator. This person has to make sure that there are systems, processes, capabilities and capacities in place to deliver on their relief and recovery responsibilities in an emergency. The local council has a coordinating role during and after a disaster, as there are many agencies involved in the initial stages. The other role they have is to make sure that community needs are listened to. The council has a large role in working with local communities to identify what the recovery needs are, and therefore needs to be a conduit to make sure agencies deliver on those needs. My respondent believes that the importance of resilience is that the more resilient people in communities are, the less needs they have in terms of relief and recovery, and therefore will be able to get back on their feet sooner rather than later. Before the 2009 bushfires, the council focused a lot on relief and recovery systems that get activated after an event, while they see their role now as investing in developing resilience from the onset, to make sure the aftermath is better coordinated and connected.

Manningham City Council

The key areas for this local government in emergency management, as mentioned by my respondent, is to make sure that community education, prevention, preparedness, planning and mitigation work well. One of their main goals is to explain to communities that local government even has a role in emergency, because my respondent mentioned that this comes often as a surprise to communities. Awareness is therefore one of their priorities, and the council is trying to make individuals, families, smaller and broader communities aware of the fact that they need to take their responsibility with regard to emergency management.

3.2.3 Organisational level

At the organisational level, different emergency management agencies work together on delivering emergency management practices. The three agencies I have interviewed are the Red Cross, the State Emergency Service (SES) and the Country Fire Authority (CFA), the latter both at a state level and at a local (district) level.

Red Cross

The Red Cross is an large international organisation. I will focus mainly on the role they have in Victoria, Australia. The role of Red Cross in resilience, as indicated to me during the interview, is primarily working with communities before, during and after a disaster, to help them be better prepared and cope more effectively with the impacts of a disaster. My respondent mentioned that one of the concepts the Red Cross aims at is social capital, which they see as an important part of community resilience. They therefore run preparedness programs, which are led by a four-step process: being informed, making a plan, having an emergency kit and knowing your neighbours. During an emergency, they encourage people to connect with each other, and they run special programs focusing on reconnecting friends and families after emergencies. The Red Cross in Victoria works mainly through so-called leadership volunteers: people from different parts of the state who work voluntarily for the Red Cross and are the main connection points between the organisation and communities.

State Emergency Service

The State Emergency Service (SES) is responsible for flood, storm, tsunami and earthquake response in Australia. The SES also works as a provider of information on preparedness programs. For example, they develop so-called local flood guides together with a local government: documents that focus on a particular area and are developed for local communities that are at high risk of flooding. During FloodSafe Week and StormSafe Week they run large media-driven campaigns to spread the message of awareness and preparedness for floods and storms. The SES also conducts education programs on schools for primary and secondary school children.

Country Fire Authority

The Country Fire Authority (CFA) is a fire- and emergency services organisation, and consists largely of volunteers. The predominant focus is on the prevention and suppression of fires. Awareness and education is also an important part of their work. The CFA works in different regions in Victoria, and these regions are subdivided in districts. My respondent mentioned that their aim is to make sure that communities are aware of the risk of fire and that they are able to make conscious and informed decisions in case of a fire. They run different education and awareness programs in each district. At a state level, the CFA mainly conducts research and develops programs, policies, strategies and frameworks. The programs that are developed at the state level are then delivered and implemented at a district or regional level.

3.2.4 Conclusion

Both the ideas around community resilience and the roles and responsibilities of emergency management agencies are discussed above. An overview per agency is given in table 3. In this table, the views and the roles or responsibilities of emergency management agencies are summarised.

Looking at table 3, several overlaps can be distinguished when looking at the meaning given to the concept of resilience. Many agencies mention the word 'ability', such as the ability to continue functioning, the ability to cope, the ability to get back to 'normal'. Also connections, like networks and relationships are mentioned by several agencies, as well as support within the community and support from agencies.

Table 3: Overview of the meaning given to resilience and the practices of the different agencies

Emergency Management Agency	View on resilience	Role in practice
Department of Human Services	Having the ability and capabilities to continue functioning	Coordinating recovery Providing support
Fire Services Commissioner's Office	Relationships Making more informed decisions Being connected to natural environment	Conducting research Coordination and control responsibilities in (fire) emergencies
Red Cross	The ability to cope with some adverse impacts Knowing where to get support	Working with communities before, during and after a disaster Helping people to be better prepared and to cope with impacts (Re)connecting people
State Emergency Service	People's ability to fend for themselves Able to spring back to normal Having tools and capacity to help themselves	Flood, storm, tsunami and earthquake response Providing information on preparedness through (education) programs
Country Fire Authority	Bounce back as a community Support themselves and others Not relying on agency	Prevention and suppression of fires Awareness Education
Yarra Ranges Council	Being part of an organised, well-supported network	Coordinating role during and after a disaster Making sure that community needs are listened to and acted upon by agencies
Manningham City Council	Getting back to sense of normal (normal operations and normal functioning)	Awareness Community education Making sure that prevention, preparedness & planning work well

For several agencies their view on resilience correspond with their role in practice. The view on resilience from the State Emergency Service corresponds with their role in practice. My respondent mentioned for example people having the tools to help themselves. In practice, SES has an important role in providing (preparedness) information to communities, thereby giving the communities these 'tools' (information) to help themselves. This can also be seen in the responses of the Country Fire Authority respondent. She mentioned 'not relying on an agency' as important for resilience, and this matches their role, as they very much promote the fact that people should not rely on them in case of a bushfire. My respondent from the Fire Services Commissioners' Office conducts research on community and agency relationships in a disaster-struck community. This also reflects his view on resilience, as he mentions relationships and making more informed decisions (information from

agencies) as important for resilience. The Red Cross works with and supports communities before, during and after disasters, and this matches with my respondents view on resilience . She mentioned knowing where to get support, which reflect the role of Red Cross in emergencies.

Some of the views on resilience from my respondents do not fully correspond with their role in practice, but for most of the agencies I interviewed this is the case. The role these people have in practice and the responsibilities that come with this role most likely influence their ideas on resilience. DeWulf (2009) stated that the way people give meaning to a certain matter depends largely on the frames people have. It can be seen here that the meaning given to the concept of resilience by several respondents is therefore influenced by their role in practice, meaning that these roles have shaped their ‘frames’.

3.3 RELATIONSHIPS ACROSS EMERGENCY MANAGEMENT

If shared responsibility and partnerships between agencies and communities is something the emergency management sector is working towards, then what do these relationships between the agencies and communities currently look like? As indicated in chapter 1.1, many stakeholders play a role in emergency management in Victoria. To get a clear understanding of the structures between all stakeholders, from federal government to the community level, I will display the different relationships as found during the interviews.

What is the importance of strong relationships in emergency management? According to the White Paper, the relationships made prior to an emergency ensure that the quality of response, relief and recovery actions will be improved (Department of Premier and Cabinet, 2012). This is supported by the framework of Norris et al. (2008) (figure 6), who mention ‘organisational linkages and cooperation’ as part of community resilience. Through the interviews I tried to discover the current relationships between the various community initiatives, between the different emergency management agencies and between communities and agencies.

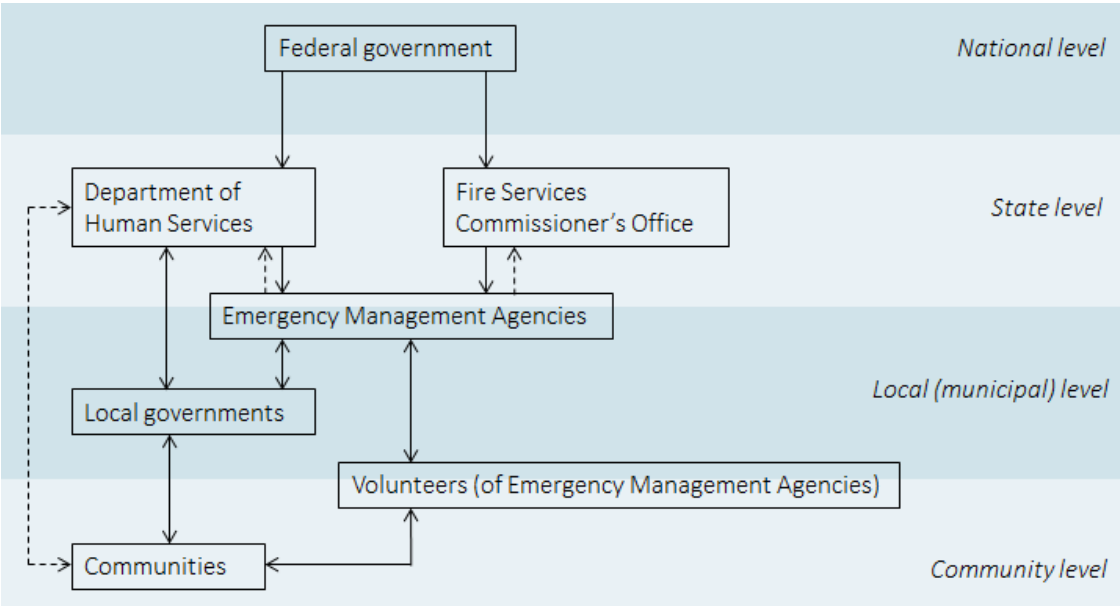


Figure 7: Overview of the different stakeholders and relationships within emergency management.

Figure 7 illustrates the relationships between the various emergency management stakeholders as found during the interviews. As shown, the emergency management field stretches over different levels, from the national level towards the community level.

At the national level, the federal government mainly develops policies. These policies are handed over towards the state level, in this case to different government agencies such as DHS and the Fire Services Commissioner's Office. These state agencies work together with several emergency management agencies, such as CFA, SES and Red Cross. The emergency management agencies work both on a state and a local level. The agencies have a two-way relationship with local governments and their volunteers. Volunteers from agencies like CFA, SES and Red Cross work with communities. The relationship between local governments and communities is also a two-way relationship. The dotted line between DHS and communities indicates that, if necessary, these two actors interact directly, but most of the time this is not the case and the interaction goes through local governments.

3.3.1 Relations between agencies

The respondent from the Department of Human Services (DHS) mentioned that they mainly work together with local government and emergency management agencies. They believe they have a strong advocacy role, and therefore they may also work directly with communities (see figure 7). My respondent from the Fire Services Commissioners' Office mentioned that they work mainly with other fire services and agencies, such as the Metropolitan Fire Brigade (MFB), CFA, Department of Environment and Primary Industries (DEPI) and SES. Many agencies mentioned that they see local council as key stakeholder in emergency management. The Municipal Emergency Management Planning Committee (MEMPC) can be seen as a collaboration between councils and other agencies. The MEMPC is the committee where emergency management plans are made between all actors that are involved when a disaster strikes. The aim of the Yarra Ranges municipal emergency management plan is to lay out the arrangements made with other agencies with regard to prevention, preparedness, response and recovery from possible emergencies (Yarra Ranges Council, 2013b). The local council's role is to manage the Relief and Recovery Centre, which is set up during an emergency. Depending on the needs after the incident or emergency, different agencies will come in to deliver on particular services.

Emergency agencies like CFA, SES and Red Cross take on different roles within emergency management. While almost every agency works very much towards their own goals, there are some agencies that also work together with other agencies in the same area of expertise. The CFA for example cooperates often with agencies such as the Metropolitan Fire Brigade (MFB), Parks Victoria and the Department of Environment and Primary Industries (DEPI). The main reason for these relationships with other agencies is because good communication is crucial between them, especially with regard to locally planned burns and vegetation management. If CFA plans to have a controlled burning in a certain area, it is of high importance that the other fire services are aware of this, and that this is communicated to the communities in the area.

3.3.2 Relation between agencies and communities

The cooperation between communities and emergency management agencies differs greatly between the communities I have interviewed. Some initiatives have clearly created relationships, such as the Ferny Creek Bushfire Alert System, whose committee is represented by the Yarra Ranges Shire council, Victoria Police, the CFA on a district and local level, and Parks Victoria. Also the 'Be

Ready Warrandyte' program has clearly worked out relationships. In this project, both communities and two local councils cooperate to deliver on this project. Manningham City Council and the Nillumbik Shire Council provide support, direction and guidance for the project, they for example helped the community with applying for funds at the state government level. My respondent from the project and my respondent from Manningham City Council were both very positive about their collaboration. It is important to note here that this is only one example of such a positive collaboration. However, it can still be seen as an example that good collaboration between communities and council or agencies is possible and that results can be made when this cooperation goes well. Next to local councils, 'Be Ready Warrandyte' also works closely with agencies such as the CFA, Victoria Police, Parks Victoria, DEPI and the Red Cross.

An example of other relationships between community projects and agencies is the initiative in Macclesfield. The initiative originated from a CFA member, which means that the CFA is closely involved in this project. They have made their project aware by Yarra Ranges Council by inviting someone of the council to a meeting. To gain more information on the role of agencies during emergencies, they invited a member of the Red Cross to one of their meetings.

Emergency agencies mainly have an advisory and educational role in the Powelltown and Warburton community projects. By coming to meetings, these agencies informed the committees on their role in emergency management. These two communities were part of the same pilot project of Yarra Ranges Council. However, there has been very little interaction between them. Asking about the communication between the two communities, the Warburton committee mentioned that there have been a few conversations but that they have not talked face to face. The Powelltown committee said that several attempts have been made to connect, but that it has not worked out. Also in the development and elaboration of the initiatives, a total different outcome has come through, which will be further explained in chapter 4.

3.3.3 Conclusion

Analysing the interviews showed that communities often see agencies mainly as an information provider for their projects. Communities use the education and information as a strategy to develop better plans for their projects, but this relationship is often one-way: from the agency to the community. When looking at agencies, the MEMPC is a good example of a partnership between agencies and local councils, even though their focus is mainly on response and early recovery. Some of the emergency management agencies and community initiatives have clearly worked out relationships, but most agencies are still working in silos. This 'siloesd' approach means that many agencies only work towards their own goals and often do not work together or share information with other agencies.

There is a difference between the current roles of agencies and what is expected of them according to the National Strategy for Disaster Resilience (COAG, 2011). The aim of the National Strategy is to create 'partnerships' between all levels of government, organisations, agencies and communities within emergency management (COAG, 2011). These partnerships are defined as "good working relationships within communities, between communities and those who support them on a professional or voluntary basis, and between agencies and organisations engaged in this work. It is, therefore, important that all parties are clear about their roles, and the linkages and

interdependencies between them” (COAG, 2011: 9). These partnerships are seen as crucial for good community resilience. However, during the workshop of Yarra Ranges that I attended, I sensed that agencies are not yet working in partnerships with each other. Several people mentioned that because of the changing priorities of the government, there is a lack of coordination between the agencies, resulting in a low level of cooperation between agencies. Each agency still works very much towards its own goals and values. This is also mentioned in the White Paper, which states that “current governance structures reinforce a ‘siloed’ approach to emergency management” (Department of Premier and Cabinet, 2012: 14).

If agencies are already working together with others, they mainly work with agencies in the same area of expertise. The hope is that with the change from the Fire Services Commissioner’s Office into Emergency Management Victoria (EMV) these ‘system silos’ in which many agencies currently act, will be reduced (Department of Premier and Cabinet, 2012). This will require a large change in thinking within and across the emergency management agencies. It was mentioned during the interview with the state CFA that their priority at this moment is to understand their own role in community resilience. Even though they try to adopt and follow the National Strategy, there is still a significant amount of confusion across the organisation about what resilience actually means and what is expected from the agency with regard to sharing responsibility. It was mentioned that is important for them to first have a clear understanding of resilience within the organisation before they can set up partnerships with other agencies.

3.4 MANAGING EXPECTATIONS FROM COMMUNITIES

Looking at the expectations communities have from agencies or governments might reveal whether these expectations correspond with the role of agencies or governments. Are there certain needs that communities have from agencies or governments which they feel are overlooked, and are agencies able to live up to these expectations?

Asking communities about their needs or expectations of agencies or local government resulted in a diverse range of answers. Several projects mentioned the need for funding: “money is what makes things happening, because you have to advertise and make yourself visible in the community” (Warrandyte). Another respondent mentioned the need for advice on how to make things happen. Several communities mentioned that agencies have provided input to projects by informing them on the agency’s role in emergencies. It was also mentioned that there are no expectations from agencies at all. For the Macclesfield initiative, my respondent said: “I don’t think the community sees the role of agencies beyond the response phase”. It seems that the role of agencies in emergency management is not clear for all communities.

What do emergency management agencies actually think that communities expect of them? Several agencies mentioned that they did not think communities had expectations of them, because these agencies believe that local government is the best conduit to communities. One respondent from a local government mentioned that most communities do not understand that local government has a role in emergency management, and that he therefore believes there are no expectations from local government. Other agencies, like the CFA, mentioned that they believe people mainly see them as response agency in case of a fire, which corresponds with what the respondent from Macclesfield

indicated. It was also mentioned by the state CFA that some communities expect the CFA to educate them on preparedness for fires, which matches the expectation of some of the communities projects.

In chapter 1.1, I wrote that previous actions from governments in emergencies might have created unrealistic expectations. An employee of the Fire Services Commissioners' Office also mentioned this. He said that the (typical) response agency expectations have sometimes created a certain culture within communities, making them believe that these response agencies will manage the emergency and that people therefore do not have to prepare themselves properly. Even though the CFA recognises this problem, they also mentioned that they are trying to limit those unrealistic expectations of people as much as possible. Especially after Black Saturday the CFA has been spreading this message, and they are starting to see that people are now more aware that the chance that a fire truck is standing at the end of their driveway is not very likely.

3.5 ROLE OF LOCAL GOVERNMENT

As pointed out in chapter 1.1, local governments are obliged to have emergency management regulations in place, as one of their roles is to help ensure the safety of communities in their district (Emergency Management Australia, 2009). Because local governments are mostly involved with communities at a grassroots level, they play an important role in community resilience. In the White Paper it is stated that "local councils also play a significant role in engaging local communities, building resilience and helping communities plan for emergencies and disasters" (Department of Premier and Cabinet, 2012: 13). Almost every agency or community has its own ideas on what local governments should do with regard to emergency management. The question is whether these expectations and views correspond with the current shared responsibility approach. Or do they expect certain things of local government that does not fit the current emergency management approach? In order to give an answer to these questions, I will first explain what the responsibilities of local governments with regard to emergency management are. Then I will look at what role local government took on during and after the 2009 bushfires, and what people and agencies nowadays expect from councils regarding their safety for natural disasters and emergencies.

3.5.1 Responsibilities

Yarra Ranges Council mentioned that one of their most important responsibilities is the delivery of relief and recovery to disaster-impacted communities. Relief relates to providing services to affected communities to help them get through the initial period after an emergency, focusing on the urgent things like food, shelter, water, first aid and sanitation. Recovery was described by the council as helping the communities with the activities necessary to help them get back on their feet. Relief and recovery is mainly delivered through the municipal emergency coordination centres (MECC), which are set up right after an emergency. In the first phases of an emergency, the centre is especially used for relief and early recovery, and after several weeks or months, depending on the severity of the emergency, the centre will move from a 24/7 operating mode towards a more project management mode. While the council manages this centre, other agencies will also deliver particular services, depending on the needs of the incident. All these agreements and plans are written down in the 'emergency management arrangements', where not only the roles and responsibilities of the different agencies are made clear, but also the suggested set-up of the centre and the responsibilities

of council staff. The set-up and planning of the MECC is done by the Municipal Emergency Management Planning Committee (MEMPC). It is required under the Emergency Management Act of 1986 that each council in Australia appoints a MEMPC to provide guidance for planning and establishing a MECC (Office of the Emergency Services Commissioner, 2008).

3.5.2 Council roles during and after Black Saturday

Interviewing both communities that were recently impacted by a natural disaster and communities that have not faced an emergency for many years, gave me the opportunity to explore the different ideas about the role of the local government in the eyes of community members. Both the role that local council has played during and after the 2009 fires and the role that councils should play according to communities will be discussed.

When talking to members from communities impacted by the 2009 bushfires about the role of local government, I received responses varying from positive to very negative. These answers were formed by the experiences between the local government and community members or leaders after Black Saturday. My respondent from Steels Creek was quite positive about the initial role of the council right after the fires. He mentioned that the councils' role was very good in the first stages, by setting up a Relief and Recovery Centre in the neighbourhood. Different agencies, insurance companies, councillors, psychiatrists and psychologists were present in the centre to help the affected people. The centre and the help and referrals people got were received as very positive. Later on in the recovery stage, the community had quite some issues with the several employees from the council, as there were some struggles with, among others, building permits and funding and financial issues.

In the small community of Strathewen, my respondent was very positive about the councils' role after Black Saturday. While the community started to organise itself after the fires, the council came on board by helping the community with their needs. The local government made sure that the community got a temporary place to meet and they helped with managing the process of forming a committee. Having local government manage this process made it completely independent and no one was favoured in this way. My respondent mentioned that local government took on a role of a 'third party advisory role' and that they were very supportive and filled in the areas in which the community was not less good at, such as the administration.

A less positive response came from one of the neighbourhood houses. They feel they were ignored and left out of the response and recovery process during the 2009 fires. Therefore, there is still quite some frustration about the local governments' role. In an evaluation of the Yarra Ranges Council on their response to the 2009 bushfires this kind of problem is also reported. In the report it is recommended that Memorandums of Understanding (MOU) should be developed "with neighbourhood houses and other 'grassroots' agencies (such as township groups) that are strongly linked to local communities and have knowledge of the most vulnerable people in those communities" (Nlt consulting, 2012: XXVI).

3.5.3 *Ascribed role*

Communities have different ideas on the role local governments should take on in case of emergencies, whereby one feature was mentioned over and over again: support. Setting up a support network, facilitate community activities, and be very supportive were part of the responses of community members. It was also mentioned that the council should act as a conduit between the community and the emergency service agencies during emergencies, as well as being a constant connection point during and after emergencies.

So how do local governments actually see their own role, next to their responsibility of coordinating and managing the MECC? Many things were mentioned, such as being a facilitator and connecting communities and agencies, which corresponds with community's expectations. My respondent believes that it is important that the council makes sure that communities' needs are listened to, that recovery needs are identified and making sure that agencies also deliver on those needs. They see themselves as a consistent player who is always present, and they are quite realistic about that: "local government has by its nature a very good connection with local communities, they're not always perfect but we know our residents just by the way of the job and communities by the nature of what we do and our focus". They see it as their role to assist agencies to work with communities, and assisting communities with linking back to those agencies. Key areas that were identified include community education, prevention and preparedness, the planning and mitigation. Because of the knowledge and connections that local governments have, they believe they can provide information and linkages into existing programs, existing knowledge around grants and links to things communities otherwise might not have been aware of.

3.6 CONCLUSION

It could be noted that the expectations of my respondents with regard to the role of local government are quite in line with the shared responsibility approach. The communities I interviewed do not expect local government to fix their problems or lead their recovery after an emergency. However, the people that I interviewed are all community leaders and they all run a project within their community. It is likely that these leaders understand that the local government is not going to conduct emergency management planning for them. Other people from those communities might experience this differently. I think it is important to understand that even though community leaders in this research project might understand the shared responsibility approach and act according to it, it cannot be taken for granted that the other community members and other communities think the same way.

If we look at what is stated in policies with regard to the shared responsibility approach, and if we look at what currently happens at the agency and community level, I do not see this shared responsibility approach in practice. The emergency management agencies and local councils are very well aware of the changed policy and of the shared responsibility approach. However, in practice, this works out in a limited way. The first steps are made, for example when looking at the project my respondent from the Fire Services Commissioner's Office is conducting. However, these projects are still in a trial phase and it is not yet clear how they will work out in other communities. Some agencies are working towards more cooperation with other agencies, but it is important for them to

first have a clear understanding of what is actually meant with resilience and what shared responsibility means within their own organisation. At this moment, there are many ambiguities and agencies are still working mainly towards their own goals (silo system). In some projects, for example the 'Be Ready Warrandyte', you can already see a little bit of how this shared responsibility should look like in practice. However, if we only look at Yarra Ranges, there are still around 40 other communities with a high-risk of bushfire, whose actions, if any, are not visible to the local council. Even though the Australian government expects communities to take on more responsibility regarding their own safety for natural disasters, it does not seem to be happening on the local level yet. It is clear that some communities and emergency management agencies are working towards it, but it probably requires a large change in behaviour within these communities and agencies for the shared responsibility approach to really work.

CHAPTER 4. COMMUNITIES' VIEW ON RESILIENCE

I mentioned before that resilience is a complex concept and that, even in the emergency management sector in Australia, there is no consensual definition or understanding of it. The question rises how communities actually think about resilience, as they are the main target for the resilience approach? What is their interpretation of community resilience? Looking at their interpretation might help to understand why they conduct certain projects or initiatives. Later on in this chapter, I will review what communities actually are doing in practice, and whether this matches their idea of resilience.

4.1 COMMUNITY COMPOSITION

During my field research in Australia, I've interviewed people from different communities. The main reason why these communities were chosen was because they run projects within their communities that relate to either the preparation, response or recovery phase of emergencies. I've interviewed representatives from nine different communities: Healesville, Macclesfield, Powelltown, Steels Creek, Ferny Creek, Warburton, Emerald, Strathewen and Warrandyte. The first six are situated within the Shire of Yarra Ranges. The other communities are situated in three neighbouring local government areas: the Cardinia Shire (Emerald), the Shire of Nillumbik (Strathewen) and Manningham City Council (Warrandyte) (figure 8).

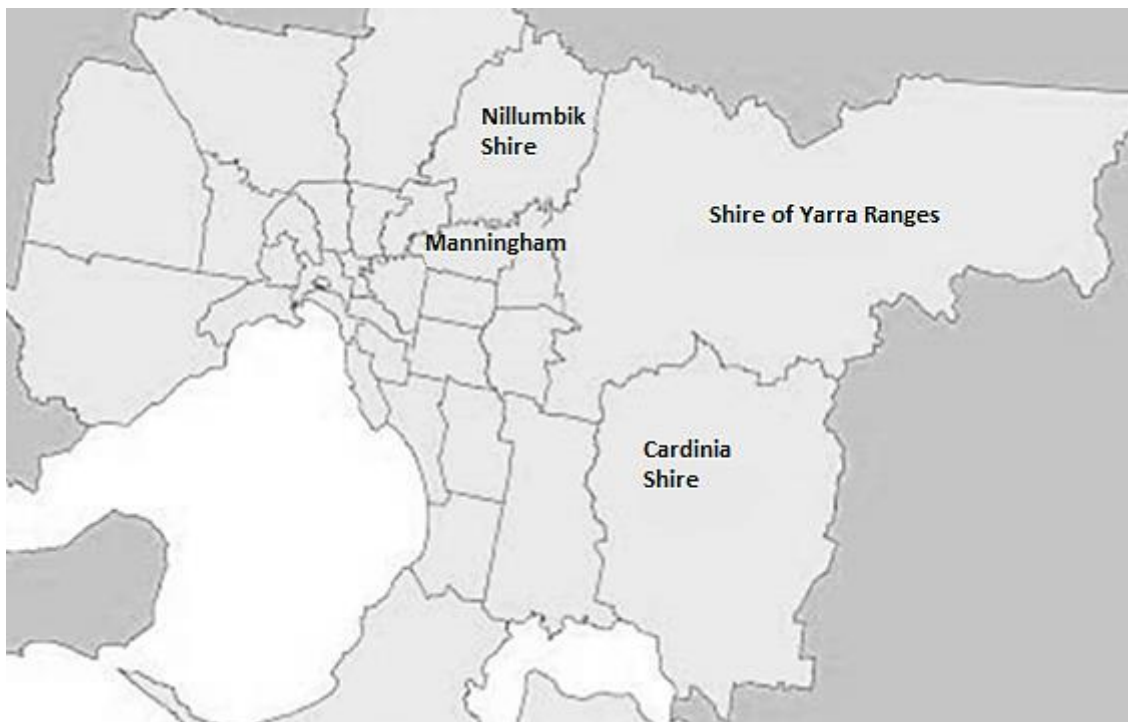


Figure 8: Local government areas where fieldwork was conducted.

The communities differ greatly in number of inhabitants. There are several 'large' communities, according to the 2011 Census the numbers are: Healesville 6,840 inhabitants, Emerald 5,813 inhabitants and Warrandyte 5,520 inhabitants (Community Profile, 2013). Warburton, Ferny Creek

and Macclesfield are a lot smaller, respectively 2,172, 1,536 and 864 inhabitants (Community Profile, 2013). The other communities are very small, both Powelltown and Steels Creek had 199 inhabitants in 2011, and Strathewen 147 inhabitants (Yarra Ranges Council, 2014b). The smallest communities are in this case also the ones which are the most isolated, which means that they are quite far away from any large settlements. The communities also have only one main road to enter and exit the town, which makes it harder for inhabitants to leave in case of an emergency. Most of the communities in this research project are surrounded by large forested areas, which makes them especially vulnerable to bushfires. Flooding is also a risk in the communities of Warrandyte and Macclesfield.

Steels Creek and Strathewen were severely affected by the 2009 bushfires. In these communities many lives were lost and settlements and houses were destroyed. Healesville was also impacted by the 2009 bushfire, but no lives were lost. Other communities, such as Ferny Creek and Warburton, were threatened by the 2009 bushfires but were not directly impacted. Ferny Creek was however affected by another bushfire in 1997. Warrandyte has faced multiple bushfires and floods over the years, but there has not been loss of life in the last years. The communities of Emerald and Macclesfield have not been directly impacted by bushfires or floods, but have been threatened several times when fires came very close to the townships. Powelltown was threatened by a fire in January 2014. The town itself was not impacted, however the fire did come very close to the town.

4.1.1 Community initiatives

As said before, the people I have interviewed are all part of community initiatives that relate to a certain extent to emergency management. To provide an overview of what these initiatives look like, I will list the initiatives below. Later on I will go deeper into these initiatives, for example by analysing how these initiatives relate to the idea of shared responsibility and to the concept of resilience .

Macclesfield Recovery Group

A new initiative is being developed in Macclesfield. The local Country Fire Authority (CFA) started this initiative, with the aim to strengthen the community and to be prepared for a potential disaster. The main focus of the initiative is on the first 72 hours after a disaster. The focus is on how these three first days are going to be managed within the community and what is needed to provide the primary needs of the people. This initiative was set up with the underlying thoughts that after a large emergency, help from the outside will probably not be immediately available. The group exists of 14 permanent members, some of whom are also part of the local CFA, and the others are all community members. The current idea is to set up the project as task-driven instead of person-driven. This means that there is no particular person for a particular task. There are a couple of tasks that need to be fulfilled after an emergency and the project is constructed in such a way that, in case of an emergency, things can be set up at quite a basic level and any volunteer can take up a task. Norris et al. (2008) call this 'redundancy': "the extent to which elements are substitutable in the event of disruption or degradation" (p. 134).

Ferny Creek Bushfire Alert System

After the devastating bushfire in Ferny Creek in 1997, in which three people lost their lives and 35 houses were destroyed, a group of residents lobbied for an early warning system (EWS) for bushfires.

Ferny Creek is situated on the Dandenong Ranges, a low mountain range on the east of Melbourne. The main reason for demanding this system was that the fire in 1997 took less than ten minutes to come up the hill towards Ferny Creek, and completely surprised the residents. Some residents lobbied for a siren, as a form of early warning for bushfires. The siren is a signal for people to investigate what is happening. The sirens were installed in 2000 and it is the world's first early warning system for bushfires.

Be Ready Warrandyte

This project started in 2012 with a survey among households in Warrandyte. The aim was to have as many households as possible with an effective bushfire survival plan in the 'Greater Warrandyte community', which consists of the neighbouring communities Warrandyte, North Warrandyte, South Warrandyte, Park Orchards and Wonga Park. These communities are all under high bushfire risk. Using the survey, they tried to get an idea why many households did not have a bushfire plan. Because of the great response to the survey, through which became clear that many people were interested in bushfire preparedness plans, meetings and forums were held to inform residents on bushfire risk and how to prepare properly for a bushfire.

Strathewen Community Renewal Association

The Strathewen Community Renewal Association (SCRA) was established shortly after the fires in 2009. Many houses were destroyed and lives were lost, and the community started to organise itself in order to lead their own recovery. Through nominations and a voting process managed by the local government for the several positions that had to be filled, the SCRA became formal. The aims of the association were to re-establish community infrastructure in Strathewen, to provide support for the affected residents and to provide assistance to residents and their families to re-establish their homes (Strathewen Community Renewal Association Inc, 2010).

Powelltown Emergency Committee

The Powelltown Emergency Committee consists of 13 members and was established as a result of an approach made by the Yarra Ranges Council to the 'Powelltown Residents Water Association' in 2012. The council conducted this pilot project with the intent to work with community-based emergency planning. Actions that should improve the ability of communities to prepare, act and recover in the event of an emergency had to be identified and communicated (Yarra Ranges Council, 2013a). The aim of the project is to have a greater ability as a community to prepare, respond and recover from emergencies (Powelltown Emergency Committee, 2013). Other aims are to be more organised and connected within the community and with agencies and eventually to be safer. This project can be seen as having a positive outcome as a committee is established, the committee has written a plan and received a grant to work on certain projects. However, during the interview I detected a predominant feeling among many committee members that their actual demands (mainly focused on prevention) are overlooked and overruled by bureaucratic rules, which will be further explained in chapter 4.2.2.

Warburton Emergency Committee

The community of Warburton was also part of the above-mentioned pilot project of Yarra Ranges Council. The main idea was that residents would develop an emergency plan and then could apply for

funding with the help of the council. The Emergency Committee conducted a survey in Warburton, and the response was around 50 completed surveys of the 600 surveys sent. At this moment, the committee has 5 members who meet on a fortnightly basis. The committee has been informed by different agencies, like the fire department, SES, DEPI, and Melbourne Water on preparedness and the role of agencies in emergency management. The main aim for this project, developing an community emergency plan, has not been reached yet and is something the committee is still working towards.

Healesville Living and Learning Centre – Disaster Resilient Communities Project

The Healesville Living and Learning Centre started the so-called Disaster Resilient Communities Project. This project is established to help develop preparation-, response- and recovery plans for the 12 neighbourhood houses across the Yarra Valley. This project comes from previous research conducted by the centre. This research program, called 'Peeling the Union', looked at the issues people faced right after the 2009 bushfires. Several recommendations were made, and to work further on these recommendations a grant was given by the state government to the centre. The main aim of the Disaster Resilient Communities Project is to have consensus on the shaping of community plans and to have these plans integrated into local government, emergency agencies and state government planning. The funding is granted for one year, and after one year the funding and the project stops.

Emerald Community House – Centre of Resilience

The community house in Emerald conducts several projects focusing on supporting community resilience. It is called Centre of Resilience as resilience is seen as part of their business strategy. Two large projects conducted are the 'Dig In Community Cafe' and the bushfire planning workshops for childcare parents. The Community Cafe is a community dining which is held once a month. The community house cooperates with local businesses, which means that they get the food for free from businesses in the neighbourhood. With the community dining, the community house tries to have a dialogue with people about the risks of disasters in the area. The other project, the bushfire planning workshops, is a condition for enrolment in childcare. The community house runs a childcare facility, and if parents want to enrol their children, they have to attend a bushfire planning workshop. Therefore the community house hopes to raise more awareness among the parents and hope that they will feel even more responsible.

Steels Creek Community Centre

During the 2009 bushfires, 11 people lost their lives and 60 houses were destroyed in the small community of Steels Creek. One of the buildings preserved was the community centre, an old school building which is run by a committee of volunteers. In the weeks after the fire, the centre became an information centre for people in the area. After receiving a grant, they started to renovate and extend the centre, which took about two years. The centre is nowadays used for community events such as markets, but also for weekly clubs such as a garden club, an art class, exercise classes, film nights, a book club etcetera.

4.2 COMMUNITY INITIATIVES IN PRACTICE

As shown in chapter 3.1, asking community members what their interpretation of resilience was, resulted in very diverse answers. What I also noticed was that many community members do not necessarily talk about resilience when they talk about their projects. I therefore looked at what they are trying to achieve with their initiatives or projects, and therefore how resilience is formed in practice.

Analysing the interviews, I noticed that many projects focus on preparedness for emergencies. Communities that understand and know their risk, want to be prepared for this. From the projects that focus mainly on preparedness, one of the reasons that was given to me was: “if people are very well prepared, than recovery will flow from that and therefore be resilient” (Be Ready Warrandyte). This shows that people believe that if the community is well prepared, the impact will be smaller and therefore the recovery will be better. This idea is supported by the theory of Cutter et al. (2008), who show in their Disaster Resilience of Place model (chapter 2.3) that higher preparedness leads to higher inherent resilience.

Looking at another initiative, the Ferny Creek Bushfire Alert System, their focus is primarily on early warning. However, they also imply that people should have a bushfire survival plan in place, as they see the sirens as a signal to further investigate what is happening and to execute their bushfire survival plan. This comes back to being prepared and knowing what to do when the sirens sound. However, it was also mentioned to me that “the system is firmly entrenched in our community, and it is highly valued. People rely on this to give them early information”. Even though they recognise that the siren is only one part of the preparations, it might create some sort of reliability.

Through the several programs the neighbourhood houses run, for example the Dig In Café, they not only prepare community members for emergencies and make them aware of the risks, they also stimulate people to connect with each other and with businesses and organisations in the community. This is the same with the Disaster Resilient Communities program, which is not only about developing plans, but also about cooperation with agencies and other neighbourhood houses. To me it has become clear that connections and the establishment or strengthening of social networks is very important for several communities. They value social networks as crucial in preparing their community for natural disasters. These social networks can be seen as relating to the social embeddedness (informal ties) and organisational linkages as mentioned by Norris et al. (2008), through which community resilience is fostered.

The other projects are not solely focused on the preparedness stage. Macclesfield for example combines the preparedness with the recovery phase. When asking about the involvement of people in the community of Macclesfield, my respondent replied: “It can be seen as an opportunity for community members to meet with each other and connect on a whole different level. People who are normally quite isolated are now coming to these meetings every month, and that to me has already some resilience in it, because they have a greater connectivity to what and who is nearby”. It comes forward that the project is not only about preparing for an unexpected event; connectivity and social networks are also highly valued. This social embeddedness and citizen participation are mentioned by Norris et al. (2008) as components of social capital (figure 6), which is one of the adaptive capacities of resilience.

The 2009 bushfires had an enormous impact on the Steels Creek community, something which I also noticed during the interview. This was a different interview than the other interviews. While many projects have a clear initiative and goal they are working towards, this is not the case in Steels Creek. However, I believe that the community centre in Steels Creek plays, either subconsciously, a larger role than people realise. The centre was before the fire a place where people met for all different kinds of classes or clubs. It therefore played a role in social connectedness and networks. Shortly after the fires, it was used as a place where people came together to talk to and support each other. Nowadays, the centre is still used as a place for community events such as markets, but also for weekly clubs. Even though my respondent from Steels Creek did not mention social networks or connections explicitly, for me it turned out that the community centre is a place where people connect with each other.

Unlike most initiatives in this research project, the Strathewen Committee was established after a disaster instead of prior to one. The community wanted to take control over their own recovery, and formed an association. Looking at the theory of Norris et al. (2008), this project can be seen as part of social capital, as the received social support, leadership, organisational linkages and cooperation all link back to the Strathewen Community Renewal Association. Also community competence can be seen as an important factor, because it was the community that took action. Other important factors are collective efficacy, empowerment and political partnerships. Many resilience features can be found within this community project, which might mean that this association is a good example of fostering resilience within a community.

4.2.1 *Matching the ideas and the practices*

Table 4: Overview of the meaning given to resilience and the practices of the different communities

Community initiative	View on resilience	Projects in practice
Healesville Living and Learning Centre	Helping people (educating) Coming back and bouncing back	Trying to cooperate with agencies and neighbourhood houses Set up community plans prior to an emergency
Strathewen Community Renewal Association	Quite isolated township No government services Depend on themselves and neighbours Good community connection	Control over their own recovery Re-establish community infrastructure Provide support and assistance for affected residents
Steels Creek Community Centre	Support mechanisms Need a formal structure after emergency	Classes and clubs in community centre, connection point for people
Ferny Creek Bushfire Alert System	Coping with emergency situation	Early Warning System Being prepared and knowing what to do in case of emergency
Be Ready Warrandyte	Prepared for emergency, recovery will flow from that	Preparedness by information meetings, plans and websites on bushfires

Powelltown Emergency Committee	Working together Supporting each other	Focus is currently on response and recovery, planning for 'what to do' in case of an emergency Most members of the committee <i>want</i> to focus on hands-on preparedness – doing things that actually make them safer
Macclesfield Recovery Group	Bouncing back Minimising the amount of hurdles Connecting people Perceptions about people's own strengths & capabilities	Preparing for potential emergency, mainly focused on early recovery To capture it now – community will be better supported and represented after a disaster
Warburton Emergency Committee	Being prepared in advance Groups set up prior to that make good plans and practice	Survey and couple of meetings, but no plan developed yet after 2 years of meetings with the committee
Emerald Community House	Networks Local trust Sharing a vision Worked out connections	Making people aware of the risk and preparing for emergencies by workshops and community activities Connecting people with each other through these activities

The table above shows on the one hand what the respondents from the different communities mentioned when questioned what their idea of community resilience was, and on the other hand what these people actually do in practice.

For the Healesville neighbourhood house, their idea of resilience matches with their role in practice. Their idea of community resilience consists of educating and helping people, but also on bouncing back. While this might not exactly match with their project idea, it does link to the role of the neighbourhood house itself. As the name already reveals, the Healesville Living and Learning Centre works mainly on education for community members.

Looking at what my respondent from Strathewen interpreted as community resilience and what the SCRA is doing corresponds with each other. The actions match with what my respondent indicated as resilience. They depend highly on themselves and therefore take care of their own recovery, with government support, but not with government interference.

My respondent from Steels Creek views resilience as the support mechanisms that are in place after a disaster, so his ideas are very much focused on the response and recovery after a disaster. However, when looking at the importance of the community centre in the township, I noticed that the centre is a very important connection point for community members. Even though my respondent still links resilience to what happened in the community after the 2009 bushfires, it seems like the community centre is the main source for resilience in the community.

My respondent from Ferny Creek mentioned 'coping' as her interpretation of what community resilience actually is. The Early Warning System in Ferny Creek, whereby people are warned in case of a bushfire, might be seen as a way of dealing with an emergency situation. Through the EWS they are

trying to prepare the community for a possible emergency. These actions might lead to better preparedness among community members. At the same time, having an early warning system in the community might also lead to dependency. They have faced this problem before (the system did not sound in 2009 when fires threatened to come close to Ferny Creek) and therefore they have educated people even more on the fact that the EWS is only one piece of information in case of an emergency.

The idea of resilience and the actions in practice also match for my respondent from Warrandyte. She mentioned that she saw resilience as preparedness, and this also comes forward in their actions, as their focus is on bushfire preparedness and planning.

The situation is more complicated in the small town of Powelltown. One of the respondents from the Emergency Committee mentioned that community resilience was working together and supporting each other. The focus within the committee is currently on the response and recovery phase, for which they work with different agencies. Through the meetings, people in the town work together more closely and know they can rely on each other if something happens. This means that their ideas on resilience and the practice corresponds with each other. However, a majority of the committee mentioned that they are quite frustrated with the whole process, because they want to conduct certain actions to actually make their community safer, and according to them this is not happening at the moment. This example will be further explained in the sub-chapter 4.2.2.

My respondent from Macclesfield views community resilience as bouncing back, but also important was how connected people are, minimising the amount of hurdles prior to an event, and people's perceptions about their own strengths and capabilities. These ideas are reflected in the actions of the Macclesfield Recovery Group, because through meetings they not only try to minimise the amount of hurdles prior to an emergency, but these meetings also bring people together and allow for social connections.

One of the members of the Warburton Emergency Committee mentioned that community resilience means that you should be prepared in advance. This should be done by setting up groups prior to an emergency, that make good plans and practice, to ensure that they are well-prepared. This is partly reflected in their actions, because with the use of information meetings they try to prepare the community for a potential disaster and develop a plan. However, despite the many ideas that this group has, in practice it is not working as it should, as there is still no plan developed after two years. Even though this group meets very often and has collected a lot of information from different agencies, there is still nothing practical done with this information.

The actions and activities of the Emerald community house reflect the view of my respondent with regard to resilience. Having networks and worked out connections, but also local trust and sharing a vision were mentioned as important for community resilience. Within the community house, they are trying to make people aware of the risk of bushfires and try to prepare them for a possible emergency, for example through different workshops and the community dining program. At the same time, people are connected with each other because of these activities.

It can be said here that for each community project, the idea of resilience from the respondents corresponds with the actions in practice. While there are many differences between the communities, there are hardly any differences within the communities. The way my respondents talked about their idea of community resilience can be seen as discourses. As outlined in chapter 2.2.3, the way people give meaning to a certain matter depends largely on the frames these people have (Tuler, 1998). In this case, it can be said that the frames of my respondents are formed by their actions in practice. Because most of the projects differ from each other, the frames my respondents have are also different from each other. As Van Buuren and Warner (2010) mentioned in their article, frames influence peoples' interpretation of problems, consequences and possible solutions. Therefore, the view and interpretation of resilience, as mentioned by my respondents, varies between the different communities.

4.2.2 *Overlaps and differences between communities*

Table 5: Overview of ideas behind the community projects and community composition and history

Communities	Central idea of initiative or project	Community composition & history
Healesville Living and Learning Centre	Cooperation Preparedness	Residents: 6840 Partly affected by 2009 bushfires – no casualties
Strathewen Community Renewal Association	Connectedness Recovery	Residents: 147 2009 bushfires – large impact, 27 casualties
Steels Creek Community Centre	Connectedness Recovery	Residents: 199 2009 bushfires – large impact, 10 casualties
Ferny Creek Bushfire Alert System	Preparedness	Residents: 1536 1997 bushfire – 3 casualties
Be Ready Warrandyte	Awareness Preparedness	Residents: 5520 Several bushfires and floods over the years, but no loss of life in the last 50 years as direct result of disasters
Powelltown Emergency Committee	Connectedness Preparedness	Residents: 199 Threatened recently (2014), no impact
Macclesfield Recovery Group	Connectedness Preparedness	Residents: 864 No loss of life since 1939, often threatened by bushfires, and floods but no impact
Warburton Emergency Committee	Cooperation Preparedness	Residents: 2172 Areas in Warburton area threatened by 2009, but no direct impact
Emerald Community House	Awareness Preparedness Connectedness	Residents: 5813 Never impacted themselves, but some fires 1983 came in the neighbouring towns

In this table, it becomes clear that there are several central ideas behind the community initiatives. Awareness, preparedness, connectedness and recovery are central ideas. Even though many ideas overlap, there are also differences. Ferny Creek, Warrandyte and Warburton focus mainly on preparedness. Healesville, Powelltown, Macclesfield and Emerald focus on building connectedness in combination with preparedness. The projects of Strathewen and Steels Creek are structured around the ideas of already existing connectedness in combination with recovery from the 2009 bushfires. While some communities might focus on the same ideas, other communities take a different approach. Where do these differences or overlaps come from?

One of the most obvious overlaps is the connectedness and recovery of Strathewen and Steels Creek. When looking at the composition and the history of these communities, there are some clear similarities. Both are small, rural and quite isolated communities. When I visited these communities for my interviews, I personally faced the remoteness of these communities. There is only one main road going in and out of the township, and the houses are quite dispersed. Both communities are also far away from large settlements and have limited or no government services in the area. Another similarity is that both communities were deeply impacted by the 2009 bushfires. In Strathewen 27 people lost their lives, and in Steels Creek 10 people died. Because the communities are small, these casualties had a deep impact on the communities. Both communities are still in the (long-term) recovery phase. Therefore it might also be the reason that they talk less about resilience and more about community-led recovery.

The other important feature for both communities, connectedness, either mentioned explicitly or not, comes most likely from the fact that these small communities felt the connectedness in the community after the fires. My respondent from Steels Creek mentioned that shortly after the fires, people from inside and outside Steels Creek came together at the community house to support and help each other. This also happened in Strathewen, where community members and people from outside the community met shortly after the fires. One thing that was mentioned as important by both respondents was that in order to ensure good recovery, no boundaries should be put on the community. My respondent from Strathewen mentioned that “we didn’t have a boundary to the community, so we had people from all over the country in our association”. This was also mentioned by my respondent from Steels Creek: “people come from all over the place, Steels Creek is a community which is not defined by a town I think”. These two small communities are very similar in their ideas or actions with regard to community resilience.

Both my respondents from Warrandyte and Emerald mentioned the fact that next to preparedness, they also focus very much on risk awareness in their communities. Their background is slightly different, as Warrandyte has recently faced a bushfire, while Emerald has never been impacted. However, they are both large communities, with more than 5500 residents. In these communities people move more often, and more people are coming in from the city centres. My respondent from Warrandyte mentioned that these people are often not aware of the risks in the area, which could explain the focus on raising awareness and preparedness.

Both Macclesfield and Powelltown mentioned the importance of preparedness and developing connectedness in their communities. Even though the communities differ in size, they can still be

seen as quite small communities. Both communities have faced natural disasters multiple times, but were not impacted recently. Because these communities, especially Powelltown, are quite remote, they are very reliant on their community members in case of emergencies.

Most of the people from the Powelltown Emergency Committee feel like they are not heard by council or agencies, because they want to focus on actions that actually make their town safer instead of making plans on what to do when something happens. Most of these people have lived in a rural area for a long time, and feel like they know what they have to do to make their town safer for bushfires. They see themselves as very practical people, and several of them have faced fire situations before. One of the examples given, was that a couple of years ago, a water agency started to clear willow trees out of a ditch on the border of the town. This agency subsequently started to plant native trees in that area. As willow trees have a higher fire resistance than the native eucalypt trees (FESA, 2004), people felt like their bushfire risk was actually increased by planting those native trees. The committee fought this decision of the agency, and were eventually, after a long bureaucratic process, able to stop the planting of trees. This example illustrates the predominant feeling in the community that they are fighting a lot against bureaucratic rules and that their ideas are not listened to by some agencies. One of the respondents mentioned: "Our plan is more for afterwards, and it's preparedness with our hands tight behind our back". They feel like they are not heard by authorities, and mentioned that in their opinion, there is no good communication or cooperation between the agencies. One of the members of the committee mentioned that they talked to different agencies and that these agencies mentioned that community initiatives are the best way for fostering community resilience. However, there is still a predominant feeling among these people that that is not actually working out in practice. When asking whether they were aware of other communities facing the same problems, they mentioned that they did not know other communities. I have also not heard this problem from respondents of other communities.

Is it possible to conclude where the main differences between communities come from? Analysing the responses, it seems that the differences has mainly to do with the size, the location and the disaster history of the communities. The small, isolated communities that were recently impacted by bushfires have different ideas on the importance of fostering resilience in a community than other communities, which most likely comes from the fact that they are still in the long term recovery phase. They do not see resilience as preparing for another bushfire, which is mentioned by most communities that have not faced a large impact disaster recently. The previous experiences with natural disasters can therefore be seen as crucial to how people give meaning to the concept of resilience and what they perceive as important.

4.3 TOWARDS ACHIEVING COMMUNITY RESILIENCE

In the previous part I mentioned some features of resilience that are central for the projects of the different communities. These features were mentioned to me by respondents, but also came forward through the analysis of the interviews. There are however several other features mentioned by my respondents that they perceive as important for fostering resilience. During the interviews, I asked open questions with regard to community resilience, for example what they thought community resilience was, but also what features they considered important for achieving resilience.

There are several features that were mentioned several times: leadership, networks/social connections, knowledge, awareness, preparedness and support. There were also some other features that were mentioned by only one respondent. Nevertheless, these features will be discussed at the end of this chapter to give a better idea of what my respondents viewed as important to foster or achieve community resilience in their community.

4.3.1 Leadership

Leadership was mentioned as an important feature to achieve resilience in a community. When interviewing a resident from Strathewen, he mentioned that the Strathewen Community Renewal Association (SCRA) would not have been formed without community leaders. He implied that this is not only the case for Strathewen: “there will be a core group in every community that will step up and do something in leadership and bringing things together”. The association was established after the 2009 bushfires and is mainly focused on the recovery of the town and its residents. Despite the fact that the main focus is not on resilience, my respondent mentioned the importance of community leadership when looking at resilience. He mentioned that, in order to foster resilience in a community, “the identification of leaders, how you actually lead a community is probably the most critical thing”.

Community leadership as a feature of resilience was also mentioned by other communities. An example is Warrandyte, where the importance of leaders with regard to the success of the initiative was mentioned: “if you can stimulate the community and find the leaders and get something going from within the community, and work out their own ideas, it will be much more successful”. Others might not have mentioned leadership explicitly, but talked about “learning and listening to people in town with the experience and skills” (Powelltown).

Because I have mainly interviewed community leaders, you can question whether this feature is mentioned by them just to note the importance of their role in the community. I do however not think this is the case. I noticed that while interviewing, many respondents do not think of themselves as community leaders. While they often know they play an important role in their community, I do not think they mentioned this feature to underline their position.

Yarra Ranges’ community development team indicated that good organisational structures are crucial for a community to achieve higher levels of resilience. Therefore, one of the roles the Community Development Officers take on is encouraging the formation of new leadership and leadership structures, for example by organising social activities and bringing people together. This was also indicated in the evaluation of Yarra Ranges Council on the 2009 bushfires, in which it is stated that “through using existing community relationships and connecting with community leaders, Council was able to gain an understanding of the critical concerns in the community quickly” (Nlt consulting, 2012: 61). After the fires, council staff and community members used the already existing relationships and leadership in the community to build upon and work towards recovery (Nlt consulting, 2012).

Some of these features of community resilience that I found, such as leadership, are also confirmed by literature. Norris et al. (2008) mention that citizen participation can be seen as a crucial element for community resilience. “Leadership, teamwork, clear organisational structures, well-defined roles, and management of relationships with other communities” (p. 140) are important features within

this citizen participation. Other authors also indicate the importance of local community leadership for community resilience (Ganor & Ben-Lavy, 2003; Twigg, 2009).

Leadership in resilience also has an effect on the sustainability of resilience building initiatives. My respondent from Monash University mentioned that in many initiatives, there is an initial excitement and enthusiasm that creates some sort of sustainability for the project. The question is how you make sure that, after this initial stage, the resilience building efforts are still sustainable. The view of my respondent from Monash University is that this sustainability largely depends on community leaders: “if there are strong personalities, a community has a chance to be more sustainable”.

It seems that the recognition of community leaders is often more an issue for people or agencies outside the community than it is for people within the community (Leadbeater, 2013). My respondent from Strathewen indicated that there might be a difference in leadership between larger and smaller towns. Being a small community of about 200 people before the fires of 2009, people in Strathewen were very familiar with each other. Therefore it might have been easier for the community to recognise their leaders. However, for towns with a couple of thousand residents, this process might be more difficult. The larger towns might have to put in extra effort to bring leadership groups together.

4.3.2 Social networks & community connections

Social capital as an important feature of resilience is often mentioned in literature. As shown in chapter 2, social capital is one of the networked adaptive capacities that are part of community resilience (Norris et al., 2008). During the interviews, my respondent from Red Cross mentioned that they see social capital as important to resilience, and therefore they encourage communities to be well-connected. Also the CFA mentioned that they believe that a certain degree of connection and social capital is required before communities can start to work towards developing their own preparedness, response and recovery.

While communities might not mention the concept social capital explicitly, they mentioned many other features that can be seen as part of social capital. Warrandyte sees itself as a “strong community with strong community networks”. Other community initiatives might not focus directly on establishing social connections in the community, but these connections are developed through the initiative nonetheless. An example is the Macclesfield Recovery Group. This initiative gives the community members a chance to meet with each other and connect with the other residents. The same applies to the community of Steels Creek. Both the different clubs and activities that take place in their community centre and the markets that are held, help to strengthen the connections in the community (NIt consulting, 2012). Also the different neighbourhood houses in the area can be seen as social connection points for community members, for example through projects such as the Dig In Café in Emerald.

4.3.3 Knowledge (being well-informed, education)

The importance of knowledge as part of resilience was mentioned by several respondents. They mentioned education as a means through which knowledge is gained. The importance of education for natural disasters is clearly shown by the various programs of emergency management agencies. The Red Cross, SES and CFA all focus on education for communities with regard to awareness and

preparedness. Also the Manningham City Council indicates that one of their key areas is community awareness education. Surprisingly, Norris et al. (2008) and Cutter et al. (2008) do not mention knowledge or education as element of community resilience. Twigg (2009) does see knowledge and education as one of the characteristics of resilience. When asking about how resilience can be achieved in Powelltown, my respondent answered: “continuing to provide opportunities for residents and children to learn about the risks, what to do and what will happen. Understanding and knowing what to do in a fire should be as natural as knowing how to drive a car if you live in this town”.

4.3.4 Preparedness

Governmental institutions, emergency agencies, communities and individuals all mention the importance of preparedness as a prerequisite for resilience. When looking at the different sources of literature, it is remarkable to see that for example Norris et al. (2008) do not mention preparedness as a condition of community resilience. When talking to my respondents, I noticed that when asking about resilience, preparedness was often mentioned as most important for resilience.

Cutter et al. (2008) clearly show in their model that preparedness is important to resilience (figure 5). This preparedness can either be developed prior to an event, but can also be stimulated by the degree of recovery. It is interesting to see that preparedness as an important feature of achieving resilience is mainly mentioned by communities that were not recently impacted by a large disaster. The communities that were impacted do mention that they were now more aware and probably also better prepared, but they did not mention this as feature of resilience. This might come from the fact that they are still more in a recovery mode, because even though many houses are rebuilt and the community has gone through the initial stages of recovery, the bushfires were only five years ago, which means it is still quite fresh in their memory. I think that therefore they mainly think about what went well and what went wrong after the fires and how this impacted their recovery. This of course is also a huge contributor to their resilience, as learning from and the experience of an event are often considered as valuable for resilience, explained by Cutter et al. (2008) as social learning. Social learning happens when beneficial actions after an emergency are transferred into policies for future events. Because people might forget the importance of those actions over time, it is valuable to get these actions translated into policies. “Policy making and pre-event preparedness improvement” (Cutter et al., 2008, :603) can therefore be seen as indicators of social learning, which as a result improves the inherent resilience of a community (figure 5) (Cutter et al., 2008).

Most of the time, when people talk about disaster preparedness, they talk about preparedness as ‘having a plan’ and knowing what to do and how to act and respond in case of an emergency. There are two different types of plans, either to leave early or to stay and defend your house. This will be further explained below. However, there is also the more technical side of preparedness. Many people who choose to stay and defend their house, do not only have a written plan for that. They prepare themselves as good as possible, which includes having all the materials necessary for fighting a bushfire. When people decide to stay and defend, they need to be fully prepared for this, so that they will not be surprised and get caught in the fire. Good preparation therefore includes taking all possible scenarios into account, from a small bushfire to a large and destroying bushfire. Some of my respondents mentioned that, in case of a bushfire, they plan to stay and defend their house. When

asking what they needed in order to do this, some mentioned having a sprinkler installation on the house and on nearby buildings like sheds. Taking into account that there most likely will be no electricity, a generator is necessary. This generator is needed for the pumps to get water. Especially personal protection is important when fighting a fire, like smoke masks, glasses, protected clothing and gloves.

Bushfire preparedness: Stay and Defend or Leave Early?

Australian governments and emergency management agencies have stressed the importance of having a plan with regard to bushfire preparedness for many years (Tibbits & Whittaker, 2007). Every household in a bushfire-prone area should have a clear bushfire plan in order to be very well prepared. At the end of the 1990's, most fire agencies recognised that either staying to defend a (well-prepared) home or leaving early to a safe place were the two best survival options in case of a bushfire (McLennan & Handmer, 2012; Tibbits & Whittaker, 2007). The Australian government therefore adopted the 'Prepare, stay and defend your property or leave early policy', often shortened as 'stay or go' (McLennan & Handmer, 2012). However, this does not mean that every household in a risk area is well-prepared and makes plans according to this policy. Many authors emphasise that most fatalities in bushfires are a result of late or last moment evacuation (Handmer & Tibbits, 2005; Haynes et al., 2010). Therefore it is essential that people have a solid bushfire plan and especially that they act according to this plan. Leaving early therefore means that people should already evacuate on a high-risk day and should not wait until a bushfire starts. When looking at the stay and defend option, this is only a safe choice when the house and the people are actually well-prepared and they know what to do and how to act.

For the communities in Yarra Ranges, several places are indicated as last resort survival options. Fire refuges are built in two towns in the Yarra Ranges district, and these buildings are built in such a way that they can withstand bushfires and will only be opened up for people in case of a significant fire threatening the area. Neighbourhood safer places are coming up more and more nowadays. These are often open spaces such as a football field, "that have an adequate buffer zone to fire hazards and have been assessed for potential radiant heat impact" (Yarra Ranges Council, 2014c). While these places might provide some protection against the radiant heat from bushfire, it does not mean that people are completely safe from embers or smoke. These neighbourhood safer places however also have a disadvantage. While local councils stress that these places do not replace a bushfire survival plan and should only be used in case all plans have failed (hence the name 'place of last resort'), I've heard several conflicting stories. During an informal conversation with a few employees of the Yarra Ranges Council, I learned that some people do not see these neighbourhood safer places as a last option, but sometimes as a first option. There is an upcoming problem that some people think they do not need a fire plan anymore, because they will go to the safer place. It seems that the creation and notification of neighbourhood safer places (figure 9) might give people a false sense of safety.



Figure 9: Bushfire Neighbourhood Safer Place sign

4.3.5 Support

Support, especially support from local government and agencies, was also mentioned by some respondents as feature of resilience. This support often referred to support for the community initiatives. Some communities mentioned support from agencies in terms of finance and provision of services, like Ferny Creek. Be Ready Warrandyte mentioned that agencies have worked with them and supported them with their project. There is however a difference between communities that see agencies and local government as support mechanisms prior to an emergency, so mainly for their projects, and communities who have actually faced support structures after the 2009 fires. Steels Creek is one of the examples that experienced governmental support. My respondent illustrated the importance of support structures by the following example: “when people have lost everything, like their wallet etcetera, they do not want to hear that it takes three or four days”. Therefore, formal support networks need to be set up as soon as possible, with people offering counselling and mental support, but also more practical information, for example what people need to do to rebuild their house.

Support after an emergency comes often from support mechanisms set up by local government and agencies. However, support networks from within the community are also very important. Norris et al. (2008) distinguish between two sorts of social support: received support and perceived support. With received support the actual help people receive after an emergency is meant (Norris et al., 2008). The belief that there is help available when necessary is what is called ‘perceived support’ (Norris et al., 2008). Looking at the communities I have interviewed, distinctions can be made between the communities affected by the 2009 fires, which have experienced this received support, and communities for which disasters were not so recently. They often look at support as perceived support; they believe that they will get support and form their own idea on what this kind of support would look like.

4.3.6 Other features

The above features were mentioned several times by different people. There are however also a few other features that were only mentioned by one respondent. One of these features is 'adaptability'. One respondent mentioned that written community plans can sometimes be viewed as 'this is what we will do regardless of the situation'. She mentioned the importance of making sure that community planning processes allow communities to retain or build their ability to adapt. Another feature, mentioned by a respondent of a governmental institution is 'sense of community'. During multiple projects that my respondent from that institution has conducted, he had seen that a township is not automatically a community. Sometimes a community might consist of two or three neighbouring townships, but at the same time it is also possible that there are two communities in one township. Either way, my respondent argued that it is important to understand how a community sees itself and what the sense of community is. Once this is clear, you can start working with the community in the most effective way. It is interesting to see that Norris et al. (2008) see this sense of community as one of the linkages of social capital, but that during my interviews it was only mentioned once by a governmental agency. Communities themselves do not mention this sense of community. An explanation might be that, because they are members of the community, they do not think about it as a feature of resilience. The last feature is self-efficacy of the community, mentioned by my respondent from DHS. This means that it is important that a community believes in their own ability to reach certain goals or complete certain actions.

4.4 SHARED RESPONSIBILITY – A BLESSING OR A BURDEN?

Of the 9 initiatives explained above, 5 are run within the Yarra Ranges municipality. Considering that there are more than 55 communities in the Yarra Ranges municipality, of which approximately 43 communities are considered having a high-bushfire risk, what does it then mean that there are only 5 visible projects in the Yarra Ranges? Can it be said that these 5 communities take their responsibility more serious and understand that they live in a high-risk area? And does that mean that the other communities do not know their risk or just do not take the responsibility to make their community safer?

Before anything can be said about this, I will first look at the newly developed strategy for emergency management to find out how achievable this policy actually is. In the National Strategy for Disaster Resilience, the following sentence is stated: "Fundamental to the concept of disaster resilience, is that individuals and communities should be more self-reliant and prepared to take responsibility for the risks they live with ... A resilient community will understand and have the ability to use local networks and resources to support actions required during an emergency and to support recovery efforts." (COAG, 2011: 10). The shift in responsibility away from a central government becomes very clear in this sentence. Self-reliance and responsibility are key words used throughout the Strategy. However, even though it states what communities 'should' do, it is not very clear 'how' they should achieve this.

This new policy of the Australian government applies to the entire country. The National Strategy (2011) states that: "For a resilient nation, all members of the community need to understand their role in minimising the impacts of disasters, and have the relevant knowledge, skills and abilities to

take appropriate action” (p. 10). Considering that often around 80% of the community is not involved in community projects (chapter 2.3), this statement seems too good to be true. Taking Powelltown as an example, which has only 200 residents, it became clear during the interviews that not everybody in this township is interested in emergency management planning. And even if the people that are less interested do have the relevant knowledge and abilities to take action, is this still the case in a community of 2000 residents such as Warburton? And what about Healesville with almost 7000 residents? David Mosse (2004) wrote the article called ‘Is good policy unimplementable?’, in which he indicates that there can be a difference between policies and how they are received or implemented on a local level. Even though Mosse (2004) focuses on development aid policies, it might also be used to reflect on the current Australian policy in emergency management. He argues that “ideas that make for ‘good policy’ — policy which legitimises and mobilises political and practical support — are not those which provide good guides to action” (p. 663). Also, the effects and practices of the targeted actors, in this case Australian disaster-prone communities and individuals, are often shaped by the interests, relationships and cultures of the specific settings (Mosse, 2004). The Australian government is striving towards a resilient nation, but is dependent on its citizens and their willingness to act according to the policies. It might be that the government is striving towards something that is simply not possible to implement on the ground, or that this policy first needs to be accepted and appropriated at the local level.

During the interviews, none of the respondents mentioned that they conduct these projects because they feel the need to take greater responsibility. Several projects emerged after a disaster had struck the community (Ferry Creek, Strathewen, Healesville). For others like Powelltown and Warburton, the original incentive came from the local council. Macclesfield, Warrandyte and Emerald are examples of community-led projects, but in these cases there is also an agency or association involved that had the influence to set up the initiatives. For Macclesfield it was the local CFA, for Warrandyte the original idea came from the community fire guard (which is a subgroup of the local CFA), and for Emerald it was the community house. It seems that if communities are willing to take responsibility for the safety of its community, they often need an agency or leadership group to take the lead in the initial stages. In other cases something needs to happen first before anything is done. My respondent from Steels Creek mentioned that after the 2009 bushfires, there is a more general awareness in the community that it could happen again. I also asked my respondent from the Department of Human Services (DHS), who works closely with disaster-affected communities, whether he had seen a change in shared responsibility after 2009 in communities. He mentioned that many people told him that things changed after 2009, but that he did not see a change in taking up greater responsibility. It therefore seems that risk awareness and initiative or leadership are needed before resilience projects in a community are taken up.

However, it also needs to be taken into consideration that the policy is fairly new, as it was developed in 2009. It might take several years before people are all aware of this shared responsibility and that they are able to work on their own resilience, instead of looking at governments or agencies. This is also recognised by the White Paper on Victorian Emergency Management Reform, which states that “changing attitudes and behaviour takes time” (Department of Premier and Cabinet, 2012, p. 7). While many emergency management agencies and other organisations have delivered programs to communities to inform them on making better emergency-related decisions for several years now, the evidence has indicated that only a small number of

communities and individuals are actually helped with this information (Department of Premier and Cabinet, 2012). The White Paper also notes that “Australian jurisdictions are currently working to formulate a national framework for community engagement in the emergency management context” (Department of Premier and Cabinet, 2012: 4). This framework is meant to inform on a common approach to engage communities in emergency management (Department of Premier and Cabinet, 2012). This might raise the question whether you can implement a national framework for so many heterogeneous communities. And all these communities are also subject to a range of different risks. However, because this framework is not completed yet, only time can tell whether this will work or not.

For some communities this policy might come as a blessing, for example because they already had many ideas on how to improve their own resilience, but did not have the means to develop or implement these ideas. With the implementation of the new policy in 2009, it will be easier for these people to be heard and listened to by local government or agencies. For others however, this greater responsibility might be more seen as a burden. Some communities or people do not want to be helped, even when they are aware of the risks. They have their own ideas about what to do in case of emergencies, and do not want council or agencies to help them. And can anyone ever be forced to take more responsibility? In the end, the choices are up to the people themselves, and all councils and agencies can do it making is themselves visible and show to communities that they are able to give people help or advise.

4.5 CONCLUSION

For all the community initiatives in this research project, the actions in practice match their ideas or interpretation of resilience. This means that the frames or interpretive repertoires of my respondents are likely to be shaped by their projects, and this results in them interpreting resilience in such a way that it matches their own actions. Looking at the community projects, they all turn out to be different, even though their underlying reasons might overlap. While the small and recently impacted communities of Steels Creek and Strathewen focus primarily on recovery, the large communities with more than 5000 inhabitants, such as Warrandyte and Emerald, focus very much on risk awareness. Overall, the central ideas behind most of the community projects are structured around risk awareness, disaster preparedness, connectedness, both within the community and with agencies or local councils, and disaster recovery. When looking at the features that the respondents mentioned as important to achieve resilience, next to awareness, preparedness and connectedness, also leadership, knowledge and support from local government were highly valued.

CHAPTER 5. CONCLUSIONS AND DISCUSSION

5.1 CONCLUSIONS

“In December 2009, the Council of Australian Governments (COAG) agreed to adopt a whole-of-nation resilience-based approach to disaster management, which recognises that a national, coordinated and cooperative effort is needed to enhance Australia’s capacity to withstand and recover from emergencies and disasters”

(National Strategy for Disaster Resilience, 2011: III)

The statement above was one of the main reasons for conducting this research project. Because what does a ‘whole-of-nation resilience-based approach’ actually mean, and more importantly, how is this policy being implemented on the ground? While Australia has been threatened by several disasters and emergencies over the past decades, the 2009 bushfires are seen by many Australians as a wake-up call for better and improved emergency management in Australia. Resilience is the most important concept in this new policy approach and is used over and over again when talking about the social side of disasters in Australia. Within this resilience-approach, shared responsibility is seen as crucial. However, the complexity of resilience makes the concept hard to conceptualise. While resilience is often used in theory, it is still unclear how it actually works out in practice. Communities and emergency management agencies can be seen as the ‘targeted’ group that have to implement and act according to this new approach. To find out how they deal with this, the research project was structured around the question how communities and emergency management agencies in the Yarra Ranges municipality, Victoria, Australia, give meaning to the concept of resilience for natural disasters, in discourse and in practice.

5.1.1 Resilience in practice

The nine community initiatives that were part of this research project (Macclesfield Recovery Group, Ferny Creek Bushfire Alert System, Be Ready Warrandyte, Strathewen Community Renewal Association, Powelltown Emergency Committee, Warburton Emergency Committee, Healesville Living and Learning Centre – Disaster Resilient Communities Project, Emerald Community House – Centre of Resilience and Steels Creek Community Centre) all have their own reasons for the initiatives. Even though all projects results are differently, it turns out that there are several overlapping objectives. In practice, it becomes clear that most of the projects are structured around ideas of awareness, preparedness, connectedness and disaster recovery.

The roles and responsibilities of emergency management agencies and local councils are often structured around response, recovery and coordination of emergencies. Education on risk awareness and on preparation for emergencies were also mentioned as part of their responsibilities. For several agencies, supporting and connecting people in case of emergencies are part of their role in Australia’s emergency management.

5.1.2 Resilience in discourse

Now that we know how resilience works out in practice, the question rises how people actually interpret the concept of resilience. How do they frame resilience in their own world? While the meaning given to the concept of resilience in discourse varies a lot between the different respondents, I could identify some common ideas. Bouncing back, having social connections and networks and coping with and being prepared for emergencies were common responses from community members. Also ideas of having support mechanisms, mainly from local government, were mentioned by some respondents. The responses from members of emergency management agencies can be structured around 'abilities', information or knowledge, and networks and support.

It has become clear in this research project that for the respondents of both communities and the emergency management agencies or councils, their view or interpretation of community resilience often corresponds with their actions or roles in practice. Therefore, the meaning given to the concept of resilience is highly influenced by the frames my respondents have. Almost every respondent interprets resilience in a slightly different way, which can be explained by the frames they have developed for themselves in their own world.

Shared responsibility is one of the means through which a greater resilience could be achieved. As mentioned in the National Strategy for Disaster Resilience, good working relationships within and between communities, agencies and governments working in emergency management in Australia are important for community resilience (COAG, 2011). Evaluating the current relations and partnerships in and between agencies and communities revealed that shared responsibility is not working out in practice yet. There are some partnerships, for example the Municipal Emergency Management Planning Committees (MEMPC), with clearly worked out roles and responsibilities between local government and agencies in case of an emergency. Agencies who work in the same area of expertise, in this research project often the fire-related agencies, do work together, but mainly on fire-related plans such as controlled burning. Overall, most agencies focus on their own goals and therefore still work very much in silos.

In order to create effective partnerships, COAG (2011) mentions that it is important for all parties involved in emergency management to have a clear understanding of their different roles, and the linkages and interdependencies between these parties. It was therefore interesting to find out whether this also occurs in practice. The need for funding is one of the expectations from communities with regard to agencies and local government. Other expectations were the need for information or education from agencies in order to properly being able to prepare themselves and their community for a possible emergency. This is something most agencies are aware of and they deliver on this to the communities. However, most agencies did not really know what needs or demands communities have from them, and at the same time communities are not always aware of the role agencies or councils have. Overall, there seems to be a lack of understanding between communities, agencies and councils with regard to what they can expect from each other in emergency management.

5.1.3 The process of giving meaning to resilience

There is not one clear answer on the question how meaning is given to the concept of resilience. It turns out that, as also mentioned often in literature, resilience is a very broad concept and is open for interpretation. Communities in Australia are the main target for the resilience approach, and

understanding what resilience actually means to them and how they work with it in practice might create a better understanding among agencies, governments and policy makers on how to help communities. At the same time, understanding how agencies see their role in this whole process gives a good image of where the strengths and weaknesses are in the current approach. It turns out that the meaning given to the concept of resilience largely depends on the frames or interpretive repertoires of people (Tuler, 1998), which comes back to how people see things.

Finding out how people give meaning to the concept of resilience in both discourse and practice, as written above, was the first step in this research project. The second step was to find out why people actually have different frames and therefore give a different meaning to the concept of resilience, as many communities face similar natural disaster risks.

Each individual develops their own ideas of what resilience means. Emergency management agencies and local councils relate their view on resilience often with their role in practice. For example, if their role is to coordinate and provide support to disaster-struck communities, their ideas of resilience are structured around people having the ability to do things on their own, mainly with the information and support provided by the agency. It seems that agencies place resilience in the aspect of the role they have within the emergency management sector.

For communities, the differences are more structured around the size and location of communities and their disaster history. The small, isolated, rural communities seem to be well aware of the risks they are facing and also understand these risks. They have good community connections and see themselves as self-reliant, because they are quite isolated and are further away from large settlements or government services. These features of connectedness and self-reliance are less visible in the larger communities. The large communities focus primarily on risk awareness, disaster preparedness, and are often working towards developing social connections in communities by bringing people together.

5.2 DISCUSSION

The new resilience-approach of the Australian government caused a shift in responsibility from central authorities towards communities and individuals. Even though this new policy is supported by the National Strategy in which the 'things-to-do' are explained, the exact meaning of the concept of resilience is still unclear. There is no consensual definition of the meaning of resilience between the different levels in the emergency management sector. It is therefore still not clear how to achieve a higher level of resilience in the various sectors, what shared responsibility actually looks like and who is responsible for this.

5.2.1 *Absence of shared responsibility*

Sharing responsibility turns out to be much harder in practice than in theory. While the changes in emergency management policies were made around five years ago and most agencies are aware of this, it seems like the shared responsibility approach is not really embedded in current community and agency practices. Agencies are still working in silos and existing community initiatives are hardly aware of the other projects and their objectives. As discussed in chapter 4.4, at this moment there

are 5 visible projects in the Yarra Ranges, of approximately 43 communities with a high bushfire-risk. It is advised that communities and individuals take up a greater responsibility for their own safety (COAG, 2011), but it does not seem to work out in practice. Where does this lack in taking up a greater responsibility come from? Looking at the history of Australia with regard to emergency management and politics might explain this.

Esping-Andersen (1990) distinguished in his book 'The three types of welfare capitalism' three different types of welfare states. He characterised Australia back then as a welfare state with a liberal model, even as the United States, Canada, Japan and Switzerland. However, around that same time, Castles and Mitchell (1990, 1993) believed that Australia was another type, a more radical category of welfare capitalism, because of Australia's social policy innovations (Deeming, 2013). Castles (2001) has written a lot on Australian politics. He mentions that several matters, such as the introduction of extensive tax subsidies to private health insurance and an unemployment work test with very strict conditions, have been changing the situation of the welfare beneficiaries for the worse. Several Australian governments throughout the years have abandoned the ideas of a welfare state. While the discourse of a welfare state is constructed around the idea that citizens have an inherent right on security and safety, the liberal ideas around the free market changes the welfare state into a state where citizens have a greater personal responsibility (Montesano Montessori et al., 2012). Therefore, the shift from government responsibility towards individual responsibility, in this thesis revolving around emergency management and people's risk security, can be explained by the Australian politics over the last decades.

When looking at the history of emergency management in Australia, the first legislation for fire brigades in Victoria was developed in 1890. With this act, local municipalities were able to set up a fire brigade if they wanted to (Thornton, 2011). However, they were not required to do this. As indicated in Thornton's paper on governments and emergency response: "there was clearly no expectation that local government, let alone State government, would necessarily set up brigades to provide protection for the community, let alone for private assets, or that emergency response was a central government activity" (p. 280). Today, however, emergency management is seen as an important responsibility and activity of government (Thornton, 2011). Where did this shift in thinking come from and why do people nowadays expect the government to provide protection?

In the article on self-reliance versus the welfare state of Goodin (1985), it becomes clear that the discussion of self-reliance and government support for emergency relief has been going on for decades. The article makes a distinction between 'relying on' public assistance and 'just receiving' this assistance. It is mentioned that a common point was that public relief "should be 'confined mainly to casual and extraordinary causes of distress', on the ground that that 'does not establish any resource on which the poor can rely, so as to dispense with ordinary and necessary prudence on their part'" (Goodin, 1985: 28). This could refer to the fact that any public relief measure would be allowed, as long as it did not alter the behaviour of the recipients, in this case the Australian citizens. This article states that people should not count on the help of others, which means that despite the measures for public relief, people should not plan to rely solely upon that support. This principle of self-reliance was built in many emergency relief programmes at that time. As Goodin (1985) states: "after all, few natural disasters come as complete surprises" (p. 29), and therefore, if you build a house in the

dense Australian bush, you should expect a bushfire. However, what is noted in this article is that even though these emergencies might be predictable in a way, governments still entitle them as disasters and offer public relief to disaster-struck communities or individuals, which is contrary to the ideas around self-reliance.

An interesting question in Goodin's article is: "so why is this disaster relief not criticised for discouraging self-reliance?" (Goodin, 1985: 29). The answer given in the article comes back to the fact that people often would not have done anything to protect themselves, not even if there were no emergency relief programmes. Obviously, they could have done a lot, for example building their house in a lower-risk area. Then why do people not take up this responsibility to protect themselves, considering the existing risk? For example because even though "people know that disasters happen ... they seem psychologically incapable of imagining that the disaster will ever happen to them" (Goodin, 1985: 29). Goodin (1985) mentioned that the reason public relief could be offered at that time after emergencies, is because people did not solely rely on it, they just received it instead of assuming they would get it. This also meant that they would not have done anything less to protect themselves, knowing that there would be government support. However, at the same time, they would also not do anything more if this government guarantee was not there (Goodin, 1985).

The former emergency relief measures can be seen as a cause for the current government reliance. Thornton (2011) indicates that the more governments try to or actually exercise control over hazards nowadays, the more it seems that they take on greater responsibility to help people. This results in people nowadays relying on governments to manage the hazard, which eventually leads to governments finding themselves subject to a legal duty, which for example means paying compensation to people in case of a large emergency (Thornton, 2011).

5.2.2 Differences in meaning given to resilience by communities

It is important to understand where the differences in the resilience-approach come from. As I found in this study, small communities seem to be more connected and have a better understanding of risks and how to prepare for disasters. Larger communities tend to focus more on awareness and preparedness for natural disasters. It is therefore easier to foster or build resilience in smaller communities (less than 500 residents) than in large communities with a couple of thousand residents. Small rural communities seem to be fully aware of the risk of disasters and how they should handle it. Because they are quite often further away from large settlements and government services, they rely much more on themselves and their neighbours. The large communities have more government services in their town, and it occurs often that people do not even know their neighbours. If something happens, they are more reliant on the local government than the small and rural communities.

The importance of this finding is that if you want to work with communities on resilience, it is crucial to understand the differences in communities. Most people know and understand that each community is different and that there is not a 'one fits all approach' when it comes to working with communities. My findings suggest that the size and place of communities really matter. The rural, more isolated communities see themselves as self-reliant and more connected. An explanation why smaller communities in bushfire-prone areas have more awareness can be explained with the fact that these community members often have lived there for many years, and they are more aware of

their community history. Therefore they are able to learn from this history, especially from previous successes and failures with regard to natural disasters (Price-Robertson & Knight, 2012). This might also explain why large communities are still trying to make people aware of disaster risks, as the history of the town might be less known by people.

Looking at this in a broader perspective, I think both groups of communities can learn from each other. While small communities might have many social connections and are aware of the history of disasters, this does not mean that all community members have clear preparedness plans. It might occur that, as mentioned during the group interview in Powelltown, people think they already know what to do when a disaster strikes, and therefore believe they do not need a clearly written plan. These people they can learn from the large towns why a focus on preparedness is still important. Not only small towns can learn from large communities, it is also the other way around. Large communities are often less connected internally (or to a lesser extent than small communities), and leadership might be less visible. Features that are very visible and important in small communities, such as social connections and leadership might also be of importance in large communities and they might have to work on that in order to foster resilience in their community.

Only a few of the community projects that were part of my study mentioned the communication with other communities. The majority of projects do not cooperate or communicate with other communities. I think that it would be very valuable for these communities to cooperate with each other, as this might turn out to be very helpful for their project. If we take the example of the Warburton Emergency Committee, even though the initiative was set two years ago, they still have not developed a plan. If they would have communicated or interacted with other communities, they could have seen what they are able to do. It seems like they are currently stuck in their ideas, and therefore not able to write a plan. Therefore, it would be valuable to communicate and interact with other community projects, not only for Warburton but for many other communities. They can learn from each other and help each other by sharing ideas or the development of community plans.

5.2.3 The research project in relation to other studies

I mentioned before that there is no consensual definition of community resilience among the various emergency management sectors in Australia. Also, some agencies are struggling to understand this concept within their agencies. This is also supported by literature, for example by Price-Robertson and Knight (2012). In their paper on natural disasters and community resilience, they mention the fact that the concept of resilience turns out to be difficult to translate into policies and concrete actions (Price-Robertson & Knight, 2012). They also noticed that, while it might not be possible to develop a “universally applicable model of community resilience” (Price-Robertson & Knight, 2012: 5), it could be useful to look at the factors that are seen as enabling resilience. In chapter 2.2 I mentioned three of these factors.

During the interviews I found that there are several features considered important by my respondents. These features, such as community leadership and social connections are also mentioned by Price-Robertson and Knight (2012) as enabling resilience. They see good leadership as an important strength within communities, which might lead to adaptive, flexible and especially unified responses to various challenges, such as natural disasters (Price-Robertson & Knight, 2012).

One of their ideas corresponds with what I mentioned above about the crucial role community leaders play in implementing the shared-responsibility approach in their community. Price-Robertson and Knight (2012) give the following example: “Local individuals or groups who obviously play a leadership role in the community should be made aware of the positive role they could play in an emergency or rebuilding situation, and accordingly be incorporated into local emergency management plans” (p. 9).

Price-Robertson and Knight (2012) also see social capital as crucial, as communities with high levels of social capital “are able to respond more effectively to difficult situations and emergencies” (p. 9). Other authors also mentioned similar features of community resilience that match with what I found in my research study. Norris et al. (2008) see social capital as one of four important features, with leadership, support and cooperation as main drivers of this social capital. Social networks and support was also found in the research of Buikstra et al. (2010). In their research, these features were mentioned by community groups as key factors for community resilience (Buikstra et al., 2010). Also learning and gaining knowledge were mentioned in their research as important, not only at a community level but also on an individual level (Buikstra et al., 2010). I mentioned that it is important to understand where the differences in resilience and thinking about resilience come from, and that the history of communities with regard to natural disasters is an important part of this. Also the participants in the study of Buikstra et al. (2010) believed that history, both from the community and individuals, shaped the future of their community, as experiences often shape future responses. This shows that social capital is not ‘simply’ there in communities, but that there are often common features or experiences that contribute to developing social capital.

In the theoretical framework, I mentioned that social capital, information and communication and community competence, as defined by Norris et al. (2008) were considered important for this research. Reflecting on this, while social capital and community competence can often be seen in the responses of my interviewees, information and communication turns out to be of less importance. Information and communication are defined by narratives, skills and infrastructure, media and trusted sources of information (Norris et al., 2008). These features were not mentioned by my respondents with regard to community resilience. Several of the linkages of social capital, such as social support, social embeddedness (informal ties), citizen participation, leadership and sense of community are also highly valued by my respondents. The most important feature in this research with regard to community competence is ‘community action’. All the community initiatives in my research are examples of community action, and therefore the initiatives can be seen as important contributors to the resilience of these communities. Other linkages of community competence, such as flexibility and creativity, critical reflection and problem solving skills (Norris et al., 2008) have not come forward in my research project.

5.2.3 Reflections (limitations of the research)

Each research has its limitations. Therefore, I think it is important to critically reflect on certain topics in this research project. This research was conducted with the help of the Yarra Ranges Council. This council is sometimes used as an example to explain how municipal emergency management planning in Australia works. However, it should be noted that Yarra Ranges Council has one of the largest emergency management teams in Australia. Many other councils have a much smaller teams, or

sometimes only one or two persons covering the municipal emergency management planning. It should be taken into account that not all the practices of Yarra Ranges, for example the development of a community resilience building framework, can be applied in other local governments, or at least take considerably more time in other councils. Yarra Ranges can however also be seen as setting an example for other councils, and their framework might also be shared with other councils.

A shortcoming of this research project relates to the previous one. Receiving the help of Yarra Ranges might also have created some expectations from their side on what they would like to gain from my research. I mainly worked from their council offices in Lilydale and was therefore seen as 'part of the team'. I was also present at several team meetings. This gave me a clearer understanding and a better perspective of how such a team works, but it also might have led to a less critical understanding of certain topics. However, I always tried to keep my independence as a researcher, by placing their ideas and conversations in a broader perspective and not taking certain ideas for granted.

As most of the interviews conducted did not take place in Lilydale, I needed a car to drive to several respondents. I was very lucky to have the opportunity to use the council cars to drive to interviews. One of the disadvantages of driving these cars is the large council advertisements on the cars. This means that everybody was able to see that I drove a council car. Even though I mentioned explicitly that I worked as an independent researcher and not for Yarra Ranges Council, I cannot guarantee that this might have sometimes shaped some of the answers of respondents.

The last shortcoming is that the fieldwork period stretched over a period of two months. As I did not have contact with most of the respondents prior to my arrival in Australia, I had two months to establish interview contacts, arrange the interviews, conduct the interviews and attend several workshops and a forum. If the fieldwork period was longer, I obviously could have interviewed more people from community projects or emergency management agencies. Eventually, 21 interviews were conducted, of which 5 interviews were with emergency management agencies. There are however more agencies active in this sector. It is recommended that for future research on this topic, in order to gain a broader perspective, also these other emergency management agencies should be taken into account.

5.3 RECOMMENDATIONS

5.3.1 Future research

The conclusions and discussion of this research project revealed some ideas for future research, and therefore I will briefly mention some recommendations for this.

First, this study showed that the shared responsibility approach is not embedded yet within emergency management agencies and communities. I discussed this shortly in the previous section. However, further research on the reasons behind the lack of taking up greater responsibility, especially among communities, might reveal why many communities do not work on this. If the underlying reasons become clear, more targeted approaches can be taken up to help people with implementing the shared responsibility in communities to achieve greater resilience and make people safer for natural disasters.

Second, I looked at where the differences in giving meaning to the concept of resilience within communities come from. While size and location of the communities and their history with natural disasters seem to be important, more targeted research on communities and their ideas on resilience is needed in order to give concise conclusions on this. This might reveal why certain communities define resilience differently and, if the underlying causes or ideas become even more clear, it might be easier for local governments and agencies to work effectively with these communities.

5.3.2 The Shire of Yarra Ranges

One of the objectives of this research project is to inform Yarra Ranges on the development of a community resilience building framework. Getting the opportunity to conduct field research for about two months at Yarra Ranges' emergency management team has been an experience beyond words. I have learned new things every day and I have talked to many different stakeholders and community members. Therefore, even though I realise that I have only seen a small part of their everyday work and the complexities of municipal emergency management, I would therefore like to use this final section of my report to share some of my ideas.

Communities learning from each other

I noticed several times during the interviews that there is very little communication between communities, especially between the community initiatives I have looked into. Taking the example of the Powelltown and Warburton projects, while the initial goal from the council was similar for both projects, their results are anything but similar. The communities might not always be aware of other community projects, mainly because their focus is often internal. However, most community initiatives are known by the local government, and I think that local government is important for encouraging communities to talk to each other. This can be done for example by inviting community leaders or members of projects to come together to talk about their projects. This does not have to be a 'meeting', as people are often not keen on going to formal meetings. However, I have seen that there are other ways of bringing people together, for example having a barbeque (as food is 'the' thing that brings people together in Australia). This is already done within some communities, but widening this concept and inviting members from several community initiatives on a more independent location might give them the chance to talk with each other and develop and share ideas for their own community.

Making the local government more visible with respect to emergency management

One of the local councils mentioned that many residents do not know that the local government has a role in emergency management. This was also mentioned by one of the community initiatives. It seems that often people associate local government with all kinds of services, but not with emergency management. Especially with regard to the shared responsibility approach, if communities want to take up a greater responsibility for their own safety, they should be able to know where they can go to. For example if communities want funding for their initiative, it might turn out to be difficult for them to arrange this themselves. Local government often knows where they can apply for funding and it might have more 'strength' when the application comes partly from a local government. At the same time, I think it is crucial for communities to know and feel supported by their local government. It was mentioned to me that the local government should be the conduit between communities and agencies, and by making themselves more visible in the community and

'promoting' their role in emergency management, people might be able to take up responsibility for them and their community more easily. This might eventually lead to safer and more resilient communities, which, in case of an emergency, is also beneficial for the council.

BIBLIOGRAPHY

- Abrahams, J. (2001). Disaster management in Australia: The national emergency management system. *Emergency Medicine* 13(2), 165-173.
- Aldrich, D. P. (2010). Fixing recovery: social capital in post-crisis resilience. *Journal of Homeland Security, Forthcoming*.
- Australian Government. (2014). <http://australia.gov.au/about-australia/australian-story/natural-disasters>. Retrieved 11-09-2014
- Buikstra, E., Ross, H., King, C. A., Baker, P. G., Hegney, D., McLachlan, K., & Rogers-Clark, C. (2010). The components of resilience—Perceptions of an Australian rural community. *Journal of Community Psychology* 38(8), 975-991.
- Cameron, P. A., Mitra, B., Fitzgerald, M., Scheinkestel, C. D., Stripp, A., Batey, C., Niggemeyer, L., Truesdale, M., Holman, P., & Mehra, R. (2009). Black Saturday: the immediate impact of the February 2009 bushfires in Victoria, Australia. *The Medical Journal of Australia* 191(1), 11-16.
- Cheek, J. (2004) At the Margins? Discourse Analysis and Qualitative Research. *Qualitative Health Research*, 14(8), 1140-1150.
- COAG. (2011). *National Strategy for Disaster Resilience*. (978-1-921725-42-5). Australia: Commonwealth of Australia.
- Community Profile. (2013). <http://www.communityprofile.com.au/yarraranges>. Retrieved 23-09-2014
- Cork, S. (2010). *Resilience and transformation: preparing Australia for uncertain futures*: CSIRO PUBLISHING.
- Crow, G., & Allen, G. (1994). *Community life: an introduction to local social relations*: Harvester-Wheatsheaf.
- Cutter, S. L., Barnes, L., Berry, M., Burton, C., Evans, E., Tate, E., & Webb, J. (2008). A place-based model for understanding community resilience to natural disasters. *Global Environmental Change* 18(4), 598-606.
- Deeming, C. (2013). The Working Class and Welfare: Francis G. Castles on the Political Development of the Welfare State in Australia and New Zealand Thirty Years On. *Social Policy & Administration* 47(6), 668-691.
- Deloitte Access Economics. (2013). *Building our nation's resilience to natural disasters*. Australian Business Roundtable for Disaster Resilience and Safer Communities
- Department of Premier and Cabinet. (2012). *Victorian Emergency Management Reform, White Paper*. State of Victoria.
- Dewulf, A., Gray, B., Putnam, L., Lewicki, R., Aarts, N., Bouwen, R., & van Woerkum, C. (2009). Disentangling approaches to framing in conflict and negotiation research: A meta-paradigmatic perspective. *Human relations* 62(2), 155-193.
- Economic Profile. (2013). <http://economy.id.com.au/yarra-ranges>. Retrieved 20-10-2014
- EM-DAT: The OFDA/CRED International Disaster Database. <http://www.emdat.be/country-profile>. Retrieved 18-11-2014
- Emergency Management Australia. (2009). *Australian Emergency Management Arrangements*.
- Emergency Management Victoria. (2014). <http://www.emv.vic.gov.au/about-us/the-commissioner/>. Retrieved 06-10-2014

- Fairbrother, P., Tyler, M., Hart, A., Mees, B., Phillips, R., Stratford, J., & Toh, K. (2013). Creating "Community"? Preparing for Bushfire in Rural Victoria. *Rural Sociology* 78(2), 186-209.
- FESA. (2004). *The homeowner's bush fire survival manual*. Perth: Fire & Emergency Services Authority of Western Australia.
- Ganor, M., & Ben-Lavy, Y. (2003). Community resilience: Lessons derived from Gilo under fire. *Journal of Jewish Communal Service* 79(2/3), 105-108.
- Goodin, R. E. (1985). Self-reliance versus the welfare state. *Journal of Social Policy* 14(1), 25-47.
- Gordon, R. (2009). Community and Psychological Responses to Disaster. Retrieved 02-12-2014
- Handmer, J., & Tibbits, A. (2005). Is staying at home the safest option during bushfires? Historical evidence for an Australian approach. *Global Environmental Change Part B: Environmental Hazards* 6(2), 81-91.
- Haynes, K., Handmer, J., McAneney, J., Tibbits, A., & Coates, L. (2010). Australian bushfire fatalities 1900–2008: exploring trends in relation to the 'Prepare, stay and defend or leave early' policy. *Environmental Science & Policy* 13(3), 185-194.
- Leadbeater, A. (2013). Community leadership in disaster recovery: A case study. *The Australian Journal of Emergency Management* 28(3), 41.
- McLennan, B. J., & Handmer, J. (2012). Reframing responsibility-sharing for bushfire risk management in Australia after Black Saturday. *Environmental Hazards* 11(1), 1-15.
- Montesano Montessori, N., Schuman, H., & De Lange, R. (2012). *Kritische Discoursanalyse. De macht en kracht van taal en tekst*. Brussels: Academic and Scientific Publishers.
- Mosse, D. (2004). Is good policy unimplementable? Reflections on the ethnography of aid policy and practice. *Development and change* 35(4), 639-671.
- Nlt consulting. (2012). *Evaluation of Yarra Ranges Council Municipal Recovery Response to the February 2009 Bushfires*.
- Norris, F. H., Stevens, S. P., Pfefferbaum, B., Wyche, K. F., & Pfefferbaum, R. L. (2008). Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness. *American Journal of Community Psychology* 41(1-2), 127-150.
- Office of the Emergency Services Commissioner. (2008). *Practice Note - Operation of a Municipal Emergency Coordination Centre*. <http://royalcommission.vic.gov.au/Documents/Document-files/Exhibits/WIT-005-001-0639.pdf>.
- Powelltown Emergency Committee. (2013). Powelltown Community Emergency Action Plan.
- Price-Robertson, R., & Knight, K. (2012). *Natural Disasters and Community Resilience: a Framework for Support*: Australian Institute of Family Studies Melbourne.
- REMPLAN. (2012). <http://www.economicprofile.com.au/yarraranges/>. Retrieved 20-10-2014
- Rogers, P. (2011). Development of Resilient Australia: enhancing the PPRR approach with anticipation, assessment and registration of risks. *The Australian Journal of Emergency Management* 26(1).
- Rothery, M. (2010). Foreword: Building Disaster Resilience. *The Australian Journal of Emergency Management* 25(2), 2.
- Smith, E. (2012). National disaster preparedness in Australia—Before and after 9/11. *Australasian Journal of Paramedicine* 4(2), 7.
- Strathewen Community Renewal Association Inc. (2010). Annual Report - 2009/2010.
- Sudmeier-Rieux, K. I. (2014). Resilience—an emerging paradigm of danger or of hope? *Disaster Prevention and Management* 23(1), 67-80.
- The University of Melbourne. (2014). <http://beyondbushfires.org.au/>. Retrieved 29-10-2014

- Thornton, R. (2011). Proceedings of Bushfire CRC & AFAC 2011 Conference Science Day.
- Tibbits, A., & Whittaker, J. (2007). Stay and defend or leave early: policy problems and experiences during the 2003 Victorian bushfires. *Environmental Hazards* 7(4), 283-290.
- Tuler, S. (1998). The Politics of the Earth: Environmental Discourses, by John S. Dryzek (Book Review). *Human Ecology Review* 5(1), 65-66.
- Twigg, J. (2009). Characteristics of a disaster-resilient community: a guidance note (version 2).
- van Buuren, A., & Warner, J. (2010). Klimaatverandering en waterveiligheid, tussen ernst en enthousiasme. *B&M* 37(1), 15-28.
- Willingham, R. (2010). <http://www.theage.com.au/national/lapsley-named-victorias-new-fire-commissioner-20100819-12iyl.html>. Retrieved 06-10-2014
- Yarra Ranges Council. (2013a). Community Emergency Management Planning: Lessons from the Powelltown and Warburton experiences.
- Yarra Ranges Council. (2013b). *Emergency Management Arrangements*. http://www.yarraranges.vic.gov.au/files/assets/public/emergency-management-portal/committees/mempc/part_1_memp_arrangements_v3.0.pdf.
- Yarra Ranges Council. (2014a). <http://www.yarraranges.vic.gov.au/About-Council/About-the-region>. Retrieved 10-11-2014
- Yarra Ranges Council. (2014b). <http://www.communityprofile.com.au/yarraranges/>. Retrieved 08-09-2014
- Yarra Ranges Council. (2014c). <http://www.yarraranges.vic.gov.au/Property/Fire-emergencies/Neighbourhood-safer-places-fire-refuges>. Retrieved 16-10-2014