Summary of research and practice in the field of community-based disaster resilience

Introduction

FRRR believes that communities that are supported to build their capacity will be better able to respond to the impacts of natural disasters. Led by FRRR and The Prince's Trust Australia, early supporters of the program have included NSW Government, Lord Mayor's Charitable Foundation, Ronald Geoffrey Arnott Foundation and several private donors, all of whom are working together on a project to help communities better prepare for disasters, and be more resilient should they eventuate.

The Disaster Resilient: Future Ready (DR:FR) project is using an action research and co-design methodology, leveraging current research and engaging a broad range of stakeholders, to work with communities to develop and evaluate reality-tested indicators, methods and tools for building resilience. It is a three-stage project, over three years, as outlined below.

1. **Literature Review** Review what exists & identify the gaps.

2. **Community Roadshows** Initiating community consultation.

3. **Place-Based Pilots** Develop and test the framework indicators, tools & assets.

Underpinned by an evaluation and co-design framework

In mid-2017, the first-stage commenced with the commissioning of the Literature Review to bring together current research and practice in the field of community-led natural disaster preparedness that is relevant to rural and regional communities in Australia. The findings of the Review will be used to designed to help inform a place-based co-design methodology, which will then be used to reality-test ideas for building resilience and preparedness.

In September 2017, FRRR entered the second and third phases of the program with the commencement of community roadshows in NSW. These roadshows were to seek out and identify interested community groups who want to be part of the framework co-design and place-based pilots.

NSW is the first Australian state to enter this stage of the program due to funding received via the NSW Office of Emergency Management, which contributes toward the roadshows, pilots and the subsequent evaluation of three pilot community groups.

In November 2017, a National Reference Group was formed to provide strategic oversight of the DR:FR program. Their role is to review and contribute strategic insight to the program process and iterative outcomes.

The overall aim of the program is to have communities from each Australian State participating in the project, to continue to test, evaluate, document and share best practice approaches to building community disaster resilience. This is reliant on further funding and support.

This document is a summary of the Literature Review findings along-with an overview of the NSW Roadshow process and subsequent conversations. The review covers from post 2009 (Black Saturday Bushfires) including Australia, New Zealand, USA & Canada, and potentially Pacific nations.

Phase 1: Literature Review

Key findings

The Literature Review identified that there is **no single**, commonly agreed-upon **definition of community resilience but there are a set of common themes**. It found that resilience not only describes an individual's, business' or community's ability to recover and rebuild after an emergency event, but also refers to the capacity of communities and organisations to **learn from responses to previous events**, and recover and rebuild after each disaster to a state that is an improvement on the pre-event situation.

> **Community resilience is enhanced through robust social networks and stakeholder partnerships within communities, responsive local leadership, and commitment to shared values, knowledge and social norms.**

Strategies to enhance community disaster resilience have recently focused on **strength-based approaches,** effective **partnerships** within communities and **participatory research strategies** that engage communities in **reflexive learning** processes. The importance of community **engagement and active participation** and the significance of communities' **unique culture** and **shared values** are **emphasised** in the majority of resilience building approaches.

Most resilience measurement and assessments are conducted in a **workshop format** which bring together various groups and interested parties. In these process-focused, **bottom-up approaches** to resilience assessment, the **assessment process** is considered to be **more important than the outcome**, as it is **through bringing community stakeholders together** and discussing the community's strengths and weaknesses that resilience is enhanced and plans for further action are made. **Taking cultural diversity into account is important.**

Understanding community resilience

When community resilience is used in the disaster preparedness and emergency management context, resilience takes on a broader meaning than its original use such as in fields of psychology, ecology and engineering.

As above, while there is no **single** definition **of community resilience, there** are a number of **common themes**:

- ability to **prepare for, withstand and absorb** disruptions arising from disasters and other emergency events
- ability to **adapt** to changing conditions, including in the physical, social and economic environment
- ability to **recover and continue to function** and **maintain self-sufficiency** while under stress
- ability to **'build back better'**, improve over time and **learn** from previous disaster experiences

Strategies to strengthen community preparedness and resilience

> *"Mitigating, preparing for and building resilience against global risks is long and complex, something often recognized in theory but difficult in practice."*

Community resilience is **enhanced through robust social networks** and stakeholder **partnerships** within communities, **responsive local leadership**, and commitment to **shared values, knowledge and social norms.**

Strategies to promote and enhance community resilience include **building capacity**, **increasing connectedness** and **fostering cooperation.**

Capacity building refers to **developing, strengthening and increasing knowledge, skills and resources** that are **required** and **valued by the community** in the **lead up to, during, and in the aftermath of a disaster or emergency event.** These resources enable the community to adequately prepare for potential future disasters, respond to current hazards, disruptions and emergencies, and recover and rebuild in the aftermath of disaster.

Increasing connectedness involves **fostering and strengthening links and relationships** between individuals and organisations to create social capital and strengthen **communities. Social capital** consists of factors that **promote and maintain community wellbeing**, including social support, social structures and connections, community linkages and sense of place.

Fostering cooperation relates to initiatives that **promote trust, reciprocity and interdependence** among diverse individuals and organisations within communities. **Social capital is increased when varied stakeholders cooperate and collaborate on the common goal** on strengthening the community's resilience to disaster and other disruptive events.

Tactics that enhance community resilience include **strength-based** approaches, which aim to ease physical and psychological difficulties within communities, by identifying the existing strengths that can be utilised to improve outcomes.

> **Effective partnerships** and collaborative arrangements between community organisations, emergency services and local governments similarly **promote community disaster resilience.**

These partnerships **rely on effective two-way communication**, to ensure that community needs are met and local interest and engagement in resilience building activities are maintained. Specifically, **emergency services may partner with local schools** to incorporate resilience building activities into the curriculum or with community clubs and groups to offer information and training in disaster preparedness and response. **Such partnerships contribute to a community-wide commitment to a culture of preparedness.**

Strong family and community links and strong social networks increase resilience and help communities to cope, recover and adapt in the event of a disaster.

Measuring and monitoring community preparedness and resilience

Measuring and monitoring contributions to disaster resilience is inherently challenging, as many factors influence resilience and it is difficult to view any of them in isolation. The **range** of disasters, hazards and emergency situations further **complicate efforts to monitor** communities' disaster resilience, as some indicators may contribute to resilience in a general sense, while others may be specific to a particular hazard or emergency. The **subjective nature of community resilience** restricts the capacity to make comparisons over time and between different communities.

Nevertheless, numerous models for assessing and measuring community disaster resilience have been developed. These methods may relate to **assessing community processes, outcomes or outputs**.

Models or tools that assess **processes** typically examine a community's disaster preparedness and response **planning actions and activities**, **governance** arrangements and **communication** strategies.

Tools that are **outcomes-focused** look at communities' **responses to previous disasters or disruptions** to determine each community's capacity to recover and rebuild in the aftermath of an emergency event.

Models that consider **outputs** generally focus on communities' **existing emergency response and business continuity plans, conducted risk assessments** and other relevant documents.

Top-down approaches generally involve an organisation or agency being tasked with applying a single **assessment tool or scorecard** to numerous communities or organisations, and then **collating, analysing and comparing** the results to build an overall picture of resilience at a state or national level. Typically, top-down approaches tend to **rely on easily quantifiable indicators, such as population demographics and economic measures.**

Bottom-up approaches focus on **community processes and activities** that influence disaster resilience at the local level, and tend to **rely more on qualitative indicators and expert opinion**. These approaches typically involve community stakeholders completing a **self-assessment scorecard or questionnaire in a workshop format**, with the ultimate goal of **highlighting areas in need of further attention** and **providing a baseline** picture of disaster resilience that can be used to assess the impact of future resilience building interventions.

> Very few measures or indicators of community disaster resilience have undergone formal evaluation, however, there is widespread agreement that **participating in the process of a community disaster resilience evaluation exercise is far more important than the final score or rating** arising from these assessments.

Community disaster resilience assessment tools most commonly focus on **capitals-based and process-focused indicators**. Capitals-based indicators are varied and include human capital, social capital, natural capital, physical capital and financial capital.

Many of the measurement tools are **participatory** in nature and reiterate the importance of community members engaging with the process of implementing the tool and **repeating** the process at regular intervals. The **process of reaching consensus** for each of the indicators of resilience **is important**. This is because it is often during these discussions among stakeholders that both community strengths and shortcomings are frequently identified. This **process of engagement also enhances community connectivity and social cohesion.**

A useful resource that provides a review of disaster resilience measurement tools can be found at http://www.preventionweb.net/publications/view/37916.

Most community resilience assessment tools require the input of **data from a range of sources** including **existing datasets** (Census data, Australian Bureau of Statistics) focus groups or **workshops**, stakeholder **interviews**, qualitative **surveys**. Self-assessments are frequently informed and supported by available data, such as community surveys, records and reports but where data isn't available assessments are based on opinion or stakeholder discussion. It should be noted that while the use of existing quantitative data facilitates comparability of resilience across communities and over time, **the use of subjective qualitative information ensures a sense of ownership** and **specificity** for the local community involved in the exercise.

Considerations regarding culturally and linguistically (CALD) diverse groups

The Sendai Framework for Disaster Risk Reduction 2015–30 states that there "has to be a broader and a *more people-centred preventive approach* to disaster risk. Disaster risk reduction practices need to be multi-hazard and multi-sectoral, inclusive and accessible in order to be efficient and effective" and that "**Governments** should engage with **relevant stakeholders, including** women, children and youth, persons with disabilities, poor people, migrants, indigenous peoples, volunteers, the community of practitioners and older persons in the design and implementation of policies, plans and standards."

> The National Strategy for Disaster Resilience states that resilience is the collective responsibility of *all social sectors* and that every sector must do more.

These documents highlight that particular attention need to be paid to culturally diverse communities and to social inclusivity to ensure that different needs and expectations are met and that capabilities are recognised.

Migrants, for example, can be more resilient and therefore be a key resource in regard to building community resilience. They can be more likely to know, understand and accept responsibility for the events and/or circumstances that impact on their lives.

Community preparedness and resilience in action

The following are examples of community-led initiatives utilising **strengths-based approaches**, effective **partnerships** and **participatory research** strategies to enhance resilience.

Six steps to resilience framework - Hunter Region, NSW

The project recognises the **important role that community organisations** play in supporting communities during disasters. Therefore, **working with** and **strengthening the resilience** of these organisations is viewed as central to enhancing community disaster resilience. **Effective partnerships** between community organisations, community members and local councils are central to this project.

The Six Steps project aims to raise awareness and capacity within community service organisations of the **importance of service continuity during disasters**; provide **direct support to organisations** via a **collaborative workshop process** to complete business **continuity plans** using the 6 Steps to Resilience framework; and evaluate the effectiveness of the 6 Steps process.

Pillowcase Project - National

The Pillowcase project is run by the Australian Red Cross to help build children's knowledge, skills and confidence to act in times of adversity. The project focuses on children's strengths, rather than their increased vulnerability to disaster.

It is delivered via a workshop, aimed at Year 3 and 4 children, which involves engaging **discussions and interactive activities.** The aim is to help students to **understand** and discuss the **importance of being prepared**; **prepare their mind** for the **thoughts and feelings** that may arise before, during and after an emergency; and **know** the difference between need and want items and **what to pack in an emergency kit**.

The children are given the opportunity to practice skills that contribute to increased resilience and **act as positive change agents** in their communities. This creates flow-on effects in households and community organisations, which **contributes to an overall culture of preparedness and resilience.**

Survive & Thrive Claymation – Strathewen, VIC

The Country Fire Authority expanded their Survive and Thrive program to Strathewen Primary School, which was severely damaged in the 2009 Black Saturday bushfires. As part of the program, students created a bushfire safety claymation video about preparing properties, reading fire danger ratings and actions to take in the event of an emergency. The program equips children with the knowledge, skills and confidence to prepare for and respond to bushfire emergencies

The program promotes learning through **active participation** in a year-long project, which gives students **a sense of ownership** of the final product and **increases their confidence** in being able to take actions to adequately prepare for bushfire hazards in the future. The **effective partnership** between the school and the CFA ensures that the program is tailored to the unique experiences and needs of the Strathewen community

Together We Can Do It - Bundaberg, QLD

The Bundaberg community suffered considerable damage as a result of severe weather events in January 2013. Through donations and **collaboration** with community groups they **established a volunteer organisation** to assist with the rebuilding of damaged infrastructure in the region. The project operated for 15 months, assisting with the refurbishment of 64 homes of those identified as **the most vulnerable members of the communit**y, who would not have been eligible for funding.

The outcomes from the project extend beyond the **rebuild and refurbishment of infrastructure** to the positive **emotional impact and collaboration** between local community groups. Due to the success of this project, State Government is looking to formalise processes and policies regarding agency collaboration as a model for response in future disasters.

## Fit for Free - Toolangi, VIC

The program has four main target areas including the **reduction of trauma** after the 2009 bushfires; improvement of both **physical and psychological health** of the older members of the community; increasing **community connectedness**; and **building community resilience** through connectedness. These were addressed by offering up free fitness programs but with the most valuable part being the discussion afterwards over some fruit and a drink – the opportunity to share stories and support one another.

There have been significant **positive impacts** on the community, including **increased volunteering** rates and improved support for community groups. By **improving community connectedness**, the program contributed to residents' increased **sense of belonging** within the community, which increases community resilience and capacity to respond effectively to future disasters or disruptions.

Phase 2: NSW Roadshows process and outcomes

In early September 2017, FRRR entered the second phase of DR:FR project with the commencement of The Get Ready NSW – Disaster Resilient Future Ready Roadshow. The purpose of the roadshow was to speak to identified community leaders (formal and informal) and groups that have either experienced, or are considered to be at risk of, being impacted by natural disaster.
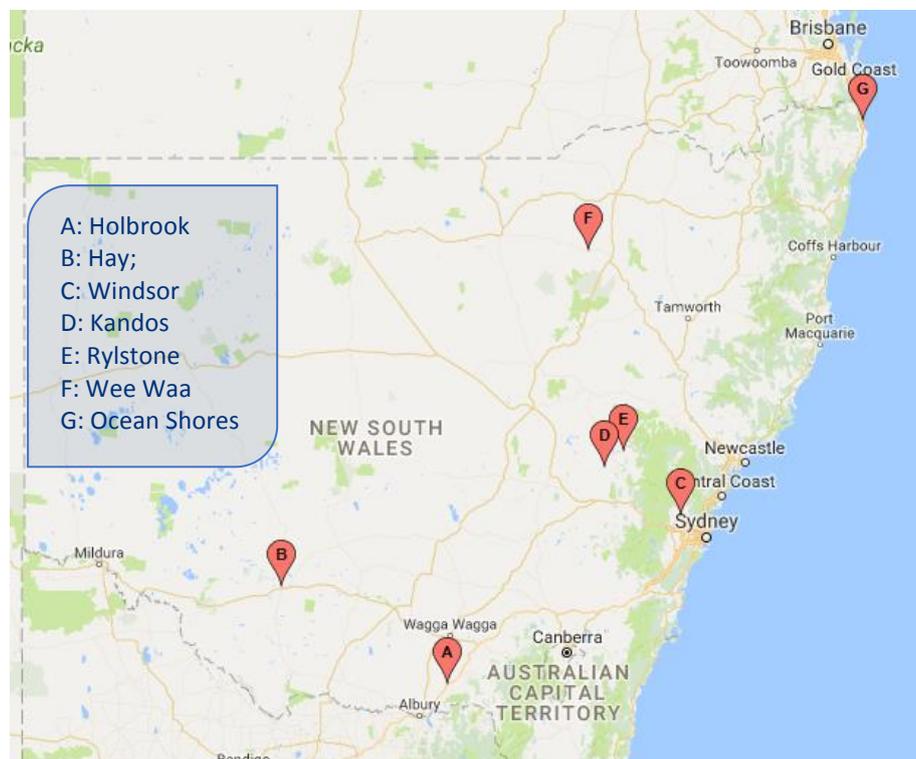
A NSW Reference Group was formed to select Roadshow communities based on criteria developed through analysis of indicators and profiling across a range of domains. Six communities were selected: Windsor, Kandos, Rylstone, Wee Waa, Ocean Shores, Holbrook and Hay. Community conversations were held by FRRR with Emergency Service organisations (local and regional), community service providers and community centres, and grassroots non-profit organisations that have received funding from or have a relationship with FRRR (including Donors and Community Foundations).

Community conversations adopted a range of approaches including small group discussions, one-one meetings, and larger multi-stakeholder group conversations, driven by the local context and most appropriate way to engage with the community.

> Over seven days, more than **2,300 kms** was travelled, and meetings were held with more than **40 community members, representing 26 organisations**. **Expressions of interest** to engage in the program were received from **all six communities and all 26 organisations**.

Below is a brief outline of the results of NSW Roadshow conversations.

Ocean Shores

Meetings with representatives from Council, community sustainability groups, the DPI Rural Resilience Officer and a local Community Foundation gave us a clear idea about the impacts of recent flooding on the Ocean Shores community. This area is a sub-division development from the 70's-80's and as such suffers from a lack of basic connectivity, for example no footpaths and only one shopping area. A Flood Action Committee, a collaboration between community members and Council, has been recently formed to address the flooding issues.

Ocean Shores - Byron Cr. Alan Hunter speaking about recent flooding with Janet Phillips, FRRR Manager, Resilience & Recovery

Kandos / Rylstone

A meeting was held at the Volunteer Rescue Association site. This is a small yet cohesive rural community with a strong sense that the community works together when someone needs a hand. Bushfire is a high risk as roads into communities are surrounded by National Park, State Forest and bushland.

Wee Waa

Discussions were held with Narrabri council officers and representatives of eight community organisations. The community has a very strong sense of identity and participants expressed that they did not consider the flooding they regularly experience as a disaster, just a part of where they live. This is a very active and connected community, pulling together to achieve what they want to see occur.

North Richmond / Windsor

Discussion took place with community members, the Mayor and senior representatives from the Hawkesbury Council, and senior regional emergency services officers. North Richmond was identified by the participants as the preferred site for the program. North Richmond is a relatively new sub-division, most residents with little experience of flood. The community is also close to large tracts of bushland. There is only one access bridge across the Hawkesbury River and only one road from the Blue Mountains, a significant risk during any emergency situation.

Windsor - Police Superintendant (Acting) Grant Healy, Hawkebury Mayor Cr. Mary Lyons-Buckett, and SES Community Engagement Coordinator Katie Moulton

Hay

As with Wee Waa, there was a high level of acceptance from community members that they live in a flood prone area and are well prepared when the water starts to rise. In a story from 2016, one participant was 8-months pregnant with three children under the age of four. The family prepared for evacuation by doing training sessions in the lounge room on how to put the life jackets on and get inside the boat safely. The Murrumbidgee rose to their doorstep and the only way out was by boat.

Holbrook

We met with not for profit Aged Care services, local DPI Rural Resilience Officer, Greater Hume Council Director of Planning (&LEMO) and Landcare Coordinator. All these participants were connected to a significant local network of other organisations and could see the relevance and potential for increased planning and community connectedness before and after impact of both bushfire and flood.

Next Steps

Evaluation framework

FRRR is currently using the Literature Review to inform an action research and co-design methodology to determine how to measure success and identify key milestones. FRRR is engaging a University to design the evaluation framework, which will be tested in the Get Ready NSW program before being refined and utilised to underpin the national delivery.

Place-based pilot program

Expressions of Interest from NSW communities wishing to participate in the pilot will be considered in early 2018

The Literature Review and evaluation framework will then be used to work with up to three pilot communities to reality-test indicators, tools and community-led approaches. Organisations within the pilot communities will be provided with grant funding from FRRR to deliver and evaluate resilience-building initiatives to contribute to the establishment of best practice approaches that can be adopted and adapted within other communities.

FRRR and Lord Mayor's Charitable Foundation have commenced a partnership to undertake community roadshows in Victoria and working together to leverage further funds for the Victorian program.

The current aim is to have communities from each Australian State participating in further refining the co-design framework. **This is reliant on further funding and support**. Collaborate with us!

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