



FIRE to **FLOURISH**

Strength through community-led action

CLIMATE DISASTER RESILIENCE IN FIRE AND FLOOD AFFECTED COMMUNITIES

Insights from the 2024 Climate Resilience Measurement
for Communities (CRMC) Assessment

APRIL 2025

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Publisher

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Date of Publication: April 2025

Images and graphics: All images are credited to Fire to Flourish unless stated otherwise.

Suggested citation: D'Arcy Z, Keating A & Rogers B, 2025, Climate Disaster Resilience in Fire and Flood Affected Communities, Fire to Flourish, Monash University, Australia.

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Acknowledgement

Fire to Flourish and the authors would like to thank the experts who contributed to the design of the wildfire indicators used in this research: Dr John Handmer (Australian National University and International Institute for Applied Systems Analysis), Prof. Jason Sharples (University of NSW), Naomi Rubenstein (International Institute for Applied Systems Analysis), and Dr Robyn Mansfield (Monash University).

We would also like to thank the Clarence Valley, East Gippsland, Eurobodalla and Tenterfield Fire to Flourish Community Staff and Community Connectors, whose dedication to survey collection and sensemaking of the findings were critical to this study. Your efforts and motivation to reach out across your communities to hear community members' voices and stories on disaster resilience were extraordinary. Your knowledge and perspectives offer valuable and rich perspectives to strengthening community disaster resilience across Australia.

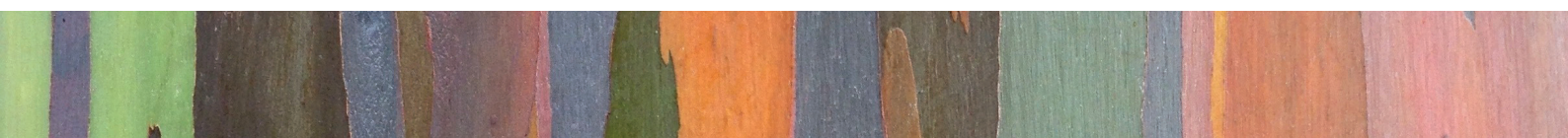
Acknowledgement of Country

We acknowledge the Traditional Custodians and Owners of the lands on which we work and live across Australia. We pay our respects to Elders past, present and emerging and acknowledge the sovereignty of Aboriginal and Torres Strait Islander peoples. We are committed to collaboration that furthers self-determination and creates a better future for all.



CONTENTS

Executive summary	4
Introduction	6
Assessing community disaster resilience	7
High-level results across participating communities	11
Community-level disaster resilience results	13
Using these results	17
Reflections	19
Detailed community results	21
Research design	34



EXECUTIVE SUMMARY

In 2022, Fire to Flourish began a comprehensive assessment of community climate disaster resilience in eight regional communities across four government areas (LGAs): Clarence Valley, East Gippsland, Eurobodalla and Tenterfield. The aim was to do this assessment in a way that would have local meaning, and to generate data and insights that could inform community-led action to further strengthen their resilience into the future.

To do this work, Fire to Flourish formed a partnership with the Zurich Climate Resilience Alliance (formally the Zurich Flood Resilience Alliance) to adapt and use the Climate Resilience Measurement for Communities (CRMC) approach for assessing community disaster resilience. The CRMC was already set up to assess community resilience to floods and heatwaves, and Fire to Flourish designed a new bushfire layer.

The resulting adaptation of the CRMC for bushfire is the first time that community bushfire resilience has been measured using a holistic, community-tailored, systems-based tool. It has also allowed us to assess flood resilience alongside bushfire resilience in five of those eight communities. This report summarises this work, presenting a snapshot of each community's resilience across multiple domains or capitals.

The findings provide valuable insights and guidance that can be used by the assessed communities to strengthen their disaster resilience. The insights are also valuable for the wider disaster resilience sector – especially resilience organisations, community organisations, local governments and policymakers.

Strong patterns across all community resilience measures

Strong patterns emerged in the scores across all of the eight communities, including:

- better scores in immediate response capabilities compared with long-term planning
- strong awareness of hazards across communities, but weaker implementation measures such as government investment in critical infrastructure
- better scores for specific hazard responses compared with general resilience measures such as energy, communication and transport systems.

These patterns paint a revealing picture of community disaster resilience, as does the analysis of areas of community strength and improvement needs.

Areas of strength

Our resilience assessments showed clear areas of significant strength across the eight communities. These should be

actively supported so they can be leveraged to address areas for improvement.

Communities actively prepare for disasters. Across all of the assessed communities, there were pockets of action to prepare for bushfires and floods. However, people and organisations that were preparing were not always aware of each other's planning and actions. This points to potential opportunities to link up these pockets of preparedness to strengthen them all.

Community members know their environment and are taking action where they can. Individuals reported strong knowledge of local bushfire and flood risks, and of taking actions around their homes and properties that might mitigate those risks and help their households stay safe during bushfire and flood events. In addition to this, there were examples of local community groups formed with the purpose of strengthening local disaster resilience.

Community members rely on and trust each other, and have strong trust in the local emergency services.

Areas of improvement

The areas requiring improvement are most often those where local community members have the least influence. These improvements would require systemic support and change from multiple levels and agencies of government, and all sectors of society.

Post-disaster service and funding models do not fully meet community needs. Bushfires and floods pose considerable financial risks for households and businesses in the communities we assessed. Income continuity of individual residents, business continuity, and insurance for homes and businesses were rated poorly in all communities. Communities made strong cases for the need for funding models to change, and to see improved investment from all levels of government in community resilience measures before disasters strike.

There has been a lack of systemic investment in critical infrastructure and essential services. In all of these regional communities, we found significant gaps in the critical infrastructure and essential services systems that underpin both ongoing community wellbeing and disaster resilience.

Government investments in communities are not perceived as equitable or effective. Communities were unified in their desire to see equitable investment and opportunities within and across their communities. They all perceived that this equity is currently not present. They wanted to see all levels of government making long-term investments that would help make education, livelihood opportunities and services accessible to all residents.



There were low levels of trust in local authorities. This deterioration of trust is potentially also exacerbated by people's experiences of those local authorities during bushfires and floods.

Local emergency services, in particular volunteer fire brigades, remain a trusted and important part of communities. However, it was generally acknowledged that they were too stretched, with falling numbers of volunteers needed to respond to a wide variety of emergency situations.

Emergency planning is not sufficiently responsive to local people and place. At a regional level, the strategic and operational planning for bushfires and flood events, as well as risk mapping, is of high quality. However, there is a significant gap between this regional planning and localised action. The planning processes also struggle to manage complex and compounding disasters.

Final reflections

Disaster resilience assessment or measurement is important for understanding, benchmarking and tracking resilience, in order to support investment in resilience-strengthening projects and systems change.

This project demonstrates that climate disaster resilience can be meaningfully assessed or measured at a community scale to directly inform local priorities and actions. We have successfully designed a holistic, community-centred, evidence-based framework to assess community bushfire resilience and tested it in eight communities. What makes our approach unique is that:

- it is about understanding resilience at the community level
- information about community comes directly from community
- and it informs actions to be taken at community level.

The framework can now be used globally, and can be applied in conjunction with other climate-related hazards of flood, heatwave and soon storm.

We saw many strong examples of community members and grassroots organisations doing everything they can to increase their community disaster resilience. Initiatives to improve community disaster resilience are often heavily focused on educating individual community members about their risk, so that they can plan and prepare for bushfires and floods. This is important knowledge for people living in bushfire and flood-prone landscapes.

However, this focus may be missing important areas for engagement and investment to further increase resilience, if individual preparedness is already high. In each of the assessed communities, we found the highest resilience scores were of people's knowledge of bushfire and flood risks, and in the decisions they were making to ensure the safety of their households during those events.



We found that the process of participating in the disaster resilience assessment itself increased the disaster resilience of communities.

The process of surveying and facilitating conversations about disaster resilience was powerful. The disaster resilience of these eight communities has been strengthened by having completed a community-based disaster resilience assessment. Community members and organisations that were involved, together with the people doing the assessment, learned a great deal about their own, and their communities', systemic disaster resilience. This is a valuable lesson for sectors and government departments wanting to support community disaster resilience.

Strengthening disaster resilience can't be done by communities or governments alone. Evidence from our resilience assessment reinforces what the Fire to Flourish Program has heard from communities: strengthening disaster resilience needs collaborative, systems-based solutions supported by communities, all levels of government and the disaster resilience and emergency management sectors.

INTRODUCTION

In 2022, Fire to Flourish began a comprehensive assessment of climate disaster resilience in eight communities or townships across four local government areas (LGAs) of regional New South Wales and Victoria: Clarence Valley, East Gippsland, Eurobodalla and Tenterfield. The aim was to undertake this assessment in a way that would have local meaning, and to generate data and insights that could inform community-led action to further strengthen their resilience into the future.

To do this work, Fire to Flourish formed a partnership with the Zurich Climate Resilience Alliance (formally the Zurich Flood Resilience Alliance) to adapt and use the Climate Resilience Measurement for Communities (CRMC) approach for assessing community disaster resilience (see [floodresilience.net](https://www.floodresilience.net)). The CRMC was already set up to assess community resilience to floods and heatwaves, and Fire to Flourish designed a new bushfire layer with input from a number of leading Australian bushfire resilience experts. The resulting adaptation of the CRMC for bushfire is the first time that community bushfire resilience has been measured using a holistic, community-tailored, systems-based tool. It has also allowed us to assess flood resilience alongside bushfire resilience in five of those eight communities where flooding is a concern.

While some tools assess resilience at the level of the household or LGA, this project assesses resilience at a community level, in line with Fire to Flourish's focus. Disaster impacts are most viscerally felt within communities, and it is the local scale where community-led action is taken.

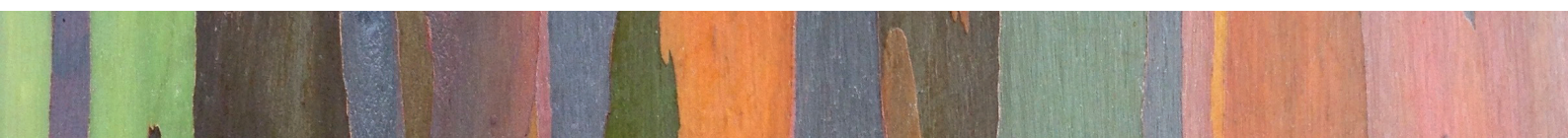
Our approach uses data from the community, collected in and able to be used by that specific community. The setup is bespoke and tailorable to community needs. It takes into account the multiple dimensions of resilience, including:

- an assessment of up to 78 indicators, called "sources of resilience", across five domains or 'capitals' (see Research Design, Table 3)
- being based on the community's complementary assets, resources and capabilities that sustain and improve community wellbeing
- serving as a proxy before a disaster to measure how a community might fare.

The results are an analysis of each community's resilience, without prescribing any specific actions. They are now being used by Fire to Flourish's partner communities to evidence their resilience strengths and gaps, prioritise programs of work, measure the resilience impacts of those programs more accurately, and as evidence for leveraging further investments into system changes that underpin community disaster resilience.

Equally, the reflections on the results, and our own lessons from this undertaking, also provide valuable insights that are able to be used by the wider disaster resilience sector with an interest in strengthening place-based community resilience to both bushfires and floods.

This report includes guidance for different groups (communities, local governments, community organisations, policy makers and funders) seeking to strengthen community disaster resilience.



ASSESSING COMMUNITY DISASTER RESILIENCE

Resilience can be a divisive and nebulous word, but it also brings with it some important concepts. For Fire to Flourish, resilience is the ability to cope with short-term disruptions, adapt to long-term changes and, where necessary, transform the system so it can continue to function under future shocks and stresses.

In the bushfire context, resilience is the ability for communities to reduce risk, be prepared for disaster, recover well when they occur, and thrive after a bushfire disaster. It requires communities being supported and taking action so that they are thriving in the face of disasters and climate change.

A central goal of Fire to Flourish is to increase disaster resilience within its partner communities across five domains of resilience; social capital, economic wellbeing, health and wellbeing, natural environments, and built environments.

By assessing or measuring community resilience to bushfire and flood in communities that we are working with, we aim to generate evidence that supports:

- insights the community can use to understand their disaster resilience context (e.g. social cohesion and disaster preparedness)
- prioritisation of action areas that the community can influence (e.g. through granting processes or by activating other community resources)
- identification of action areas that the community and Fire to Flourish can advocate to local, state or national stakeholders to change.

There are now a number of approaches to measuring disaster resilience available. In Australia, of particular note are the Australian Disaster Resilience Index (ADRI) and National Emergency Management Australia's (NEMA) bushfire resilience rating app. Both of these approaches are valuable in particular contexts. The ADRI is useful for looking across large areas, because it uses desktop-available data. The bushfire resilience rating app is a self-assessment tool that supports households to think about what they can do around their property to reduce their bushfire risk.

Neither of these approaches (ADRI and NEMA rating app) were the right fit for measuring resilience at a community scale, like was needed in Fire to Flourish. Therefore, following a global review of available resilience measurement frameworks and tools, we identified that the CRMC approach was close to meeting our needs. We partnered with the Zurich Climate Resilience Alliance (formally the Zurich Flood Resilience Alliance) to adapt and use the CRMC to measure bushfire resilience in our partner communities.



The CRMC is based on the most widely applied community disaster resilience measurement framework in the world and is backed up by years of evidence. In the CRMC, resilience is about the ability of a community to pursue its social, ecological and economic development objectives, while managing its disaster risk over time in a mutually reinforcing way; this is another way of conceptualising the capacity to thrive in the face of disaster risk. The CRMC approach provided us with a framework that enabled a focus at a community level.

The CRMC approach enables the voices of community members and organisations to feed directly into the assessment, while also holistically looking right across five capitals of resilience – human, social, financial, physical and natural. These five capitals align well with the five domains used by Fire to Flourish (see page 09)- social capital, health and wellbeing, economic wellbeing, built environment and natural environment.

Finally, experience and research has shown that the process of undertaking a disaster resilience assessment or measurement project in itself builds connections between and amongst community members, organisations and stakeholders. Therefore, we hoped that undertaking this project with communities would deepen their understanding about all the elements that impact community disaster resilience.

How we assessed community disaster resilience

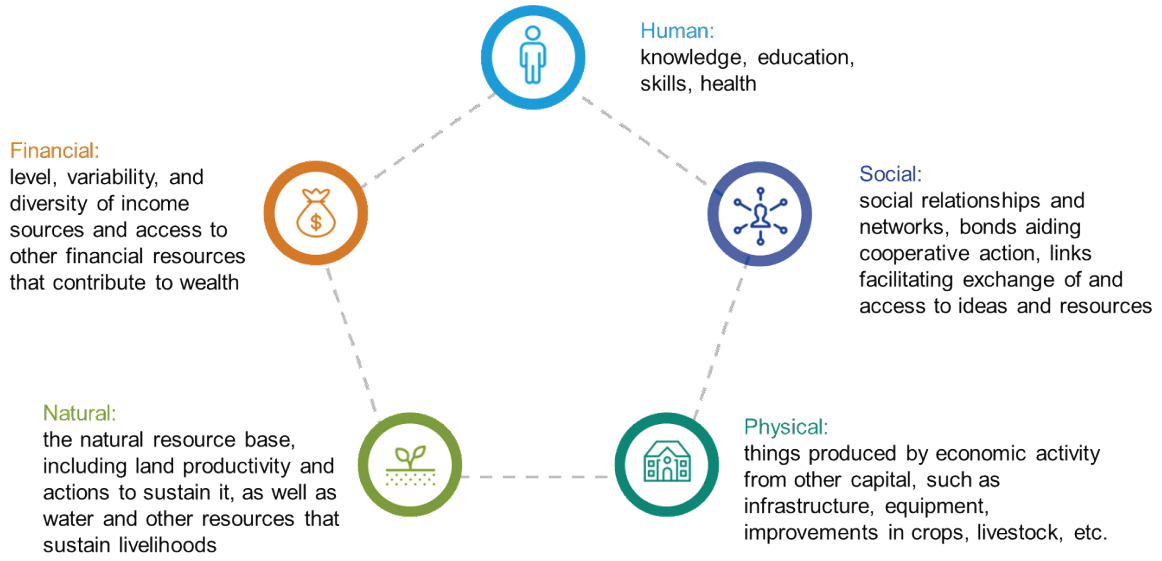


Figure 1: The five capitals of disaster resilience used in the CRMC framework (image credit: Zurich Flood Resilience Alliance).

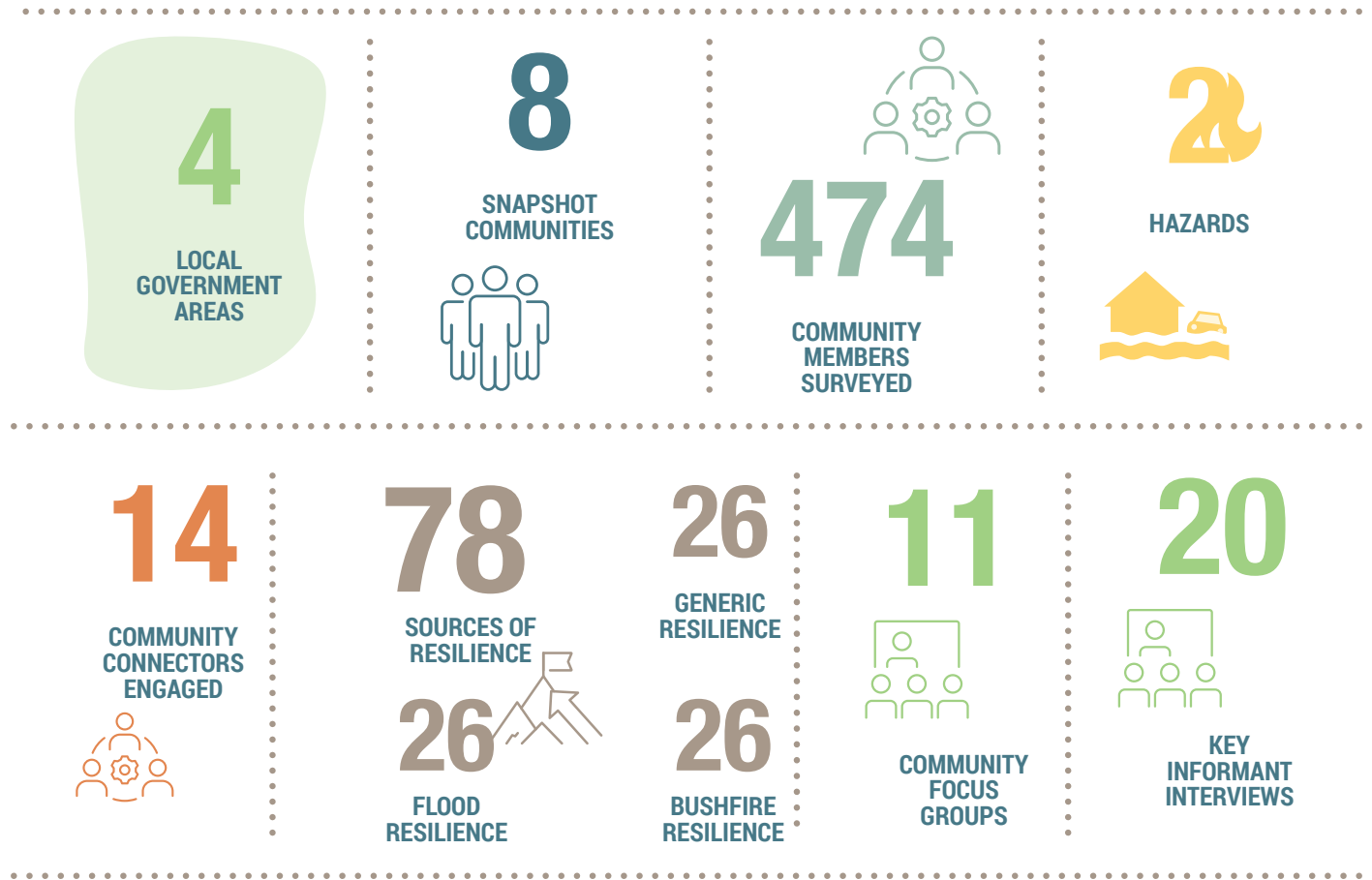
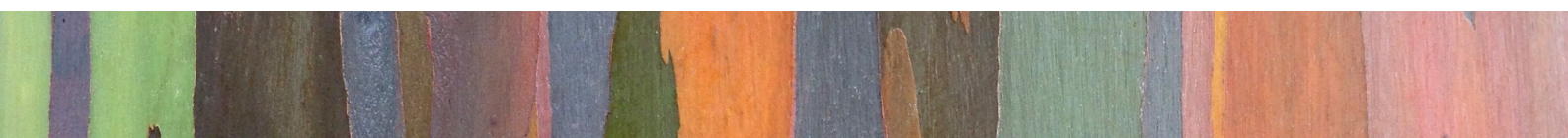


Figure 2: A snapshot of the key information used to measure community disaster resilience



Indicators: sources of resilience

The indicators in the CRMC framework – called sources of resilience – were assessed in each of the communities. These indicators measure general community resilience, as well as hazard-specific resilience to bushfires and floods. Taken together, they provide valuable insights into multiple dimensions of resilience. See the section on Research Design for further information.

Table 1: The complete list of indicators – called ‘sources of resilience’, grouped into the three resilience categories of General, Bushfire (B) and Flood (F).

GENERAL RESILIENCE	BUSHFIRE RESILIENCE	FLOOD RESILIENCE
<p>Human Capital</p> <ul style="list-style-type: none"> ▪ Secondary school attendance ▪ Food availability ▪ First aid knowledge ▪ Awareness of need for climate change action <p>Social Capital</p> <ul style="list-style-type: none"> ▪ Mutual support ▪ Social inclusiveness of disaster risk management ▪ Community safety ▪ Local leadership ▪ Disaster response personnel ▪ Healthcare accessibility ▪ Trust in local authorities ▪ Intra-community equity ▪ Inter-community equity <p>Physical Capital</p> <ul style="list-style-type: none"> ▪ Energy supply continuity ▪ Transportation system continuity ▪ Communications system continuity <p>Natural Capital</p> <ul style="list-style-type: none"> ▪ Tree cover ▪ Permeable surfaces ▪ Land use planning ▪ Resource Management ▪ Land/water interface health <p>Financial Capital</p> <ul style="list-style-type: none"> ▪ Household access to discretionary funds ▪ Community financial health ▪ Local government financial capacity ▪ Public infrastructure maintenance budget ▪ Climate change adaptation planning and investment 	<p>Human Capital</p> <ul style="list-style-type: none"> ▪ Awareness of climate change risk (B) ▪ Awareness of how nature mitigates risk (B) ▪ Wildfire exposure awareness ▪ Wildfire evacuation and safety knowledge ▪ Firefighting resources <p>Social Capital</p> <ul style="list-style-type: none"> ▪ Risk reduction planning (B) ▪ Response planning (B) ▪ Family violence and response planning (B) ▪ Stakeholder engagement in risk management (B) ▪ Risk mapping (B) ▪ Disaster impact data collection and use (B) <p>Physical Capital</p> <ul style="list-style-type: none"> ▪ Early warning (B) ▪ Continuity of education during disaster (B) ▪ Emergency infrastructure and supplies (B) ▪ Continuity of healthcare during disaster (B) ▪ Wildfire danger forecasting ▪ Household wildfire protection ▪ Waste management facilities and wildfire ▪ Availability of clean, safe water in wildfires ▪ Building and urban design for wildfire <p>Natural Capital</p> <ul style="list-style-type: none"> ▪ Fuel management program <p>Financial Capital</p> <ul style="list-style-type: none"> ▪ Business continuity (B) ▪ Household income continuity (B) ▪ Risk reduction investments (B) ▪ Wildfire insurance ▪ Wildfire recovery budget 	<p>Human Capital</p> <ul style="list-style-type: none"> ▪ Awareness of climate change risk (F) ▪ Awareness of how nature mitigates risk (F) ▪ Flood exposure awareness ▪ Flood evacuation and safety knowledge ▪ Unsafe water awareness <p>Social Capital</p> <ul style="list-style-type: none"> ▪ Risk reduction planning (F) ▪ Response planning (F) ▪ Family violence and response planning (F) ▪ Stakeholder engagement in risk management (F) ▪ Risk mapping (F) ▪ Disaster impact data collection and use (F) <p>Physical Capital</p> <ul style="list-style-type: none"> ▪ Early warning (F) ▪ Continuity of education during disaster (F) ▪ Emergency infrastructure and supplies (F) ▪ Continuity of healthcare during disaster (F) ▪ Flood forecasting ▪ Household flood protection ▪ Large scale flood protection ▪ Flood safe water and sanitation systems ▪ Waste management and flood <p>Natural Capital</p> <ul style="list-style-type: none"> ▪ Use of natural capital for flood risk management <p>Financial capital</p> <ul style="list-style-type: none"> ▪ Business continuity (F) ▪ Household income continuity (F) ▪ Risk reduction investments (F) ▪ Flood insurance ▪ Flood recovery budget

Community selection and assessment

The eight community areas within Clarence Valley, East Gippsland, Eurobodalla and Tenterfield assessed were selected by Fire to Flourish community teams because they:

- are community areas where the Fire to Flourish community teams have been implementing resilience initiatives
- share some sense of connectedness and community, such as shared landscapes, shared social connections and/or shared community services and organisations including schools and fire brigades
- have a common hazard risk profile in regards to bushfire and/or flood.

The data used to assess the indicators were collected in the community via surveys with community members, key informant interviews, and focus group discussions. Publicly available data and information were also drawn on where appropriate.

The data collection itself was an empowering and insightful process that built connections and strengthened capabilities for community-led action in those areas. Community members were central to this data collection, sensemaking and analysis. They were engaged as “community connectors” to lead the data collection in their own communities. This involved

speaking to fellow community members and surveying them, as well participating in focus groups and key informant interviews. They used the dedicated CRMC app to ensure data collected was accurate and fine-grained. Only residents of the local areas were surveyed, so the sample excluded tourists or people staying in holiday homes.

The data gathered on each source of resilience (52 for bushfire communities, and 78 for bushfire and flood communities) was graded from ‘A’ to ‘D’, using a best-practice rubric. ‘A’ represents best community practice, and ‘D’ represents a situation where there is the potential for imminent loss.

Those grades – especially those from the community member survey questions – were shared back and discussed with the community connectors, to gain further insights into the community and the survey process. This analysis, in addition to the focus group discussions and key informant interviews, gave greater meaning to the grades, and highlighted local priorities for action. This process of community-led sensemaking is a crucial part of the CRMC application, and its value to the communities being assessed.

Further information about our research design is provided in a separate section at the end of this report.



“I’ve never thought about disaster resilience before. I’ve never experienced a disaster. My whole thinking has changed.”

– *Community Connector*

HIGH-LEVEL RESULTS ACROSS PARTICIPATING COMMUNITIES

This section shows the high level results for bushfire, flood and general resilience against each of five resilience capitals, for each of the eight communities assessed. It also discusses those

results in more detail by human, social, financial, physical and natural capital. For more detailed information on the individual community results, see the Detailed Community Results section.

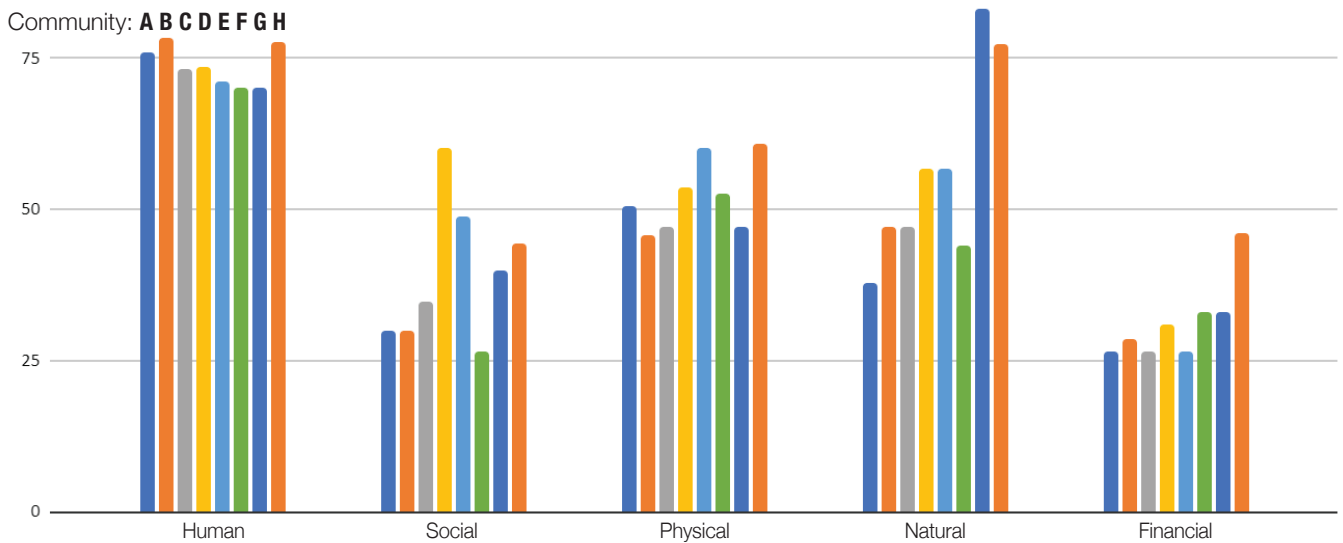


Figure 3: Community disaster resilience across the five resilience capitals

Human Capital

All of the communities scored very highly against the human capital indicators – scoring mostly As and Bs. These scores reflect high awareness among community members of bushfire and flood risks, of evacuation and safety knowledge, and the percentage of community members who have first aid training. This was by far the strongest of all the five capitals of resilience.

In some of the communities, people reported that while they had well-resourced and trained fire brigades, they did not have enough volunteers to cover the entire region in the event of a major bushfire. Climate change awareness was another area where some communities scored relatively low Cs. Secondary school attendance was low across all communities.

Social capital

Social capital scores were spread from As to Ds across all the communities. All communities scored well with mutual support amongst community members – most receiving As or

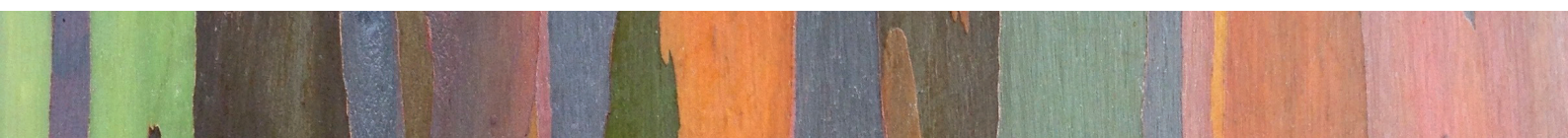
Bs. The shire councils and emergency management agencies are all compliant with state legislative requirements, which ensured that communities scored well in risk mapping and risk reduction planning.

There are many areas that can be improved in the social capital across all eight communities. These include widening community stakeholder engagement in current disaster risk management processes, and ensuring social inclusiveness in governance processes.

Lowest scores in social capital were due to community members reporting low inter- and intra-community equity, and very low trust in local authorities. Community safety and family violence and response planning was an issue in nearly all the communities.

Physical capital

Physical capital scores were spread from As to Ds across all the communities. Early warning and forecasting systems scored



well, as did infrastructure for specific hazards such as bushfire protection and clean water availability.

Transportation system continuity during bushfires and floods scored poorly in all communities, which impacted continuity of health and education. Energy and communication systems tended to score quite low as well. Taken together we can identify systemic issues of critical infrastructure resilience in these regional areas.

Natural capital

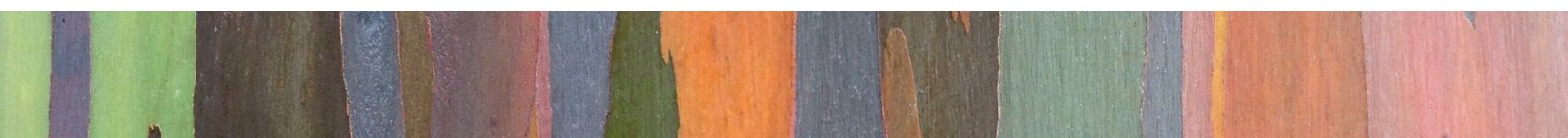
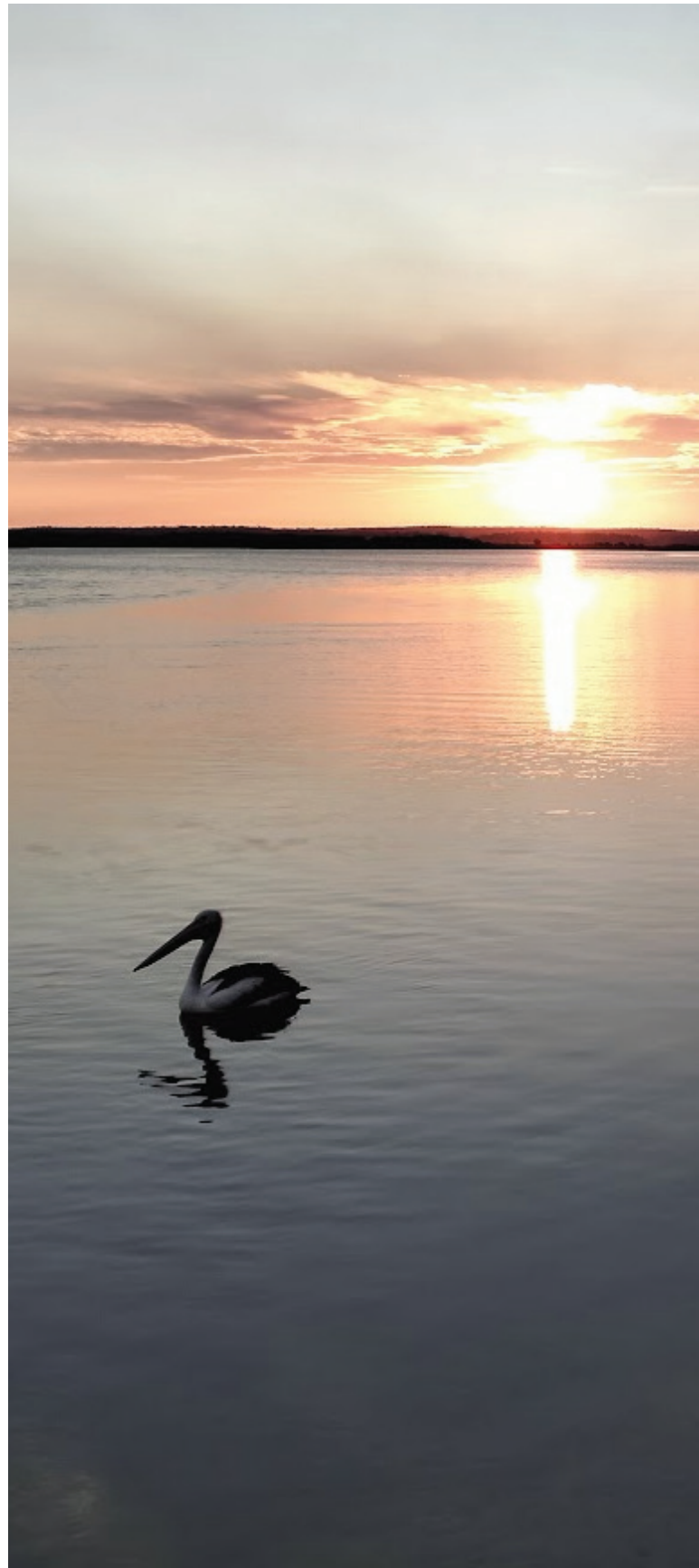
Only three of the eight communities assessed scored As in the area of natural capital – one in East Gippsland, and two in Eurobodalla. These three communities all reported having local fuel management programs in place to reduce bushfire risks that incorporate public health, ecosystem considerations, as well as local knowledge.

Many of the communities where we assessed flood resilience could aim to improve how they make use of natural capital for flood risk management, land/water interface health, and land use planning. In most of the assessed communities, natural resources are managed with few or no mechanisms for sharing knowledge, expertise or advice, and with little or no community input.

Financial capital

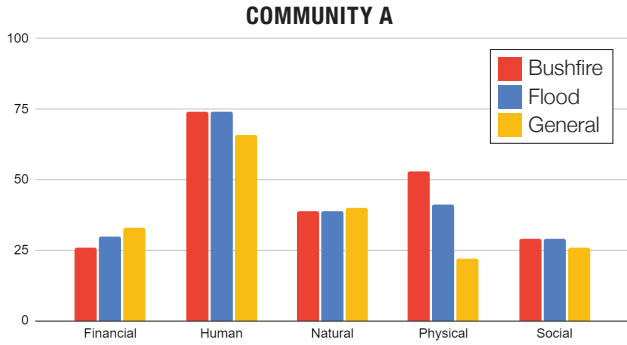
Financial capital indicators received low scores across all communities – with predominantly Cs and Ds.

Budgeting for disaster events and disaster recovery was difficult in all eight communities. Indicators about insurance and continuity budgets for both households and businesses scored poorly. The financial capital indicators also highlight that communities are not seeing climate change adaptation planning and investment, or investment in maintenance of existing infrastructure.

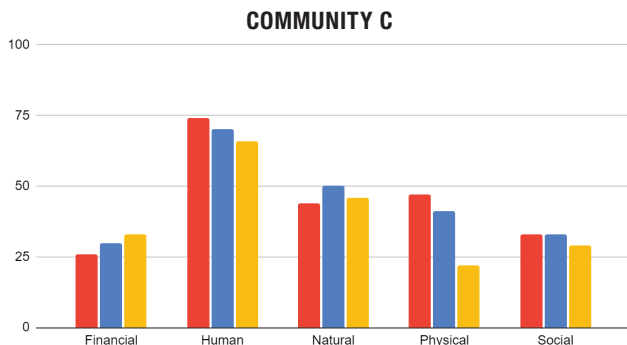
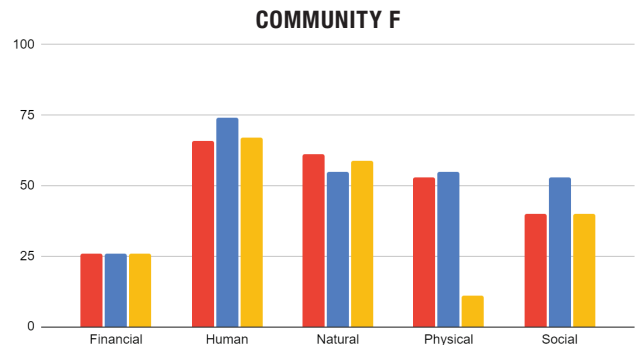
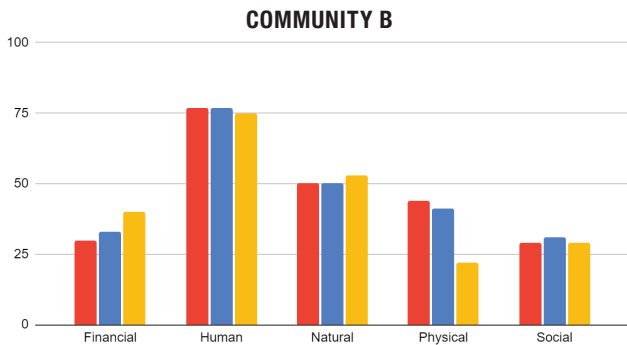
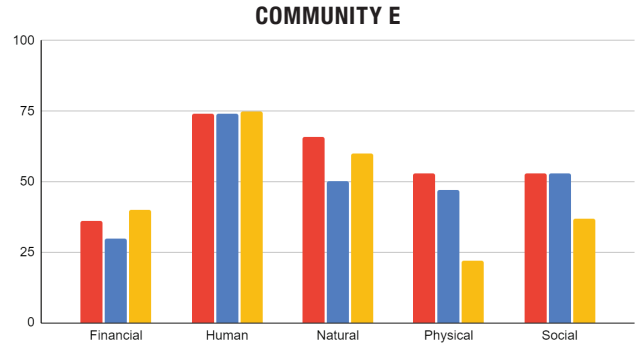


COMMUNITY-LEVEL DISASTER RESILIENCE RESULTS

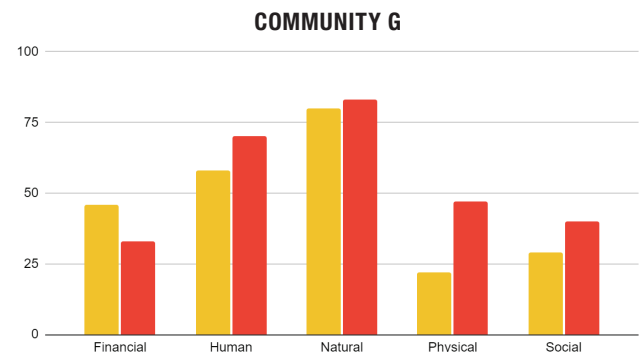
Clarence Valley



East Gippsland



Eurobodalla



Tenterfield

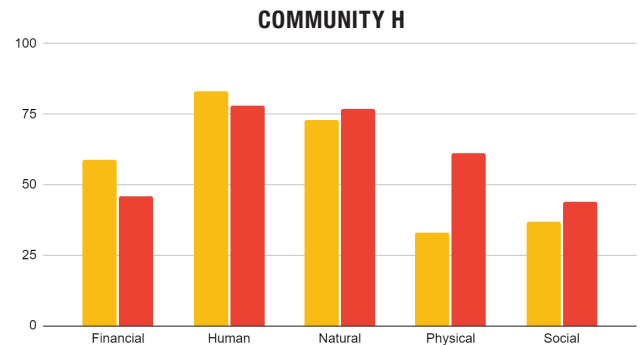
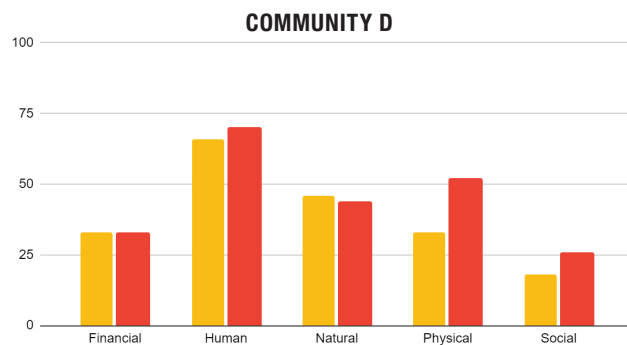
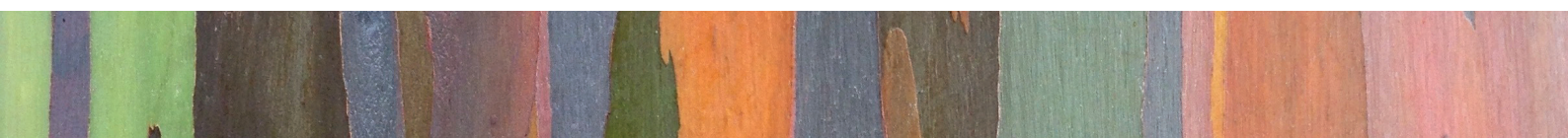


Figure 4: Community disaster resilience results across the five resilience capitals for the eight communities assessed.



Strong patterns across communities

There were strong patterns that emerged in the scores across all of the eight communities that paint an important picture of their disaster resilience.

Better scores in immediate response capabilities than in long-term planning: The sources of resilience that aligned with disaster response and preparedness scored better than those aligned with risk reduction or aligned to recovery. This suggests a reactive rather than a proactive approach to community disaster resilience.

There is a strong awareness of hazards across communities, but weaker implementation measures: Community knowledge and awareness of bushfires and floods scored strongly, and these are important aspects of community resilience. However, there are systemic constraints and gaps in investment, especially in the governance space, in implementing community-level measures across the five resilience capitals to strengthen local resilience to those extreme events.

Better scores for specific hazard responses than general resilience measures: Community resilience to bushfires and floods specifically is better developed than their general resilience. This pattern is most pronounced in relation to physical capital, where there has been more investment in tangible bushfire and flood resilience measures, rather than energy, communication and transport systems.

“Community champions have paid employment to go to as well as their volunteer capacity. I just think if we’re going to get better at preparedness and building resilience, there needs to be acknowledgement of the role that community-led initiatives play in our community.”

– Clarence Valley community member

Areas of strength

Our resilience assessments clearly showed some areas of significant strength across the eight communities. These are areas that should be actively supported so that they can be leveraged to address areas where there are gaps.

Community disaster preparedness: Across all of the assessed communities, it was apparent that there were pockets of action to prepare for bushfires and floods. For example, individuals prepared their properties and families where they could. At a regional level, the strategic and operational planning for bushfires and flood events, as well as risk mapping, is of high quality across all of the communities. However, those people and organisations that were preparing were not always aware of each other’s planning and actions. This may point to potential

opportunities to link up these pockets of preparedness to strengthen them all.

Community members know their environment and are taking action where they can: Individual community members reported strong knowledge of bushfire and flood risks, and of taking actions around their properties that might mitigate those risks and help their households and businesses stay safe during bushfire and flood events. This finding supports the extensive work undertaken by emergency services to promote risk awareness, as well as the assertion from disaster-affected communities across Australia that community members have deep knowledge and understanding of their local environment.

All communities scored well in evacuation knowledge. People surveyed reported that they knew how and when they needed to evacuate during bushfires and floods. The communities surveyed on flood resilience also all scored well on water safety knowledge. All communities also scored very well on first aid knowledge.

Each of the communities that participated in the resilience assessment provided examples of local initiatives already making a difference to people’s lives during and after bushfires and floods. All of these initiatives have required significant time, planning, and sometimes financial investment to implement. These included the grassroots community groups like Community Planning for Emergencies in Clarence Valley, CFA-run community emergency planning in East Gippsland, and Friends of Tenterfield Aerodrome, a community-run aerodrome that supported aerial fire-fighting during bushfires in 2023. Most of these initiatives have been designed and continue to be run by unpaid volunteers.

Community members rely on and trust each other: All of the assessed communities scored well on social cohesion indicators, such as mutual trust, and believing that their neighbours would come and help them if they needed it. They all also indicated that they had extremely high trust in their local emergency services.

“I think that’s when you have to step in, and with community, start looking after your neighbours. In the long run you’re still part of the one community, and if you don’t look after each other, you’re going to get lost.”

– Tenterfield community member

Areas that can be improved

The results also showed areas of community disaster resilience that can be improved. These are most often areas where community members have the least influence. Improvements in these areas would require systemic support and change from multiple levels and agencies of government, and all sectors of society.



There are low levels of trust in local authorities: While our surveys showed that community members trusted each other to provide help when needed, they also demonstrated that local community members had lower trust in local authorities (local government and police) and that local leaders would make decisions in the best interests of small regional communities. This deterioration of trust is potentially also exacerbated by people's experiences of bushfires and floods, and is something that needs to be improved.

“After the 2022 floods, communities were left feeling that they had to take [disaster risk reduction] on. There was a slow realisation that we needed to take control, that we know this area better than anyone else, and we can't rely on the government to do anything for us.”

– Clarence Valley community member

Local emergency responders are stretched: All communities we spoke to had local volunteer fire brigades, and they largely believed their brigades to be adequately resourced and trained to respond to fires. There were concerns expressed in some communities that there was such high community dependence on ageing volunteers, and also the long-term effects that their experiences of the 2019-20 bushfires had on brigade participation. However, these fire brigades remain a trusted and important part of communities.

“I'm in my mid 50s, and I'm a spring chicken in my brigade.”

– Tenterfield community member

Fire brigades were reported as being important as first responders to a wide range of community emergencies in addition to fires – motor vehicle accidents, medical emergencies, as well as flood emergencies. In some communities this was done in conjunction with the State Emergency Service (SES), but not all communities had local SES units – even those that lived with the risk of flood. Very few of the communities had reliable and quick access to ambulance services.

“I'm a member of the [NSW Rural Fire Service]. We've just done training on how to pull people out of flooded rivers.”

– Clarence Valley community member

In every community we heard that the issue of increased family violence in and around emergencies was known but not factored into emergency response planning or training. This might be an opportunity to increase the multiple levels of community safety during and after emergency situations.



Emergency planning is not sufficiently responsive to local people and place: At a regional level, the strategic and operational planning for bushfires and flood events, as well as risk mapping, is of high quality, and was rated highly across all of the communities. However, the gap between this regional planning and localised action was evident when looking at findings regarding diverse stakeholder engagement and inclusion in risk management and planning. Many of the communities do not have locally relevant response plans in place for bushfires or floods. Where they do exist, they had been put in place by grassroots organisations – for example in Clarence Valley and East Gippsland.

Additionally, in communities where this regional planning was discussed in community focus groups, it was apparent that residents are generally unaware of the strategic risk management undertaken at agency level in their region.

People also believed that emergency planning does not take into account the complex effects of experiencing multiple disasters in a few short years.

“[I see] marriage breakdowns, financial hardships, and watch families go through ongoing hardships – these really affect Tenterfield. People are living week to week – people are at breaking point. They are so angry – with no help, with fires, it's a real blame game ... Recovery paths are so complex – especially with the effect of compound complex disasters – people have lost their soul.”

– Tenterfield community member

Post-disaster service and funding models do not fully meet community needs: Bushfires and floods pose considerable financial risks for households and businesses in the communities we assessed. Income continuity of individual residents, business continuity, and insurance for homes and businesses were rated poorly in all communities.

Community focus groups and key informant interviews reported that post-disaster financial assistance was not always easily available, nor necessarily appropriate for specific

community needs. An overemphasis on post-disaster funding could also prevent resilience strategies being implemented for communities or areas not yet impacted by a disaster.

“We’ve had a lot of our shire impacted [by bushfires]. However, we have a lot of our shire that wasn’t impacted. However, that means that they are at way more at risk for the next one. Now, when you try to apply for funding just for a 45,000 litre static water tank, you can’t get that funding if you haven’t had an impact.”

– East Gippsland community member

These groups made strong cases for the need for funding models to change, and to see improved investment from all levels of government in community resilience measures before disasters occur.

“We have services and organisations parachuting in to help with response and with recovery, and they do some great work, but then they withdraw. And some communities are very angry about that. Recovery is not just three months.”

– Clarence Valley community member

There has been a lack of systemic investment in critical infrastructure and essential services: In all communities, we found significant gaps in the critical infrastructure and essential services systems that underpin both ongoing community wellbeing and disaster resilience.

For example, in these regional areas we found that energy, communications, transport and health systems are patchy at the best of times. In the event of a disaster, these systems lack continuity and break down further. Communities reported that this lack of continuity in turn leads to a magnification of disaster impacts due to lack of access to communications for response, healthcare, education, and in some cases food and fuel during and after emergency events.

“Highways, power and telephone are always going to be your main things. A flood will block the highway. A fire will block the highway. Covid blocked the highway. They shut down all the highways.”

– East Gippsland community member

The key challenge that the area of financial capital exposed is the financial state of many local governments and state-based agencies, and their capacity to take practical actions at the scale required to strengthen the underlying wellbeing base of communities and disaster resilience across entire landscapes.

Government investments are not perceived as equitable or effective: Community members were unified in their desire to see equitable investment and opportunities within and across their communities. They all perceived that this equity is currently not present. They wanted to see all levels of government making long-term investments that would help make education, livelihood opportunities and services accessible to all residents.

“If Tenterfield is going to get this post-bushfire financial support, [we] don’t want to see the money get spent aimlessly on projects that aren’t going to have any benefit. We want to see it going to useful projects that are going to have long-standing outcomes for our Shire.”

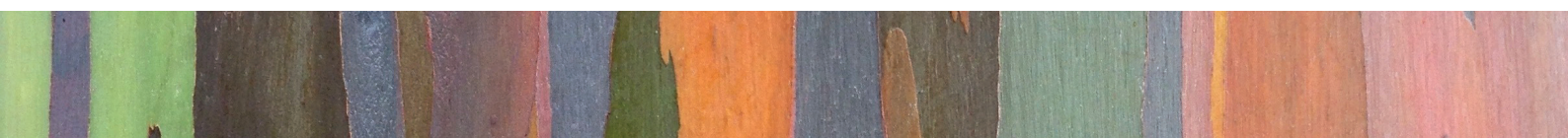
– Tenterfield community member

They also wanted to see investment in measures that directly help reduce the impact of bushfires and floods. In all communities, people spoke about their frustrations about what they saw as neglect of land management resilience strategies such as hazard reduction burns, roadside maintenance to clear vegetation, or drainage outside urban areas.

“They spent 100 grand on the road, and then it would wash out again. And then they’re like, ‘Well, we haven’t got the budget to fix it again’. So yeah, it’d be good to see something more than putting a band-aid on it.”

– East Gippsland community member

Interestingly, people were reluctant to express this as a desire for increased investment in climate change adaptation. Climate change was often a controversial topic in these communities. Survey questions that asked community members whether they saw the need for more investment in climate change adaptation, were met with strong agreement, or strong disagreement, or a strong inclination not to answer the question.



USING THESE RESULTS

The findings from our assessments are valuable to anyone seeking to strengthen community disaster resilience into the future, offering insights at several levels:

- Firstly, the results can be used by the eight communities that were assessed.
- Secondly, there are valuable findings that are relevant to other communities, local governments and agencies interested in strengthening disaster resilience in their own areas.
- Lastly, there are valuable insights for policy makers and funders, looking to design and enable more effective and efficient disaster resilience measures.

For the participating communities

These findings have immense personal meaning to the community areas assessed. Each assessment provides insights into the way that their communities live and work together in their particular Australian landscapes.

Each of the communities assessed in this study is unique – in their hazard profile, in who is part of their community, in their existing strengths, and in their resources to take action on their own context-specific resilience assessment. Therefore, it should be expected that each community will find their own ways of strengthening their disaster resilience. Each of these eight assessments should be viewed as valuable in their own right, rather than as a tool for comparison.

The eight communities can use the results to understand the factors behind their disaster resilience. The results represent evidence of what is already working; evidence that can be used to prioritise programs of work and to continue to build the resources and capacities they need to strengthen their local disaster resilience.

They can particularly leverage the existing strengths demonstrated across all communities.

These strengths are:

- community members are doing what they can to prepare for bushfires and/or floods
- community members have a strong awareness of land and environment
- community members support one another in times of need.

By taking the assessment results back to communities, they can be assisted to explore how the individual scores were derived, and what they mean. This can support facilitated community conversations about how they might act on them to identify priorities for action, and to build on existing community strengths.

For other communities, local governments and agencies

While each of the assessed communities show unique results, our assessments also show patterns that are important for other communities, local governments and agencies seeking to strengthen community disaster resilience.

Other communities seeking to improve their disaster resilience can see and recognise the holistic and systemic nature of resilience, which can influence the design of their programs. The findings particularly highlight the value of:

- facilitating constructive community conversations about systemic disaster resilience
- ensuring that diverse community members and organisations are brought to the table to collectively discuss their planning, preparedness and response to extreme events such as bushfires and floods.

At a local government and agency level, these results help organisations to hear community concerns, and to better understand where gaps are. This should assist to prioritise programs of work, and to leverage further investments into disaster resilience strengthening at a level that is beyond the individual communities themselves to influence.

Areas of action for local governments and agencies seeking to support strengthening of community disaster resilience might include:

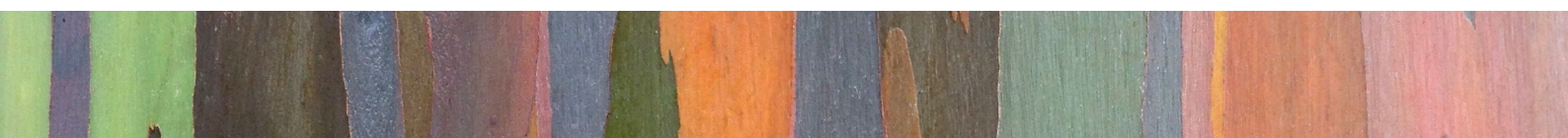
- review local council planning and investment priorities in light of the CRMC findings
- collaborate with relevant community organisations on emergency management planning
- strengthen relationships with community organisations and members, seeking to actively engage diverse people and organisations in disaster resilience planning.

For policy makers and funders

These results are valuable to policy makers and funders seeking effective ways to design and enable community disaster resilience measures. The results show the need for systemic collaboration across all levels of community and government, to fund, design and deliver place-based resilience-building community initiatives going forward.

Policy makers and funders could consider facilitating collaborative efforts to enable:

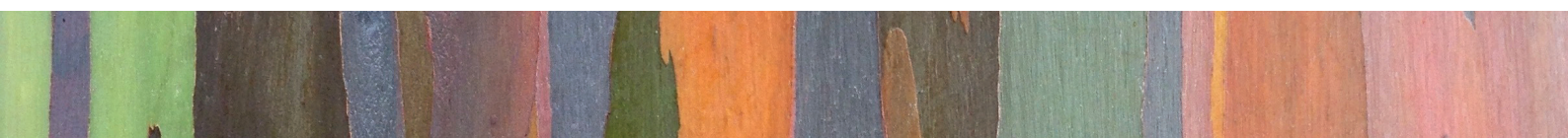
- empowerment and resourcing of community organisations and local government to plan and invest in risk-informed sustainability and climate change adaptation



- coordination of local government, state governments and community organisations to improve continuity of critical infrastructure and essential services during and after disasters
- coordination of local government, agencies, community organisations and local landholders to minimise risk in the landscape
- coordination of local government, state government and community organisations to improve community wellbeing.

To significantly strengthen the resilience of people in regional communities, these collaborative efforts should avoid a top-down structure of decision-making. Instead, they should be designed so that national and state initiatives and resources actively enable place-based decision-making and actions.

Importantly, for all of these people or organisations, our results demonstrate that this important and complex work involves building trusting relationships with and across local communities.



REFLECTIONS

We have demonstrated that disaster resilience can be meaningfully measured at a community scale to directly inform local priorities and actions.

Our approach is based on a holistic framework to assess community bushfire resilience, which has been tested in eight Australian communities. Our assessments of these communities has shown that an evidence-based framework to assess the sometimes opaque concept of 'community disaster resilience' is entirely possible.

This framework, designed by Monash University in partnership with the Zurich Climate Resilience Alliance (formally the Zurich Flood Resilience Alliance), has been used in a way that centres place, community voices and experiences. The framework is also able to be used in conjunction with other climate change-related hazards (flood and heatwave). It can now be used globally.

We saw many strong examples of community members and grassroots organisations doing everything they can to increase their community disaster resilience.

Initiatives to improve community disaster resilience are often only focused on educating individual community members about their risk, so that they can plan and prepare for bushfires and floods. This is obviously important knowledge for people living in bushfire and flood-prone landscapes to have. However, in each of the assessed communities, we found the highest resilience scores were of people's knowledge of bushfire and flood risks, and in the decisions they were making to ensure the safety of their properties during those events.

In each of the communities, we also found examples of community members working together to improve disaster resilience at a community level, despite the practical challenges they faced in accessing support and funding. However, small communities need input and support from all levels of government to facilitate and enable real change.

This includes through inclusive, place-based emergency planning processes, investment in critical infrastructure, examination of current funding models that place emphasis on post-disaster funding, and approaches that address complexities associated with compounding and cascading disasters.

These results all emphasise that community disaster resilience strengthening needs collaborative, systems-based solutions that involve all levels and sectors of society.

Participating in the resilience assessment process helps build resilience in itself.

The process of surveying and facilitating conversations about disaster resilience was a powerful one for participating communities. Community members and organisations involved in the assessment learned a great deal about their own, and their community's, systemic disaster resilience. The focus groups held were able to facilitate community conversations about aspects of that community that perhaps had not previously been considered through the lens of disaster resilience. Community connectors reported that some people who did surveys realised that they needed to take action, or find information, to improve their own resilience.

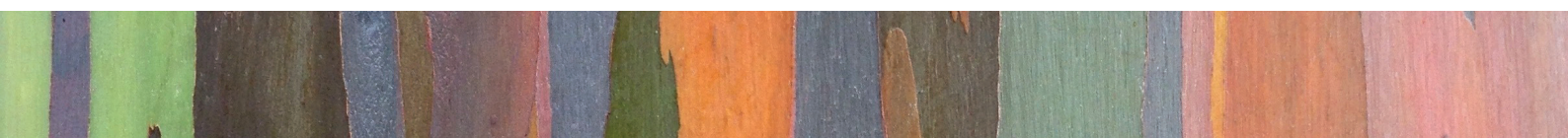
An implementation approach tailored for local context is essential.

While the CRMC framework provides a universal method for engaging communities in discussions about disaster and assessing community resilience, its implementation in practice needs to be tailored to suit the context of local people and place.

Local networks within the community are critical to reaching people, and therefore critical to the data quality. The setup and design for each of these studies was done in collaboration with the Fire to Flourish community staff. As community leaders themselves, each possessed excellent knowledge of the local emergency management and community resilience landscape, and therefore who should be part of focus groups and key informant interviews. Recruiting local community connectors to do surveys, as well as creating local employment opportunities, was key to accessing local social networks.

One area to further tailor the CRMC could be in how it is used with Indigenous communities to assess their climate resilience. The CRMC has not been designed with specific input from, or incorporating the perspectives and priorities of, Indigenous communities. This is an opportunity for future research and development.

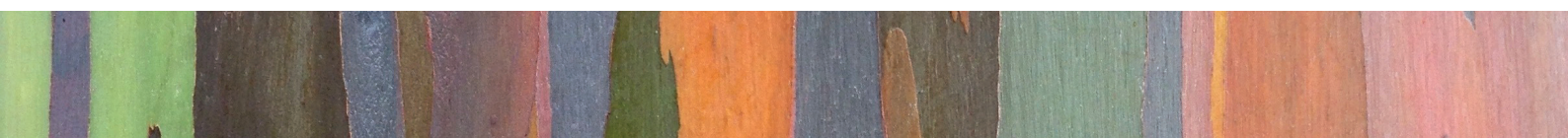
A trauma-informed approach was also important in facilitating community conversations. Community members were sometimes also dealing with trauma from their past experiences, including floods, bushfires and pandemics. We had prepared for this by providing community connectors with psychological first aid training. Feedback from the community connectors indicated



that this proved invaluable during their community surveys, so that they could understand some peoples' reactions to talking about bushfires and floods, and respond appropriately.

The results are already empowering communities in their decision-making processes.

The results from this study are already being used to empower community decision-makers in Fire to Flourish granting processes. In East Gippsland, community co-designers discussed indicator grades as part of identifying their community priorities. In Tenterfield, the community CRMC data were used to help the analysis of additional community data gathered for a Post-Bushfire Learning Review conducted by Fire to Flourish. This analysis was useful to Tenterfield community decision-makers as they identified their community vision and priorities in strengthening their bushfire resilience.



DETAILED COMMUNITY RESULTS

CLARENCE VALLEY



Three community areas were assessed in Clarence Valley for bushfire and flood resilience.

These communities were broadly similar to each other, although with slight differences. They all scored highly on human capital indicators, which reflects good community knowledge about local flood and bushfire risks. Social capital indicators averaged out to quite a low score, as did the natural capital resilience indicators. The financial resilience indicators scored quite low, which in part reflects local socio-economic demographics, but also inadequate government investment to future-proof and/or maintain local assets needed for disaster resilience. This issue was also apparent in the physical capital indicators, where there is a pronounced difference between general resilience and the bushfire and flood resilience indicators. The general resilience indicators score much more poorly – they reflect the resilience of critical infrastructure systems (power, communications, roads) during and after emergencies.



CLARENCE VALLEY COMMUNITY A – BUSHFIRE AND FLOOD RESILIENCE GRADES

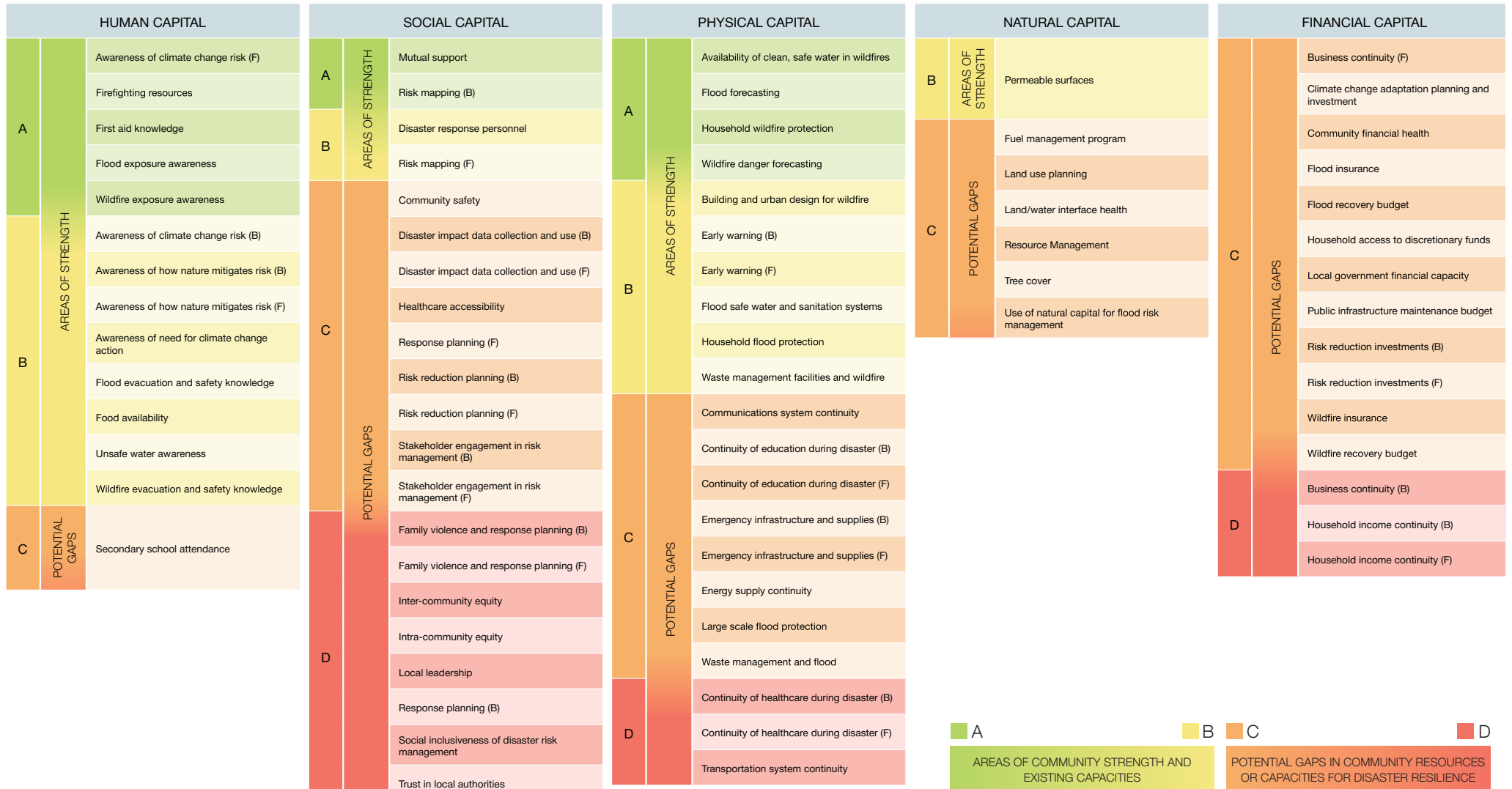


Figure 5: Sources of resilience (indicators in our measurement framework) that were graded A (green), B (yellow), C (orange) and D (red) for Community A in Clarence Valley. A and B grades reveal areas of community strength and existing capacities; indicators graded C and D are potential gaps in community resources or capacities for disaster resilience. The results are shown across the five capitals of community disaster resilience: human, social, physical, natural, and financial. (B)-Bushfire (F)-Flood.

CLARENCE VALLEY COMMUNITY B – BUSHFIRE AND FLOOD RESILIENCE GRADES



Figure 6: Sources of resilience (indicators in our measurement framework) that were graded A (green), B (yellow), C (orange) and D (red) for Community B in Clarence Valley. A and B grades reveal areas of community strength and existing capacities; indicators graded C and D are potential gaps in community resources or capacities for disaster resilience. The results are shown across the five capitals of community disaster resilience: human, social, physical, natural, and financial. (B)-Bushfire (F)-Flood.



CLARENCE VALLEY COMMUNITY C – BUSHFIRE AND FLOOD RESILIENCE GRADES



Figure 7: Sources of resilience (indicators in our measurement framework) that were graded A (green), B (yellow), C (orange) and D (red) for Community C in Clarence Valley. A and B grades reveal areas of community strength and existing capacities; indicators graded C and D are potential gaps in community resources or capacities for disaster resilience. The results are shown across the five capitals of community disaster resilience: human, social, physical, natural, and financial. (B)-Bushfire (F)-Flood.

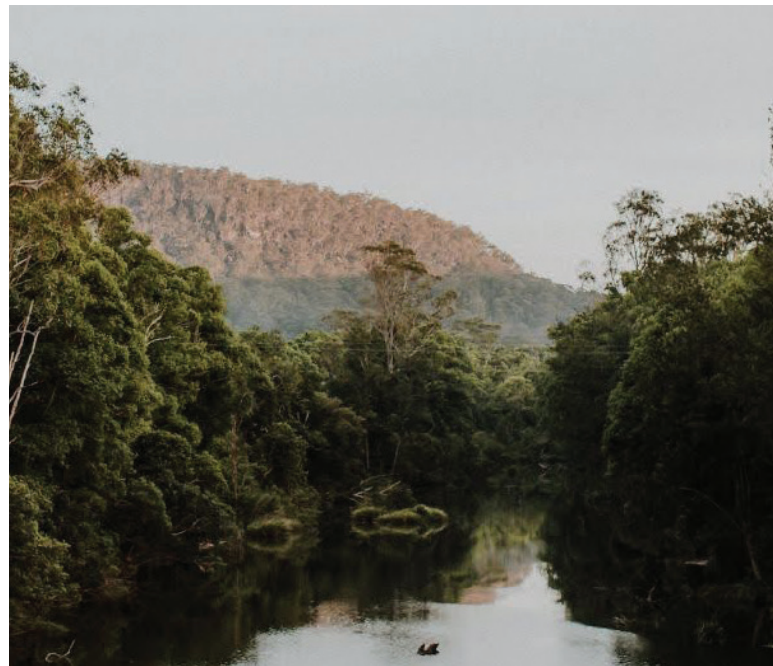
TENTERFIELD



One community in the LGA of Tenterfield was assessed for bushfire resilience.

As with all other communities assessed, the strongest scores were in human capital, reflecting good community knowledge about local bushfire hazards. In contrast, social capital indicators were much lower, reflecting people's lack of trust in local authorities, as well as the lack of inclusion that community members have in planning processes.

Financial resilience indicators also received low scores, mostly due to the lack of investment that local and state governments have been able to make in resilience measures. Once again, in physical capital, general resilience scored much lower than the bushfire specific indicators. This reflects the low resilience of critical infrastructure systems (power, communications, roads) during and after emergencies.



TENTERFIELD COMMUNITY D – BUSHFIRE RESILIENCE GRADES



Figure 8: Sources of resilience (indicators in our measurement framework) that were graded A (green), B (yellow), C (orange) and D (red) for Community D in Tenterfield. A and B grades reveal areas of community strength and existing capacities; indicators graded C and D are potential gaps in community resources or capacities for disaster resilience. The results are shown across the five capitals of community disaster resilience: human, social, physical, natural, and financial.



EAST GIPPSLAND

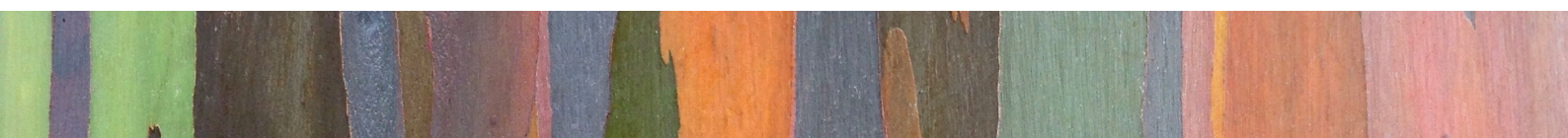
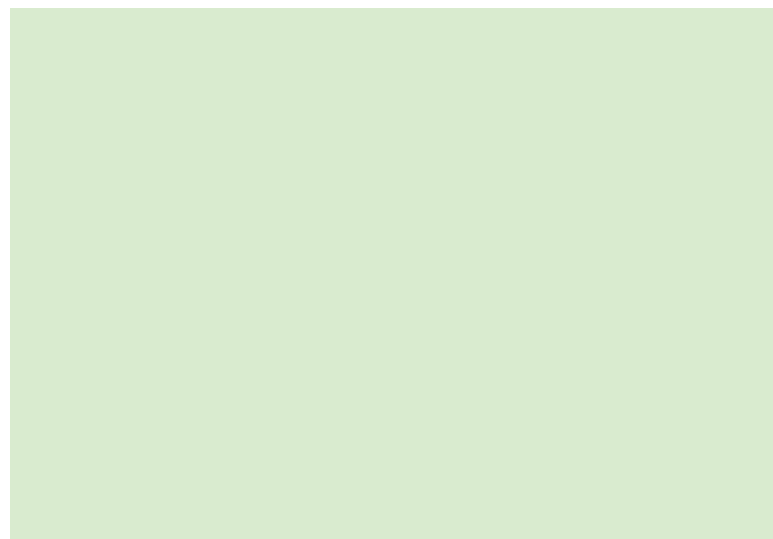


Two communities in East Gippsland were assessed for bushfire and flood resilience.

They scored highly on human capital indicators, which reflects good community knowledge about local flood and bushfire risks. Both communities scored reasonably well in the social capital indicators, although in one of the communities general resilience indicators were noticeably lower than bushfire and flood indicators. This is partially being driven by indicators associated with local authorities and leadership; community members in focus group discussions stated that there is a strong mistrust in local authorities and this is reflected in household survey data. The financial resilience indicators scored quite lowly, which does in part reflect local socio-economic demographics, but also reflects a lack of investment by local and state governments to future-proof and/or maintain local assets.

Both communities perceive that being in a remote part of their LGA meant that they received less government investment than the bigger regional towns. This issue was also apparent in the physical capital indicators, where there is a pronounced difference between general resilience and the bushfire and flood resilience indicators. The general resilience indicators had much

lower scores. They reflect the resilience of critical infrastructure systems (power, communications, roads) during and after emergencies. Natural resilience indicators were scored reasonably highly, reflecting local land-use planning measures.



EAST GIPPSLAND COMMUNITY E – BUSHFIRE AND FLOOD RESILIENCE GRADES



Figure 9: Sources of resilience (indicators in our measurement framework) that were graded A (green), B (yellow), C (orange) and D (red) for Community E in East Gippsland. A and B grades reveal areas of community strength and existing capacities; indicators graded C and D are potential gaps in community resources or capacities for disaster resilience. The results are shown across the five capitals of community disaster resilience: human, social, physical, natural, and financial. (B)-Bushfire (F)-Flood.

EAST GIPPSLAND COMMUNITY F – BUSHFIRE AND FLOOD RESILIENCE GRADES



Figure 10: Sources of resilience (indicators in our measurement framework) that were graded A (green), B (yellow), C (orange) and D (red) for Community F in East Gippsland. A and B grades reveal areas of community strength and existing capacities; indicators graded C and D are potential gaps in community resources or capacities for disaster resilience. The results are shown across the five capitals of community disaster resilience: human, social, physical, natural, and financial. (B)-Bushfire (F)-Flood

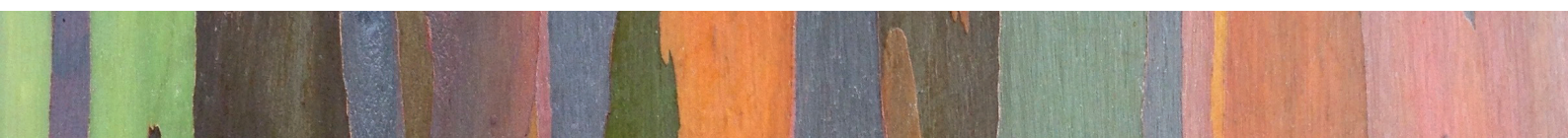
EUROBODALLA



Two communities in Eurobodalla were assessed for bushfire resilience.

They scored highly on human capital indicators, which reflects good community knowledge about local bushfire risks. They also scored very highly in natural capital resilience, reflecting local land-use planning measures, ecological planning, as well as an increasing local engagement with Indigenous fire knowledges.

Social capital resilience scores were quite low due to lack of engagement with diverse local communities in emergency planning processes. The financial resilience indicators had quite low scores, in part reflecting local socio-economic demographics, but also reflecting a lack of government investment to future-proof and/or maintain local assets. In physical capital, the general resilience indicators once again score much lower than the bushfire specific indicators. This reflects the low resilience of critical infrastructure systems (power, communications, roads) before, during and after emergencies.



EUROBODALLA COMMUNITY G – BUSHFIRE RESILIENCE GRADES



Figure 11: Sources of resilience (indicators in our measurement framework) that were graded A (green), B (yellow), C (orange) and D (red) for Community G in Eurobodalla. A and B grades reveal areas of community strength and existing capacities; indicators graded C and D are potential gaps in community resources or capacities for disaster resilience. The results are shown across the five capitals of community disaster resilience: human, social, physical, natural, and financial.



EUROBODALLA COMMUNITY H – BUSHFIRE RESILIENCE GRADES

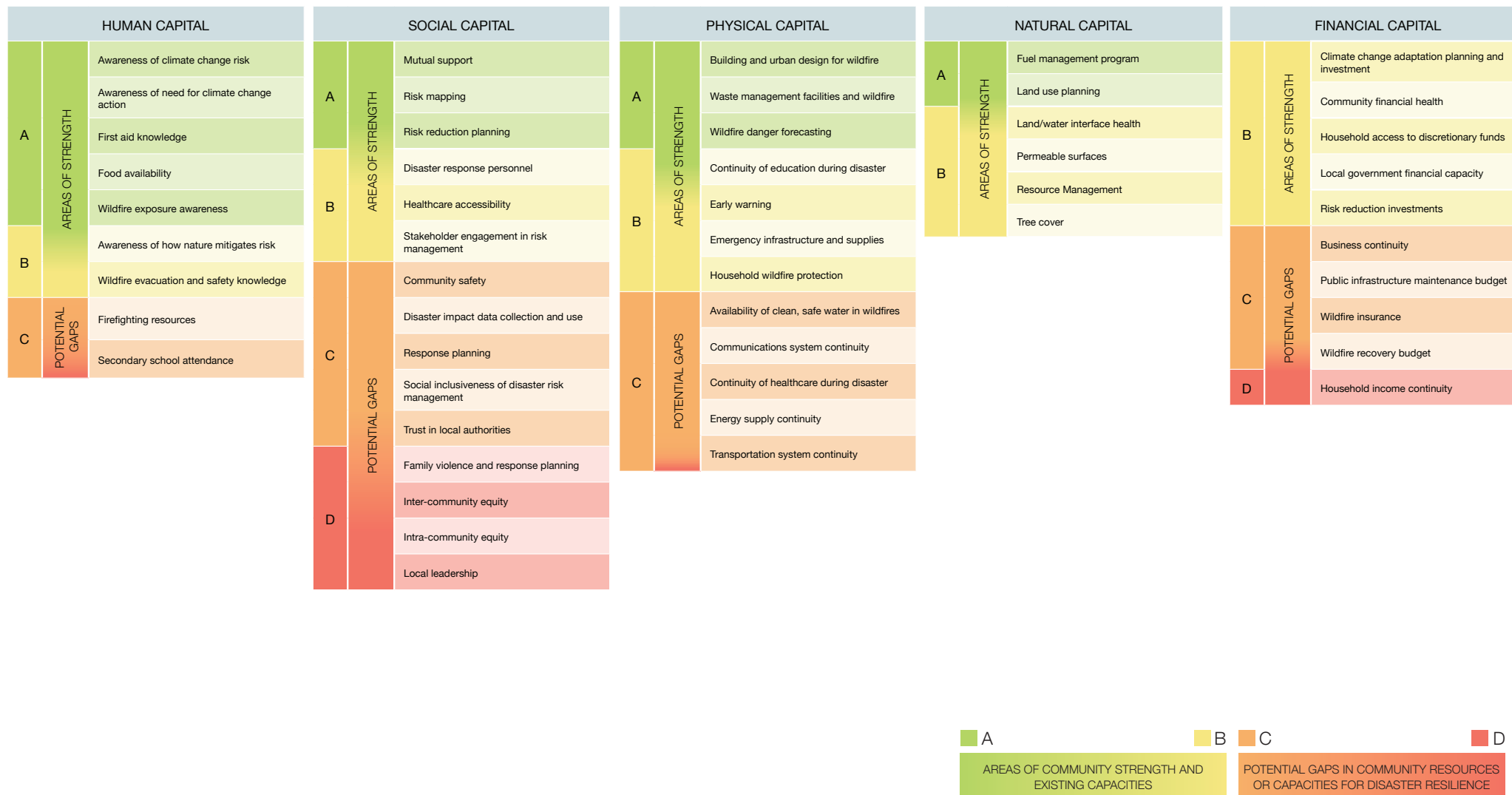


Figure 12: Sources of resilience (indicators in our measurement framework) that were graded A (green), B (yellow), C (orange) and D (red) for Community H in Eurobodalla. A and B grades reveal areas of community strength and existing capacities; indicators graded C and D are potential gaps in community resources or capacities for disaster resilience. The results are shown across the five capitals of community disaster resilience: human, social, physical, natural, and financial.



RESEARCH DESIGN

RESEARCH DESIGN

The research design used for this assessment was an adapted version of the Climate Resilience Measurement for Communities (CRMC) approach (see Figure 13). It was important for Fire to Flourish staff to work as co-researchers with community members in Fire to Flourish’s partner LGAs of Clarence Valley, East Gippsland, Eurobodalla and Tenterfield, supporting their data collection, analytical skills and community connections. This helped ensure that community perspectives and voices are reflected in the assessment of their own resilience.

Study setup

The process began by doing a bespoke study setup for each of the assessment areas with Fire to Flourish’s community staff. Data about each ‘source of resilience’ could be gathered in four different ways depending on each community:

- community member surveys
- focus groups
- key informant interviews and/or
- desktop research of secondary source material.

Tailoring each study setup individually ensured that information could be gathered from appropriate local sources such as existing community organisations.

Each community team recruited local ‘community connectors’ to help reach out to community members, mostly for data collection through surveys, but also for community focus groups and key informant interviews.

Fire to Flourish community team members and community connectors were supported throughout this project with workshops and training. These included understanding disaster resilience, how to use the CRMC software, surveying skills, psychological first aid, and cultural awareness.

Data collection and analysis

Once the studies had been set up for each area, the data collection and analysis commenced. Community members were surveyed, with each person receiving a \$30 gift voucher to recognise the value of their time and their knowledge. Focus groups made up of people from local community organisations

CLIMATE RESILIENCE MEASUREMENT FOR COMMUNITIES

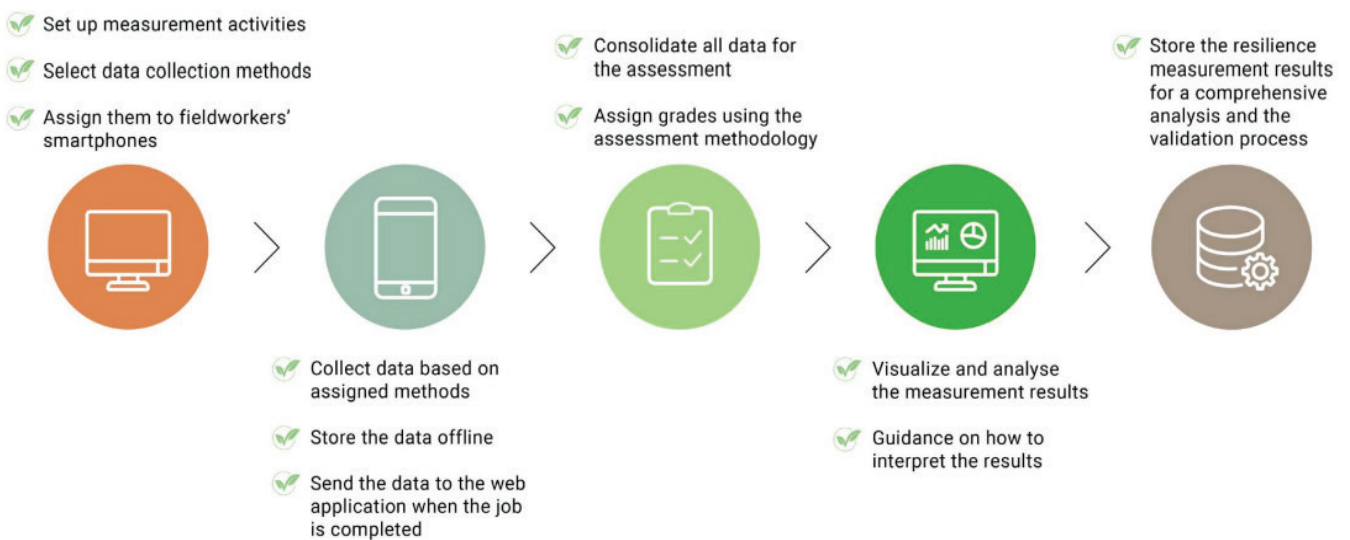


Figure 13: Our research design was an adapted version of the CRMC process (image credit: Zurich Flood Resilience Alliance 2023). See floodresilience.net

and agencies were run by Fire to Flourish research staff with assistance from community staff, to discuss disaster resilience at a broader community level. Key informants, with specialised knowledge relevant to each community’s resilience, were identified and interviewed.

Table 2 shows the numbers of surveys, focus groups and interviews conducted in each of the four LGAs.

The data gathered – both qualitative and quantitative – was collated into the CRMC tool. Once a community’s data collection was completed – a process that took 1-2 months – each of its sources of resilience was graded by Fire to Flourish research staff in collaboration with local staff and community connectors. The grades, from ‘A’ to ‘D’, are based on a standardised rubric (see Figure 14).

LGA	COMMUNITY MEMBER SURVEY RESPONDENTS	FOCUS GROUPS	KEY INFORMANT INTERVIEWS
Clarence Valley	91	5	7
East Gippsland	80	2	11
Eurobodalla	148	2	1
Tenterfield	155	2	1

Table 2: Data gathered by LGA

Analysis

Analysis was done using several processes. Firstly, the grades – especially those derived from the community member survey questions – were shared back and discussed with the community connectors who had conducted the surveys, to gain further insights into the community and the survey process. This included considerations such as people’s reactions to questions, how people had interpreted the meanings of questions, and any other feedback from the community connectors. This analysis, in addition to the focus group discussions and key informant interviews, gave greater meaning to the scores, and highlighted local priorities. The indicators were also analysed using the multiple dimensions of resilience that are embedded in the sources of resilience (see Table 3).

Reporting

These grades and analysis are shared back to the communities. The CRMC results in this report, and in community-specific reports, can be used by a community to evidence their resilience strengths and gaps, prioritise programs of work, measure the resilience impacts of those programs more accurately, and support business cases for leveraging further investments into people and processes.



Figure 14: CRMC grades (image credit: Zurich Flood Resilience Alliance)

THE FIVE CAPITALS	THE 4 'R'S – PROPERTIES OF A RESILIENT SYSTEM	THE DRM CYCLE	THE 7 RESILIENCE THEMES
<p>Human Education, skills, health</p> <p>Social Social relationships and networks, bonds that promote cooperation, links facilitating exchange of and access to ideas and resources</p> <p>Physical Things produced by economic activity from other capital, such as infrastructure, equipment, improvements in crops, livestock</p> <p>Natural The natural resource base, including land productivity and actions to sustain it, as well as water and other resources that sustain livelihoods</p> <p>Financial The level, variability and diversity of income sources and access to other financial resources that contribute to wealth</p>	<p>Robustness The ability to withstand a shock, for example, housing and bridges built to withstand a flood.</p> <p>Redundancy Functional diversity, for example having many evacuation routes</p> <p>Resourcefulness The ability to mobilise when threatened, for example a group within a community that can quickly mobilise to convert a community centre into a flood shelter.</p> <p>Rapidity The ability to contain losses and recover in a timely manner, for example quick access to sources of financing to support recovery.</p>	<p>Prospective risk reduction (The actions taken to avoid the build-up of new or increased risks)</p> <p>Corrective risk reduction (The actions taken to reduce risks to already at-risk assets)</p> <p>Preparedness The precautionary actions taken prior to hazard events</p> <p>Response The actions taken during and immediately after to mitigate or contain disaster impacts</p> <p>Recovery The actions taken after a disaster (either in the short or long term) to help people cope with disaster</p>	<p>Assets Sources of resilience that are or protect physical assets in the community</p> <p>Governance Sources of resilience that relate to development and disaster risk management governance arrangements</p> <p>Life and Health Sources of resilience that protect the life and health of community members</p> <p>Lifelines Sources of resilience that relate to provision and continuity of critical infrastructure systems and essential supply chains and services</p> <p>Livelihoods Sources of resilience that are or protect community livelihoods, both formal and informal, cash or otherwise</p> <p>Natural Environment Sources of resilience that are or protect the health and sustainability of the natural environment, including in relation to disaster provisioning services</p> <p>Social Norms Sources of resilience that relate to culture and other informal norms in the community</p>

Table 3: Multiple dimensions of resilience embedded in the CRMC indicators (source: Zurich Flood Resilience Alliance)



FIRE to FLOURISH



Strength through community-led action

Fire to Flourish is a pioneering five year program, working in partnership with communities affected by the 2019/20 Australian bushfire season to trial innovations in community-led disaster resilience.

Pathways for scaling the insights, models and tools developed through the program are being created through partnerships with government, philanthropic, not-for-profit and private sector organisations.

Fire to Flourish is led by Monash University and supported by cornerstone philanthropic partners, the Paul Ramsay Foundation and Metal Manufactures Pty Ltd. Additional philanthropic support is provided by the Lowy Foundation.

For more information, go to:

[**firetoflourish.monash**](https://firetoflourish.monash)

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