DISASTER RECOVERY AND RESILIENCE POLICY GUIDE 2021

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ABOUT THE REGIONAL AUSTRALIA INSTITUTE

Independent and informed by both research and ongoing dialogue with the community, the Regional Australia Institute (RAI) develops policy and advocates for change to build a stronger economy and better quality of life in regional Australia – for the benefit of all Australians. The RAI was established with support from the Australian Government.

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This policy guide has been prepared by the Regional Australia Institute. It is based on research reports developed under the RAI's Intergovernmental Shared Inquiry Program 2020, which was supported by the Commonwealth Government and the Governments of Western Australia, Victoria, Queensland, South Australia and Northern Territory. The reports were prepared by RMIT, Charles Darwin University and the University of South Australia. A full list of reports is attached to this guide.

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Introduction

The past two years, 2020 and 2021, will be remembered as years defined by disaster. Regional Australia has been subjected to devastating fires, floods and cyclones. The COVID-19 pandemic has added an unprecedented layer of complexity to these major disruptions. Separately and together, they have posed significant challenges to regional communities and businesses, as well as to the governments and organisations supporting communities in recovery.

Disaster recovery and resilience in regional Australia was the central focus of the Regional Australia Institute (RAI)'s Intergovernmental Shared Inquiry Program in 2020. This program is a collaboration involving the federal, state and territory governments, the RAI and partner universities. Each year, participating governments determine a priority theme to research, in order to develop an evidence-base for policy-making. The 2020 theme on disaster recovery was determined as a high priority by participating governments. The program is led by the RAI and is built around a body of work by three leading universities: RMIT University, the University of South Australia, and Charles Darwin University. A number of research reports were produced by the partner universities, which are listed in the Annex section.

The research developed under the program has resulted in some clear lessons for policy-makers involved in disaster recovery and resilience building in regional Australia. This guide is not trying to replicate or summarise the reports. Rather, it takes the key findings from the research reports and distils the important lessons which are relevant to the decision-makers and policy officials who are tasked with developing and delivering disaster recovery and resilience support across regional Australia.

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How to use this policy guide

This policy guide brings together implications for policy-makers and policy-making of the body of work on regional disaster recovery and resilience commissioned and completed by the RAI in 2020. This guide does not replicate or summarise the reports. Rather, it takes the key findings from the research reports and distils the important policy lessons which emerge.

This guide should be used in conjunction with the infographic summaries which have been prepared for most of the reports and, where greater depth of knowledge is required, the full reports themselves.

This guide is structured around four main themes which comprise its main sections:

DISASTER POLICY AND DECISION-MAKING

The research program has identified the established pattern and sequence of responses to disaster in regional Australia, and the role of each jurisdiction and community. This is presented in the first theme of this guide, drawing on feedback on the roles of each jurisdiction from people who have experienced recent disasters.

This section starts with feedback on the effectiveness of the current mix of decision-making across our three levels of government.

The second part of this section presents policy considerations which will facilitate the aim, recommended by both state and commonwealth inquiries, to devolve more decision-making to local actors. This significant change in emphasis is now a clear policy goal in most jurisdictions and was affirmed by the 2020 Royal Commission into Natural Disaster Arrangements. Mechanisms are needed to improve capability at both the central government and community ends of the relationship, and also to improve information flows. This section draws on lessons from the Northern Territory's implementation of its Local Decision-Making policy.

STRENGTHENING BUSINESS RESILIENCE

Business resilience is affected by the capabilities of the regional business ecosystem (RBE) in which the business operates. In other words, the extent to which a firm is integrated in a business environment and the regional community can impact preparedness, recovery and resilience. This theme unpacks the characteristics that make a 'highly resilient enterprise', and how policy can support strengthening these characteristics.

This theme also considers the core elements of business 'adaptive capacity', as these attributes can be the key to the speed and effectiveness of business survival. It sets out the resources business owners can mobilise to sustain their businesses in the immediate, emergency period during and after a disaster.

DISASTER RECOVERY

This theme presents detailed case studies of business and community recovery in regional Australia. The research has identified approaches that improve disaster recovery and resilience in regional businesses and communities, and these are set out to help policy-makers frame their responses.

The first section in this theme presents findings from a series of cases studies of business recovery from places across Australia. The case studies enabled identification of the pathways that businesses followed and the support that was most effective for them.

The second section presents analysis of the changes in retail and services in regional Australia which untangles the shorter-term disaster impacts from longer-term structural changes in regional economies. It finds that each type of disaster has a mix of both positive and negative impacts on main street businesses. This analysis helps shape policy responses that promote resilience by working with the short- and long-term evolution underway in regional Australia's main streets.

The third section looks at recovery in terms of rebuilding housing. Analysis of market failures in some regional markets show that rebuilding may not be affordable for many affected residents, and so a disaster can initiate a permanent shift in affordability and a consequent permanent shift in residents.

The last part of this theme presents an approach to mapping regional supply chains. These can be severely disrupted during disasters and this research helps policy-makers to identify, in advance, the weak links in these chains so that advance measures can be prepared to reduce the tendency for these breaks to multiply the impacts of the initial disaster.

RESILIENCE INDICES

The final theme of the guide reviews a selection of resilience and adaptability indices to help policy-makers understand the characteristics of each and the different insights each approach brings.

Disaster Policy and Decision-Making

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FORMULATING POLICY RESPONSES

Drawn from the research which examined the policy responses of the Victorian and Western Australian State Governments following bushfires in those states, some broad principles of disaster policy can be made:

- Firstly, it is important to recognise that policy development can be incremental and ongoing. It is necessary to accept that experimentation and learning are not necessarily straightforward and linear. Reflection and a willingness to reconsider and re-evaluate policies in the light of experience becomes critical.
- Secondly, there is a variability of experience in a disaster. As well as economic effects, a disaster such as a bushfire may involve loss of life, injury and threats to personal safety, as well as property damage and environmental degradation. Frequently however, measuring and valuing these events is done in terms of economics alone.
- Thirdly, policy initiatives that define responses in each region are produced across each level of government, as well as by emergency and related services organizations. For each of these bodies, the scale of a disaster will influence current practice as well as planning and preparation for future events.
- Fourthly, it is necessary to examine how we measure and value disaster events and their impacts. We must work with robust data and evidence. We need to examine how we build robust databases that are commensurate, comprehensive and accessible.

A key finding of research into the most effective ways of delivering support to communities and businesses affected by disaster is that policy formation should focus not so much on the **content** of possible intervention, but on developing **structures and processes** that enable a swift and flexible response when disasters do occur.

Another important insight emphasised throughout the research is that policy intervention needs to be **preparatory** rather than **reactive**, especially in relation to developing adaptive capacity. Preparing to manage future disasters needs to be recognised as an **ongoing learning process**, a process that has multiple partners who bring different voices and experience to the learning process.

This raises the question of who is responsible for what. Currently, Australia's multilevel governance arrangements do not clearly articulate where different kinds of authority should be exercised. While the Australian Constitution outlines the balance of powers between the federal and state governments, ambiguity exists in key areas. Similarly, the relationship between the role of local government and community participation is far from straightforward. Local government exists because of state legislation and its powers are defined accordingly. Whereas its historic focus has been on land and roads planning, management and maintenance, it has become an increasingly important provider of local social and allied health services. Civil society (community) participation in place-based affairs can include participation in debates, consultation with government and monitoring implementation or can involve full autonomy over decision-making and implementation of local initiatives.

The research considered the highly developed system of multi-level governance of the European Union and its heavy reliance on the principle of subsidiarity, which privileges place-centered decision-making. It then sought insights from key stakeholders and business representatives in case study regions that had experienced disaster.

Stakeholders who participated in the research identified clear hindrances to effective decision-making at any level, with particular consequences for businesses seeking control and autonomy over their course through disaster recovery. Business participants in the research saw little evidence that decisions were being taken at the appropriate level or that there was a strategy for decision-making or a principle of subsidiarity in operation. Their comments largely pertained to decisions made about both short-term financial supports to businesses during, and in, the immediate aftermath of disaster, and longer-term strategies for business recovery and development.

Policy formation should develop

- Structures and processes for swift and flexible response
- Preparatory intervention
- Ongoing learning process that have multiple partners, voices and experience

A key finding of research into the most effective ways of delivering support to communities and businesses affected by disaster is that policy formation should focus not so much on the content of possible intervention, but on developing structures and processes that enable a swift and flexible response when disasters do occur.

From across the case study regions, there are common elements to peoples' experiences:

- Civil society and business leaders were invariably keen to exercise a strong voice on behalf of businesses and communities in the recovery process and were often frustrated by the lack of responsiveness of each level of government.
- Business and place-based civil society representatives do not necessarily want or expect to have autonomous decision-making powers, but they do expect relevant and timely information and a legitimate role in decision-making with government stakeholders.
- Local government has been most helpful where it has acted as a broker between businesses and institutions providing post-disaster support and funding, for example, in situations where local government has assisted businesses in interpreting funding rules and applications or has advocated for businesses.
- In some cases, the perceived inflexibility of local government, and perceptions of local government prejudice against individual businesses (sometimes dating back years), has tainted these relationships in disaster response periods.
- Questions were raised about the apparent duplication of responsibilities by state government, and an apparent need for it to be 'seen to be doing something' alongside other levels of government.
- There was also frustration about apparent demands from state government for frequent feedback and information from communities and businesses, when they 1) have other, higher priorities and 2) do not see their contributions being put to use.
- However, local MPs (state and federal) generally received high praise, especially for their efforts at interpreting guidance for fire/Covid relief, facilitating connections with other organisations, and advocating to government on their behalf.
- The role of the Federal Government was generally seen to be limited to providing prompt resources to support other levels of government and organisations in recovery and reconstruction processes.

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DEVOLVING DECISION-MAKING

The principle of greater local control over decision-making in the process of recovery after a natural disaster has guided state and federal policies for the past decade. The 2009 Victorian bushfires prompted policy-makers to draw on research into that event, and existing literature overseas, and promote 'community-led recovery' where practicable. The Victorian Bushfire Reconstruction and Recovery Authority indicated, in its 100-day report, that 'the involvement of communities is at the forefront of the planning process' (Victorian Bushfire Reconstruction and Recovery Authority 2009).[1] Queensland's plan for recovery from Cyclone Debbie was based on recognition that 'communities have the best understanding of their needs and what their path to recovery should look like' (Queensland Government 2019).[2] The Royal Commission into Natural Disaster Arrangements in 2020[3] affirmed these principles:

> *"There is broad acceptance across all levels of government and communities of the importance of locally led recovery."*
>
> *(Report paragraph 21.19)*

Local control over decision-making is mainly relevant after immediate restoration of infrastructure has taken place. Each jurisdiction has dedicated agencies responsible for the infrastructure related to electricity, water, and telecommunications whose task it is to initiate repairs and to reinstate service. This means that these activities do not specifically need local input. However, once this immediate phase is underway, planning for future reconstruction and development brings into play quite different stakeholder perceptions of how decision-making responsibility should be balanced.

The common experiences in relation to disaster recovery that were summarised earlier reflect the discussions at state and Commonwealth levels about how to embed greater local control over decision-making. Two preconditions have emerged from these discussions which must be met in order to effectively devolve decision-making powers to the local level:

- The first of these is **capability**—meaning, in this context, ensuring that businesses and communities have the skills, knowledge, and resources to effectively meet their recovery needs.
- The second is **information**. Government, as well as business stakeholders, reflected on a paucity of localised and up-to-date data to help map and model regional economies. Businesses said that poor decisions about economic recovery often hinged on a failure of systematic and thorough consultation with industry. The absence of effective consultation often contributed to inappropriate rigidity in the criteria and processes for access to assistance, and the lack of an appeal process.

Important lessons in how to build capability for devolved decision-making can be drawn from considering progress with implementation of the Local Decision Making (LDM) policy package in the Northern Territory. While focusing on remote indigenous communities, the experiences provide valuable guidance for central governments (state or federal) in building capability and sharing information.

LDM is a 10-year community-driven process under which the Northern Territory Government is ceding decision-making back to Aboriginal communities, specifically the control of the delivery of government services and programs. The expectation in the Northern Territory is that decentralised government processes will result in better decision-making supporting the delivery of services, because these allow for a better formulation of local preferences and choices regarding services. As well as better reflecting local preferences, LDM also addresses any informational bottlenecks or failures that can generate disconnections between bureaucracies and local communities.

The basic premise of LDM is that local decisions are the best decisions and that better utilisation of local knowledge leads to improved local decisions and more cost-effective and flexible provision, enhancing the ability to adjust and meet local needs.

In the Northern Territory, the LDM process is guided by five principles, namely:

- Self-determination
- Place based
- Flexible
- Co design
- Community control.

1 Victorian Bushfire Reconstruction and Recovery Authority (2009) 'Victorian Bushfire Reconstruction and Recovery Authority: 100 Day Report' State Government of Victoria, 2009. Available at: http://royalcommission.vic.gov.au/getdoc/d4fdd202-24b9-4625-996a-288fb655b492/TEN.046.001.0001.pdf

2 Queensland Government (2019) 'The State Recovery Plan 2017-2019 – Operation Queensland Recovery', available at: https://www.qra.qld.gov.au/sites/default/files/2019-05/0415per cent20Opper cent20QLDper cent20Recper cent20Planper cent202017-19per cent20Update.pdf

3 https://naturaldisaster.royalcommission.gov.au/

The Community Control Continuum, based on the IAP2 Public Participation Spectrum, is an important tool in the LDM framework, helping Aboriginal people identify the extent to which they wish to be involved in the governance of their community. The spectrum ranges from inform to empower, allowing leaders to decide for themselves how things are done in their community and their level of participation moving forward, ultimately leading to greater self-determination.

IAP2'S PUBLIC PARTICIPATION SPECTRUM

The IAP2 Federation has developed the Spectrum to help groups define the public's role in any public participation process. The IAP2 Spectrum is quickly becoming an international standard.

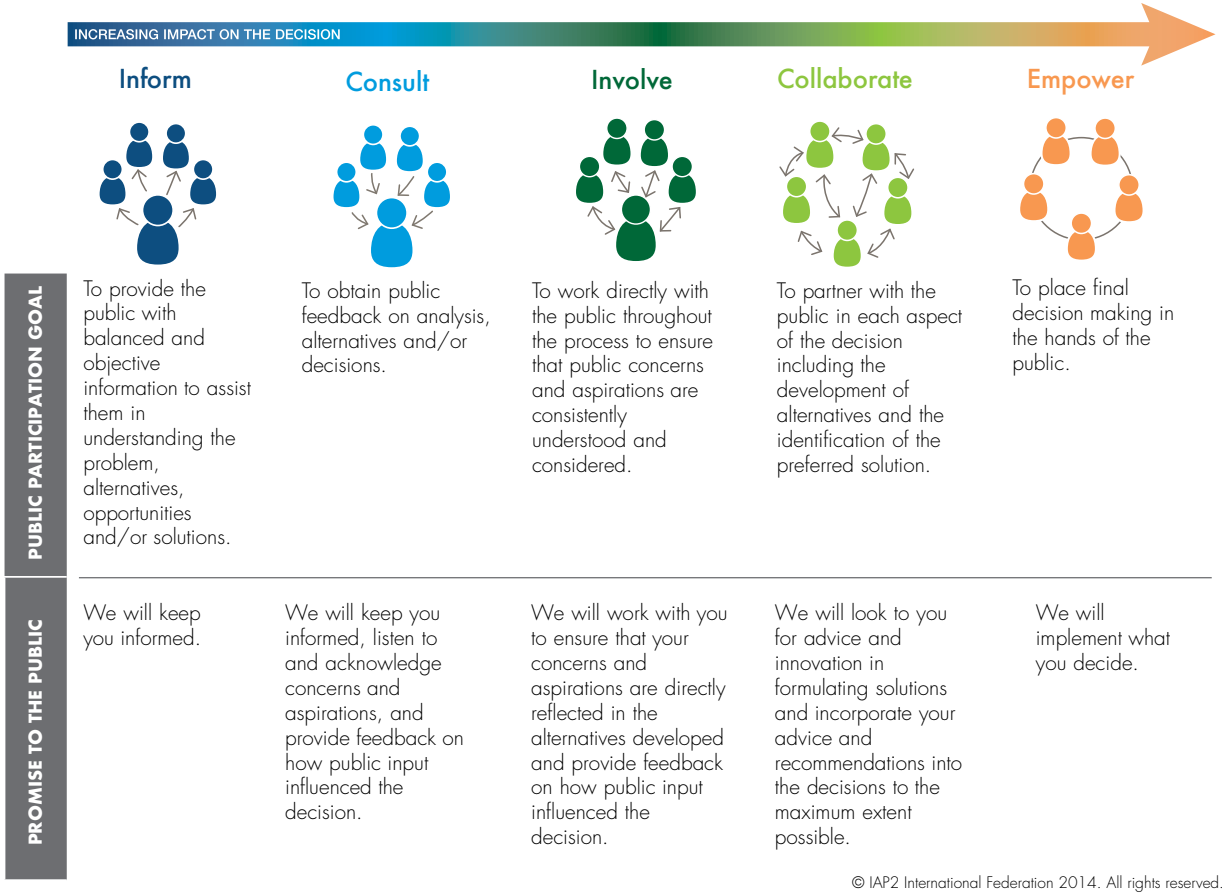

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Figure 1 IAP2 Spectrum of Public Participation

Source: International Association for Public Participation – IAP2 International, used with permission

It is, however, important to remember that decentralisation of government services design and delivery is more than simply consultation, role delegation or devolution of services delivery processes. Rather, it necessitates careful discussion on issues such as:

- The extent of decision-making powers
- The autonomy required to consider distinctive service needs
- The design of governance structures which can lead to a greater say or control of funding determination
- Ensuring that any transferral of service administration functions are complemented with tangible and committed actions to make those sustainable, including the transfer of capabilities.

This research also drew out critical limitations in the extent to which subsidiarity works within the local policy context. Feedback from business and community stakeholders was that they know their needs best and need to take control of their recovery processes. This position is also reflected in government policy. However, the existing policy delivery mechanisms do not sufficiently reflect this reality.

A key point for policy-makers to understand is that the problems exists as much with the 'how' of assistance, rather than the 'what'. What one business or community needed differed from another, within a given area and across regions. Current policy settings lack sufficient flexibility to be able to tailor the available assistance to the needs of highly specific situations. Such an outcome would be better achieved through a case management approach. However, the governance arrangements do not presently exist to enable such an approach to be implemented.

Evidently, from a government point of view, appropriate contracts and accountabilities need to be in place so that the public can be assured that government funds are spent appropriately. From a regional business perspective, the necessary institutional processes do not exist that can properly receive, manage and distribute the required funds, in a manner responsive to the needs of the day. If subsidiarity is to work in situations such as these, the capacity to act needs to be built into the soft infrastructure of regional economic development.

Strengthening Business Resilience

The resilience of businesses can have a direct impact on how regional communities recover from disaster.

Predictive Factors of Business Resilience

- ☑ Place Attachment
- ☑ Community Support
- ☑ Social Capital and Networks
- ☑ Business Support Environment

Each of the projected factors of resilience are all significantly associated with Business Resilience. Further, when taken together, these factors are a good predictor of Business Resilience. Two factors stand out:

- Social Capital
- Business Support Environment

The research looked in detail at how to strengthen business resilience, to allow businesses to withstand and recover from external shocks. The resilience of businesses can have a direct impact on how regional communities recover from disaster.

An important starting point is the recognition that policy-makers must think long-term. Experiences in recent years have shown that disasters will continue to impact on business and communities across regional Australia. They will increasingly become the 'norm' rather than the 'exception', and government responses will be scrutinized for their ability to both provide the initial support needed, as well as build long-term resilience. In supporting long-term resilience, the role of government needs to centre on partnerships with industry and community to achieve deliberate economic ends through business processes.

The research findings lead to the identification of six key shifts which are needed in policy relating to business continuity policy:

1. Recognition that recovery is moving from a one-off, short-term matter to something that needs to be sustained over time.
2. Ensuring that policy does not simply address the loss of infrastructure and short-term disruptions to business activity, but seeks to address the social consequences of sustained shocks on business capacity.
3. A 'one-size-fits-all' policy is not appropriate to the complexity of contemporary industry challenges.
4. The state has to understand itself as a partner in the sustainability of entrepreneurial activity.
5. Effective multilevel governance depends on explicit exploration of how the principle of subsidiarity can be applied appropriately, according to context; and
6. A case management approach to the provision of direct assistance is required, at least for smaller businesses.

More specifically, the research looked at the factors that influence business resilience and how these can be supported and strengthened through targeted policy and programs.

STRENGTHENING REGIONAL BUSINESS ECOSYSTEMS

The degree of business resilience, or more precisely, its 'adaptive capacity', can be the key to the speed and effectiveness of business survival. It refers to the resources a business owner can mobilise to sustain their business in the immediate, emergency period during and after a disaster, and then rebuild. Adaptive capacity encompasses:

- Material resources: personal savings, alternative sources of income, capitalisation, access to overdraft facilities, and comprehensive insurance.
- Knowledge and skills: business experience, business skills and record-keeping (and/or access to professional advice), market and supplier information.
- Networks/relationships/connections: access to and influence on government decision-makers, business associations, and chambers of commerce.
- Personal resources: psychological, emotional and physical wellbeing, supportiveness of family and friends, access to psychological and health support.

Additionally, strategies, activities and programs of federal and state governments will influence the resilience of a business when faced by an external shock such as a natural disaster.

Business resilience is affected by the capabilities of the regional business ecosystem (RBE) in which the business operates. In other words, the extent to which a firm is integrated in a business environment and the regional community can impact preparedness, recovery and resilience.

Highly resilient enterprises (HREs) have strong emotional attachments to their regions. They are creative, flexible and adaptable, and importantly they are aware of their individual business priorities and capabilities prior to crises occurring. HREs are active participants and collaborators in local organisations and industry groups – they use these partners and other business support networks during and post disasters, to facilitate recovery and innovation.

Through case studies, the research showed that resilience is a complex and multi-faceted concept whose presence and strength is not dependent simply on geographical considerations or previous disaster experience. This suggests that policies and programs may be utilised to **build resilience**, despite the differences found across Australian regions in terms of composition, geography and crisis type.

The below table suggests strategies and programs which can be utilised to build business resilience. They recognise and seek to build upon the predictive factors of enterprise resilience at each phase of the "Resilience Cycle", namely response, recovery, residual learning, and preparedness.

Policy Response Framework to Build Business Resilience

Resilience Cycle	Strategies	Programs
Preparedness	• Grants and support to build social networks and internal business resilience.	• Build and facilitate social support networks. • Build crisis response and recovery capacity.
Crisis Responses	• Community relief funds filter through to contribute to business resilience. • Funding/grants to provide resources at the local level that identify channels of aid and recovery support.	• Initiate coordination and alignment of support. • Maintain labour continuity. • Provide flexible structures and deadlines to accommodate grief and relieve stress. • Provide stable, predictable, and reliable information.
Recovery	• Establish multi-level and multi-sector structures to identify and address industry challenges. • Establish community connections to kick-start business. • Fund sectoral and regional planning and coordination activities. • Contribute recovery funds/grants/loans. • Establish or fund local relief teams to match needs to resources. • Resource/fund business continuity measures.	• Schedule and activate multi-level and multi-sector dialogue with affected regions. • Provide business stimulus programs. • Spend on infrastructure. • Provide stable, predictable and reliable information. • Establish labour resource programs.
Residual Learning	• Establish learning frameworks and models.	• Ensure programs include local government as central actors to manage crisis and build connections. • Create reflective learning events or incorporate reflective learning activity during events. • Acknowledge the need for review and adaptation. • Build or adopt documented frameworks as guides. • Focus and deepen enquiry into response and recovery efforts.

Disaster Recovery

The research program also undertook an examination of recovery pathways and considered how businesses recover from disaster. It had a particular look at the impact of disaster on main street retail businesses. It also looked at recovery in terms of rebuilding housing and restoring disrupted supply chains. These issues are covered in this section. Some overarching lessons from the disaster recovery research can be distilled into the points below:

- At times, disaster recovery efforts narrowly focus on obtaining a return to normality as quickly as possible. This can undermine longer-term goals around improving future preparedness and positively developing the regional economy. Recovery should be seen as a **long-term process** requiring careful planning and which looks beyond immediate reconstruction efforts.
- This focus on short-term rebuilding can detract from time and effort spent on longer-term planning. There should be research, data, creativity and input from diverse voices to develop long-term recovery plans that bring **prosperity and equity**.
- Recovery planning is often **reactive rather than proactive**, leading to decisions being made in haste. This can have knock-on effects across multiple levels, meaning that the recovery lacks coordination, lacks a broader strategic focus and/or that poor decisions are being made.
- Recovery planning and strategy development must better understand the **layout** of, and **interactions** within, the regional economy in question.
- On a practical note, the **complexity** of government relief and recovery packages can overwhelm small businesses, meaning that those who need support may be unable to access it. This remains a recovery challenge.

BUSINESS RECOVERY

The research program included detailed case studies of businesses in different regions across Australia as they recovered from natural disasters. They showed that the pathways that business have taken to recover from disaster varied and are influenced by a number of factors such as business characteristics and the extent of the disaster. There are numerous different trajectories which businesses follow in order to survive, consolidate and even prosper from disasters, whether natural or social. The diversity makes it difficult to generalise about patterns in those trajectories. However, it is important for policy-makers to understand the different ways in which businesses coped and recovered.

Some of the approaches taken by businesses were:

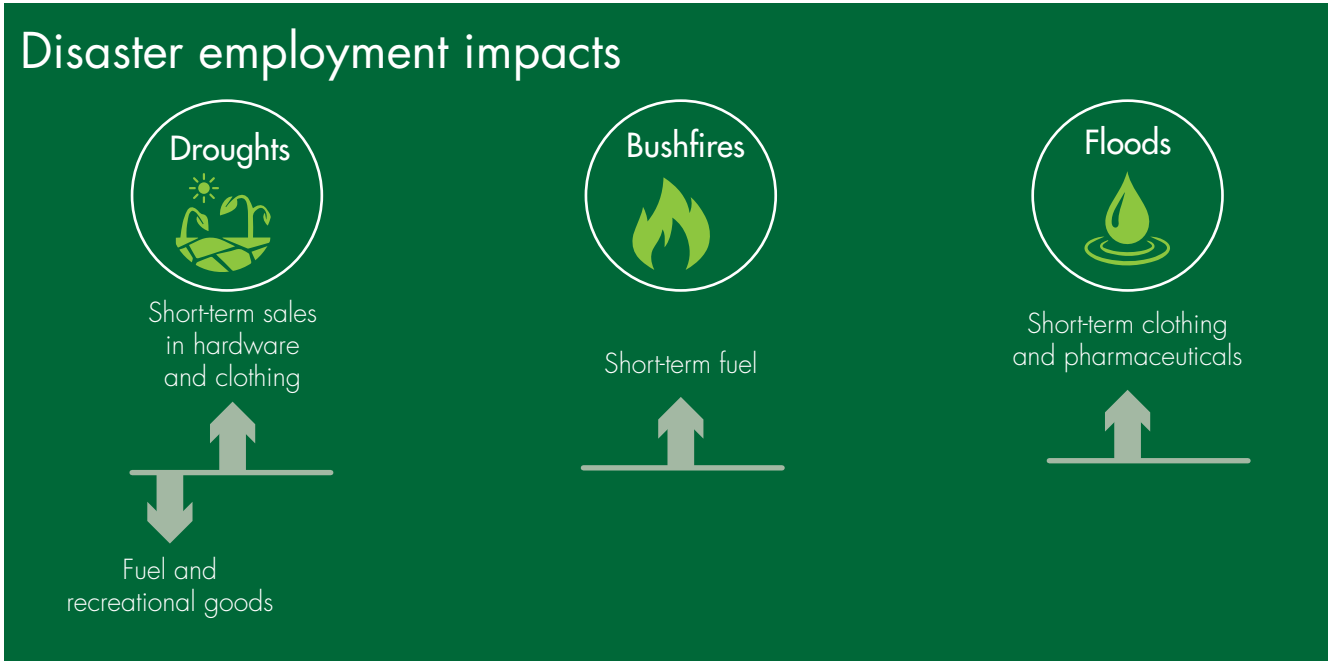
- **Downshifting:** Working fewer hours, taking the opportunity to take stock or renovate.
- **Pivoting:** Most businesses were cautious about pivoting due to the unknown nature of how long the pandemic would interrupt the business. For some businesses, there was also limited scope to pivot during or after disaster, especially given the compounding effects of the bushfire and COVID-19.
- **Adapting or changing an existing business model, product and/or service:** Some businesses introduced a new business model while others changed their product/service offerings to attract customers or to generate revenue, effectively repositioning the business. For instance, a hospitality business added on retail to generate cash flow. Businesses also re-evaluated their existing business practices to operate in a leaner way.
- **Capitalising on short-term opportunity:** Some businesses also looked at producing goods that were needed during the pandemic such as developing hand sanitisers.
- **Ensuring smooth cash flow:** This was one of the most common approaches as businesses looked to spread out their income and expenses through measures offered by the Australian Tax Office (ATO) and utility service providers, or by reducing costs (decreasing staff or the number of working hours), or by looking at balancing supply and demand.

The broad range of supports and instruments offered by different levels of government were all used at one point or another by businesses. However, not all businesses used, or were eligible for, all types of grants, and there did not appear to be any universal pattern in business perceptions of specific instruments. One consistent message was the need for **immediate cash relief**, whether through grants, tax relief, rent relief, rate relief, or fee waivers. The speed of access to this support was a critical factor in shaping business confidence in a broader package of government supports. However, there was substantial feedback about the difficulties of gaining access to support. The rules determining eligibility for bushfire funding and support, for example, do not always reflect the conditions that lead to business impacts. They might require the business to be impacted by flame, whereas the true devastation for a particular business might be from the lack of services, supplies or customers.

Additionally, **access to insurance** is also becoming a serious issue for regional businesses. The increasing scale and frequency of natural disasters in Australia means that premiums are rising, leading many businesses to either risk having no insurance at all, or at least underestimating the scale of potential loss and hence under-insuring. Once disaster occurs, many businesses report difficult negotiations with insurance companies in order to settle their claims. This adds another layer of stress and work to an already traumatic experience.

Important lessons for policy-makers can be identified from the research into business recovery pathways:

1. There is a need for greater focus on developing at the individual level, **business capacity** and **disaster preparedness**, such as pre-planning a crisis response, scenario planning, taking stock of the current business recovery ability and developing networks that can be drawn upon during disasters. **Coordination** and **co-operation** should be reinforced between all levels of government, non-government, organisations and community during "good times" to identify the roles and responsibility of each stakeholder.
2. It is important to recognise that different disasters impact businesses differently and therefore **support needs to be tailored** to the region. Policy-makers should also consider the business characteristics that can influence businesses' ability to bounce back so as to offer specific recovery support (e.g. small and medium businesses which may be more financially vulnerable).
3. There is a need to establish a system to identify and prioritise recovery **needs of local businesses** to guide the timely rollout of recovery efforts.
4. It would be useful to develop a network of **professional support** (e.g. grant writers, mentors, accountants) and checklists for businesses to help them get access to, and/or determine eligibility for, grants more easily.
5. More focus on **evaluating the experience** of previous disaster recovery and putting the feedback into practical changes to disaster recovery approaches is needed.



MAIN STREET RETAIL RECOVERY

This research examined 10 years of employment data 2006-16 for trends in main street retail in small and medium-sized towns in Australia to understand how retail is evolving and the impact on the retail mix of droughts, bushfires, floods and COVID-19 restrictions. The research helps policy-makers untangle the longer-term and shorter-term drivers of the health of their main streets.

The analysis showed that there are underlying trends in regional retail employment favouring sectors such as food/beverage services, while other sectors such as recreational goods and furniture retailing are generally declining in employment in regional Australia.

In other words, outside of disasters, many traditional types of retail businesses in Australian regional towns are closing or shrinking, while new types of retail businesses are emerging. Much of this has been prompted by the emergence of online retail and service platforms that have disrupted traditional businesses, changing the way that consumers choose to buy goods and services. It is against this dynamic background that different types of disasters add another layer of impact.

Droughts have the **biggest negative employment impact** both in magnitude and timescale, though are associated with increasing short-term sales in hardware and clothing. Bushfires are associated with a **spike in fuel and clothing sales jobs** but with employment in these sectors falling again in subsequent time periods. Similarly, floods are associated with **increased employment in accommodation and pharmacies**, but this is followed by a dip in accommodation in subsequent time periods.

For further details, please refer to the table in Annex 2.

While the employment impacts of these natural disasters are important, overall, the analysis found that the impacts of natural disasters on main-street retail and services sectors in regional Australia have been **marginal** in most cases, with deeper negative impacts usually limited to a few sub-sectors. Broader structural changes in the economy, brought on by technological advances such as the emergence of online retail and rental services, appear to have had a **greater impact** on the evolutionary process.

From a policy standpoint, local leaders could ease the impacts of the sectoral evolutions through the design of appropriate employment support, retraining and upskilling programs that help those displaced in the retail and accommodation sub-sectors find gainful employment in growing sectors, such as food and beverage services and health care and social assistance. Additionally, local leaders could help revitalise main streets by supporting existing and new placemaking initiatives that generate further economic activity in these growing sectors. This could include improvements in street infrastructure, such as wider footpaths, al fresco dining options, public art installations, more trees, better lighting, etc., that support businesses in these sectors, as well as the organisation of local events such as Sunday Streets and Farmers' Markets that offer consumers access to the services that they most desire.

HOUSING RECOVERY

While most businesses are able to recover from natural disasters, the financial and social shocks brought to disaster-affected communities can induce permanent dislocation to what had been balanced socio-economic foundations. In particular, destruction of residential housing in low-income places can lead to the loss of long-term residents due to weaknesses in many low-cost regional housing markets.

Many inland small towns have a delicate balance between low incomes and low cost of housing which is disrupted by disaster as high contemporary (re)building costs may be beyond the reach of affected residents. There is complementarity here for remote towns, with the typical market value of existing housing stock often being out of step with the cost of construction.

The research examined rebuilding cost scenarios in relation to the current housing stock value and current average incomes in two small towns – one bushfire affected town (Cobargo NSW) and one remote town (Winton Qld).

The scenarios found that in Cobargo, where a disaster has destroyed nearly half of the housing stock, the instability brought to the local housing market was immediate and urgent. The analysis showed how – insurance aside – there is limited financial capacity to rebuild at contemporary costs and if even if there is such capacity (among a minority of households), a tight credit environment could well undo the ability of such households to build.

A similar finding emerged from the Winton scenario, with the wide difference between the cost of new housing and the value of the existing housing stock helping to explain the lack of investment in housing in this remote community, even while demand for accommodation has been high.

These scenarios show that market forces in disaster affected places can bring permanent changes which see the loss of long-term residents, an important consequence which needs to be considered when disaster recovery planning is being formulated.

Policy is often limited by path dependency and established ways of doing things. We aim to return to a pre-disaster 'normal', rather than learning from and adapting to disaster. Policy-makers need to recognise that in these cases communities will never really bounce back, they will look different through the recovery phase and beyond. Recovery policy needs to be able to embrace transition to new conditions, not only focusing on recovery to previous conditions.

SUPPLY CHAIN RECOVERY

Policy development and the steps required to lay the foundation for socio-economic recovery are best achieved when informed by evidence-based understandings of the regional economy. At the core is an understanding of regional value chains across key sectors. Comprehensive understanding of disaster impacts requires understanding both the impacts of disaster events and the profile and texture of value chains across both private and public sectors.

A value chain is essentially a supply chain, but the concept of value has been added to include the economic aspects and outcomes of the chain. In the agricultural industry, it may cover all the steps from producer to consumer. Value chains can be short with only a few intervening steps (for example, wine sold at the cellar door), or long and more complex with several steps and a wide network of relationships. This distinction between short and long indicates how susceptible they are to localized disaster events. For example, for short value chains it is possible that disaster events are more disruptive, as the steps from production to consumer would be located in the same area.

The research explains that by understanding the complex interrelationships that make up these chains and networks, it becomes possible to then identify at which points the value-add occurs, which helps to assess the impact on regions if that chain is disrupted by disaster. An important task for policy-makers when planning in relation to value chains/networks is to identify the points of vulnerability along the chain. With this knowledge, it becomes possible to promote appropriate governance arrangements, facilitate the links and support to enhance the chains and identify where intervention may be necessary in relation to disruptions and pressure points. The outcomes provide insights into the impact of major disruptions to production and markets, and thus policy guidance for the mitigation of such events.

MEASURING THE REGIONAL EFFECTS OF DISASTER EVENTS ON SUPPLY CHAINS

The research also considered what data exists that can help policy-makers to measure the impacts of disaster on regional industries, taking the tourism and the agricultural sectors as examples.

TOURISM DATA

In the tourism sector, to some extent data from the Australian Bureau of Statistics can be used to provide a partial assessment of regional economic impacts of changes to regional supply and demand relationships. Further, Tourism Research Australia (TRA) conducts surveys of domestic and international tourists which give data on regional location, volume and composition of tourists' expenditure across various industries and products, as well as on duration of visits. TRA is the prime data source on tourism activity and publishes data on the impact of tourism at a national, state and regional level.

Both the ABS and the TRA data have strengths but also weaknesses and, even used together, may not provide a full picture of the effects of a disaster on the tourism industry.

A "hybrid approach" is therefore recommended:

Such an approach would have three steps:

1. Start with the TRA data to identify what industries are likely to be affected by a change in output of other industries.
2. Supplement this data with the ABS Regions series as this provides useful information at frequent intervals.
3. Conduct more targeted small area data collection, such as telephone interviews across several sectors, town hall meetings and interviews with small and large firms across a representative range of industries.

AGRICULTURAL DATA

There is no equivalent of the TRA in the agricultural sector. To be able to estimate the impact of changes to agricultural output on other industries and employment, the suggested approach contains the following steps:

1. Identifying the value of agricultural output for a region in a given year
2. Using Australian input-output data to identify the inter-industry supply and demand relationship of agriculture with other industries
3. Identifying the effects of a change in the output of agriculture on output and employment in other industries at a regional level.

BROADER LESSONS FOR MEASURING REGIONAL EFFECTS

There are broader lessons that can be drawn from the tourism and agricultural case studies for ensuring sufficient, robust and timely data is collected to be able to measure, analyse and understand effects on other regional supply chains.

Firstly, it is necessary to collect both quantitative and qualitative data.

Quantitative data will be data from the particular sector, possibly supplemented by ABS data. This then needs to be further supplemented by qualitative data. This could be collected through telephone interviews with key respondents across many sectors, town hall meetings and interviews with small and large firms across a representative range of industries.

Extensively interviewing communities, businesses and government allows policy-makers to:

- Map and compare the internal characteristics of local and regional social, political, cultural and economic relationships with other regions.
- Undertake a network analysis focusing on each particular sector to compare the relative effect of these relationships on value flows within and across regions. For example through flow-on connections in marketing, finance, hospitality services, tours, transport and construction.
- Assess and compare the economic impact of regional governance and policy legacies and initiatives.
- The task is to identify the what, the why and the how of measurement. This task will be achieved by developing a "methodological toolbox" incorporating the following dimensions:
- Economic activity is both socially defined, and place based.
- Values flow from specific economic activities and are situated within the totality of the economic activity.
- Value is constantly in movement and thus moments in value creation are contradictory, disturbing temporal and spatial dynamics.
- Hence, economic shocks such as disease, climate events and recessions are endemic to the system rather than outliers.
- The state is not simply a facilitator of economic activity but a crucial component of value creation.

Resilience Indices

Being able to measure resilience can help communities and governments determine risk and plan for disaster recovery.

The research program also reviewed the origins and characteristics of some commonly used indices of resilience and adaptability. Many indices have been prepared by governments, universities and other organisations in Australia and overseas, and this review looks into the assumptions and principles each one is based on, their strengths and weaknesses, and suitable applications for each in an Australian disaster recovery context.

A review of some common resilience and adaptive capacity indices showed that **what is included in each index tends to pre-determine the outcomes – especially the rankings from high to low resilience**. The content of an index is heavily mediated by what is available, and while many indices seek to weave in social capital attributes, the absence of broadly available data on these attributes is an impediment.

Only two of the indices examined demonstrate any attempts at validation – i.e., back-casting the data to cover a period of natural disaster or economic transition and looking at how communities responded to validate the rankings inherent in each index.

The review found that most of the resilience indices have applicability in the Australian context as there has been a range developed to target different levels from the national view to a neighbourhood scale. Each index seeks to incorporate a wide range of factors that are associated with resilience, within the limits of data availability.

Being able to measure resilience can help communities and governments determine risk and plan for disaster recovery. However, determinants of resilience may also differ between communities and given that there is no best method of combining these factors into a single metric, it highlights the importance of cautious interpretation of the results when calculating resilience.

Nonetheless, such resilience indices are still useful for policy-makers as they can provide a snapshot of resilience at the community, regional, or state level. The "right" index needs to be identified such that all the information and data needed is available at that scale.

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Conclusion

This policy guide draws on the findings from a series of reports done by researchers with deep experience in regional business and community development. The research tracked quantitative data on disaster impacts, alongside qualitative information from businesses about how they have managed preparedness, response and recovery.

The clear message is that disaster **responses** at all three levels of government have improved markedly in recent years, and that the majority of businesses interviewed and surveyed were able to access support that helped them when they needed it. More coordination would be welcome, though, as would more local input into how assistance is provided on the ground.

Recovery is a longer-term phase, with different paths followed by each region and each business. The research made it clear that recovery does not necessarily mean going back to normal, it can mean re-evaluating and re-positioning and landing somewhere quite different. Policy support for recovery blends with **preparedness**, since critical factors in recovery are the strength and diversity of regional economies, supply chains and especially business networks. These all need to be developed in the preparedness phase. Consideration of policies and programs to support **prevention** of natural disasters was outside the scope of the research program.

The Regional Australia Institute's Intergovernmental Shared Inquiry Program resourced this research program and preparation of this guide. The Program is supported by a consortium of Commonwealth, state and territory governments, and the Institute hopes that the research findings and guide will be of value to policy-makers involved in regional development and disaster recovery.

EMERGENCY MANAGEMENT CYCLE

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ANNEX 1: List of Research Reports

Shared Inquiry Program (SIP) 2020

DISASTER RECOVERY AND RESILIENCE, TOOLS FOR REGIONAL AUSTRALIA

SIP Number	Title	Author
SIP.2020.1.1	*The impacts of natural disasters on main street retail and services in regional Australia*	UniSA
SIP.2020.1.2	*What are the most effective ways of building business resilience in regional communities?*	UniSA
SIP.2020.1.3.1	*Recovery pathways for businesses in affected rural and regional communities, two South Australian case studies*	UniSA
SIP.2020.1.3.2	*Recovery pathways for businesses in affected rural and regional communities, case studies from Qld, NSW and Victoria*	RMIT
SIP.2020.1.4	*Governance and decision-making in disaster recovery*	RMIT
SIP.2020.1.5	*Regional business supply chains and disaster recovery*	RMIT
SIP.2020.1.6	*Rebuilding Regional Housing markets*	RAI
SIP.2020.1.7	*Review of indices of resilience and adaptability*	RAI
SIP.2020.1.8	*Devolving decision-making to build resilience*	CDU

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ANNEX 2: Main Street Disaster Impacts

Industry Sector	Baseline Pattern of Growth	Impacts of natural Disasters			
		Droughts	Bushfires	Floods	COVID-19
Entire Economy	Slow Growing				
Retail Trade					
Motor vehicle and motor vehicle parts retailing	Slow Growing	–	–	–	Negative
Fuel retailing	Slow Growing	Negative	Positive	–	–
Food retailing	Slow Growing	–	–	–	–
Furniture, floor coverings, houseware and textile goods retailing	Fast Declining	–	–	–	–
Electrical and electronic good retailing	Fast Declining	–	–	–	–
Hardware, building and garden supplies retailing	Slow Declining	Positive	–	–	–
Recreational good retailing	Fast Declining	Negative	–	–	–
Clothing, footwear and personal accessory retailing	Unclear	Positive	–	Positive	–
Department stores	Unclear	–	–	–	–
Pharmaceutical and other store-based retailling	Unclear	–	–	Positive	–
Accommodation and Food Services					–
Accommodation	Fast Declining	–	–	–	–
Food and beverage services	Fast Growing	–	–	–	Negative

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