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Disaster Recovery and Resilience

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WHAT HAVE BEEN THE RECOVERY PATHWAYS FOR BUSINESSES IN DISASTER-AFFECTED RURAL AND REGIONAL COMMUNITIES?

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PHOTOS

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Executive summary

We developed this project to advance the agenda of the Regional Australia Institute's (RAI) *2020 Intergovernmental Shared Inquiry Program*; specifically, *Project 3: What have been the recovery pathways for businesses in disaster-affected rural and regional communities?* The project is being undertaken as part of a collaboration between UniSA, RMIT and RAI, investigating recovery from recent disasters in regional towns. Project findings provide guidance to policymakers to develop effective place-based strategies for regional business disaster recovery.

This study was undertaken in parallel to the *Royal Commission into Natural Disaster Arrangements* and this report follows the release of the *Royal Commission into Natural Disaster Arrangements report (Royal Commission Report)* and the *State of the Climate 2020 Report*. Together, those reports provide unequivocal evidence that Australia is experiencing climate change now and that climate change is strongly associated with increasing atmospheric carbon levels that are produced primarily by burning fossil fuels (Binskin, 2020; BOM & CSIRO, 2020). There is indisputable evidence that rising temperatures and extreme weather events, caused by rising atmospheric carbon dioxide levels, are in turn causing an increase in the frequency and severity of disasters that we are witnessing now in Australia. As Air Chief Marshal Mark Binskin, Chair of the Royal Commission wrote in his foreword, 'unprecedented is not a reason to be unprepared' (Binskin, 2020 p. 7). Climate change action is well overdue and must be a bipartisan national priority rather than a political thorn, especially for regional Australia.

We worked with case study site Project Advisory Group (PAG) members to inform a place-based toolkit to map the recovery pathways of the regional business sector. Our study findings provide information about how to support regional businesses to collaborate with the communities in which they operate, non-government organisations, and all levels of government to recover and thrive post-disaster, as well as promote business resilience in the future. Using ecological systems theory (Bronfenbrenner, 1981; 2005) the findings are relevant beyond the two case studies, providing guidance to policymakers in their efforts to provide place-based, effective support across diverse Australian regions. We conclude that the development of place-based recovery pathways is needed to ensure the future sustainability of regional Australia (RAI, 2014) and we present strength-based recommendations, grounded in our findings, for action across all levels of the ecological system.

Research questions

The research questions guiding this study were:

1. What are the short-, medium- and long-term effects of diverse disasters/pandemics on businesses and the effects of different types of community, government and corporate support on business recovery?
2. Using COVID-19 and bushfire policy responses as examples, what timing and nature of support interventions have had the greatest impact on affected businesses?
3. What are the best ways to co-ordinate the activities of different levels of government, with community, non-government organisation and corporate support to assist with the short-, medium- and long-term impacts of disasters?

Key findings

Effects of disasters

Participants described in detail the complex and compounding effects of disasters on their businesses (mainly drought, fires and COVID-19). The Kangaroo Island participants had all been directly or indirectly affected by the Black Summer fires and some Barossa Valley participants had been indirectly affected. The two case study sites had experienced very different effects of COVID-19 at the time of writing. Businesses were differentially affected by the Australian and South Australian public health responses to reduce the transmission of the virus which causes COVID-19, depending on the nature of their business. The Barossa Valley experienced the largest regional South Australian cluster very early on in Australia's general experience of the pandemic. The COVID-19 pandemic followed directly after the Kangaroo Island bushfires, which has meant that the bushfire recovery process has been severely interrupted.

Both case study sites are dependent on a mix of primary production, tourism, hospitality and creative industries. COVID-19 brought significant disruption to both supply chains and markets, with the only exception being internet sales where businesses could access the supplies they required to make their product and if their product could be sold in places that did not involve in-person interaction. Some businesses were able to make changes, or 'pivot', to ensure that they were able to keep afloat during COVID-19 restrictions.

Almost all participants spoke about the effects of disasters on their own and other business owners and operators' mental health. Their experiences suggest that there are not anywhere near enough formal avenues to support people's mental health in regional areas. Further, participants indicated that it was still a topic that carries stigma in regional communities, especially for men.

The psychological effects of disasters on business owners and managers were especially significant because without mental health, other supports were difficult to access. Poor mental health leads to difficulties in keeping up with information that may, for example, include advice about grant opportunities.

Nevertheless, several of the participants spoke about finding 'silver linings' that resulted from COVID-19 lockdown measures. Following an initial shock due to a reduction, or sudden stop, to cash flow, some participants spoke about this period as a time for reflection and re-evaluation of their business practices.

Support systems

There were many types of disaster-related support that participants identified, sought and/or were offered. Barossa Valley participants spoke about drought relief and COVID-19 related supports. Kangaroo Island participants spoke about these but concentrated more on post-bushfire support, comparisons between recent and historic (e.g. 2007) fires, and the consequences that COVID-19 restrictions had on bushfire recovery. Generally, participants spoke about community support and business support interchangeably, highlighting the ways in which local business and community are interconnected.

Business operators expressed appreciation of any type of immediate support, particularly during and after the bushfires and during the early lock-down stages of COVID-19 transmission prevention when, for most, cash flow stopped immediately. Nevertheless, they identified many ways in which support, especially government support, could be improved for future events. Participants spoke about local support in ways that included federally or state government-funded organisations that have local or regional boards, committees or branches, such as Regional Development Australia, Tourism SA and Food SA. Like much of regional Australia, local business success is often interrelated, consequently many businesses spoke of their dependence on the success of other businesses in their area.

Pathways to recovery

Our study findings suggest that there cannot be a one-size-fits-all approach to disaster recovery because a) all places are different and b) different disasters affect different types of businesses unequally. Our study participants provided many examples of what they had learned through disasters, how they have changed their business activities to adapt to, and even thrive through, our current COVID-19 uncertainty.

They outlined how they are planning for a future with long and more frequent droughts, heat and bushfires (see Appendix 1). Regional Australian businesses need to be supported in their efforts towards recovery in the medium and long term, as well as the short term. The *Royal Commission Report* provides information and recommendations regarding 'what needs to be done, rather than how it should be done' (p. 33). An ecological model can be used to assist local communities plan how to develop business recovery pathways (see figure 1). We outline how an ecological model may be operationalised and provide recommendations which are grounded in our findings and triangulated with the relevant *Royal Commission Report* recommendations. We provide recommendations that are strength-based, according to what participants and our project advisory group members told us works, and that are feasible because they focus on identifying and strengthening existing structures and linkages.

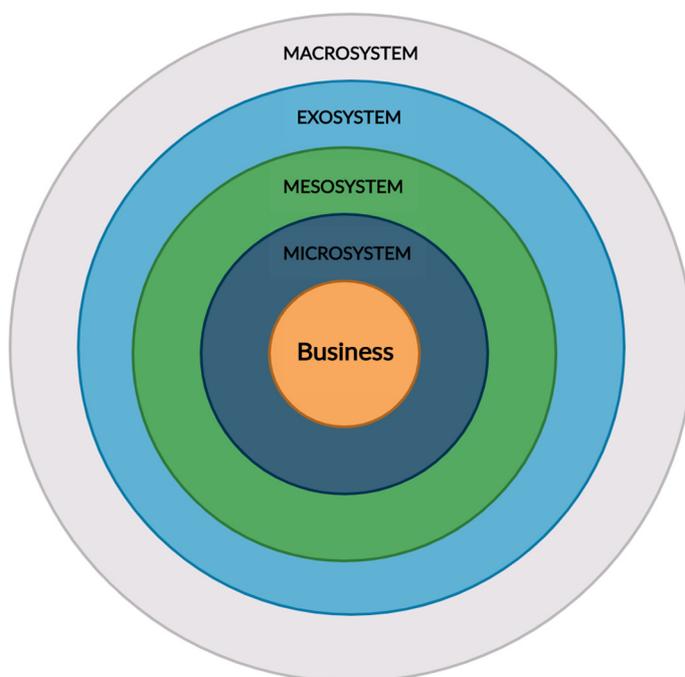


Figure 1. Ecological model

Using ecological systems theory enables us to conduct multi-system data interrogation which provides insights into the complex mix of supports that already exist in communities and to identify what types of supports, and the timing of these supports, would provide pathways for regional businesses to recover and thrive post-disaster, as well as promote business resilience in the future (e.g. see van Kessel et al., 2015). We conducted an interactive webinar with the case study site PAGs to explore solutions and the activities required to reach them using an ecological model to map how the different levels of support that have been identified by participants and the PAG members might link together in a coherent way that could be translatable to other regional contexts.

By understanding the **microsystem** (individual businesses' immediate contexts and daily linkages), we can see how and where linkages may best be operationalised. The **mesosystem** (local context such as local government and local community and business organisations) is where place-based activities occur that may then be supported by the exosystem. The **exosystem** is where multiple linkages occur that affect the business, such as linkages between local and state governments, local offices that are state or federally funded such as Regional Development Australia, state tourism authorities, banks and insurance companies. The **macrosystem** is where the broader social, economic and political context for the ecosystem as a whole is set - such as state and federal government policy and access to global markets.

Introduction

The escalating frequency, severity and scale of disasters and more frequent and severe epidemics and pandemics are threatening the economic and social fabric of regional communities (Binskin, 2020; Boyd et al., 2017; BOM and CSIRO, 2020; Fan, Jamison and Summers, 2018). The constant threat, and reality, of disasters, including epidemics and pandemics, poses risks to regional Australian economies, affecting a broad range of industry sectors and the communities in which they are located (BOM and CSIRO 2020; Fan, Jamison and Summers, 2018; RAI, 2014). Deloitte has recently revised its calculations of the economic effects of both action and inaction on climate change in Australia (Deloitte 2020). Deloitte's predictions suggest that no action on climate change will reap losses on the same scale as those caused by the COVID-19 pandemic, and worse, on an annual basis by 2055.

In this report, we use the term 'disaster' to refer to major flood, bushfire, drought and severe epidemics (e.g. dengue fever) or pandemics (e.g. COVID-19). Disasters such as droughts, floods, cyclones and bushfires occur regularly in Australia, resulting in devastating costs to households, individuals and communities (Australian Institute for Disaster Resilience, 2018; Howard, Blakemore and Bevis, 2017). The COVID-19 pandemic, declared by the World Health Organisation on March 12, 2020, is an extraordinary disaster. Not only is it different in terms of the nature, circumstances and impacts of the virus, it is characterised by profound changes to socio-economic activity and industry, leading to a worldwide recession (Sigala, 2020). Epidemics and pandemics have been shown to adversely affect businesses, particularly tourism, transport, retail sales and leisure activities, as people avoid contact with others (Smith, 2006). As stated in the *Royal Commission Report*, we suggest that the impacts of either can be very much influenced by 'what humans do and fail to do' (Binskin, 2020 p.20).

In terms of disaster recovery, geographic location is critical and local solutions for disaster mitigation are essential (Ireton et al., 2020). While business continuity in disaster-affected regions is vital to regional viability and economic recovery (RAI 2013), few studies have sought to learn from the accounts of those in the regional business sector (Australian Institute for Disaster Resilience, 2018). It is therefore crucial that regional communities, government and non-government organisations collaborate to develop place-based understandings of the appropriate types of assistance for short-, medium- and long-term recovery, reconstruction and sustainability of disaster-affected communities and businesses in regional Australia (Ireton et al., 2020). This study aims to contribute information that will help guide such collaboration.

This report is structured as follows. The literature review below provides an overview of disasters and business recovery in Australia and internationally. We then present an overview of our methods and an analysis of our findings in relation to our research questions. We then provide suggestions for the development of a pathways to place-based regional business recovery toolkit that could be translatable to other regional contexts.



The policy choices over the next 2-3 years are the choices that will shape the next 10-20 – this is the narrow and unforgiving window of time we all have to choose the change that will prevent a warming world, and the devastating economic consequences that come with it.
(Pradeep Philip, Deloitte, 2020)

Literature review

Introduction

The Black Summer (2019/20 in Australia) broke many records in terms of impact; 33 people were killed, over 3000 houses destroyed and almost 19 million hectares burnt (Filkov, Ngo, Matthews, Telfer, & Penman, 2020). Notably, the fires occurred during a period of extremely low rainfall and record-breaking temperatures (Filkov et al., 2020). The Australian Department for Climate Change recognises the increasing frequency and intensity of extreme weather events and the growing risk it poses to the built and natural environment (Cuthbertson et al., 2017, p. 42). There has been a shift in the conceptualisation and application of traditional disaster definition to developing, non-traditional threats (Schipper & Pelling, 2006).

While the number of fires and total area burnt in the 2019/20 fires was not atypical for South Australia, the number of houses and lives lost were higher than average because of the 'proximity to higher density population and associated economically valuable land uses'; 4 times higher for the lives lost and 10 times higher for houses destroyed (Filkov et al., 2020). Some of South Australia's worst bushfires started on Kangaroo Island on 20 December, 2019 from a series of lightning strikes; declared officially contained on 21 January 2020 after burning more than 210,000 hectares (Filkov et al., 2020). The impacts on households, individuals, businesses and the community have been catastrophic. Preliminary data suggests that it will take many years for the economy and infrastructure to recover and to restore vegetation and animal biodiversity (Filkov et al., 2020).

Only weeks into the bushfire recovery process, the COVID-19 pandemic struck. Australia's first COVID-19 case was confirmed in late January and in South Australia, early February. In mid-March, South Australian health authorities identified a small cluster of cases in the Barossa Valley, linked to overseas tourists visiting in the area (ABC News, 2020). On 30 March, the SA Government implemented restrictions in the region, closing schools, public parks and playgrounds, and businesses deemed non-essential and discouraging non-essential travel in and out of the region (The Leader, 2020).

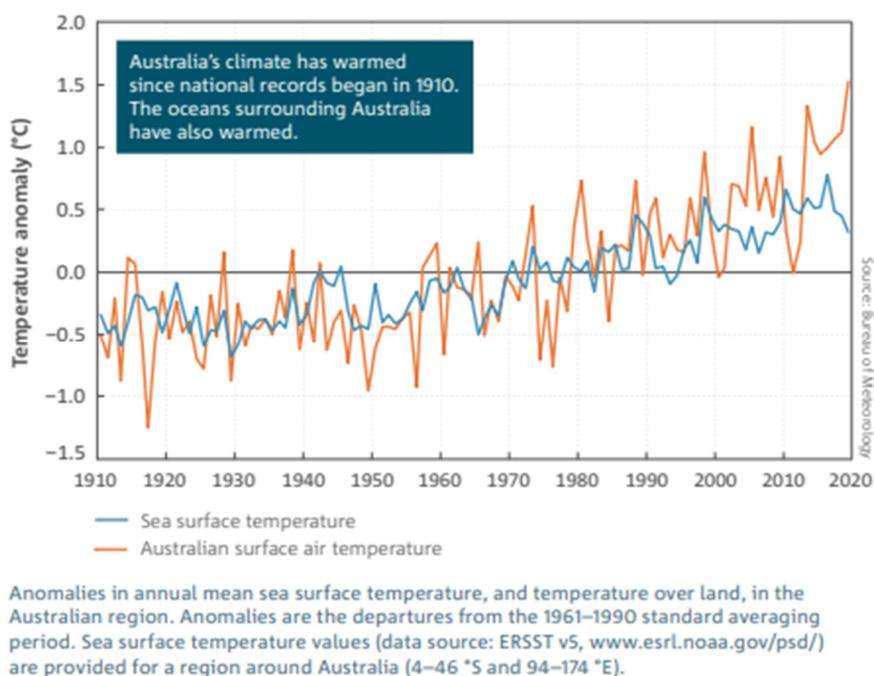


Figure 2. Australia's climate records 1910-2020. Source: BOM and CSIRO (2020) State of the Climate 2020, Bureau of Meteorology and the Commonwealth Scientific and Industrial Research Organisation, Commonwealth of Australia, Canberra

On 15 April, with no new cases recorded in the region since 31 March, measures were eased, and businesses could open but with tight restrictions. By the end of April, the Barossa was no longer categorised as 'high risk', however travel to the area was still discouraged. It was not until 20 May, with SA Premier Steven Marshall's announcement of a 'Roadmap to ease COVID-19 restrictions' in South Australia, that restrictions to gatherings and licensed premises started to relax, although physical distancing measures limited patron numbers. In November, with a new Adelaide cluster, the state introduced brief, severe restrictions and at the time of writing, the South Australian public continues to be subject to density and operational requirements to prevent virus transmission.

Effect of disasters, pandemics/epidemics on businesses

Until recently, there had not been an accepted method for measuring the economic costs of disasters; there remains little agreement on predicting future costs. Most predictions have been understated because they have not included the effects of climate change, for example Deloitte's (2016) estimate of an average of \$33 billion per annum by 2050. When the anticipated effects of climate change and the costs of risk mitigation are included, the costs are expected to be far higher (e.g. see Handmer et al., 2018; Fan, Jamison and Summers, 2018; Ladds et al., 2017). Deloitte has recently revised its calculations of the economic effects of both action and inaction on climate change in Australia (Deloitte 2020). Deloitte's predictions suggest that no action on climate change will reap losses on the same scale as those caused by the COVID-19 pandemic, and worse, on an annual basis by 2055.

Businesses operating in disaster-affected regions face a multitude of challenges that are complex and long term (Gibbs et al., 2016; RAI 2013). Major challenges include population displacement, resulting in difficulties in accessing and retaining reliable staff, high staffing costs and loss of competitiveness due to cost-shifting to communities (RAI 2013). Further, confusion and delays in insurance claim processes (Australian Institute for Disaster Resilience, 2018) plus contemporary 'just in time' supply chain management systems can result in shortages and cash flow problems. Put together, these can reduce businesses' earnings and capacity to make loan repayments, compounded by a lack of timely support from the governments through funding delays, arbitrary rules and rigid policies (RAI, 2013).

There are also many indirect impacts on businesses, for example limited access to, or loss of, supply chain linkages (Gibbs et al., 2016; RAI, 2013). Lenzen and colleagues' (2019) analysis of the 2017 Tropical Cyclone Debbie in QLD found that that industries and regions that were not directly affected by storm and flood damage suffered significant job and income losses throughout upstream supply chains. Such indirect effects 'stem from afflicted businesses being unable to supply goods and services and from their inability to acquire necessary production inputs from suppliers' (Lenzen et al., 2019, p.138). In addition to these short term direct/indirect impacts, businesses often suffer long-term impacts. For instance, less visible impacts such as trade disruptions that lead to lost income and its consequences often last longer than the more visible physical damages, such as bankruptcy and business closures (Australian Institute for Disaster Resilience, 2018). Similarly, long-term population displacement extends periods of downtime in trading or production, which can result in bankruptcy, forced business sales or closures, affecting long term business recovery (Gibbs et al., 2016; RAI, 2013). Small business owners also experience psychological trauma and distress, which, without appropriate support, may cause long-term disruption to their business (RAI, 2013).

In addition to these general challenges, other factors may influence the ways businesses are affected and their recovery processes, including the region in which a business is located, the size of the business, the type of business/product, target market and supply chain dependency. Studies have shown that the effects of disasters vary across industries. Lenzen et al.'s (2019) study indicated that tropical Cyclone Debbie specifically affected industries connected to tourism, including accommodation, restaurants, recreational services and retail trade. Recently, while examining the effect of COVID-19 on small

businesses, Bartick et al. (2020) identified that businesses in retail, arts and entertainment, personal services, food services, and hospitality are likely to have more disruption than industries in finance, professional services, and real estate related businesses. Further, Seetharaman's (2020) study found that industries such as banking and media are less disrupted due to the complete digitisation of their services, highlighting that they are 'fairly insulated from the negative business impacts' of COVID-19'.

A large body of evidence suggests that business characteristics influence recovery. Small businesses are historically more vulnerable to disasters and likely to face more significant impacts compared to large businesses (Venkateswaran et al., 2014; Tse et al., 2006). Tourism and creative industries have been identified as major employers in regional Australia and most at risk of disruption by the COVID-19 policy response (RAI 2020). However, 'economic impacts will not be evenly distributed across the country and across industries' (RAI, 2020).

According to Venkateswaran et al. (2014, p. 334) 'business's resilience in recovering from the negative impact(s) of mega scale disasters is influenced by its vulnerability'. Focusing on the United States, the authors found that small businesses in regional areas often have smaller financial reserves, tend to be localised in a single geographic location, are more likely to have inadequate levels of disaster insurance coverage and are less likely to have a disaster recovery plan as part of their business continuity planning than their larger counterparts (Venkateswaran et al., 2014). Tse et al.'s (2006) findings indicated that during the SARS outbreak, few Hong Kong restaurants had crisis plans, and that most were small businesses. In addition to size, other characteristics can influence business recovery processes. For example, in terms of tourism, COVID-19 has had different impacts on tourism operators depending on business characteristics, including the nature of the tourism sector (intermediaries, event organisers, transportation, type of accommodation or attraction provider), size, location, management and ownership style (Sigala, 2020, p. 319).

Further, different disasters affect sectors differentially. Ulubasoglu and colleagues (2019) investigated the effects of 47 major floods and 36 major bushfires in Australia on each state's gross value added (GVA) over the period 1978–2014. While comparing the effects of floods and bushfire, the authors found that both types of disaster affect different sectors in different ways; floods adversely and persistently affect agricultural outputs, mining, construction and financial services sectors whereas bushfires adversely impact the output of three of the service subgroups (construction, transportation, and the financial and insurance sectors). Based on these findings, the authors recommended the establishment of different policy prescriptions for different types of disasters (Ulubasoglu et al., 2019).

Disaster management and recovery

The National Strategy for Disaster Resilience, which was adopted by the Council of Australian Governments (COAG) in February 2011, defines disaster resilience as a 'shared responsibility for individuals, households, businesses, communities and governments', outlining the Strategy's purpose 'to provide high-level guidance on disaster management for federal, state, territory and local governments, business and community leaders and the not-for-profit sector' (Australian Institute for Disaster Resilience, 2018, p.2). According to the Strategy, businesses affected by disaster can be assisted by various support systems, including government and the commercial and community sectors (Australian Institute for Disaster Resilience, 2018). In terms of financial assistance, the primary mechanism for support for disaster-affected businesses is through Natural Disaster Relief and Recovery Arrangements (NDRRA), a cost-sharing mechanism between states/territories and the Australian Government.

In the COVID-19 context, the federal government announced the provision of \$1 billion to severely affected regional communities and businesses, in addition to a range of stimulus packages (The Treasury, 2020). Prior to COVID-19, disaster-recovery financial assistance included Disaster Recovery Allowance

(DRA), which provides short-term (13 weeks) income support to eligible primary producers and sole traders who experience a loss of income as a direct result of a disaster. The Australian Taxation Office (ATO) supports taxpayers and businesses through its disaster response framework, including provisions to extend timelines for meeting tax obligations (Australian Institute for Disaster Resilience, 2018). State government agencies also provided several avenues of support (for a list, see Appendices 2 and 3).

From a commercial support perspective, insurance should cover many of the risks faced by businesses in relation to loss or damage caused by disasters, including coverage for buildings, vehicles, equipment, stock, plant, and fixtures and fittings, and business interruption (Australian Institute for Disaster Resilience, 2018). Other sources of assistance available for disaster-affected businesses include public appeals, bank support (e.g. the suspension of mortgage/loan repayments and provision of financial counselling and advice), community support (volunteering and donations) and professional support, for example livelihoods programs that assist affected people and groups to explore alternative opportunities through learning new skills and developing new markets (Australian Institute for Disaster Resilience, 2018).

In addition to external support systems, 'disaster resilience' also emphasises individuals and businesses taking an active role in disaster preparation (Australian Institute for Disaster Resilience, 2018). The role of community support and social capital (i.e. 'formal and informal networks and connections in societies') in building community resilience to disasters is well documented (Howard, Blakemore and Bevis, 2017; Deloitte Access Economics, 2013). Ungar's (2013) seminal work on the development of community resilience in relation to trauma has informed much of the studies investigating community resilience in Australia, including the National Strategy for Disaster Resilience (2018).

Events held in rural communities in the wake of disasters can play an important role in community disaster recovery. Sanders et al. (2015, p. 91) focused on disaster recovery events held after the Black Saturday fires in Victoria in 2009, concluding that events:

...serve many functions including ameliorating the initial economic impacts of the disaster, through assisting with the rebuilding of infrastructure and business recovery, providing opportunities for grieving and healing, community bonding, building social capital and identity formation, and regenerating the environment, thus helping to create resilient communities.

Attending events can 'help fill the gap in knowledge and support and thus assist recovery and make rural communities more prepared and less vulnerable when these disasters occur' (Sanders et al., 2015, p.83). Further, the authors highlight the way events play a social function, 'bringing communities together and providing men in particular with a forum for grieving and displaying emotion' – an aspect that has often been overlooked in rural disaster recovery (Sanders et al., 2015, p.93). While these examples are not specific to business, business recovery is largely considered as a partnership effort and it is likely that community support and networks may well play a major role in the disaster recovery process of businesses (Marshall & Schrank, 2014).

Applying ecological systems theory, Van Kessel et al. (2015) explored resilience within the context of disasters following bushfire and flood events in Victoria, Australia. The researchers analysed 19 semi-structured interviews with people who experienced the 2010/11 Victorian floods and 20 witness statements from people who experienced the 2009 Black Saturday bushfires. The study found that several internal and external resilience focused interventions including access to resources, a sense of rebuilding, existing and new network connections, a sense of community, information guiding planning and decision making, information supporting to manage emotions, face-to-face communication

strategies (e.g. public events that restore or create new social connections), rebuilding capacity (e.g., volunteers, donations) played an influential role in improving individual resilience to disasters.

There is some evidence that primary producers perceive that developing self-reliance, independence and personal accountability contributes to making more conservative or risk-mitigating decisions for their business and enables them to feel less reliant on outside assistance (e.g. government and non-government sources) (Drew et al., 2018; see also Smith et al., 2015). Drew and colleagues (2018) examined four case studies on the resilience of primary producers and farming communities that have been affected by different types of disasters in South Australia (Pinery fire, 2015; Gawler River flood 2016; Riverland hailstorm 2016 and Sherwood fire 2018). They identified that, although the Primary Industries and Regions South Australia (PIRSA) offered support, most primary producers affected by fire used their own social, physical and financial resources to recover from these disasters.

Similarly, Smith et al. (2015) interviewed 41 livestock producers from rural South Australia who were affected by multiple bushfires in 2014. They found that the livestock producers were highly self-sufficient and equipped to defend their properties against bushfire. The participants described incorporating bushfire preparation into their routine practices of property risk management, including property maintenance (e.g. creating fire breaks, maintaining low fuel load around buildings), infrastructure (e.g. mobile fire units, tanks, pumps), and providing safe paddocks for livestock (e.g. minimising areas of dry grass, timber or other fuel) (Smith et al., 2015).

There is a risk, however, that an appearance of individual resilience in regional communities may not tell the full story. The suicide higher rates among non-metropolitan Australian men than their metropolitan counterparts suggest that there may sometimes be cracks under a strong façade (Caldwell, Jorn and Dear, 2004). Using Ungar's (2013) definition of resilience (see box), we recognise that resilience is 'better understood as an ecologically dynamic process' (van Kessel, MacDougall and Gibbs, 2015, p. 679).

Recent studies have shown that businesses are developing strategies to manage disasters and pandemics, such as diversification of market/product or shifting business models (Seetharaman, 20020). In their examination of the SARS crisis response of restaurants in Hong Kong, Tse et al. (2006) illustrated that through the combination of cost reduction (i.e. minimising running expenses) and revenue enhancement strategies, several restaurants were able to successfully return a profit despite the adverse influence of the outbreak. During the SARS crisis, many restaurants changed their marketing mix by offering take-away or delivery services to those customers who were reluctant to dine out (Tse et al., 2006). Recently, in response to the COVID-19 pandemic, many businesses have been shifting their business models (Seetharaman, 2020). Businesses are widely recognising that, in order to survive during COVID-19, they need to be able to adapt to 'the new ecosystem' (Seetharaman, 2020, p.4).

A business's capacity to make such changes under the pressure of disaster (in this case, COVID-19) has been coined as the ability to 'pivot'. Nevertheless, at a global level, many businesses have been resisting economists' expectations that they should pivot, favouring 'downshifting' – watching and waiting and making small changes – over pivoting, with success (*Harvard Business Review*, 2020).

Michael Ungar defines resilience as:

- (1) a quality of the environment and its capacity to facilitate growth;
- (2) both the same and different within and between populations, with the mechanisms that predict positive growth sensitive to individual, contextual, and cultural variation; and
- (3) the impact that any single factor has on resilience differs by the amount of risk exposure, with the mechanisms that protect against the impact of trauma showing contextual and cultural specificity for particular individuals (2013, adapted from quote p. 262-3).

Regional support structures

Regional Development Australia

In recognition that there needs to be high level support for place-based development to occur, in 2007 the Rudd Labor Government established 55 Regional Development Australia (RDA) committees across Australia. These committees operate as independent not-for-profits tasked with playing a strategic role in regional development policy and implementation (Ward, 2020; RDA, n.d.). Each is established as a partnership between their relevant state, territory and local governments to develop and strengthen the growth and development of regional communities of Australia. Each of these RDA committees encompasses a number of local government areas and is expected to ensure local empowerment and decision-making by providing collaborative leadership (RDA, n.d.; Beer and Lester, 2015). While working with a diverse group of stakeholders, RDAs facilitate collaboration between various stakeholders, undertake strategic planning, promote innovation, develop local knowledge and link portfolios (Buultjens et al., 2012).

In South Australia there are eight RDA boards covering all areas of the state including Adelaide Metropolitan; Adelaide Hills, Fleurieu and Kangaroo Island; Adelaide Metropolitan; Barossa, Gawler, Light, and Adelaide Plains; Far North; Limestone Coast; Murraylands and Riverland; Eyre Peninsula; and, Yorke and Mid North (see figure 3). Each RDA Board delivers a range of services and programs in collaboration with and joint funding from the three tiers of Australian Government. The strategies, functions and structures of these RDA Boards varies between different regions in order to reflect the local contexts and priorities of each region (Buultjens et al., 2012). Below, we outline some of the functions of the two RDA Boards that were relevant for this study (please see Appendix 4 for further information that the RDA Boards RDA Project Advisory Group members provided to the case study sites in response to the Black Summer bushfires and COVID-19, supplied by Project Advisory Group members).

RDA Barossa, Gawler, Light and Adelaide Plains (RDA BGLAP) focusses on attracting investors, forging collaborations between businesses and enhancing business performance in the region (RDA BGLAP, n.d.). RDA BGLAP also provides a range of programs and services for businesses. It offers free, confidential and tailored support to help to launch a new business. Its Business to Business (B2B) program connects skilled service providers and consultants (e.g. marketers, web designers, human resources and information technology consultants, accountants, tourism advisers and business planners) with local Small and Medium Enterprises (SMEs) and assists regional business to enhance their business performance.

RDA BGLAP also assists businesses with their investment decisions, business expansion plans and grants (e.g. addressing the funding criteria) (RDA BGLAP, n.d.). During COVID-19, RDA BGLAP has been providing additional services to support regional businesses to find pathways through the crisis. For example, B2B services extended support for businesses by specifically assisting with cash flow management, E-Commerce and identifying and accessing government support packages. Further, they updated their website with links and resources related to COVID-19, including general COVID-19 information (e.g. support packages for SA, Revenue SA relief packages, state government COVID-19 restrictions), information sources for various stakeholders (such as job seekers, employers, small businesses, creative industries, primary industries, sole traders etc.). They have established a dedicated list of several mental health and wellbeing support services (e.g. Mental Health Triage, Beyond Blue, Lifeline Australia, Regional Access Program, Assisting Farmers Wellbeing, Barossa Cares) to support businesses and the broader community who may be struggling to cope with COVID-19-related stress and anxiety (RDA BGLAP, 2020).

RDA Adelaide Hills, Fleurieu and Kangaroo Island (RDA AHFKI) on the other hand focusses on four broad, high-level strategies: (1) identify opportunities to develop the region’s economy and grow local jobs; (2) facilitate access to public and private funding; (3) promote and deliver government policies and programs; and (4) provide regional development advice to all stakeholders (RDA AHFKI, n.d.). Like RDA BGLAP, it also provides a platform for regional businesses to connect with international trade partners, financial markets and potential investors.

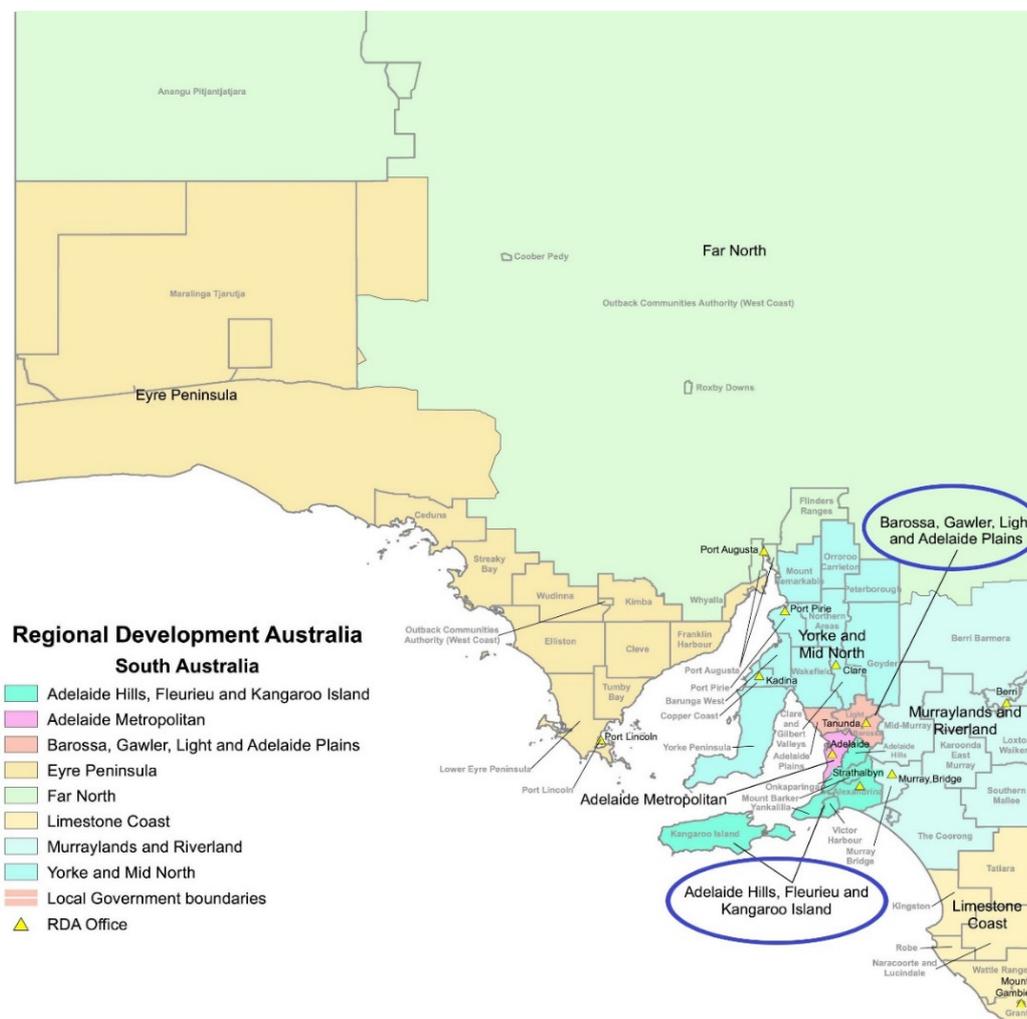


Figure 3. Regional Development Australia, South Australia, map with 2 case study sites highlighted. Adapted from RDA, SA map, <https://www.rda.gov.au/my-rda/sa>

During the Black Summer bushfires in the Adelaide Hills and Kangaroo Island, and since the COVID-19 pandemic started, RDA AHFKI has provided various additional resources and website links for businesses seeking assistance and information, including government supports (e.g. financial counselling, Australian Government business website link, Government of SA business website link), various assistance guides (e.g. National Covid-19 Coordination Commission Checklist for Business; Deloitte Small Business Roadmap for Recovery & Beyond: Workbook; Australian Chamber of Commerce and Industry Government Assistance Guide; Information for Workplaces by Safe Work Australia; Trade Mark COVID-19 Helpline), industry specific resources (e.g. SATC Tourism Response Portal, PIRSA COVID-19 and Primary Industry, Livestock SA, Sole-traders Fact Sheet) and mental health support (e.g. Lifeline, Beyond Blue); business survival tips (e.g. Self-employed survival tips). In addition, RDA AHFKI has developed a grant assistance and grant-finder site which is updated by including all relevant grant opportunities (RDA AHFKI, 2020).

South Australia Tourism Commission

The major state government agency that supports South Australian tourism businesses in regional areas is the South Australian Tourism Commission (SATC). SATC was established under the South Australian Tourism Commission Act 1993 with the major purpose of 'promoting South Australia as a tourism destination and further developing and improving [...] state's tourism industry' (SATC, n.d.). In terms of regional tourism development, SATC assists with funding and works closely with regional tourism organisations. Currently, SATC is supporting and working closely with the lead agency for Kangaroo Island's tourism sector, KI Tourism Food Wine and Beverage Association (KITFWBA), assisting the tourism sector to navigate through bushfire recovery and COVID-19 restrictions (*The Islander*, 2020).

In response to COVID, SATC has developed various support systems for tourism and hospitality businesses to navigate through the crisis and to rebound beyond COVID-19, once the recovery process commences. For example, SATC established a Tourism Industry Development Fund (\$20 million) to assist in the COVID-19 recovery of regional tourism by encouraging regional operators to improve and diversify so they can attract more visitors and grow higher returns on their offerings (SATC, 2020). Through initiating a 'Resilience and Rebound Program', SATC has collaborated with Deloitte to develop a series of fact sheets to build capability and resilience in South Australia's tourism and hospitality industries. Each fact sheet is organised under three key themes 'respond, recover and thrive' with the aim of building resilient businesses (SATC, 2020). Further SATC recently hosted a series of regional engagement sessions with key representatives across each of South Australia's 11 regions with the aim of obtaining insight into the 'impacts of the COVID-19 and to help develop the forward plans needed to help the industry recover' (*The Islander*, 2020).

Primary Industries and Regions South Australia

Primary Industries and Regions South Australia (PIRSA) is a state government agency that aims to grow primary industries and drive regional development (PIRSA, 2019). The agency works with regional stakeholders to inform the development of government policy, and to promote improved regional economic and social outcomes. They work closely with local organisations such as RDA Boards and local councils to identify projects and initiatives and to guide them through government decision-making and grant funding processes. Their functions cover various regional supports including regional policy, regional strategy, regional coordination and grant programs (PIRSA, 2019).

While collaborating with other government agencies and non-government organisations, PIRSA has been providing support for primary producers to recover and build resilience during and after disasters including drought, bushfire and flood. Following disasters such as the Pinery fire in 2015 and the Gawler River flood in 2016, PIRSA provided support such as technical advice on soil erosion, assistance with donations, distributions, and recovery grants, facilitation of networks between support agencies and primary producers and participation in the local recovery committee (Drew et al., 2018). Primary producers affected by the Black Summer bushfires were able to apply for various grants, including primary producer clean-up grants (up to \$75,000), bushfire recovery grants for apple producers (up to \$120,000 per hectare to assist with clean up and recovery activities) and concessional loans (up to \$500,000 for bushfire affected primary producers and businesses). Similarly, in order to deal with COVID-19 restrictions, PIRSA has also been providing resources and information links to primary industry related businesses (PIRSA, 2020).

Despite the existence of various support systems and disaster recovery management and business resilience guidelines that are available for businesses, studies point to several gaps in the policy and support systems. First, there remain challenges to accessing grant schemes and establishing eligibility. For example, during COVID-19, although government grants and financial assistance to businesses played an important role in ensuring the short to medium-term solvency of small businesses, many

businesses have struggled to access the assistance, citing bureaucratic difficulties and problems establishing eligibility (Bartick et al., 2020). Second, most of the disaster recovery plans incorporate short-term direct impacts of disasters, often ignoring significant indirect impacts such as supply chain disruptions or intangible losses, which make it difficult for businesses to recover in the long term (Lenzen et al., 2019; Ladds et al., 2017; Drennen et al., 2016). Long-term recovery processes therefore need to be considered in disaster planning. Third, small to medium-sized businesses often have a low or unstable cashflow, hence they are particularly vulnerable during and following crises (Donthu and Gustafsson, 2020). Emerging evidence suggests that the COVID-19 pandemic impacts on small businesses are significant (Bartick et al., 2020). Bartick et al. (2020) surveyed over 5,800 small businesses, finding that in addition to mass layoffs and business closures, many small businesses are financially fragile (limited access to cash) and rely on federally-subsidised aid or business loans. Finally, the level of hazard mitigation and preparedness is found to be generally very low amongst businesses (Tierney, 2006; Xiao & Van Zandt, 2012). Specifically, insurance cover for damages (direct cost) and business interruption (indirect cost) is limited, particularly for small and medium sized businesses (Ladds et al., 2017).

Contextualising regional Australia

The notion of a unitary 'regional Australia' encompassing areas dominated by agricultural production and mining and defined in relation to metropolitan cities can no longer guide regional policy (Ward, 2020). The diversity and differences between and within regional economies and the way in which communities and individuals typically tend to identify with locality is becoming increasingly recognised (Ward, 2020). Regions are not only diverse, 'they are constituted in relation to cities and other regional, rural and remote centres' (Ward, 2020, p. 3). Since the 1970s, the state's role in regional economies has been substantially reconfigured. Yet, tariff cuts, the liberalisation and marketisation of regional economies, governance and communities, and the retraction of the state from service provision and developmental services has reshaped the state's role 'from protecting sectors and communities, to protecting markets' (Ward, 2020, p. 4). Since the first Rudd government in 2007, successive federal governments have emphasised a 'more equitable "deal" for regions', however the principles of neo-liberalism (i.e. the retreat of the state from economic and political interference) continued, emphasising 'regional "self-sufficiency" and self-determinism' (Ward, 2020, p. 5).

In the wake of the 2008 Global Financial Crisis, the Rudd Government re-introduced 'place-based thinking' to federal policy rhetoric (Ward, 2020). Nevertheless, what was implemented more closely resembled 'localism', which focuses on 'promoting self-sufficient socio-economically viable regional communities' (Hogan & Young, 2013, p. 326). Critical to the success of localism is the existence of significant local assets that can be developed by industry (e.g. tourism, agriculture, water, minerals) and 'the capacity of communities to secure industry partners to create and sustain such local economic development' (Hogan & Young, 2013, p. 326). Resources are not spread evenly across all regions, therefore in some areas the capacity to maintain growth is limited (Hogan & Young, 2013). Hogan and Lockie (2013, pp. 451-452) point to the limits of localism, particularly in a context of climate change and other forms of environmental degradation – in which 'human carrying capacity of given spaces is finite' – and global market economies, which highlight that 'certain forms of production are also finite as a way of providing for their communities'.

In light of the Black Summer fires, the *Royal Commission Report* recommends that more policy attention should be directed at increasing the capacity of local communities to respond to disaster events. In particular, it emphasises that this is because 'Indigenous land management draws on a deep knowledge of Australia's landscapes' and that 'cultural understandings of Country, is tailored to specific places, and engages local people in development and implementation' (Binskin, 2020 p. 21).

Adopting place-based approaches provides avenues for providing equitable support structures. It is crucial to be mindful, however, that there are invariably multiple and often opposing or competing cultural, economic and socio-political interests in a place (Harrison 2014). Mechanisms need to be established early to address governance challenges to establishing and maintaining genuine place-based approaches (OECD, 2019). Governance challenges may result from inattention to the development of local leadership, including a lack of local and high-level Indigenous political representation (OECD, 2019). Governance challenges must therefore be addressed to ensure unequal power and knowledge relationships are adequately managed. Drawing on the work of Bentley and Pugalis (2014), a typology of place-based development approaches, of which elements may be relevant for this study is defined below:

1. People-centred models

These models have people as the main focus, for example in population health campaigns, job seeker assistance (including encouragement and incentives to relocate for work). These approaches may also include area-based local development. While these may include some degree of community development, they may not always allow a transfer of power and decision-making to local people.

2. Active regional development

This type includes decentralising approaches to development by relocating enterprises from affluent to deprived regions. These approaches may not consider the local context for their relocation. More recently, these approaches have included public-private partnerships with a view to being place-based.

3. Transformative

Transformative approaches mobilise the endogenous potential of a place and obtain broad local stakeholder engagement. Central to this approach is co-design with local people and accounting for geographic, social, cultural and institutional context. Transformative place-based approaches facilitate transparent knowledge and power exchange, foster place-based leadership and actively pool resources – from within and outside spatial boundaries.

Establishing the effects of disasters and the recovery processes for businesses is complex and challenging. Only a small number of Australian studies have investigated the impact of disasters on businesses and even fewer have explored the effects of epidemics or pandemics. Our review of the literature reveals the importance of an effective, place-based business recovery process that considers contextual factors such as location, type of disaster, business types, pre-existing regional economies and businesses' access and capacity to use available support systems. Moreover, it is critical to assess the long-term impacts of disasters on businesses (Bourdeau-Brien and Kryzanowski 2017). Intergovernmental policy and funding aim to foster both business and community recovery, yet there seems to be a lack of system-level capacity to support and embed business recovery and resilience over the longer term in disaster-affected regions (Drennan et al., 2016; McGowan, 2014).

This project brings together the literature and contrasting case studies to identify the pathways through which regional businesses and the communities in which they are located can plan for, recover from, and develop long-term sustainability that is as disaster resilient as possible.

Research questions

1. What are the short-, medium- and long-term effects of diverse disasters/pandemics on businesses and the effects of different types of community, government and corporate support on business recovery?
2. Using COVID-19 and bushfire policy responses as examples, what timing and nature of support interventions have had the greatest impact on affected businesses?
3. What are the best ways to co-ordinate the activities of different levels of government, with community, non-government organisation and corporate support to assist with the short-, medium- and long-term impacts of disasters?

Methodology

In this section, we describe the methods we are using to answer our research questions, enabling a place-based examination of the effects of and recovery pathways from drought, bushfire and the COVID-19 pandemic. Disaster-related research requires researcher reflexivity and best practice. It should be co-designed with key stakeholders to ensure the research is conducted ethically (i.e. beyond ethics committee requirements); is relevant for communities; aims to make a difference; and does no harm (Gibbs et al., 2014; 2016; 2018). Researchers in this space should also practice political reflexivity because of competing political agendas that may seek to influence researchers and/or participants (Gibbs et al., 2014). We designed our methods explicitly to build-in co-design and researcher reflexivity by establishing Project Advisory Groups at each case study site before commencing data collection.

Case study research

Case study sites for this project have been selected based on a matrix developed by RAI to ensure that policy-relevant findings can be derived from research across the broadest possible types of industries, geographic regions, time-frames since the events, communities (i.e. population size and demographics), contexts (e.g. COVID-19 only or recent disaster plus COVID-19) and local leadership. The University of South Australia research team included two South Australian case study sites. The case study design was intentionally selected to elicit rich data that will answer the research questions (Baum, 2008). We selected two regions: the Barossa Valley and Kangaroo Island (see figure 3). We obtained ethics approval from an NHMRC approved human research ethics committee and included distress and COVID-19 protection protocols in our study design.

Case study sites - South Australia:

1. **Barossa Valley:** In March 2020, the Barossa Valley was the only South Australian region outside of Adelaide to experience a COVID-19 cluster, resulting in the immediate closure of businesses deemed non-essential, including cellar-door, tourism and hospitality businesses, with state-wide restrictions only easing in late May. The Barossa Valley is one of South Australia's premier wine regions, attracting local and international visitors. The Barossa Valley region was already experiencing a severe drought before the COVID-19 pandemic. This case study documents the experiences of business owners and operators in the Barossa Valley, including their short-term recovery needs and pathways and their anticipated medium- and longer-term recovery and preparation for future disaster events.
2. **Kangaroo Island:** Between December 2019 and January 2020, bushfires raged across Kangaroo Island, initially from a series of lightning strikes at the western end. The fire scar covers more than 210,000 hectares (45% of the island). Kangaroo Island's economy relies on a mix of agriculture, tourism, hospitality and creative industries. The island is famous for its Ligurian bees, and being the purest strain in the world, is officially a Ligurian bee sanctuary. Just weeks into the bushfire recovery process, which entailed intensive tourism campaigning, the island was effectively closed to visitors to prevent COVID-19 transmission. The Island is considered remote because it is only accessible by sea or air. This case study will provide insights into business owners' and operators' experiences of recovery from historic and recent disasters, including drought, bushfires and COVID-19 in a remote context. The case study will contribute to understanding the constraints regional businesses face in the recovery process from multiple disasters, as well as what works well, including appropriate and timely support.

Participants

Project Advisory Groups

- We established Project Advisory Groups (PAGs) comprising key representatives at each case study location (Barossa Valley and Kangaroo Island). Each PAG comprises members from: local government, locally based NGOs, local tourism authorities and relevant Regional Development Australia committees.
- PAGs were established to develop local approaches to the study including interview guides, to provide their insights into the effects of disasters at their case study sites, to assist with interview participant recruitment, and to provide their views on our analysis of interview data and their ideas for place-based recovery pathways.

Interviews - Business owners and operators:

- Our interview participant sample comprised business owners and operators in the Barossa Valley and Kangaroo Island that have been differentially affected by disasters, including drought, bushfires and COVID-19.
- We conducted semi-structured interviews with business owners and operators from both case study sites to obtain information about their business-related experiences of the effects of disasters, support systems and recovery pathways (short, medium and long term), preparation for future disaster events and the extent to which businesses and their communities changed their practices following their experiences of past disaster events to prepare for future events (for interview guide questions, see Appendix 5). The duration of the interviews ranged from 90 to 180 minutes. We digitally audio-recorded interviews, which were professionally transcribed, and took field notes. At the conclusion of interviews, we discussed findings and compiled interview summaries.
- We invited participants to review their transcripts and immediately commenced using pseudonyms to protect participant confidentiality.

Participant recruitment

Project Advisory Groups

- We compiled a list of potential participants for advisory groups by searching relevant local authorities' websites and disaster-relevant media releases, from which we shortlisted. The shortlisted participants' publicly available contact details (email/phone number/postal address) which we obtained from the relevant organisational websites.
- We then contacted potential participants by email/phone to invite them or their delegate to join the relevant PAG and emailed the project information pack (information sheet and consent form).

Interview participants

- PAG members identified potential participants and the research team shortlisted a participant sample to ensure gender balance and business diversity within each case study site. The local PAGs sought consent from potential participants for us to contact them to invite their participation.
- We emailed each potential participant the project information pack (information sheet and consent form), inviting them to participate in the study. Participants arranged suitable times and locations for interviews. We obtained formal consent from each participant at the time of their interviews.

Analysis

We analysed data using the *Framework* method (Ritchie et al., 2003; Ritchie, Spencer 1994), and Bronfenbrenner’s Ecological Systems Theory. *Framework* entails a process of familiarisation, developing a thematic framework, indexing, charting, mapping and interpretation. It offers a useful way to systematically manage and interpret large amounts of data, particularly for applied policy research. We digitally audio recorded all interviews, which were professionally transcribed. The research team developed a coding framework based on the research questions and emergent themes and double-coded four transcripts until reaching a consensus for a coding framework (see Appendix 1).

We coded interview data using NVivo 12 Plus, a computer assisted qualitative data analysis software (CAQDAS) program. Using CAQDAS has several benefits, including increased speed in analysing the data, a more consistent and rigorous approach, ease in linking data and ease in identifying recurring concepts and themes (Ritchie et al., 2013). After initial coding, we used Bronfenbrenner’s ecological systems theory (1981; 2005) to analyse the case study data to answer our research questions. Ecological systems theory enables exploration of the microsystem (individual businesses’ immediate contexts and daily linkages), mesosystem (local context such as local government and local community and business organisations), exosystems (multiple linkages affecting the business, such as linkages between local and state governments and insurance companies) and macrosystem (the broader social, economic, historical and political context such as state and federal government policy and access to global markets).

Barossa Valley	Business type	Disaster type	Kangaroo Island	Business type	Disaster type
Alex	Viticulture	Drought, COVID	Sam	Accommodation	Fire, COVID
Liam	Viticulture	Drought, COVID	Anna	Accommodation	Fire, COVID
Jessica	Accommodation	COVID	Sophie	Tourism	Fire, COVID
Sarah	Artisan - goods	Drought, COVID	Derek	Tourism	Fire, COVID
Brandon	Artisan food/beverage	-Drought, fire, COVID	Justin	Tourism	Fire, COVID
Danielle	Artisan food/beverage	-Drought, COVID	Nathan	Hospitality	Fire
Stephanie	Professional services	Drought, fire	Charlotte	Primary produce/retail	Drought, fire, COVID
Ashley	Professional services	COVID	Fred	Primary produce/retail	Drought, fire, COVID
Lauren	Hospitality	Drought, fire, COVID			
Aaron	Retail	Drought, COVID			

Table 1: Interview Participants: pseudonym, business type and disaster type.

We used Bronfenbrenner's extended model which includes Process-Person-Context-Time (PPCT): an ecological systems theory that enables an in-depth exploration of the individual experience and development over time, for example, the ways in which individuals may build resilience and 'remould' systems (Bronfenbrenner 1981). Using ecological systems theory enables multi-system data interrogation which provides insights into the complex mix of supports that already exist in communities and to identify what types of supports, and the timing of these supports, would provide pathways for regional businesses to recover and thrive post-disaster, as well as promote business resilience in the future (e.g. see van Kessel et al., 2015).

Findings

We conducted 16 interviews with 18 participants: 10 interviews in the Barossa Valley in person or by Zoom and 6 interviews in person with 8 participants on Kangaroo Island (see table 1). Both case study sites are dependent on a mix of primary production, tourism, hospitality and creative industries. Participants owned and/or operated a range of business types, including cellar door, wine makers and merchants, tourist attractions, tourism operators, accommodation, artisans (e.g. brewer and high-end maker), retail, beekeepers and hospitality (food and beverage service). The participants' accounts provided a broad range of perspectives and experiences of disasters and support as well as some ideas about pathways to recovery.

We have structured our findings according to our research questions. The first two questions we have answered using our thematic framework that we developed based on our *a priori* questions and emergent themes (see Appendix 1). We have approached our third question, which relates to contributing to the development of a pathways to recovery toolkit, by interpreting our data according to an ecological systems model.

Effects of disasters on businesses

In this section, we outline the effects of disasters on participants' business operations and ways in which they managed these effects. Our findings suggest that, in line with much of the literature, businesses are affected differently depending on several factors, such as the type and severity of the disaster and their individual business characteristics (for a snapshot see table 2). Barossa Valley participants described experiencing drought in their region for at least two years at the time the study, while Kangaroo Island participants had been experiencing drought for about four years. Most of the participants' businesses had been directly or indirectly affected by drought. Effects included reduced, and/or more expensive supplies, or a reduced demand for their goods in recent years. Retail and professional services described a reduced demand from locals for their goods because of the generalised community effects of primary producers having less disposable cash.

All of the Kangaroo Island participants had been directly or indirectly affected by the 2019/2020 fires. Two businesses had been razed and others were indirectly affected. Being heavily reliant on international tourists, both Kangaroo Island and Barossa Valley participants were affected by a reduction in travellers to Australia because of the enormity of the 2019-2020 fires, well before COVID-19 stopped international travel. Participants at both case study sites expressed concern about the effects of international media on their local tourism and therefore their businesses, whether or not there were local disasters. Barossa Valley participants spoke about the effects on their businesses because of the reduction in international tourists generally and because of a particular synergy between visitors to Kangaroo Island and the Barossa. Stephanie's account below was typical regarding how businesses that relied on international tourism, directly or indirectly, were affected:

There is no one coming to the Barossa because of bushfires; yes, my business is highly affected. [...] My niche is tourism, wine, hospitality and this is a wine tourism region. [...] I talk to a lot of tourism businesses and they told me they had lost bookings [...] because a lot of people that were coming to stay with them were either going to Kangaroo Island afterwards or coming here after [...]. There is a synergy there and [...] it's unlike other industries and I think we are kind of in a bad situation where we can't get international tourists (Stephanie).

Participants described a variety of ways in which their businesses had been affected by COVID-19, including the Australian and South Australian public health responses to reduce its transmission. Participants at the two case study sites had contrasting experiences of COVID-19. The Barossa Valley experienced the largest regional South Australian cluster and very early on in Australia's general experience of the pandemic. COVID-19 followed directly after the Kangaroo Island bushfires, which has meant that the bushfire recovery process has been severely interrupted.

Several participants spoke about the effects of climate change on disasters. Sam, whose business was razed, provided comparisons between the 2007 and 2019-2020 fires on Kangaroo Island. In line with the findings in the recent *Royal Commission*, he expressed frustration that governments have been ignoring reports for many years.

Until the world changes its mind about climate change, these things will happen more and more frequently. You know, at the end of the day, in 2007, we had a bushfire and there was a report written sitting somewhere on somebody's desk or in some library and nobody bloody read it (Sam).

Some participants spoke about how they have personally noticed climate change, and most also expressed their concern for the effects of climate change on their communities, including other businesses such as farms. Nathan recalled the changes he's noticed over the past 20 years as follows:

I mean, normally we get quite wet winters, especially down the western end of the island, over a metre of rain a year. [...] But then it's been drying up and drying up. And then bang, you get 100 mls in a day. [...] So those last two years right, a lot of the farmers were worried their dams would dry. So, they'd have to cart water, food is very expensive. So, they de-flocked [...] so that is manageable. They spend all their time trying to build up - and they've got their bloodlines so that they spend years getting a good ram to breed with the ewes. So, you've got a good bloodline that works for your property in your area. And then we have a bushfire like this, and it just takes out all of their stock. You've just lost years and years of all that hard work. [Yeah], absolutely devastating for them. So, yeah. So, climate change is definitely having an impact (Nathan).

A few of the participants expressed anger at the high-level leadership inaction on climate change, illustrated by Sophie below:

What you got to do is grab Scomo [Australian Prime Minister Scott Morrison] by the scruff of the neck and take him around and say, 'listen, this is what's happening. You're just not getting it (Sophie).

In the next section, we present our findings on participants' experiences of the business operational effects of disasters and how they navigated these. We start with mental health because taking care of mental health is essential to be able to navigate pathways to business recovery.

Disaster type →			
Business type ↓			
 Creative/retail	↓ Local market = non-local market = internet sales No drought relief	↓ cash-flow if damaged ↑ with community support NGOs, community, 3 tiers govt., appeals	↓ Local sales (shop front) ↓ supply chain ↓ raw materials ↑ internet sales Short-term govt. assist. RDA, Business/Food SA
 Winery/brewery	↓ produce ↑ production costs = non-local market = internet sales Drought relief if primary producer	↓ cash-flow if damaged ↓ produce ↑ production costs, e.g. smoke taint No support for indirect effects e.g. smoke taint	↓ international market ↓ interstate market ↑ intrastate market ↑ internet sales Short-term govt. assist. RDA, Tourism/Grape SA
 Beekeepers	↓ produce ↑ production costs = non-local market = internet sales PIRSA, drought relief	↓ cash-flow if damaged ↓ produce ↑ production costs PIRSA, NGOs, appeals community, 3 tiers govt.	↓ Local sales (shop front) ↑ internet sales Short-term govt. assist. Tourism, Business SA
 Accommodation	= market No drought relief	↓ cash-flow if damaged ↓ international market = interstate market ↑ intrastate market No support for indirect effects	↓ international market ↓ interstate market ↑ intrastate market Short-term govt. assist. Tourism SA
 Tourism/hospitality	= market No drought relief	↓ cash-flow if damaged ↓ international market = interstate market ↑ intrastate market No support for indirect effects	↓ international market ↓ interstate market ↑ intrastate market Short-term govt assist. Tourism SA

Table 2. The effects of different disasters on different business types and the support accessed. NB: ↓reduction, ↑increase, = same as usual, see appendices 2 and 3 for a full list of the grants and other types of assistance available.

Effects of disaster on business operations

Mental health and business operation

Almost all participants spoke about the effects of disasters on their own and other business owners and operators' mental health. Their experiences suggest that there needs to be more formal and informal avenues to support people's mental health in regional areas. Further, participants indicated that it was still a topic that carries stigma in regional communities, especially for men. Our male participants spoke about being 'strong' or resilient themselves but expressed concern for others. It seemed that even though they were supportive of other men seeking help, they tended to include a caveat in interviews

that they did not need support themselves. Fred's account below illustrates the way in which men spoke about supporting others to seek help:

It's important that other people who aren't quite as strong as me, [that] don't admit that they've got problems, they need to know. It doesn't matter who you are, you can still go and get help (Fred).

Our findings suggest that the adverse effects of disasters on business owners and managers' mental health were especially significant because without mental health, other supports were difficult to access. Participants described poor mental health contributing to difficulties in keeping up with information that may, for example, include business-related support or opportunities, described by Sarah below:

[With] mental health added into it – fine you can get this help and I started trying to do it myself – but I was getting mixed up with 'do I get JobSeeker or JobKeeper?' but of course I'm self-employed so – it was really quite overwhelming so it was nice that I had help and I hope more people got help with that side of it because it think that's a big thing (Sarah).

The mental health impacts of the 2019-2020 bushfires on Kangaroo Island were, and are, significant and these effects must be addressed in any supports that are provided to people in business. While the Islanders tended to talk about experiencing bushfires before, there had never been a fire like this in recorded history and most expressed that there were immense levels of pain being felt across the Island.

Kangaroo Island businesses had barely started their bushfire recovery processes when COVID-19 hit. Lockdown measures were introduced just two months after the fires were officially out. Our participants described COVID-19 as severely affecting their recovery efforts, in addition to exacerbating their financial losses. Indeed, some participants seemed to view the worst aspect of COVID-19 being its hindrance to bushfire recovery, with Fred stating that 'the hardest thing I think with COVID-19 is that you can't give someone a hug'. Further, Nathan spoke about the effects of not being able to attend community sports, stating:

With COVID compounding all that social connectedness, community connecting. It's really, I think, hurt more. Probably as much as the fire itself. Because there's a big sports emphasis over here. That was our main sort of way to get together. And without that...[trails off] (Nathan)

One of the participants expressed a great deal of concern for the people working in her store front, because of a sense of responsibility she felt regarding the risk of exposing them to an unknown public.

[Q: And I think you said before your staff has come back as well?] That was really hard too because we know that [becoming emotional]. It's just they're all old. I'm just worried about everyone's families [...] because then you're asking them to be in front of strangers all day (Charlotte).

To summarise, while the drought and bushfires were already affecting Kangaroo Island people's mental health, COVID-19 physical distancing measures have meant that the community recovery activities and discussions about long term recovery from the Black Summer fires, as well as future recovery pathways, were made more difficult. Participants from both case study sites spoke about mental health services being inadequate in country areas without disasters, as Charlotte said, 'Just in general life, we need more mental health people'. Participants felt that these gaps were highlighted in the advent of disasters, with mental health staff over-run, particularly on Kangaroo Island.

Business characteristics

The majority of the participants identified that the effects of disasters on business operations depend on business characteristics such as size, age, financial stability, market diversity, business ownership/lease, type of product/service and online presence. In this section, we outline how business characteristics affect the ability of businesses to withstand and recover from disasters.

Most of the participants spoke about the challenges they have been facing and how they are deeply affected by drought, COVID-19, and particularly for Kangaroo Island participants, bushfire. Several participants spoke about the importance of the financial stability of small businesses and its impact on business operations during the disasters. Lauren specifically stressed the importance of financially stable businesses as follows:

Businesses need to be standing on their own feet [...] not to overly spend. We only bought things that we can afford [...] We didn't have the overdraft [...], we had the right amount of stocks, we don't have any waste, we had backup stocks, things ready for takeaway, everything used by bio-degradable – we are environmentally thinking as well (Lauren).

Similarly, Alex felt that they were 'quite lucky' as their business went into COVID-19 in a financially healthy situation. Nevertheless, his cellar door sales were immediately reduced and wholesale merchants (e.g. those that sell to restaurants and hotels) ceased purchasing wine. While South Australian markets had already improved during our field site visits in August and September, wine makers that sold through interstate and overseas wholesalers had found that those markets had virtually disappeared. Alex described the effects on his business, which relies on a mix of cellar door and small-scale independent retailers:

[COVID-19] affected our business dramatically. [Our] business model is structured on direct to market first and foremost and secondly, we have a business that is very small and independent restaurant- and bottle shop-orientated. So we didn't have the luxury that some of the other – a lot of the other producers in Australia had of selling their wines through the big chains [so, we] lost 50% of our distribution into Melbourne just overnight and then the recovery from that is going to be a very very slow process (Alex).

Retail businesses were forced to close, which meant businesses had to make decisions about staff, including whether it would be possible to take up JobKeeper¹. Some businesses found that JobKeeper was not possible in their situation, which we cover in more detail below. Those businesses that had multiple market avenues were able to keep afloat to some extent, as Danielle described:

So, we shut here probably about the end of March [for] two and a half months. [...] fortunately we have a wholesale side of the business as well. So, we got to doggy paddle by still having some of our wholesale stuff which was great. But as far as the staff here, they all got put off [...]. Obviously, our online stuff went through the roof, which was great, but then the flipside of that was, when we sent it then there were issues with delays with people getting it as well (Danielle).

¹ JobKeeper is a Federal Government income subsidy for sole traders and business employees and sole traders significantly affected by COVID-19. For more information visit: <https://www.ato.gov.au/General/JobKeeper-Payment/>

Most businesses found the sudden stop extremely disconcerting, forcing them to consider whether they would be able to continue working in their current context. This seemed to be felt most strongly by those working as sole traders, illustrated by Sarah's account:

But yeah when COVID-19 hit, [...] with the Barossa Valley cluster, trade just stopped - that's it. The whole of April there was nothing and I was like 'wow, my life that managed to build this to do full time and something that I love, I can't do it anymore', you know 'I'm going to have to get a normal job' you know, yeah so it was quite scary (Sarah).

However, even financially stable, long established businesses were feeling the strain of multiple disasters, as Justin described in relation to the financial impact of the bushfires and COVID-19 on his Kangaroo Island tourism business:

We've been in business a long time and we've been doing well [...] We're going to come out of this with a with a much bigger debt, despite the support of JobKeeper and how we went into it (Justin).

A few participants felt that being a small business with a niche market, they suffer disproportionately larger damage as they don't have the capacity to compete with businesses that sell to large chains as Brandon stated:

Small breweries like us and a lot of small producers had very high exposure to the on-premise bars, restaurants and cafes. So larger breweries, they have some exposure but most of their volume, most of the exposure is what we refer to as 'off-premise'. So, bottle shops, the Dan Murphy's and the First Choices, they actually were probably up, they sold more beer (Brandon).

Some participants also spoke about business size as an enabling characteristic that could provide support during disaster recovery. This was particularly the case for large businesses, as Sam, who operates a large accommodation business, noted:

We have a machine that's working in the background [...] You know, we have a support system. Our business has all that. Whereas a lot of other people probably see things a little bit differently, because the thing is that they don't have all those support systems (Sam).

The ability of a business to withstand and recover from disasters was shaped not only by the type of disaster, but also whether it was owned or leased, as Nathan's experience illustrates. Nathan had leased and successfully operated a hospitality business on Kangaroo Island for many years. When it was destroyed in the bushfires, he was in the precarious position of not knowing for months if the building would be rebuilt and his lease renewed.

Participants described how the type of products or services that their businesses offer as well as the type of disaster, influenced the extent to which their business operations were affected. Sarah noted a dramatic decline in demand for her high-end products during COVID-19 because of people's concerns about how they spend their disposable income. On the other hand, Danielle, who produces food products, said: 'I guess we're lucky we're food, people still eat, like you need to eat' (Danielle). Jessica, who runs an accommodation service, lost all her income during COVID-19 restrictions because it relies on tourism.

For many of the Kangaroo Island participants, whose businesses directly or indirectly relied on tourism, the bushfires and COVID-19 significantly affected business operations, although in different ways. We see in participants' accounts below, the rollercoaster effects of these recent disaster events. While Fred's primary production business had been significantly affected by the fires, the retail side was flourishing in the post-bushfire period.

During January and February, because we had so many emergency services people in, our figures were about the same as usual. But March, when things opened up again [tourists could come to the island], and before COVID-19 became rampant, in the 20 days that we were opened in March, we exceeded our best ever March by 38% [...] It was [due to] the #bookthemout campaign (Fred).

But then COVID-19 hit, and everything stopped, as Fred recalled:

We shut for 8 weeks during COVID. But because they were talking about everything shutting until September or October, we planned on being shut for six months, So my wife and I, we went to the whole shop, took us 4 days, and it was heart wrenching, just packing things up so that you didn't have mice, dust and everything (Fred).

Similarly, businesses that were solely dependent on tourists, including tourism operators and accommodation businesses, felt the differential effects of the two disasters on their operations. In particular, post-bushfire recovery strategies such as the #bookthemout campaign, which was successfully attracting visitors back to the island, were thwarted by the virus. As Anna, who runs an accommodation business on the island, recounted:

Kangaroo Island in March was people everywhere and literally the month later, three or four weeks later, we're saying don't come here [...] so basically, everyone in Kangaroo Island was going, we don't want tourism until we realise what's actually going to happen. So then, you know [...] that actually happened. And there was very little tourism. It (COVID) interrupted people's bushfire recovery because obviously people couldn't come and help [...] All of a sudden [...] nobody's coming to the island unless you live here. Because we don't want this virus (Anna).

For the two Kangaroo Island participants whose businesses were destroyed in the fires, business characteristics only came into play in terms of business size, premises ownership and capacity to rebuild. One of the participants was planning to rebuild, whereas the other had decided, at least for the time being, not to. Nathan, who was not planning to re-establish his business, described the horror of watching his business burn from a distance, saying:

That's when I realised we just lost our business. Pretty heart wrenching to watch, too. Yeah. After all that. And actually: 'what happened?' So, [number of staff] including myself and a [many years in] business up in smoke (Nathan).

Nathan encapsulated the general consensus among Kangaroo Island participants: 'Everyone in tourism has just been smashed. Absolutely smashed' (Nathan).

The age of the business seemed to have some effect on business recovery after disaster – depending on the type and extent of disaster. There was a marked difference between long established businesses and relatively new businesses. As Charlotte, whose business had been operating for over 20 years, noted: 'Being an established business means that we're resilient, ready for a crisis'. She related this specifically to accessing JobKeeper:

Being [an established] business meant that we could do it. But if we were a new business, you would have just gone no, that's it. I can't do it. I haven't got any money. I'm in debt, and I'm not going to go deeper into debt for this (Charlotte).

By contrast, Ashley, who had started her business eight months before her interview, spoke about the vulnerability of startups and the additional challenges they faced during COVID. She felt that the major problem for startup businesses is a lack of funding availability during disasters, stating:

I think being a startup company its hard. [...] grants have been really good however, hard to find out whether you were able to access it as a director of a company that was less than 12 months old and in a regional area that had a hotspot (Ashley).

While Ashley acknowledged the support available for startups in terms of mentoring and coaching, she pointed to the way in which funding was the critical factor for disaster recovery:

You don't need coaching, you've gone through that, you've got a business plan, you've got the space, you've got the ready to press go, they actually just need some funding [...] but there's a lot of criteria that you don't meet straight away because you're willing to get rid of it all and start something new (Ashley).

Many participants viewed the existence of a well-established website and strong online presence to be an important factor determining the success or failure of the business during COVID. Participants felt that online presence provides visibility, with Sarah stating:

I had an online presence, so that was a bonus for me because I'd already established really well and so now you know that's quite strong [...] so that online presence was a big thing and I realized businesses these days really have to jump on board with that (Sarah).

Other participants capitalised on their existing social media presence. Justin's Kangaroo Island tourism business already had a strong following on social media, and he used this platform to maintain a presence during the bushfires and COVID, responding to each disaster event in turn. For example, since COVID-19 emerged, Justin regularly posts video clips of Kangaroo Island, highlighting the natural beauty of the island and the experiences his tourism business offers. In terms of the bushfires, Justin recalled how he used social media to inform guests of what travel was still possible in the immediate aftermath of the bushfires:

Now with social media, a double-edged sword, there's an opportunity to actually get on the front foot and say, this is exactly what's happened. We've got fires there in this area. So, I started this process of doing a fairly regular fire update with the idea of keeping our customers and staff safe and everyone more informed [...] Because it was peak season (Justin).

For some participants, however, upgrading their website (if they had one) was simply out of reach, particularly in the immediate period of COVID-19 restrictions. For Sophie, whose Kangaroo Island business is entirely dependent on tourists, rapidly changing physical distancing rules significantly affected visitor numbers. In addition, a reduction in staff members has meant less people to assist in the labour-intensive day-to-day running of the business. Outsourcing the website upgrade was not possible, as Sophie stated: 'If you don't have money coming in your door, you can't afford to do a whole lot of your website' (Sophie). Sophie talked about the effects of this constraint:

And so, with all that happening and then the [changing COVID-19 restrictions], what about your marketing, how do you get that information out to people? We can't afford to put out another big run of brochures you know [...]. What I've had to do to be cost effective is I've just made up stickers (Sophie).

Sophie's amended brochures were visible in many establishments across the island, for example the Tourist Information Centre and local cafes. However, tourists were still turning up at the business only to find opening times had changed. Sophie had a clear idea of what could help her situation:

The government needs to think of those things and give people money to get back on their feet again. If I had had a marketing budget, a grant that I could tap into for the marketing, specifically for that, for the marketing side of things (Sophie).

Other participants raised concerns about other small local businesses' lack of online presence, as Ashley noted:

There was no online presence, there was no targeted marketing. Some people were like 'I don't even have Facebook' and I'm like, 'okay we've got to actually acknowledge the benefits of having a multifaceted marketing platform' (Ashley).

Similar concerns were raised by another participant, Stephanie, who was sympathetic towards some of the local small businesses:

I am still concerned for the mums and dads [...] you can't just rely on the locals going to you. You are actually living in a tourism town you need to be actually putting it out there that this is what you are offering kind of thing. I feel sorry for those mums and dads businesses that don't understand that business has changed. It has gone digital (Stephanie).

Supply Chains and production

The Barossa Valley participants spoke about the effects of disasters on their supply chains. This impact did not feature in the interviews with Kangaroo Island participants except regarding difficulties rebuilding after the fires. Barossa Valley businesses with local, state, national and international supply chains all experienced significant disruptions. Danielle, whose business was completely reliant on a local supply chain, said:

We had some big issues around [...] supply and that was massive and [...] everyone went crazy buying [the products we need]. So, our suppliers then created an issue with not being able to get product. Our [purchase] price doubled within a week. So, it went from \$8 a kilo to \$16 and then you can't pass that kind of price on to your customer (Danielle).

Another participant who was relying on overseas products (global supply chain) expressed concern for how her business was affected by the supply chain disruption:

I couldn't get the [products I need] because they come from overseas and everything shut down [...] But then again your shipment, so what normally might take two weeks to come then took a lot longer (Sarah).

Danielle highlighted that the emphasis on overseas markets can cause local supply chain disruption, when explaining the shortages of the supplies her businesses required to make their products, stating:

What was happening was all the [product] was going to the UK and China, so the [product] that's grown in Australia goes overseas. It's like 'really, why are you not looking after us first?' [...] But they get more money for it I guess (Danielle).

In order to cope with supply shortages, a few participants used alternate sources of materials. Aaron described the difficulty of accessing bottles for his product and how he has dealt with this shortage of supply by using alternative bottles (e.g. olive oil and perfume bottles) for his product:

The first batch of bottles was sold in an olive oil bottle [...] people were just doing it like the old after shave. That's how crude it was. People were asking for sprays so I started putting it into silver top perfume bottles (Aaron).

Participants spoke about the impacts of disasters on their business operations, although how a business was affected, in terms of production and their market, was shaped by both the type of disaster and the type of business. For example, drought has had an impact on business production, particularly beekeepers on Kangaroo Island and grape growers in the Barossa Valley.

A number of participants spoke about the indirect effects of drought on their production costs. Vignerons and winemakers described how drought effects their profit margin for several reasons, including lower vineyard yields, increasing grape prices, and increasing input costs, as outlined by Alex below:

Two years of drought [...] has affected the grape price that we transfer to our business [...]. You still have the same amount of input you've got to put on the vines. So, the cost of goods goes up [but] your bottle price doesn't go up accordingly. So, your margins squash in those years and you really have to bear that [...]. We've seen also having drought years has put a lot of stress on the actual vines themselves [...]. We've actually had to do a lot of reworking in the last couple of years to keep the vines generating enough fruit mass so that we have got fruit to pick [...] which is quite an expensive process (Alex).

For Derek, who runs a tourism business on Kangaroo Island, the biggest impact of the drought has been on his water supply, which is critical to every aspect of his business operations.

We don't have much water in that dam over there and that's quite an extensive dam. We had to sink a bore which was eighteen thousand dollars to do that. And it's half the saltiest saltwater. So, we have to shandy it with dam water. But you can't do that if you don't have the dam. So, what do you do for a business like us? [...] And if we run out of water, we can't afford to be hauling water in every day (Derek).

The bushfires compounded the effects of drought on production for some businesses. The participants running beekeeping businesses on Kangaroo Island talked about the effects of both drought and the bushfires on their honey production. Beekeepers had experienced several years of lower honey yields because of drought leading to less frequent flowering and fewer flowers generally and therefore reduced bee feed. Charlotte explained the way the production of honey is based on cycles, noting that 'you don't have a good honey year every year, [it's] really up and down. So, on top of that, you don't have a good honey year every year because of drought'. The bushfires compounded the effects of the drought.

While Charlotte did not lose any beehives, she lost most of her bee sites, which meant that the bees had no food and needed to be fed, which affected the production of honey. Fred's honey production was also affected by the fires. He lost a substantial number of beehives in the bushfires, despite he and his

family's best efforts to move the hives to safety during the fires. Some of the destroyed hives were ready to be extracted, resulting in the loss of thousands of dollars of honey production, as Fred explained:

We probably lost [large amount of honey] on that one day, that was in the field ready to be extracted. We know that it was there because of the hives that didn't get burnt, we extracted the honey out of them and we actually extracted more than we did last year [...]. We probably lost 6 to \$800,000 of honey production (Fred).

Although the Barossa Valley did not experience a bushfire, some participants were indirectly affected by fires in other regions, as Liam explained:

We had one day in December, and one day in early January where bushfire smoke sat over the [region] for a period of time [...] So, we had a small period of exposure during the pre-ripening and ripening period for our grapes where they copped probably accumulative amount up to about 16-24 hours of smoke exposure [...]. Smoke has the ability to taint fruit crops from a distance. I had one small parcel of grapes [that had] shown a very small amount of smoke taint in the final wine that's sitting in barrel (Liam).

Liam further expressed how exposure to bushfire smoke has impacted his product and overall business profitability (e.g. stock write-off, cost of testing and analysis and risk):

Now obviously, the grapes have been bought, paid for, and potentially, I'm staring down the barrel of a stock destruction or stock write-off. And again, with a struggling business that's potentially going to put more financial pressure on us [...]. We did a huge amount of testing as a result of those two smoke events [...]. So, the [place], as an example of bushfire smoke, if you're looking for my industry to see a really big effect, talk to the [place] producers, because most of them didn't make wine this year. They couldn't. Whereas we could, but we spent a lot of money on research and grape analysis [smoke taint analysis] (Liam).

Liam also talked about the risk to his business going forward. He spoke about how the chemistry of smoke taint in wine does not always show up immediately on fermentation, rather it shows up during maturation in a barrel or a bottle (over time), which Liam described as a 'huge risk' for his business.

Markets

The participants on Kangaroo Island all spoke about the compounding effects of the bushfires and COVID-19 on their markets. As mentioned earlier, international tourists constitute the biggest market for tourism businesses on the island. The bushfires resulted in the cancellation of most travel to the island, aided by international and domestic media coverage; for example, The New York Times described 'fires over large swaths of Australia' (Albeck-Ripka et al. 2020). For the businesses that were destroyed in the fires, the effect on their markets was immediate and devastating. While a tourism campaign (#bookthemout) aimed at attracting visitors back to Kangaroo Island was highly successful in the initial bushfire recovery period, COVID-19 brought everything to a standstill, severely affecting tourism markets.

The majority of the participants spoke about the effects of COVID-19 on their market, including losing some markets while gaining others. One participant said that COVID-19 created an alternative market for their business:

a lot of places shut down over a long period. Like [business] made a very strong decision to shut down because they are a bigger company and they used to do a lot of food platters. [large winery] shut down [...] so we have picked up a lot of probably trade. we just do a lot of simple preparation food platters, toasties, pates, those sorts of things and they are very wine orientated food. It works well. It's amazing, we would do on average prior to COVID-19 maybe 25% of our sales would be non-wine sales, [...] but now it's roughly around 50% so it's quite a big take on things (Alex).

Tourism businesses with niche (particularly international) markets were especially vulnerable to the effects of COVID-19. COVID-19 restrictions included Australian international and state border closures, effectively eliminating Justin's largest market, international tourists, and severely affecting his domestic market, most of which was interstate tourists (in 2019 South Australia represented just 5 percent of his customers). The results were devastating for Justin's business: 'in a couple of weeks, we lost about \$420,000 in sales through cancellation'. Justin described the changes to his market:

One of the things with the different markets, whether it's interstate, interstate, international, they're motivated by different things. They travel different ways. So, at the moment, any accommodation that is remote self-catering and \$100 or \$300 a night price point – full, full, full, full. Anything that's high-end service like us, where if people are self-driving, [they think] why would I need to go on a tour when I can use my own car? So, we've got to really reposition ourselves in terms of the services (Justin).

This came directly on the back of the bushfires, when Justin's business had already lost significant income through booking cancellations. Charlotte's business closed for ten weeks due to COVID-19, however she was able to shift to online sales relatively quickly. However, this was not an option for other Kangaroo Island businesses. For tourism businesses that rely on people physically visiting their tourist attraction, the rapidly changing COVID-19 physical distancing measures had an immediate effect on their market. As Sophie explained:

When you sort of get shut down like we did and your situation's changed, because you can't have this many people, and we've had to be closed for a while, and then we opened again and we just stuck to being able to have 10 people, because that's what the restrictions were [...] the amount of bums on seats impacts your viability of your business (Sophie).

Whereas Stephanie, a website designer, saw a higher level of demand for her existing service market. Since there was high demand for online presence, businesses were continuously seeking her service during COVID:

COVID-19 has really sky-rocketed my business because I work with tourism and wine and a lot more, [...] businesses realised that they have to have proper digital presence now to actually sell. People now need to get in contact with people via digital means [...] and the market is much more competitive so what they thought having a website and updating your digital presence or doing a bit of social media [...] that's important (Stephanie).

Participants also spoke about new collaborations during COVID. One participant collaborated with a winery to diversify and produce a new product (hand sanitiser). Another participant said that COVID-19 has afforded her business more opportunities to collaborate:

With COVID-19 I've done probably more collaborations with other makers, artists [...], so like we did a [product] together, did a [another product]. There's quite a few. now since COVID, more collaborations helping each other [...] and there's strength in numbers and that does work in this sort of industry (Sarah).

Silver linings – COVID-19

Several participants spoke about finding 'silver linings' that resulted from COVID-19 lockdown measures – although none said the same about bushfire or drought. Generally, when participants spoke in positive terms about lockdown measures, they referred to having an opportunity to 'get off the treadmill' and to take time to reflect, as illustrated by Danielle below:

It gave us the opportunity to re-evaluate, gave us some opportunity to relook at how we do our business and I think lots of places have done that [...]. Now it just gives you the opportunity to go 'oh, we can do this differently and more efficiently and more cost effectively'. So, before you just went along doing what you were doing. [but] it's not clearly been positive for everybody (Danielle).

Similarly, Fred spoke about this period as a time for reflection and re-evaluation of their business practices stating:

Out of adversity comes the opportunity. See, you've got to look for opportunities. The opportunity to change things, so we changed, well we were forced to change... We were forced to do things differently (Fred).

Charlotte described enjoying having time with just her family and decided to use the lockdown period to renovate, saying:

We got a holiday from visitors - we didn't get a holiday. [...] So after about two weeks of being in shock...I said, 'let's renovate because we're shut' [...]. We had that time to ourselves. We were working but we were as a family (Charlotte).

When South Australia reopened for intrastate travel, both Kangaroo Island and Barossa Valley participants described experiencing a new market: fellow South Australians who normally travelled overseas and had rarely – or never – visited their regions, as described by Danielle:

But then when they sort of encouraged people to get out, people literally got out. I had people from [town] who've never been to the [region], [...] so that's been a bonus for people coming here. But lots of people can't go overseas, and happy to spend money in the region and they have been spending money which has been fantastic. There's been some really nice stuff (Danielle).

Sarah found that her business benefited from people who were stuck at home during the restrictions, cleaning out their houses and making a few high-end purchases online and then visiting and buying products in South Australian regions:

So there's a lot more traffic in here now [...] admittedly they couldn't go out and spend money, so they actually decided that they'd spend money on something they'd been thinking about, [...] obviously then the business really picked up again (Sarah)

Some businesses found some parts of their business thrived during COVID-19 lockdowns, for example if they were able to change from in-person sales to online or takeaway, or if they were involved in assisting

others to change to these options. As such, it depended on the type of business participants were in, illustrated by Stephanie's account below, whose business included designing marketing strategies and websites:

...but my wine clients, they have come back to me and I might have built them a website 3-4 years ago and we are just ramping it up. So COVID-19 at this point in time because there is funding in grants and that has really helped step up my business (Stephanie).

On this last point, Stephanie's account is illustrative of the ways in which economic stimulus packages, such as the COVID-19 small business grants, benefitted not only the grant recipient, but created a multiplier effect for the region when the funds were spent on other local businesses.

Timing and nature of supports

There were many types of disaster-related support that participants identified, sought and/or were offered (for a comprehensive list of supports, see appendices 4 and 5). Barossa participants mainly spoke about drought relief and COVID-19 related supports, while Kangaroo Island participants also spoke about post-bushfire support and were able to draw comparisons between recent and historic (e.g. 2007) fires. Generally, participants spoke about community support as well as business support interchangeably, highlighting the ways in which local business and community are interconnected.

Participants expressed appreciation of any type of immediate support, particularly during the early lock-down stages of COVID-19 transmission prevention when, for most, cash flow stopped immediately. Nevertheless, they identified many ways in which support, especially government support, could be improved should this occur in the future. Participants spoke about experiencing information overload and potentially missing out because they could not keep up with it all. Further, the timing and nature of grants did not often match their needs. They tended to talk about local support in ways that included federally or state government-funded organisations that have local or regional committees or branches, such as Regional Development Australia, Tourism SA and Food SA.

With regard to the type of support, the measures implemented by the Federal Government through the Australian Taxation Office as part of the COVID-19 response were mostly very welcome. Supports they identified included leniency with Business Activity Statement (BAS) submission deadlines, asset write offs and the JobKeeper scheme. There were pros and cons to these, however, depending on their business characteristics.

If you have to borrow money to pay thousands of dollars in wages. It's only free if you're not paying interest on it [...] We didn't have to borrow money so we just said, we're going to do it (JobKeeper). Being a [long established] business meant that we could do it (Charlotte).

The timing of COVID-19 government-generated supports was mainly viewed by participants as appropriate, given the unknown nature of the extent or duration of public health measures. Several participants, however, felt that it was difficult to understand many of the rules regarding support that they may or may not be eligible for. One participant had not realised why she had received \$10,000 and explained that:

They said, 'you don't have to pay your staff tax' [up to] \$10,000 [...]. It took us a while to work that out because I've got staff [but] my sister and her husband don't have staff. And I said, 'you're going to get \$10,000, I got \$10,000!' And she didn't. [...] [Q: So did you find your accountant pretty helpful with everything?]

Yes and no, because things were changing faster than what he could understand. We were all learning together (Charlotte).

We also found that, despite drought having a severe impact on businesses, some participants did not pursue drought relief grants. This was in part because they were aware that they would possibly not qualify, but the strongest rationale for this across interviews was that they felt it was morally wrong when others were worse off, illustrated by Alex, despite being a primary producer himself:

There was a drought relief grant and we chose not to do that one [...] we're a little more lucky than [area]. I kind of feel for them because we at least have access to [region] infrastructure water [...]. They are completely reliant on dam water or water from run off and they had a terrible vintage last year, and a bad one the previous year [...]. If there was something – a grant available – that would have been fantastic for those guys especially because they were seriously hurt. One of my friend's growers, he had somewhere like 80% reduction on his crops, and again you've got to pay all this money (Alex).

Only one of the participants who had experienced substantial effects from drought, bushfire and COVID-19 had applied for drought relief, and it was the first time in four generations that her family had done so. Charlotte explained that, 'if it didn't all happen at the same time, we probably wouldn't have applied for any of the grants'. Even so, she stated that they only applied for a drought relief grant to feed their bees, which would just keep them alive but not contribute to honey production, nor assist their business in any other ways.

Potential sources of financial support, beyond those offered by governments, that participants spoke about included loan holidays and low interest loans. Neither of these options were identified as helpful and no participants wished to take them up because they were concerned that these options would mean larger future debt, without any indication that their business would be better off when the time came to pay them off. The idea of seeking any type of support that led to greater future debt was unanimously rejected.

You know, we own the premises. We own our home. So, I can draw down on that on our home loan – that's still in place. The zero balance. I can pull that down on the day. So, we've got the facilities in place to be flexible. I'd rather not come out with a massive debt. I'd rather diversify and find ways of helping get even if we can just break even for the next year, rather than drawing continued drawdown (Justin).

Participants in our study had also found that insurance companies were unsupportive – disaster-related insurance was non-existent, prohibitively expensive, or insufficient. Those who had business interruption insurance found that their insurers were keen to find loopholes that meant they could avoid paying, with the two accounts below being typical.

I think the insurance would only feature if we were directly affected. So if fires actually affected us directly. Because it affected supply chains [and] a reduction in trade because customers were affected, then obviously insurance won't be relevant (Brandon).

So now we're still fighting with the insurance company [...]. They just don't want to pay us [...]. We've got business interruption insurance, like a quarter million dollars and they're saying, 'oh we're not going to pay you that until 12 months is up because if you are showing your figures are up....' But it's the [production] side which is different to

[retail], because [retail] is doing better than it did before because the public's in here (Fred).

Some Kangaroo Island participants expressed anger and disappointment, particularly regarding federal and state government continued ad hoc and inadequate approach to bushfire fighting and recovery, many noting their aging bushfire appliances, ageing volunteers and inadequate communication technology. One of the main reasons participants gave for this was that there have now been a large number of inquiries regarding bushfire recovery, many with the same recommendations, with little change in government responses or actions. Some participants had previously provided submissions to government inquiries and felt that it was pointless because nothing had changed. Further, a few participants indicated that they were unable to provide any evidence to the 2020 Royal Commission because it was too soon after the fires and they were just trying to manage their business – through both bushfire recovery and COVID-19. One participant expressed succinctly what she felt it would take to implement long-term recovery as follows:

So, the government's got to look at all these things. It's not just a case of individually - it's a holistic thing across Australia - and what it's going to do to tourism, to the environment, to the economy. These are all linked together like a chain (Sophie).

On the other hand, participants spoke about incredible community support both post-bushfire and during COVID-19 restrictions. We noted that Kangaroo Island participants could speak about freely about the 2019-2020 fires and a range of other topics, but tended to become emotional when speaking about the community support they have received – providing examples of extraordinary support from their local community, affiliations, strangers and past guests/customers. Charlotte recounted the way amateur beekeepers volunteered their time and skills over a 4-week period to help fire-affected commercial beekeepers on Kangaroo Island rebuild bee boxes:

South Australian Amateur Beekeepers Association has done a really big volunteering program because they knew the guys that had lost all their beehives needed help and they decided that they were going to come over and be the manpower to make the bee boxes. You can't magically have bees but you can magically make wooden boxes (Charlotte).

Participants also talked about unexpected acts of generosity from strangers in the immediate aftermath of the fires on the island. Charlotte received cash donations from past visitors and customers, expressing awe at such generosity:

We actually had private people give us money. They didn't want to donate to a big, big campaign where they didn't know where the money was going. Because they'd visited our [business], they wanted to give us money. Yeah. That's been amazing (Charlotte).

Kangaroo Island participants highlighted the hands-on support they had received from different groups and individuals, particularly in the aftermath of the bushfires. Sam, whose business was severely affected by the fires, spoke about the outpouring of offers of help throughout January. For Sam, a priority in the clean-up was cutting down the burnt trees that were never going to rejuvenate. What initially started as an informal group quickly turned into a number of well-organised working bees, attracting people from as far as Queensland. As Sam noted:

So, we've had former [customers], we've had former staff members. We have friends of ours from Adelaide. I think there's a couple of suppliers that now want to come and

[help]. So just people who, you know, they hear about what we're doing and they go, 'OK, we'll come down' (Sam).

To summarise, the nature and timing of support, especially government support, could be improved for future disasters. Participants spoke about local support in ways that included federally or state government-funded organisations that have local or regional boards, committees or branches, such as Regional Development Australia, Tourism SA and Food SA. Like much of regional Australia, local business success is often interrelated, consequently many businesses spoke of their dependence on the success of other businesses in their area.

To pivot or downshift

As mentioned in the literature review above, a great deal has been made about businesses needing to pivot to adapt to changing environments. This idea was not lost on our participants and our findings highlight the way in which a business's ability to pivot is situational; it is dependent on a number of factors, including business characteristics and the type and extent of disaster. For example, Nathan was unable to rebuild and so had decided to apply for a job rather than start a new business. Several participants downshifted rather than pivot – examples included working fewer hours or renovating. While some of our participants did pivot, most were more cautious because of the unknown nature of how long the pandemic will be interrupting business activities. Most participants made minor adjustments or tweaks, with the major approach being financial smoothing.

The majority of the Barossa Valley participants spoke about the way adversity arising from COVID-19 forced them to adapt or change their existing business models and/or alter their products/service offerings. For example, Lauren, who operated a hospitality business, made adjustment to her business infrastructure during COVID-19 social distancing restrictions:

Without concertina windows we would have to close. So, there are a few things that come out. I think that our industry has changed for the better. It's about adapting (Lauren).

Another participant, Aaron, capitalised on a short-term opportunity arising from the COVID-19 crisis and developed hand sanitiser. Aaron explained:

[My friend] said 'you will lose your business if you don't give the customer what they want' or if you don't pivot, [so] I started talking about hand sanitiser with him and so he's pretty well spot on (Aaron).

Brandon, whose business is in artisan food and beverage, was able to start a new business in order to minimise the damage and disruption to his existing business model:

I started another company [...] This [business name] App connects me directly to the customer. It's like a marketplace. So, the customer's talking about my product, interacting with the producer directly [...]. So, I have direct control and direct access to that customer. So that's what I'm doing, [...] we're completely changing our business model (Brandon).

A few participants spoke about how they have changed their product/service offerings to attract customers or to generate revenue. For example, Jessica who runs an accommodation business, has started offering accommodation packages with higher discounts. Lauren added retail to her hospitality

business and started selling diverse products to generate cash flow, including eggs, chutneys, fruits, and coffee beans.

Alex was considering ways to future proof his business by seeking opportunities to further diversify his business model. He specifically expressed concerns about his niche business model, stating that:

I would probably look at different model now because the people who were in the Dan's and the Coles are people who continued to sell quite well during the COVID-19 times. We struggled to sell any volume or have any volume growth over that period. We lost obviously our exports and we lost a lot of interstate sales. So, the only thing that was really keeping us afloat was the cellar door [...] and it's a major risk so we have to look at our business in the future [...] what can we do to make our business a bit more future proof? You know maybe we need to also look at our business as multi-staged or come out with some lower brands [...] selling to those bigger places (Alex).

However, rather than pivot during uncertainty, he made minor changes by expanding his product offerings as follows:

We have acted as a bottle shop while everything was shut down in Adelaide and we opened up as soon as we could. We haven't changed, but we have taken on more of our business as food orientated now. We have always offered sit down tastings but we now offer food as well, so people come in and have food and stay a bit longer (Alex).

For several businesses, there was limited scope to pivot during or after a disaster, especially in the context of compounding disasters such as the bushfires and COVID-19. Rather, participants talked about tweaking their existing businesses, as Justin, a Kangaroo Island tourism operator, highlighted in relation to the decimation of his traditional markets:

We've got to really reposition ourselves in terms of the services [...] So we've had to go out and find all new markets and find people who were who are interested in a deeper dive into Kangaroo Island. A longer stay. And doing those meet the artist, meet the researcher, get off the beaten track. All that sort of stuff. So we're doing that (Justin).

The most common approach participants took to try to stay afloat was to smooth out their cash flow by spreading out their income and expenses. Most of the participants took advantage of the measures offered by the Australian Tax Office (ATO) and utility service providers that allowed businesses to defer or spread out payments.

When the BAS [Business Activity Statement] came, I didn't pay. I rang the ATO and deferred it. Put it on a payment scheme. Because of the downturn and they were reasonable about that (Lauren).

I suppose the first sort of help I found was I've got quite extensive machinery and I'm paying the bank off, so the bank has allowed me six months to stop the payments [...] didn't want to lose that. My mortgage payment I could put on hold as well. So that was awesome (Sarah).

We were able to defer things [...] your registrations or your insurance of whatever, just go through it all and see what we can cut or reduce or defer for a little while (Jessica).

Although businesses have been affected in several ways, participants seemed to have adopted diverse strategies to minimise the effect of disasters. While a few businesses reduced their operational cost and

sought to smooth out cash flows, others have taken more proactive steps and shifted (or diversified) their business models. In terms of cost reduction, Danielle, Jessica and Lauren all made a decision to decrease the number of staff or reduce working hours for staff. While justifying the reasons for staff reduction, one of the participants stated that:

It was important to really think about the long-term, longevity of having the business still. So, we just made choices around that [...] We used to be open 7 days a week [...]. It gave us an option to revisit our hours [...]. So, we're now shut on a Monday and a Tuesday and we've changed the hours across the board from 11 'til 4 (Danielle).

In addition to deferring payments, a few businesses sought opportunities to balance between supply and demand in order to maintain/smooth out cash flow. Both Sarah and Danielle reduced the volume of production and started doing 'smaller amounts more often', which they felt was more manageable from financial perspective and to maintain their cash flow.

Liam, who was operating in the wine industry, said that under the Grape Act, they are obligated to spread their cash out over the year to pay for their grapes (over the 12-month cyclical nature of production). Their business has already recognised the importance of smoothing cash and suggested that other businesses in the region should look into this option, stating that:

In terms of disaster recovery, one of the pathways for businesses is sound financial advice if you haven't got the acumen within your business to look at how to smooth out the bumps for your cashflow forecasting, so you don't go into bill shock. I think, we as an industry have always had that as part of our inherent business DNA. But a lot of businesses still are so reactive that they can't really look for ways to smooth out their cashflow, they're still going hand-to-mouth (Liam)

Some of the businesses started re-evaluating their existing business practices so that it may survive in the long term. One of the participants said that her business would operate leaner:

Our first thing would be [...] that we operate perhaps leaner than we did before COVID-19 and that we stay that way. I think for me, that's probably on the financial side the most is to be more aware and try and keep [...] it's made us look longer term without the internationalists for us, we're sort of perhaps a bit tougher now going forward as to how we staff or just react that way. I don't think that we'll continue with that mindset, [...] but we really need to nail this and keep the business (Jessica).

Participants were generally reticent about deferring loan repayments, because of concerns that they would have more to pay later, knowing that the future of their businesses remained uncertain.

Barossa Valley participants also spoke about the deferral of rental payment. However, the results are mixed with a few participants indicating positive expressions and others raising concerns and disappointments about their landlords. For example, Ashley although she personally had positive experience with her landlords, expressed her concerns for other struggling businesses who had unsupportive, greedy landlords. She said that:

We were lucky that our landlord managed it for us, ... and we were able to defer it. That's really good as an emerging business owner to have support like that from a landlord because I do know that's not necessarily everybody's story. I do know that there's landlords in the main street who own a fair bit of it that have not only said 'no'

to rent relief, but have also increased their rent. ... They're [...] not taking some part of responsibility or being able to support in a fair and equitable way at a time like this. I was just disappointed (Ashley).

She further suggested that more support is required so that commercial landlords are encouraged to behave more responsibly so that business tenants can have some 'breathing space' during disasters stating that:

What I would like to see more, ... is how do we improve that relationship between landlord and tenant and then also how can we incentivise enough for those landlords to actually give a little bit more? And it might be a bit more of that leeway, ... for example, being able to negotiate the first 3 months at half rent. Give you some breathing space. So, there's things that can be done if they choose to (Ashley).

Another participant, Danielle received 3 months' rent relief for one of the properties which she found to be timely and extremely helpful to keep her business viable during COVID-19. However, she did not request or even raise the possibility of rent relief for another property because she anticipated that the landlord would be unsupportive. She said that:

Our factory in [nearby town], we didn't even ask - because our landlords are horrible. I didn't even want to go there, because it would just be a nightmare (Danielle).

It appeared that at least one landlord in the region increased rent during the tightest COVID-19 restrictions. While expressing the anger and disappointment towards such landlords, Stephanie stated that:

I personally have no idea how anyone can live in a community and just skyrockets your rents and think it's okay - we are talking about people who are very well off ... but I don't think they see the real world, and it might be who's giving them advice, who their business managers are etc. (Stephanie).

In order to assess the level of rental assistance businesses had obtained during COVID-19 trading restrictions, Stephanie collaborated with another business and sent out a survey to approximately 600 businesses. While revealing preliminary findings of the survey, she expressed her concerns as follows:

[person] and I put this survey together and I sent it out yesterday. We've only had 6-7 replies to date, but every single one we asked ... 'if you are renting has your landlord offered you any rental assistance?'. Those seven replies, at this point in time, have said 'No' (Stephanie).

To summarise, most participants erred toward caution during and after disaster rather than taking the potentially risky option of pivoting. Rather, they explored a range of 'downshifting' alternatives that they hoped would not lead to a future with increased financial burden.

Regional business identity

Our findings revealed that regional business operators are self-reliant, have a sense of moral obligation towards other local businesses and their local community, and tend to support other regional businesses. Some business owners spoke about the importance of self-reliance and how it can help their business survive disasters. One of the participants said that she had years of experience continuously planning around different circumstances and therefore started her business with extensive prior knowledge, which she believed is crucial for business continuity during the disaster. Lauren highlighted the

importance of businesses relying on their own funds. She believed that one of the major factors that helped her minimise the effects of previous disasters and the current COVID-19 pandemic, is how she runs her business, stating: 'we didn't have an overdraft, didn't have to lend to get out, we had the right amount of stock, we don't have any waste'.

Regional business operators demonstrated a sense of moral obligation towards other local businesses and the community in general. When we asked about drought relief grants, a number of participants said that they would not apply for those grants because there were others in more need than themselves. This is exemplified in Alex's comment below:

We looked into it [drought relief grant] but we didn't take it any further, just simply because I don't know, it kind of didn't fit right [...] not measly old me where I have still got a crop and made some money out of it (Alex).

Alex further expressed his concern for a nearby region that was significantly affected by drought. He felt that the businesses in his region are fortunate as they have water security, whereas one of the nearby regions is much drier and reliant on dam water and hence suffering more from drought. Alex's comments below illustrate the typical reaction of participants, highlighting a concern for others perceived to be worse off:

I feel for them and I think if there was something – a grant available that would have been fantastic for those guys especially because they were seriously hurt. One of my friend's growers, he had somewhere like 80% reduction on his crops, and again you've got to pay all this money. You're pruning, harvesting, all these inputs and then to find out you've got nothing there. A drought relief program would have been really good there. Water subsidies as well [...]. If they were getting that water for a cheaper price that would be helpful (Alex).

Other participants expressed similar views about the drought relief grants. Lauren pointed to other businesses in the region that she believed to be worse off than her business, noting that she didn't apply for any grants because to do so 'wasn't fair' as there were other businesses more deserving. Stephanie said that if anyone needed to go for drought relief grants, it would be farmers, stating that: 'they did go through a hell of [a lot]. [It's] pretty bad to be shipping in water, to actually have to sell off the stock at the latest prices' (Stephanie).

Another participant expressed concern about the effects COVID-19 was having on hospitality businesses in the area and as soon as she accessed JobKeeper and restrictions had eased, she had been actively supporting local businesses, recognising that as a way she could support the region, stating that:

The hospitality is probably the main ones that would be finding it hard to get back into it, so I'm making sure I go out for dinner and support them you know because you've got to, you need to support them (Sarah).

Participants talked about the importance of supporting other local businesses in many ways, highlighting their continuing viability as being critical to the broader community. For this reason, Fred had stopped serving coffee and scones in his retail business:

Well, what we've done is we've looked after the people who've done coffee and scones, who have no other source of income [...] my community responsibility is to keep them viable. Because if they die, then tourism will not come back (Fred).

Similarly, Dannielle provided examples of situations where regional businesses were helping each other cope with the COVID-19 pandemic, whereby when some businesses had to remain closed, other businesses would offer to sell their products on their behalf, describing this as follows:

When you're in business in the [region], everyone likes to help everyone else, which is a bonus. We're not 'all about me'. A lot of people collaborated to do things for each other. So, for example, [...] one of the local [businesses], they're like, 'well let's put their products in our store' [...] So that was really good. So again, we're just lucky in this region, people are really good at supporting each other. There's definitely no if's or but's about that (Danielle).

In the sections above, we have answered our first two questions and presented our findings on how participants' businesses were affected by disasters and what strategies they put in place, where possible, to navigate pathways through to recovery. Like much of regional Australia, local business success tended to be interrelated, and participants highlighted the ways in which their businesses were dependent on the success of other businesses in their area. In the next section, we conclude by answering our third research question. In light of our findings above, we provide our conclusions and recommendations developed with our project advisory groups by outlining a place-based, ecological systems approach to business recovery.

Conclusions and recommendations

An ecological systems approach to recovery

Our final question is the most complex because it asks how to co-ordinate the activities of different levels of government, with community, non-government organisations and corporate support to assist with the short-, medium- and long-term impacts of disasters. The *Royal Commission into National Natural Disaster Arrangements Report* provides information and recommendations regarding ‘what needs to be done, rather than how it should be done’ (Binskin, 2020 p. 33). This statement reflects recognition by the Commissioners of the need for flexibility in implementing recommendations to ‘account for differences in climate, geography, ecosystems, demography, culture, and resources’ (Binskin, 2020 p. 21). Of particular relevance for our study findings are those recommendations relating to *National Coordination Arrangements* to contribute to resilience and recovery.

We found that the links between businesses, their local communities and the local branches/boards/committees that connect them to state and federal government agencies were critical to how well they navigated their pathways to recovery. Our study findings contribute information about ‘how it should be done’, from the perspectives of regional businesses. An ecological systems approach is well suited to explain the multiple linkages between businesses, communities and the three tiers of government. Multiple reports agree, with the Royal Commission Report being the most recent, that there needs to be consistent and strong leadership on climate change and in the development of place-based disaster recovery pathways. As the recently released Deloitte report states:

In choosing economic recovery pathways there is a need for long-term, universal policy that recognises the complexity and interconnectivity of climate change, technological disruption, and industrial transition (Deloitte 2020, p.12).

The Deloitte report recommends a universal framework that accepts the rigorous and indisputable science that explains climate change and its effects already witnessed in Australia. Bipartisan agreement to halt and minimise the effects of climate change needs to be in place to support place-based community recovery. Currently, climate change is viewed in Australia as a political rather than environmental, economic and social problem. An ecological model fits with both place-based approaches and the Deloitte suggestion of a universal model, because as Sophie succinctly put, ‘these are all linked together like a chain’.

Participants told us what they had learned through disasters, how they have changed their business activities to adapt to, and even thrive during, our current COVID-19 uncertainty. They are planning for a future with long and more frequent droughts, heat and bushfires. Intergovernmental policy and funding aim to foster both business and community recovery, yet there seems to be a lack of system-level capacity to support and embed business recovery and resilience over the longer term in disaster-affected regions (Drennan et al., 2016; McGowan, 2014). An ecological model can enhance understanding of how this may work (see figure 4). Below, we outline how an ecological model may be operationalised and provide recommendations which are grounded in our findings and triangulated with the relevant *Royal Commission Report* recommendations.



The spring and early summer of 2019 provides a good example of compounding extreme weather and climate conditions and illustrates the effect of background climate trends amplifying natural climate variability (BOM & CSIRO, 2020 P.8)

Recommendations for a transformative, ecological place-based pathways to recovery

Our recommendations are strengths-based, according to what participants told us works, and feasible because they focus primarily on identifying and strengthening existing structures and linkages. We suggest that using an ecological model unlocks the potential of transformative place-based approaches to mobilise the endogenous potential of a place and obtain broad local stakeholder engagement. Indeed, our findings provide additional evidence that building resilient businesses in regional areas requires an ecological approach. We also found the notion of resilience to be a key characteristic of regional identity, typically emerging during interviews in discussions about mental health. Van Kessel et al. (2015, p.679) suggest that resilience is often perceived as 'bouncing back from adversity', yet it is more accurate to consider resilience as a 'dynamic and complex phenomenon'.

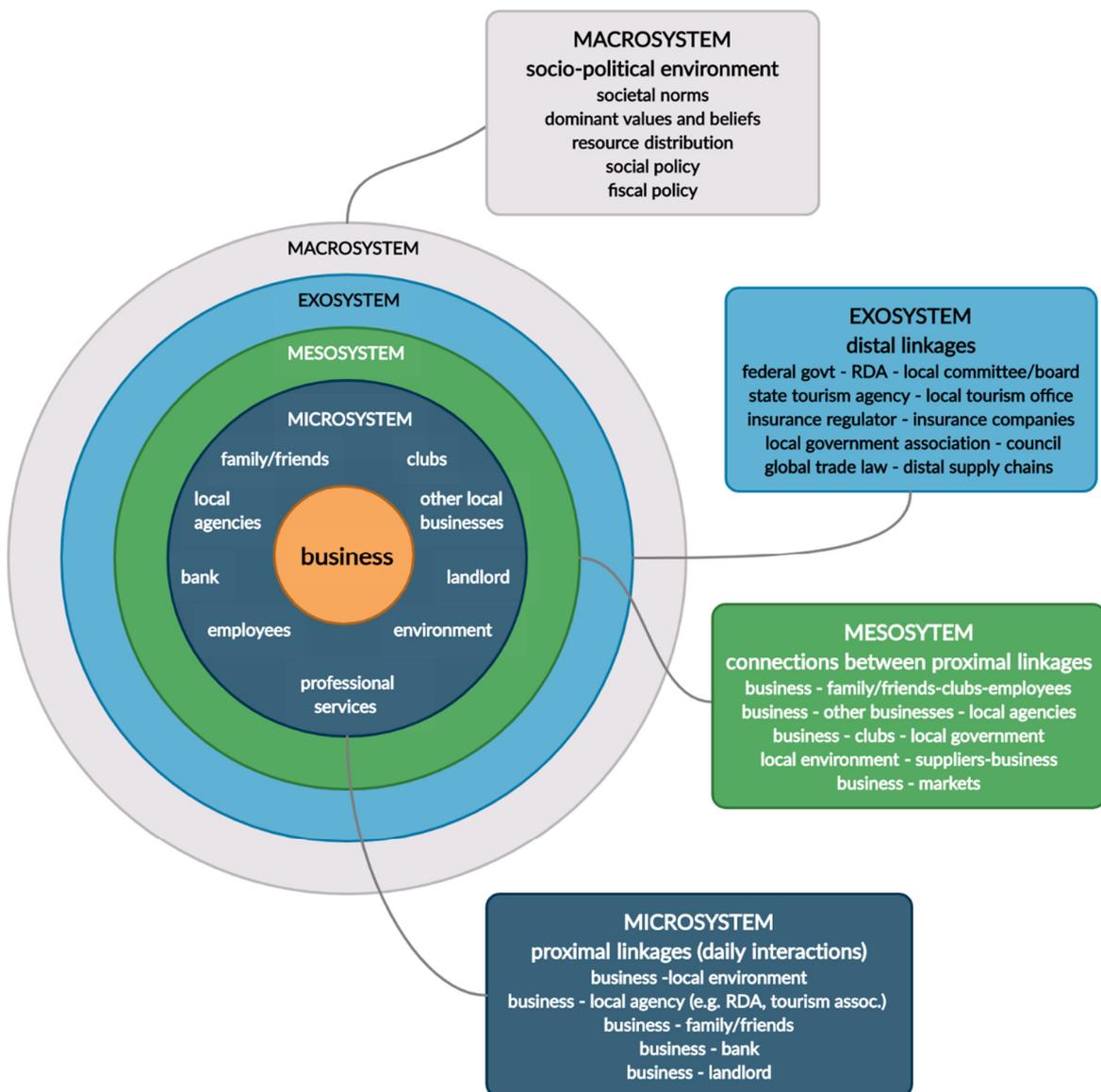


Figure 4. Ecological model for pathways to recovery

Consistent with van Kessel et al (2015), our findings reveal that business resilience is influenced by internal and external factors including micro system (individual business pre-disaster planning, collaborations with other businesses and professionals, business owner skills/expertise), meso system (existing and new network connections, relationship with local government and community support), exosystem (connections or relationship with local government agencies such as RDA/SATC, banks, insurance, landlords) and macrosystem (state and federal government policies such as JobKeeper / grants, access to mental health support, access to global markets and supply chains) (see figure 4).

Transformative place-based approaches facilitate transparent knowledge and power exchange, foster place-based leadership and actively pool resources – from within and outside spatial boundaries. Applying Process-Person-Context-Time (PPCT) to the model enables an in-depth exploration of how businesses might develop over time, to build resilience and remould systems as part of a transformative place-based approach (Bronfenbrenner 1981). Using ecological systems theory we have investigated the complex mix of supports that already exist in communities and, together with the two PAGs, recommend what types of supports, and the timing of these supports, would provide pathways for regional businesses to recover and thrive post-disaster, as well as promote business resilience in the future (van Kessel et al., 2015). Interview and PAG webinar participants (see Appendix 6) provided in-depth information about where linkages and processes are working well and how these may be utilised more systematically. Below, we provide recommendations for how these may be operationalised at each part of the ecological system.



Figure 5. Pathways to place-based regional business recovery model - business microsystem development and processes over time.

Microsystem

By understanding the microsystem (individual businesses' immediate contexts and daily linkages), we can see how and where the other linkages may form and how businesses may make better use of them. The microsystem is the local context in which the regional business operates; that is, the daily processes and linkages in which they engage. Our microsystem findings, summarised in Figure 5, suggest that some of the key processes that regional businesses need to build resilience over time include the development of collaborative skills to develop linkages with other business, professionals and relevant business organisations.

Discussions about our findings in the PAG webinar suggested that people in regional businesses need to be supported to develop strong business management skills, such as financial literacy and marketing knowledge. Figure 5 provides an overview of how ecological model may be operationalised over time, starting from the business microsystem, with examples of each of the steps and processes that individual businesses could take outlined in Figure 6. These processes may not flow in the ways outlined, however the emphasis is that, there needs to be a) a great deal more attention paid to acquiring knowledge, skills and linkages before setting up a business in current and predicted ecological contexts, and b) a community-wide understanding that disasters are likely to be part of living in regional Australia and so should be designed-in. Once we have identified the key linkages in the microsystem we can follow these linkages outwards to identify the range of linkages (e.g. support networks) that are available to businesses that may be operationalised.

Drawing on Figure 6, regional businesses should:

- **Find and establish connections with local and regional support structures relevant to the specific business idea (e.g. RDA, tourism, food, beverage, grape, or primary industry authorities, local government and/or economic development agency)**
- **Develop relationships with local and regional businesses and relevant business and community groups e.g. join local business group, use local supply chains and collaborate/pool resources**
- **Establish professional linkages including legal, accounting and administrative assistance (e.g. for grant writing)**
- **Engage a business mentor to assist with identifying areas to increase business management capacity (e.g. sustainability, financial literacy, marketing, risk management)**
- **Examine feasibility, potential risks, ways to spread risk (e.g. multiple markets, cash flow)**
- **Institute sustainable management systems (e.g. cloud-based record keeping, staff, marketing, invoicing etc.)**
- **Develop strategies to support mental health and wellbeing for self and staff**
- **Establish disaster management protocols (e.g. water pumps, reducing fire fuel load, safety and evacuation procedures), conduct regular checks on equipment, conduct regular checks on procedures and ensure staff, colleagues and relevant authorities know what these are**
- **Identify which people/agencies/community groups are involved in coordinating different types of disaster responses and management.**

Mesosystem

The mesosystem is where the business's place-based processes occur that may then be supported by linkages in the exosystem. Linkages with other businesses, local government and local community and business organisations are made and interact with other relationships such as friends, family and non-business linkages that contribute to a business owner/operator's wellbeing.

The findings from our study show why local leadership is crucial for transformative place-based recovery and that the mesosystem is where this should occur. Building local leadership capacity is necessary and decisions need to be made regarding who (or which local agency) leads and co-ordinates business-related activities during and after an emergency. These decisions should be made before an emergency or disaster and different leaders may be identified for different types of emergencies. PAG participants' suggestions included making community decisions, for example that local government should co-ordinate bushfire recovery activities and medical centres should lead pandemic-related activities, but these decisions must be made in a transparent manner according to each place.

In the mesosystem place-based relationships and collaborations should be established and developed in 'good times'. Fostering and institutionalising local expertise, for example through local economic development initiatives, could mean that local professional services such as accountants, web designers and administrative services could be co-funded to assist local businesses during times of local or regional economic hardship (such as during or post-disaster). The *Royal Commission Report* includes recommendations regarding the need to address the current lack of incentives for communities to build resilience and so we include recommendations to address this at the local level (Binskin, 2020).

Place-based local and regional authorities (e.g. local government, local business-related boards, committees, groups) should:

- Strengthen local leadership capacity and identify and establish succession planning (e.g. hold regional information and training seminars/workshops)
- Establish clear delineation of local and regional leadership roles, such as which entities are responsible for economic development activities and at what level/s (e.g. individual business assistance such as grant application support; Indigenous land management consultation and activities; universal activities such as water security)
- Establish clear delineation of roles to be activated in times of disaster (e.g. local government during bushfire; medical centre for pandemics)
- Communicate role delineation to local communities so that businesses and the general community know which entities will be coordinating responses to any type of disaster
- Establish funding mechanisms for use in short-, medium-, and long-term business disaster recovery (e.g. local or regional grant or no/low interest microfinance schemes)
- Consider providing grant schemes in non- or post-disaster times that include incentives for businesses to (for example) engage a mentor, use local supply chains or improve financial literacy skills by including these as part of a points system, or as eligibility requirements, in the application criteria
- Develop collaborative regional and local marketing strategies and engage businesses in these to share marketing costs
- Provide opportunities for local and regional businesses to collaborate (e.g. networking events)

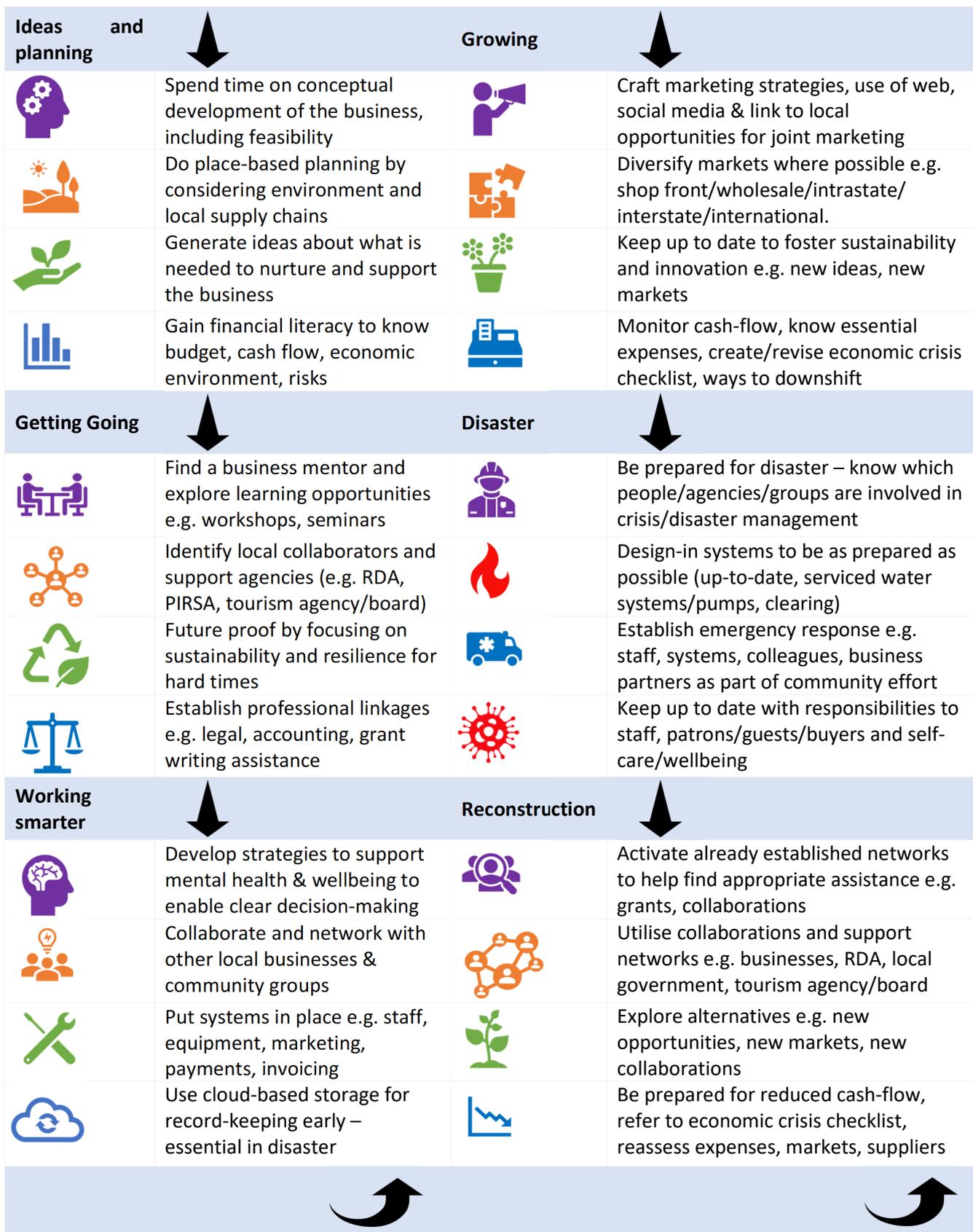


Figure 6. Explaining pathways to place-based regional business recovery. Findings from interview and PAG data.

Exosystem

The exosystem is where multiple linkages occur that affect businesses, such as linkages between the relevant RDA board and the three tiers of government or local tourism agencies with their state-based governing organisations. Activities in the exosystem affect businesses, but businesses are not necessarily aware of the activities nor do they have control over them. The examples that participants and PAG members highlighted from the two case studies included the establishment of public-private partnerships to enhance regional economic development or to assist individual businesses. An example of a public-private partnership that the PAGs gave was that the RDA AHFKI has been working with the three tiers of government and industry to provide long-term water security for Kangaroo Island. An example of individual-level support for both case study sites was that the SATC had collaborated with Deloitte to provide individual businesses with the types of assistance outlined in figure 6, such as business coaching/mentoring, financial literacy, budgeting and marketing.

This is also the level where corporate citizenship may be developed that will affect businesses. Figure 6 elaborates upon the cycle pictured in figure 5. Relevant examples from this study included transport, commercial rent and insurance. Starting with transport, PAG members gave the example of the potential for government agencies to collaborate with ferry business owners (or airlines) to reduce supply chain costs for local businesses in general and in emergencies or rebuilding after disaster. A second example that participants gave was lease agreement with landlords, in particular where landlords increased rent during COVID-19 restrictions. A third example was insurance; participants expressed frustration about the ways in which their insurance companies had avoided paying for what their premiums purportedly covered, such as business interruption due to fire. Other research has found that people's experiences of anger about the lack of assistance, or active obstruction to providing support, from such systems after disaster is a cause of long-term poor psychological outcomes (Bryant et al., 2020).

The exosystem is where regulatory systems could be operationalised to ensure that insurance companies, banks, commercial landlords and other relevant sectors behave as good corporate citizens, and to ensure that there are transparent processes between systems.

Local, state and federal governments should work together to:

- **Provide resources to fund or co-fund mesosystem/place-based recommendations above**
- **Provide clear and transparent information regarding lines of responsibility and linkages between agencies and businesses across the ecosystem (e.g. RDA, tourism, food, primary industry agencies)**
- **Engage and provide resources to essential transport operators in times of disaster and recovery (e.g. immediate term - emergency services, and mid- long-term - rebuilding requirements)**
- **Operationalise corporate sector regulation, e.g. to ensure that commercial leasing arrangements are fair in times of disaster and recovery**
- **Operationalise insurance sector regulation to ensure that insurance policies are clear and transparent, to simplify claim processes and to negotiate ways to cap premiums**

Macrosystem

The macrosystem is where the broader social, economic and political context for the ecosystem is set – such as state and federal government policy and access to global markets and supply chains. Government decisions about environmental and fiscal policy, including the insurance and banking sectors, have significant effects on the viability and recovery pathways of regional businesses. Our study findings demonstrate how federally initiated organisations, such as the RDA and state organisations such as PIRSA and the SATC, play a significant role in pathways to recovery for regional economies and the diverse

places within regions. These organisations should be supported to work at both a strategic level and at an individual business level. While the former could be managed within the local agency (e.g. a specific RDA Board) the latter could be outsourced to local professionals (e.g. business coaches, marketers). Participants and PAG members both expressed frustration that, although there are currently many support structures, they are not well defined, and it is not clear which organisations should lead particular activities.

Our findings suggest that there needs to be more emphasis on the linkages between systems, and how these may be operationalised within particular places. These findings align closely with several recommendations in the *Royal Commission Report*, in particular, recommendation 3.5 which recommends that, ‘there should be a national standing entity that could educate and work collaboratively with partners to embed resilience considerations across the Australian community, including across the Australian, state and territory governments, private sector, non-government organisations and the community’ (Binskin, 2020 p. 101). Once these linkages are in place, under the coordination of such a national entity, the foundations will be established for regional businesses and their communities to thrive, do the best they can in disasters and during recovery enjoy the best possible supports at all levels.

The *Royal Commission Report* includes some of the now substantial body of evidence about the effects of disasters on mental health and our findings reflect some of those of the *Report*, for example, the experiences of business operators ‘navigating the recovery support system can be complex and exhausting. These processes should be designed with closer attention to the needs of these people’ (Binskin, 2020 p. 32). The effects on mental health can be long term, with longitudinal studies showing that mental health can continue to decline at least 10 years post disaster (Bryant et al, 2020). Yet , there are no consistent, national mental health datasets (Binskin 2020).

Outcomes from using the ecological model will give regional communities the best chance to control their destinies, thereby equipping them with enough control over the daily conditions of living that determine community resilience and mental health. In other words, they will be enabled to ‘Build Back Better’ (UN, 2015 p. 21).

To support transformative, ecological place-based pathways to recovery federal and state governments must:

- Establish ‘a standing national resilience and recovery entity’ as recommended in the *Royal Commission Report: Recommendation 3.5* (Binskin, 2020 p. 34)
- Support ‘localised planning and the delivery of appropriate mental health services after a disaster’ as recommended in the *Royal Commission Report: Recommendation 15.3* (Binskin, 2020 p. 42)
- Provide adequate and appropriate resources to fund mesosystem/place-based recommendations
- Define lines of responsibility and linkages between the three tiers of government and government agencies and relevant non-government organisations across the ecosystem
- Provide a regulatory framework and/or compensation to the corporate sector, e.g. banks, insurance companies, essential transport companies and commercial leasing laws to provide fair services in times of disaster and recovery
- Provide avenues for compensating individuals and businesses that use their time, resources and equipment to combat disasters (i.e. loss of trade, use of water, use/loss of vehicles)
- Plan how to cap disaster insurance premiums and/or provide a national disaster insurance scheme that may include public-private agreements

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Appendices

Appendix 1: Coding framework

Theme	Description
RESEARCH QUS	
Short - medium term effects of disaster	
Timing and nature of support interventions	
What are the best ways to co-ordinate activities: individual, community, state, federal levels	
From codes	
Effects of disasters on businesses	<p>Drought: affects primary production and regional economies (e.g. affects producers' spending, reduced supply and increased costs of secondary production e.g. wine). Longer term (not acute emergency).</p> <p>COVID: immediate reduction or ceased cash flow for businesses reliant on: face-to-face interaction with people, interstate markets, international markets followed by uncertainty and reduced cash flow</p> <p>Fire: emergency period – production/trading stops. Depending on degree affected, may recommence/relocate/rebuild. More certainty, community support (except in combination with pandemic)</p>
Supply chains	<p>Purchasing e.g. primary produce (e.g. grapes or meat); textiles; equipment; consumables (e.g. biodegradable cups/cutlery)</p> <ul style="list-style-type: none"> • Local (Barossa/KI) • State • Interstate • Global
Production	<p>The production/manufacturing of goods/products</p> <ul style="list-style-type: none"> • Primary production costs e.g. bees requiring flowers and pollen (alternatives when not available) • Secondary production costs e.g. manufacturing goods, wine production • Research and development costs (e.g. testing grapes/wine for smoke)
Market	<p>Selling</p> <ul style="list-style-type: none"> • Creation (new markets) <ul style="list-style-type: none"> ○ Online ○ Local ○ New collaborations • Disruption (to existing markets) <ul style="list-style-type: none"> ○ Global (geopolitics) ○ Interstate

	<ul style="list-style-type: none"> ○ Intrastate ○ Local ● Collapse (of existing) <ul style="list-style-type: none"> ○ Global (geopolitics) ○ Interstate ○ Intrastate ○ Local ● Industry cycles <ul style="list-style-type: none"> ○ Boom-bust ○ Popularity (e.g. preference for local or green enterprises)
Support systems	
Federal government	<ul style="list-style-type: none"> ● ATO: JobKeeper – saved businesses, BAS statement grace periods, asset write-off ● Grants – drought, various non-disaster related grants that would help in the medium term especially for diversification, marketing (NB export market development grants are available - reimbursement) ● Internet infrastructure: -ve: crashed - grants & jobkeeper deadlines; +ve enabled to go online (e-commerce) ● RDA – local committees – extremely helpful – more administrative assistance during COVID-19
State government	<ul style="list-style-type: none"> ● South Australian Tourism Commission (Tourism SA) – importance of local offices e.g. Tourism Barossa ● Grants: emergency \$10K for small businesses ● Compliance with rules (COVID) – very clear and helpful ● Mental health
Local government	<ul style="list-style-type: none"> ● Grants ● Support with compliance ● Other
Local community	<p>Supportive:</p> <ul style="list-style-type: none"> ● Other business operators (support between businesses) ● Mental health – supportive but also difficult to show struggles (e.g. parked outside clinic) ● Networks (e.g. Tanunda Business Group, KI Tourism Food Wine & Beverage Assoc.) ● Local contacts within state agencies (e.g. Tourism Barossa, RDA, Food SA) ● Sporting clubs (e.g. mental health support, community development approach to information sharing from SANFL and local government) ● Staff (e.g. agreeing working fewer hours, volunteering, taking leave) ● Post -fire community support curtailed by COVID-19 physical distancing – VERY painful, slows recovery (mental health)

	<ul style="list-style-type: none"> • Landlords agreeing to reduced rent or rent holiday <p>Unsupportive:</p> <ul style="list-style-type: none"> • Resistance to COVID-19 restrictions • Anger directed at open businesses (during COVID) • Attributions of blame for ferocity and extent of fires • Landlords refusing to reduce rent and in fact increasing rent
Information sources	<p>Sharing</p> <ul style="list-style-type: none"> • Between businesses • Within businesses (e.g. with staff) • Global networks – e.g. bushfire recovery learnings, R&D about smoke-affected grapes • Local clubs and associations (e.g. sporting, community) • Government agencies <ul style="list-style-type: none"> ○ Locally placed government agencies (e.g. Barossa SA) ○ SA Health • Via media <p>Information overload</p> <ul style="list-style-type: none"> • Mental health • Smaller businesses unable to cope with volume • Ignore information – miss opportunities
Pathways to recovery	
<i>Individual level</i>	
Business characteristics	<p>The ability of businesses to recover from disasters depends on their business characteristics including:</p> <ul style="list-style-type: none"> • Size, Age • Type of product/service • Business model <ul style="list-style-type: none"> ○ Retailer ○ Wholesaler ○ Exporter ○ Importer

	<ul style="list-style-type: none"> • Online presence – e-commerce • Owner skills, previous experience (e.g. business management, marketing, accountancy) • Access to: <ul style="list-style-type: none"> ○ Accountants/bookkeepers ○ Lawyers ○ Business mentor ○ Web design ○ Administrative assistance ○ Marketing skills, avenues
Learnings - risk reduction	<p>Depends on business characteristics</p> <ul style="list-style-type: none"> • Future proofing (e.g. fire breaks, water supply, design for pandemics) • Diversification (planned/implemented) • Adaptation (e.g. to market) • Not over-reaching (e.g. avoiding increasing borrowing) • Financial smoothing (see code for this) • Change to local production and suppliers (COVID-19 response)
Regional business operator identity	<ul style="list-style-type: none"> • Regional areas tend to boom and bust – already resilient to this (a few participants) • Sense of (and expectation of others) self-reliance • Sense of responsibility (to keep business viable for the community) • Support for other local businesses • Moral obligation (e.g. not to take grants that they feel they don't qualify for) • Moral judgement (e.g. re other businesses, staff members)
Ability and opportunity to pivot	<p>(change direction – they did or they didn't)</p> <ul style="list-style-type: none"> • Architecture-enabled pivoting (e.g. concertina window, plants between tables) • Change practices, business model etc. (e.g. accept smaller orders, diversify, enter new markets)
Financial smoothing	<p>Businesses changing their practices – particularly after/during COVID-19 – to smooth financial shocks</p> <ul style="list-style-type: none"> • Supply and demand (e.g. smoothing cash flow) • ATO – helpful with this • Utilities – offering alternative payment e.g. monthly • Council rates • Landlords – negotiation should be early • Banks – disinclined to seek loan increase or loan holiday due to interest accumulation (query: demise of local branches?)

	<ul style="list-style-type: none"> • Insurance – tended to be unhelpful – at least one participant in legal battle re business interruption
Local level solutions	
Support networks	<ul style="list-style-type: none"> • Build up and make use of support networks (e.g. local committees/branches of Tourism SA, RDA) • Professional support (e.g. administrative support for grants, business mentoring)
Local plans	<ul style="list-style-type: none"> • Local Government • Bushfire risk reduction (e.g. consensus on land management – clearing: where, when, who?) • Local adaptation of rules/responsibilities (pandemic-spread risk reduction, including staff) • Local suppliers • Marketing
Mental health	<ul style="list-style-type: none"> • Easy access to support (with consideration to privacy and fear of stigma) • Community support (e.g. clubs, sporting associations) • Businesses supporting each other (e.g. through business associations)
Govt level (State/Fed)	
General	<ul style="list-style-type: none"> • Provide funding/scaffolding for support networks (e.g. local committees/branches of Tourism SA, RDA) • • JobKeeper or similar where possible – should be simplified, faster access to funds • Increase support for local provision
Grants	<ul style="list-style-type: none"> • Medium and longer- term practical grant assistance (e.g. marketing, improvements) • Professional support (e.g. administrative support for grants, business mentoring) • Should be simplified – or include assistance to complete especially for smaller businesses
Professional support	<p>Need access to (e.g. grant programs that provide funds for):</p> <ul style="list-style-type: none"> • Accountants/bookkeepers • Lawyers • Business mentors • Web design expertise • Administration
Mental health	<ul style="list-style-type: none"> • Government-funded mental health services (increased during COVID) • Facilitation of networks (e.g. group chats, RUOK?, it's okay not to be okay) • Regional-specific mental health services

Silver linings	
	<ul style="list-style-type: none">• COVID• Being forced off the treadmill• Time to reflect:<ul style="list-style-type: none">○ on business practices (e.g. local, global)○ Diversification (previously not considered)<ul style="list-style-type: none">▪ Channels (e.g. global, interstate, local, online)▪ Brand (e.g. boutique, mass produced)○ Staff – numbers, hours○ Work hours○ Opening hours○ Income and expenditure (being lean/financial smoothing)• Opportunity to spend time with family• Opportunity to renovate• Partners working from home (or closer to home)

Appendix 2: Funding and support available for case study areas – COVID-19

Funding body	Funding scheme or other support type	Type (e.g. short/med/long term)	Assessment/ eligibility criteria/ ease of application	Amount (total)	Maximum per application
Commonwealth Government	JobKeeper payment (until 28 March 2021)	Short-term	businesses and not-for-profits who continue to be significantly impacted by the Coronavirus.	\$130b	\$1500 per fortnight per employee (from March 2020-Sept.2020) \$1200 per fortnight per employee (from Sept. 2020-March 2021)
Commonwealth Government	Instant asset write-off	Short term (From 12 March - 31 December 2020)	Businesses with aggregated annual turnover of less than \$500 million (From 1 July 2021, the instant asset write-off will only be available for small businesses with a turnover of less than \$10 million).	Asset Write-off threshold is: \$150,000 From July 2021: Asset Write-off threshold: \$1,000	N/A
Commonwealth Government	Backing business investment - accelerated depreciation deduction	Short term	Businesses with a turnover of less than \$500 million & applies to eligible assets acquired and first used or installed ready for use from 12 March 2020 until 30 June 2021.	businesses can claim the deduction when lodging their tax return for the income year.	N/A
Commonwealth Government	Increased and accelerated income support	Short term 6 months	The expanded eligibility applies to: sole traders self-employed	N/A	\$550 per fortnight From 25 September 2020 to 31 December 2020, the Supplement amount will be \$250 per fortnight.
Commonwealth Government	The Coronavirus SME Guarantee Scheme	Medium term	SMEs with an annual turnover up to \$50m.	\$40 billion	Maximum total size of loans of \$250,000 per borrower (up to 3 years). From 1 October 2020, the maximum loan size will be increased to \$1 million per borrower. (up to 5 years)

Funding body	Funding scheme or other support type	Type (e.g. short/med/long term)	Assessment/ eligibility criteria/ ease of application	Amount (total)	Maximum per application
Commonwealth Government	Early access to superannuation	Short/Medium term	Sole traders whose business has been suspended or who have experienced a reduction of turnover of 20 per cent or more due to COVID-19	\$20000	Access up to \$10,000 of their superannuation in 2019-20 and a further \$10,000 in 2020-21.
State government	Rent relief	Short term	business tenants of government buildings who have been forced to close, or have been significantly impacted by COVID-19 Affected tenants are generally those with an annual turnover of up to \$50 million which are eligible for, or receiving, the Job-Keeper wage subsidy.	Rent relief until 30 June 2020	N/A
Commonwealth Government	Boosting cash flows for employers	Short term (March-June 2020; June-Sept. 2020)	Small or medium business entities, including not-for-profit organisations, sole traders, partnerships, companies or trusts with an aggregated annual turnover under \$50 million that employ staff through the economic downturn associated with COVID-19.	Tax-free cash flow boosts of between \$20,000 to \$100,000	N/A
Commonwealth Government	Assistance to help pay apprentice and trainee wages	Medium/long term	Small businesses employing fewer than 20 employees who retain an apprentice or trainee. SMEs employing fewer than 200 employees who retain an apprentice or trainee.	N/A	Small business: The wage subsidy is 50 per cent of an apprentice or trainees wage paid - up to a cap of \$7,000 per quarter. (from 1 January 2020 to 30 September 2020) SMEs: The wage subsidy is 50 per cent of an apprentice or trainees wage paid - up to a cap of \$7,000 per quarter. (from 1 July 2020 to 30 March 2021)

Funding body	Funding scheme or other support type	Type (e.g. short/med/long term)	Assessment/ eligibility criteria/ ease of application	Amount (total)	Maximum per application
Commonwealth Government	Temporary relief for financially distressed businesses	Short term	Companies facing insolvency or bankruptcy as a result of COVID-19.	temporary six month increases in the threshold at which creditors can take action against a company (from \$2,000 to \$20,000) and the time companies are able to respond to statutory demands they receive (from 21 days to 6 months).	N/A
Commonwealth Government	Assistance for affected regions, Communities and industries (To support regions and communities most affected by COVID-19)	Medium/long term	The government will work with affected industries and communities to develop recovery plans and measures	\$1 billion has been set aside to bolster existing programs or establish new initiatives.	
State Government	Registered Training Organisations (RTOs): building capacity projects			RTOs can apply for up to \$50,000 for innovation, development and/or research projects that assist in building capability, share learnings with the VET sector and collaborate closely with industry partners.	
State Government	VET market continuity package		All eligible training providers	the \$16 million VET Market Continuity Package	
Commonwealth Government	International Freight Assistance Mechanism			241.9m	

Funding body	Funding scheme or other support type	Type (e.g. short/med/long term)	Assessment/ eligibility criteria/ ease of application	Amount (total)	Maximum per application
Commonwealth Government	Regional Growth Fund - Strategic Business Round 2020 SA		Organisations with shovel ready projects in regional South Australia.	Matched funding of between \$50,000 and \$2 million	
Commonwealth Government	Skilling South Australia - extra support to continue skills training their apprentices through the COVID-19 pandemic		South Australian businesses that employ apprentices or trainees	Various funding initiatives and support measures.	
South Australian Government	Stimulus package: The Jobs Rescue Package Business and Jobs Support Fund Community and Jobs Support Fund.	Short / medium term		Jobs rescue package– one off emergency cash grants of \$10,000 for small businesses and not-for-profits. Business and Jobs Support Fund - \$300m Community and Jobs Support Fund - \$250m	
South Australian Government	A land tax relief package			Provide eligible landlords with a 25 per cent reduction on their 2019-20 land tax liability on affected properties.	
South Australian Government	Land tax deferral			Businesses defer payment of their third and fourth quarter instalments for up to six months.	
Australian Banking Association	Deferred loan repayments	Short term	businesses affected by COVID-19	defer business loan repayments for 6 months	
State Government	Job Accelerator Grant as part of its COVID-19 relief measures.	Short term		Up to \$5000 per FTE (full time employee)	

Funding body	Funding scheme or other support type	Type (e.g. short/med/long term)	Assessment/ eligibility criteria/ ease of application	Amount (total)	Maximum per application
State Government	COVID-19 Tax Relief Measures SA: Six-month payroll tax waiver businesses with Australian grouped wages up to \$4 million Six-month payroll tax deferral – businesses with Australian grouped wages over \$4 million		South Australian businesses.	Businesses and business groups with Australian (annualised grouped) wages of up to \$4 million will receive a six-month payroll tax waiver (April-Sept.2020) Businesses and business groups with Australian (annualised grouped) wages over \$4 million can defer payroll tax payments for the six months from April to September 2020	
State Government	Fee relief for South Australian liquor license holders		South Australian liquor licenses.		

Appendix 3: Funding and support available for case study areas - BUSHFIRE

Funding body	Funding scheme or other support type	Type (e.g. short/med/long term)	Assessment/ eligibility criteria/ ease of application	Amount (total)	Maximum per application
SA government	South Australian Small Business Bushfire Recovery Grant	Medium/long term	small business located in one of the eligible disaster event areas and has less than 20 FTEs	Eligible small businesses can claim up to \$50,000 to help with clean-up and immediate restoration costs.	
SA government	Emergency Response in Primary Industries Grant for South Australian primary producers affected by bushfire (by PIRSA)	Medium/long term	primary producer affected by bushfire	a grant of up to \$75,000 to help recovery process	1 grant per property
Joint funding by commonwealth & SA government	Concessional loans	Medium/long term	Fire affected businesses operating in the local government areas of Kangaroo Island, Adelaide Hills, Mount Barker, Murray Bridge, Mid Murray, Kingston and Yorke Peninsula	Loans of up to \$500,000, will be available to support eligible businesses restore and replace assets and property that have been significantly damaged in the fires.	
Joint funding by commonwealth & SA government – under disaster recovery arrangements	Small business support grant		small businesses (including primary producers) who have experienced a significant loss of income due to the South Australian bushfires that commenced 21 November 2019.	Small Business Support Grants of up to \$10,000	
State Government	SA Bushfire Appeal – businesses and community organisations Wildlife recovery grant	Medium/long-term	businesses in the fire footprint who experienced injury, loss or damage under a number of categories all affected community organisations in the Kangaroo Island and Adelaide Hills regions	Businesses: gift payments of up to \$4,000 Community organisation: gift payments of up to \$20,000 Wildlife Recovery Fund - \$400,000	

Funding body	Funding scheme or other support type	Type (e.g. short/med/long term)	Assessment/ eligibility criteria/ ease of application	Amount (total)	Maximum per application
State Government	Tax support and assistance		Businesses in bushfire-impacted postcodes	Ex-gratia tax relief for the stamp duty Ex-gratia relief for 2019-20 and 2020-21 land tax liabilities Putting on hold debt collection of Emergency Services Levy (ESL) debts	
Commonwealth Government	Regional Tourism Bushfire Recovery Grants - Regional Events		Local government authorities and regional tourism organisations operating in bushfire affected areas receiving Disaster Recovery Funding Arrangements (DRFA) assistance.	Up to \$30,000	
State and Federal Government	Loss of income		Small businesses in bushfire affected areas who have lost revenue of 40 per cent or more as a result.	\$10,000	
Indigenous Business Australia	Bushfire Crisis Support		Businesses impacted by the bushfires through loss of property or compulsory evacuation.	Up to \$2000	
Rural Business Support	financial counselling	Short-term	primary producers and small rural-related businesses impacted directly, or indirectly, by the bushfires	Free counselling service	
SA government	Waiver of state government administration fees	Short-term	businesses impacted directly, or indirectly, by the bushfires	Waiver of admin fees - Replacement of Licenses/registrations on vehicles destroyed by fire	
Local Government	Kangaroo Island Mayoral Relief and Recovery Bushfire Fund: Category 5 - Business	Short-term	Households who derive an income from the affected property such as primary producers and small businesses		\$2,000 per property

Appendix 4. Relevant RDA business support structures at the two case study sites.

Regional Development Australia Adelaide Hills, Fleurieu & Kangaroo Island

Responses the RDA AHFKI provided in response to the Black Summer Bushfires and COVID-19 in addition to those listed in the report text:

1. Curated website links for businesses seeking assistance and information,
2. Promotion of relevant supporting workshops, services, grants, information and other supports,
3. Grant assistance and grant finder website (Hills & Coast Grant Finder)
4. Funding and provision of a one-on-one mentoring service on Kangaroo Island for businesses impacted directly and indirectly by the Black Summer Bushfires throughout the 2020 calendar year
5. Production of folios (one for bushfires, one for COVID-19) of recommended recovery projects with business cases, and promotion of these to state and federal governments and other potential funders/investors
6. Co-funding with Department of Innovation and Skills, the “Rethinking Business” conference in the Adelaide Hills, a full day session of workshops and presentations for hills businesses impacted by fires and COVID-19
7. Support of recovery projects including undertaking economic impact modelling, funding of professional services, and advocacy with potential funding partners - the best example of this was the Kangaroo Island Water Security and Drought Proofing Project (\$47.8m funding secured) for which we advocated heavily with funding partners (state and federal govt, and SAWater), undertook economic impact modelling, funded business case development
8. Participating as a key stakeholder in the Adelaide Hills Business Support Network, a group comprising representatives of councils (Adelaide Hills and Mt Barker), Rural Business Support and Department of Innovation and Skills with a focus on collaboration, networking, identifying gaps in support, avoiding duplication of effort

Regional Development Australia Barossa, Gawler, Light, Adelaide Plains

Regional Development Australia Barossa, Gawler, Light, Adelaide Plains delivers a suite of economic development services contextualized for the Barossa region and its economy. The strategy is to develop and support a healthy economic system, boosted by innovation and entrepreneurial ecosystems which leverage strong assets of place.

Key services to support the economy operate at both a macro and micro level – with 92% of local employment derived from small business this is not a sector that can flounder without negative impacts across the wider economy.

1. *Business Retention and Expansion - Entrepreneurship*
Business to Business (B2B) Services: a network of more than 40 local professional services providers offering highly subsidised growth and investment services to small and medium enterprises, at the same time creating employment in those professional services businesses. Business Networks across industries and towns and small business, and networks of networks; Business capability development through extensive workshops, seminars and business breakfasts;
2. *Workforce*
Barossa Campus – a Regional Universities Centre – the key pillar of a workforce strategy for a pipeline of skilled local workforce linking industry and students and industry and training for a sustainable workforce; links with B2B for employer upskilling
3. *Industry – Innovation*
Facilitate and support two industry cluster groupings: Northern Adelaide Plains Food Cluster and Barossa Wine Food Tourism Arts Cluster and networks within including the Barossa International

Business Network. Industry associations supported with B2B and relevant opportunities including investment and precincts development.

4. *Industry – Export*
Asia export assistance to businesses, host Trade Start services and consortium member of South Australia Food Export Hub. Triage export opportunities and capability development.
5. *Industry – Investment*
Working with individual investment proponents to develop their projects, contextualise and optimise, business case development and access to sources of funding. Key work in partnerships building and value adding based on regional gaps.
6. *Regional long-term planning, priorities setting and infrastructure*
Linking stakeholder in the identification, prioritisation and advocacy for infrastructure and regional priorities; policy development and opportunities identification. Regional Data bank.
7. *Operational connections with state, federal and local government*
A trusted partner and communication pathway for all tiers of government, linking place to government.

COVID-19 Response: The COVID-19 response showed how important existing structures are in responding to crisis: no wheel needed reinventing, RDA BGLAP were equipped to assist businesses from the start (although it sorely stretched resources and staff).

- Immediately:
 - Launched a ‘Business Support COVID-19’ page on their Website, and
 - Put together a B2B services package covering cash flow, HR management, digital marketing, legal (contracts) advice as a variant of the B2B services structure already in place
- Galvanised a number of networks (already in place) for information and comms share, messaging and consistency (included industry & local/ state govt)
- Assisted business (through B2B) to understand and access government support
- Carried timely messaging to and from federal government, using existing channels
- Leveraged existing relationships for timely solutions for businesses
- NEW: engaged Restaurant professional to activate new models and labour market options for restaurants and food businesses
- Applied additional resources to business investment activity and projects development
- Reactivated a jobs portal for locally advertised jobs and people and job matching for the displaced and those struggling to find employees
- Moved business networks and town networks online for continued connectivity and support
- Moved business capability sessions (revised COVID relevant program) online
- Established a Whats App group for business community to ask questions of RDA and B2B providers
- Put together a suite of mental wellbeing resources and links on the RDA Barossa Gawler Light Adelaide Plains website

Appendix 5: Semi-structured interview guide

1.	How have your business activities been affected by disaster events? [prompt: recent, previous, COVID-19?]
2.	Which voluntary organisations helped your local community during and immediately following disasters? [prompt: what about support for businesses? What support have they provided?]
3.	Could you please describe the timing and nature of support you have been offered and /or received to assist in your business recovery?
4.	How have local councils, state or federal governments assisted with: <ul style="list-style-type: none"> a) immediate disaster relief b) mid- or long- term support c) disaster planning and preparation? [Prompt: how effective have these been focus on nature and timing?]
5.	How have insurance companies assisted you and your business activities with disaster relief and recovery?
6.	How do you think various support systems can improve the ways in which they assist businesses operating in regional South Australia with their short- mid- long-term recovery? [Prompts: 3 levels of government/ insurance/ community/volunteers/ non-government organisations; types of support, timing of support].
7.	What did you learn through your experience/s of disaster events? [prompts: about community, non-government, local council, state/federal government support systems]
8.	Do you think that you have sufficient information to be able to adequately plan for future disasters/emergencies?
9.	Have you made (or planned) any changes to minimise damage and disruption of future disasters as a result of your own experiences?
10.	In what ways do you think different types of organisations can improve the ways they currently support business recovery and reformation? [i.e. non-government, local, state and federal governments and their agencies].

Appendix 6: Pathways to regional business recovery

Combined results from PAG webinar brainstorming solutions session

Level: Individual business	Solution	Activities required
Kangaroo Island	<ol style="list-style-type: none"> 1. AT ALL LEVELS 2. The development of a small business hub with a focus on small business transformation, growth programs and support. 3. Assist individual businesses in long-term planning. Support Businesses to have better management capability: development/ enhancement / financial literacy / budgeting and monitoring 4. Contingency planning/succession planning /audience + marketing 5. Record-keeping 	<ol style="list-style-type: none"> 1. Coordination and co-operation between govt., non-govt., council, organisations & community is critical for developing a recovery plan 2. Sufficiently resourced business hub – should be a lead agency which has resources and is sustainable for ongoing business development (see below) 3. Develop a toolkit/compendium/ platform to assist them in developing expertise and skills development. Assistance from a govt. level <ol style="list-style-type: none"> 1) Level 1: Outside of times of disaster. The size of many business in regional areas is micro (0-4), so key operational staff are engaged in delivery and management. Thus, there is a need for individual & one to many training opportunities. Business coaching & mentoring is essential to embed learnings into businesses and to deliver on individual needs. 2) Level 2: Someone with suitable expertise that businesses can immediately work with for one-on-one quick response help in the case of disaster. 4. Hands-on assistance with suitable expertise to help businesses: i) pre-plan their responses to crisis & disaster, ii) understand their primary clientele, and thus who they market to, and iii) succession planning. 5. Moving from paper-based to cloud-based record-keeping in case of fire (associated issues with NBN/internet access).

Level: Individual business	Solution	Activities required
Barossa Valley	<p>1. Business management and practices – tourism, services, SATC engaged Deloitte – individual coaching qus.</p> <p>2. E.g. B2B program – 40 consultants able to assist with JobKeeper – 5 accountants could assist immediately, grant writers. Mar-Jun- 104 Businesses directly assisted (many more phone calls & communication) 73% uptake of support.</p> <p>3. Recent COVID-related grants more simple than usual grant programs – this should be how it works for emergencies</p> <p>4. ATO – helpful not to have to get BAS etc done.</p> <p>5. Business economic crisis checklist</p>	<p>1. Improve small business management so that they are prepared for any disaster/scenario planning: Get to know the status of the business - how much cash is needed at any time; what are the fixed expenses; need an accountant; marketing plan; business plan; business coach before starting a business – need the capital to afford one; what expenses can be cut - all Australian businesses should learn this.</p> <p>2. B2B (or similar) should be rolled out across Australia; mentors; grant writers; accountants; web designers; marketing; graphic designers etc.</p> <p>3. Grants <ul style="list-style-type: none"> a) Grants: require +++ time – businesses don't have that time especially in crises. b) Crisis grants should be developed outside crisis times so they are ready to roll out when required. </p> <p>4. ATO actions were helpful – would be good again.</p> <p>5. Similar preparation training as bushfire prevention – economic crisis checklist.</p>

Level: Community	Solution	Activities Required
Kangaroo Island	<p>1. Good mental health/wellbeing support which circumnavigates stigma associated with accessing help (particularly for men)</p> <p>2. Leading + coordinating voice in crisis response + clarity on repercussions</p> <p>3. Enhance virtual connectivity, infrastructure & digital literacy.</p>	<p>1. Already exist excellent mental health team and services at KI. But, need additional staff and expertise to be added to the local mental health team during the bushfire.</p> <ul style="list-style-type: none"> • Anonymous mental health service infrastructure and outreach eg. within a multipurpose building or online so help-seekers aren't anxious about being seen to be accessing mental health support. • Embrace and support mental health and wellbeing at a community level long-term, as the effects will last for decades. • Chaplains dropping in on farm properties and having conversations (defence personnel) – Anecdotal evidence: men are more comfortable to open up. • Blaze aid – on the ground counsellors moving around the farm - This informal connection was powerful • Take emphasis off 'mental health' and talk about wellbeing • Third party (off the island) aid may be seen as more neutral <p>2. Local govt. + medical clinic coordinated response with someone to lead in coordinating voices. This would lead to greater transparency in terms of appointed vs default role of the medical centre and guidelines versus mandates.</p> <p>3. Capacity building around use of online platforms. The offer of introduction sessions to familiarise people with a platform's features will support their access and the effectiveness of participation/appointments held via these channels. Residents are familiar with Zoom but there <u>needs to be reliable access/connectivity across KI</u></p>

Level: Community	Solution	Activities required
Barossa Valley	<ol style="list-style-type: none"> 1. Ensure businesses are connected to other local businesses – RDA – B2B, or through LG CEOs. 2. Community mobilisation in times of crisis/disaster 	<ol style="list-style-type: none"> 1. Should connected with business leaders in good times – regular communication & co-ordinate with councils – in good times so that when disaster hits, can draw on networks. 2. Create avenues for LG-community mobilisation groups e.g. mental health; mental resilience is strong preparation for business and community

Level: Local Government	Solution	Activities Required
Kangaroo Island	1. Community communication and healing 2. Leadership in times of crisis/disaster	1. Facilitate community gatherings 2. Leadership: <ul style="list-style-type: none"> • should not be personality vs policy. Develop strategies to provide assistance during any type of disaster or crisis e.g. delegate authority; provide toolkits; provide continuity regardless of personalities/politics/position turnovers. • Develop programs that facilitate 'situational leadership' and build capacity of all community members to take leadership a wide range of situations e.g. initiating a conversation, developing and implementing an idea/project.
Barossa Valley	1. Foster collaboration b/w LG, community and businesses 2. LG more capability to mobilise recovery assistance through community groups etc	1. RDA – LG – community groups e.g. Barossa Cares. LG more capability to mobilise recovery assistance through community groups etc.; LG – need funds to be able to support communities in emergencies etc., e.g funding for COVID-safe plans and implementation; increase assistance with regulatory issues, more pro-actively especially with pop up businesses to meet COVID-19 demand, cellar door tents etc 2. E.g. LG +++ involved in crisis funding – worked well – picked up co-payment fee for B2B and other \$\$ support for businesses; e.g. Barossa Council worked closely with RDA (and tourism?) for advice on where to apply resources and effort; fund to help businesses set up COVID-19 safe plans.

Level: State Government	Solution	Activities Required
Barossa Valley	<ol style="list-style-type: none"> 1. Small business grants in short-term 2. Med and long-term grants for business continuity 3. Fund training to improve business resilience 4. Leadership - provide clear communication in times of crisis 	<ol style="list-style-type: none"> 1. Develop smoother processes – more immediate, review for next time - to activate quickly. Held back by public sector working from home maybe? If so, need to adapt to this. 2. Med and short-term grant development e.g. larger grants for business expansion/diversification - during/after COVID-19 - funds were too slow and too small to activate opportunities. Should include help with business case/feasibility to unlock sustainable investments. 3. E.g. Digital training - improve websites etc. e.g. as above, SATC engaged Deloitte – individual business support 4. E.g. Crisis management and comms management which took away a deal of uncertainty (COVID)

Level: Federal government	Solution	Activities Required
Kangaroo Island	<ol style="list-style-type: none"> 1. Understanding the landscape of regional businesses 2. Empathy and understanding from on the ground experience 3. Rapid response & recovery, service provision and rebuilding expertise 4. Recovery: Business rebuilding expertise 5. Employee support programs. (i.e. Jobkeeper style income support and training programs) 6. Business support for staffs 7. Improved telecommunications coverage across the island. 	<ol style="list-style-type: none"> 1. Lower burden of proof (i.e. especially sole traders). 2. Members of Parliament and Directors of departments delivering fire recovery grants and services gaining on-the-ground experience and perspective – opportunities to gather and confer. Members immersing themselves in residents’ lived experience to understand impact, needs and sensitivities of impacted businesses and communities. 3. i.e Regional Development Australia Adelaide Hills, Coasts and Kangaroo Island - funding and provision of a one-on-one mentoring service on Kangaroo Island for businesses impacted directly and indirectly by the Black Summer Bushfires throughout the 2020 calendar year. 4. i.e. AusIndustry provision of locally based Strengthening Business facilitators through the Entrepreneurs’ Program (EP) in all bush fire affected LGA’s. Facilitators work one-one with business. And are able to engage the wider EP cohort of expertise to assist in solutions. 5. Immediate access to income support for employees of affected business to enable them to stay within the region along with access to training program where a need to reskill is identified. 6. Grants/funding for businesses to offer their staff accommodation to retain skilled workforce during & post bushfire. 7. More towers, greater speeds, better data plans for regional customers.

Level: Federal government	Solution	Activities Required
Barossa Valley	<ol style="list-style-type: none"> 1. ATO –BAS window etc, JobKeeper 2. Replacement for JobKeeper 3. Simple grant processes 4. Business support orgs to include links to mental health support - mental health awareness 5. Accessibility internet for times that public access inaccessible. 6. Increase resources for RDA boards/committees 	<ol style="list-style-type: none"> 1. Excellent short-term solution worked really well to get money though quickly – needs to happen again 2. Need to develop an alternative to JobKeeper 3. Grant processes worked well – simpler than usual. Should prepare for future grants so that not such a scramble 4. Advise business support organisations to include links to mental health organisations– connect to resources e.g. links to beyondblue on RDA website 5. Improve internet infrastructure for regions. RDA needs resources to mobilise for specific response 6. RDAs are a good vehicle for many responses and coordination. RDA boards/committees need resources to mobilise for specific responses and for a) place-based economic development and b) assist regional businesses to become disaster-resilient.