

BEYOND THE DUST

**Impact of Drought on Town Businesses
in Central West Queensland
and some solutions**



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This report was produced for the **Western Queensland Drought Committee**

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Sections 2.4; 3.2 and 3.3 — co-author Vanessa Durand

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For the rain never falls on the dusty Diamantina
And the drover finds it hard to change his mind
For the years have surely gone
Like the drays from Old Cork Station
And I won't be back til the droving's done

(Written by Hugh McDonald and performed by Red Gum — circa 1980's)



Executive Summary

Droughts bring dust storms and sometimes despair. However, this study also found stories of hope. Drought and dust affects every aspect of this region, with losses in productivity, income, jobs and population. Rural towns are especially exposed to the risks of drought, with approximately half of the businesses directly linked to agriculture.

Town businesses are an important component of regional economies, and provide vitally important social capital. Some town businesses have developed innovative strategies to enable them to survive. Collaborative partnerships formed between government, private business, NGO's and local communities are helping to solve problems inherent to many rural and remote regions.

This project was commissioned by Western Queensland Drought Committee to [1] identify the financial, social and mental issues associated with drought for small town businesses, and [2] explore the appropriate responses to alleviate hardship and build resilient communities across the Central Western region. The project was to assist in providing evidence-based policy advice to influence public, private and NGO services providers. This report presents the results of a survey undertaken in 2016/2017 with 83 respondents; 35 in-depth interviews conducted with small town businesses across the Central West; and a public meeting.

Drought, as part of the highly variable climate, is a destabilising factor that overlays all of the other global trends, such as declining rural population and lower terms of trade. If not for drought, the other underlying issues would still exist, although they would not be felt so intensely. If the rainfall was more reliable, there would be more stability in investment, jobs and population. Drought has complex flow-on effects, affecting all of the community.

A significant reduction in turnover was reported by almost all town small businesses across the region, linked largely to drought. The impact varies for different business types. Town businesses servicing agriculture face the highest impacts, as they deal directly with graziers and immediately feel the pinch of reduced spending. Shearers and rural workers feel the effects first hand. Main street small business, such as the IGA and clothing shops, face the knock-on effect of the drought. A smaller proportion of their sales are directly with graziers, but their turnover decline is clouded by increases in on-line shopping. Most tourism businesses have not laid off staff, as their business rely mostly on travelers and tourists.

Both retail and tourism businesses said that they have trouble finding and retaining staff, due to the reduced local population because of drought. Skilled people have left town because of reduced employment opportunities, and many do not return. People also leave because of reduced liveability, as many services decline, from a lack of medical practitioners to the local gym closing. Population is declining sharply in the Central West. About 1500 people have left over the past five years, out of a total of about 10,500 people; at least partly due to drought. Rural workers are the first to be laid off, and this reduces spending in town businesses, which in turn also lay off staff.

Reform needs to be aimed at overall short and long-term community resilience; including but not restricted to, drought. Government policies that help support people during a drought are frequently criticised for being reactive, for responding to, rather than preventing the impact of a drought. Current policies are aimed primarily at supporting grazing enterprises, and not town small businesses. Yet support for town small businesses is essential if the region is to remain viable and resilient.



The findings of this report confirm that decision-makers need to consider four options for providing support for town businesses. Without support these communities will likely face increasing health and social issues, population decline, economic decline, and communities could disappear.

The acronym D.U.S.T. is appropriate for a land which is so often dusty. The options for decision-makers are:

- D** Decide to act.
- U** Understand the context.
- S** Support and develop local capacities and local institutions.
- T** Transform regional governance.

The “Beyond the Dust” report offers the following guidelines (see Chapter 6 for more detail) through which local communities can make decisions for their own region, and remain resilient:

Transform regional governance so as to foster local decision-

making Extend infrastructure and services

Recognise people-place connections

Acknowledge community networks

Support the development of diverse and innovative economies

Build local knowledge and skill levels.

Recommendations for ongoing research and action include a stakeholder workshop to enhance the evidence base for policy, and focus on resilience building (see Chapter 6.3).

Hopes for the future

A focus on building resilience has been identified as a contemporary approach towards pro-actively addressing the impacts faced within this region. Rural and remote regions tend to be different to other regions, and it is vital to understand the complexities and nuances of the local context. Supporting and enhancing local governance, ensuring that local people are provided with appropriate opportunity to actively engage in decision making processes, is recommended as a first step in the resilience building process.

The high level of adaptability to change in this region means that investment is likely to be well used. When matched with significant local effort with highly motivated volunteers, investment has a significant multiplier effect in these small communities.

This report calls on all stakeholders to work together to build resilience in the Central West region of Queensland, and in doing so providing a model for all regional Australia. The many examples of successful partnerships, networks and innovative businesses give hope to this region surviving drought and building resilience to withstand future challenges.

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1 Drought – the root of rural decline?

Rural population decline is widespread across the world (Li *et al.* 2016; Livi-Bacci M, 2017; United Nations 2008), with rural people migrating for perceived better living conditions and employment in larger towns and cities. Drought is a key contributor to this trend of rural migration. It exacerbates the heartache of people and communities; laying bare various other issues that have impacted rural and remote communities for some years. Drought is portrayed in the media and by politicians as something that rural people need to 'battle' against. The media focus tends to be on starving stock and stressed graziers on agricultural properties. However, town businesses and rural communities are also impacted by the negative flow-on effects from drought and the subsequent downturn in agricultural incomes. While drought may not be the only issue affecting rural Australia, it is an issue that makes urban people and politicians take notice.

The Central West of Queensland has been affected by a long period of droughts (WQDC 2015). As with other Australian regions, droughts have significant impacts on rural communities (Drought Policy Review Expert Social Panel 2008). The impacts of droughts on agricultural enterprises and rural communities have been extensively researched (Alston & Kent 2004; Botterill & Wilhite 2005; Botterill and Cockfield 2013; Drought Policy Review Expert Social Panel 2008; Edwards 2009; Rural Debt and Drought Task Force 2016; Paton 2014). However, the literature on the impact on Small Businesses is sparse (Miles *et al.* 2007; The Regional Australia Institute 2013; Salimzadeh *et al.* 2013; Schwarz & Williams 2009b). With a focus on small businesses in the Central West of Queensland, this report provides information to help fill that gap.

This report uses a widely accepted definition (ABS 2015)¹ of small business as employing fewer than 20 people and are often family owned and run. These businesses support rural communities but are not directly involved in agriculture. Across Australia, there are more than 1.2 million organisations that fit this description (Miles *et al.* 2007:2). Small businesses in rural towns include stock and station agencies, businesses selling farm machinery, grocery stores, retail outlets, petrol stations, chemists, motels/hotels, restaurants, cafes, tourism businesses and real estate agencies. To differentiate between rural town businesses and businesses that graze sheep and/or cattle, the latter are called grazing enterprises in this report.

Farm families' spending makes up a significant proportion of the local business income in rural Queensland and thus, reduced farm incomes have profound flow-on effect on local businesses resulting in a decline of sales and thereby loss of income (Schwarz & McRae-Williams 2009b). While landholders can regenerate their property, after rain breaks the drought, small businesses can be left with nothing (Paton 2014:7). Although small businesses play a significant role in the functioning of rural communities and to economic development in Australia (Miles *et al.* 2007; Salimzadeh *et al.* 2013), their voices are often unheard (Schwarz & Williams 2009b).

In response to this lack of understanding of how drought affects small businesses in regional Australia, the Western Queensland Drought Committee (WQDC), a volunteer charity group, implemented a survey of Longreach business owners in 2015 and found severe financial hardship, and evidence of high levels of stress (WQDC 2015). The WQDC submitted these findings to the *Rural Debt and Drought Task Force*. This was the only locally gathered empirical evidence provided from Queensland. The WQDC recognised the need to [1] document further local and regional information to inform public policy on effective drought policy, and [2] investigate the effectiveness of drought assistance, whether this be from the public sector, the private sector or NGOs. This

¹ Small Business (SB) may operate across a number of different industry sectors, but are generally concentrated in a few key industries such as construction, property, business services and retail trade. In Australia definitions vary according to the regulator. SB and small-medium businesses exhibit many factors that differentiate them from 'big business'. A key feature is that the majority of small business are centred on families, with approximately two-thirds owned by members of the same family and 76% operated from home (Holmes and Gibson, 2001 quoted in Miles *et al.* 2007:2).

research and report, commissioned by the WQDC, focuses on the financial, social and health impacts of drought on small businesses in the Central West region of Queensland. It builds on the 2015 survey and submission presented to the *Rural Debt and Drought Task Force* (WQDC 2015).

1.1 Project design

The goal of this project, as stated in the contract, is to to [1] “*identify the financial, social and mental issues associated with drought*” and [2] propose “*the most appropriate responses to alleviate hardship and build resilient communities across the central-western health region*” (Queensland Department of Health 2016). The focus was on town small businesses in Central West region of Queensland. This information will inform both State and National drought policy and government responses, as well as private and NGO service providers in the region.

Research underpinning this report explored the following questions:

- What is this region’s context - economic and social characteristics?
- What are the impacts of drought on town small business in the Central West?
- What are the current effects of drought assistance, from public, private and NGO groups?
- What are the most appropriate responses to build resilient communities?

This research included responses from both town business owners in Longreach (the major regional centre), and those in smaller towns across the Central West region. The importance of including all of the towns in the region is because there is likely to be different responses to similar pressures in these communities (Productivity Commission 2017:39, 40, 79). While regional Australian communities share many common characteristics, there are local differences between and within regions.

1.2 Report overview

The report is divided into the following sections.

Chapter 1. Introduces the topic of the impact of drought on town businesses in the Central West region of Queensland. This section also lists the project objectives, presents the study area and outlines methods used to collect data.

Chapter 2. Discusses drought – the meaning of drought, discourses around drought, climate variability and drought policy.

Chapter 3. Provides an overview of the study area, the Central West region. The characteristics of the area is integrated with information about the impacts of drought in the Central West, and where appropriate Queensland and Australia.

Chapter 4. Presents a literature review on resilience, including transformation.

Chapter 5. Results of the survey, the telephone and face-to-face interviews as well as the public meeting are presented.

Chapter 6. Finally, recommendations for decision-makers are outlined. These recommendations are based on a triangulation of the literature, the social survey and interviews. A framework for building social resilience in remote and rural communities is presented.

1.3 Study area

The study area boundary is based on the Remote Area Planning and Development [RAPAD] region of the Central West region of Queensland [Central West]. RAPAD is a group of local government shires who work together. This region consists of seven shires and 15 main towns (Figure 1 below), the largest of which is Longreach (Queensland Government Statistician's Office 2017).

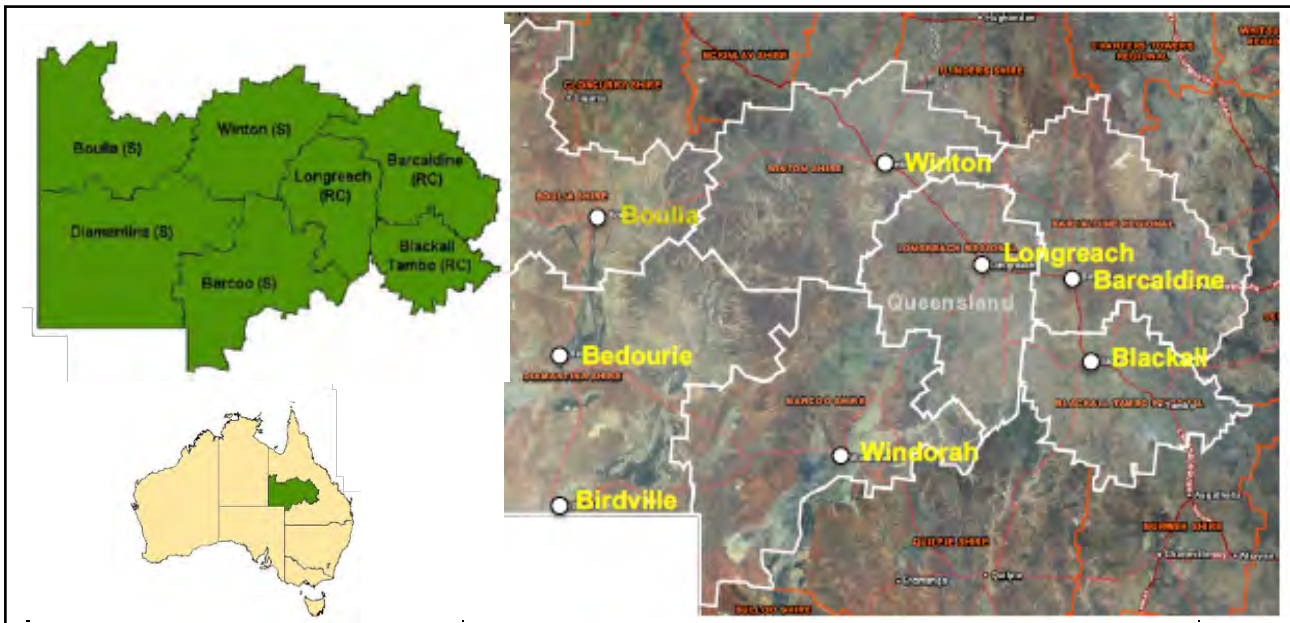


Figure 1 Shires and towns in the Central West (RAPAD n.d.)

The geographical area of 40 million hectares is 23% of area of Queensland (ABS 2017). This region is classified as 'very remote' (Australian Bureau of Statistics 2017).

Remoteness

The 'very remote' category means that people living in the Central West region have to travel long distances to access goods, services and opportunities for social interaction. Distances and travel times between towns are two factors used to determine the degree of remoteness (see Appendix A).

Other factors which help define 'remote' include climate variability, including drought, scarce resources, scarce capital and lack of diversity in small business (Figure 2). The degree of remoteness impacts on the viability of small business, a situation exacerbated through sparse population, distance to markets, local knowledge, education levels, social uncertainty and cultural demographics.

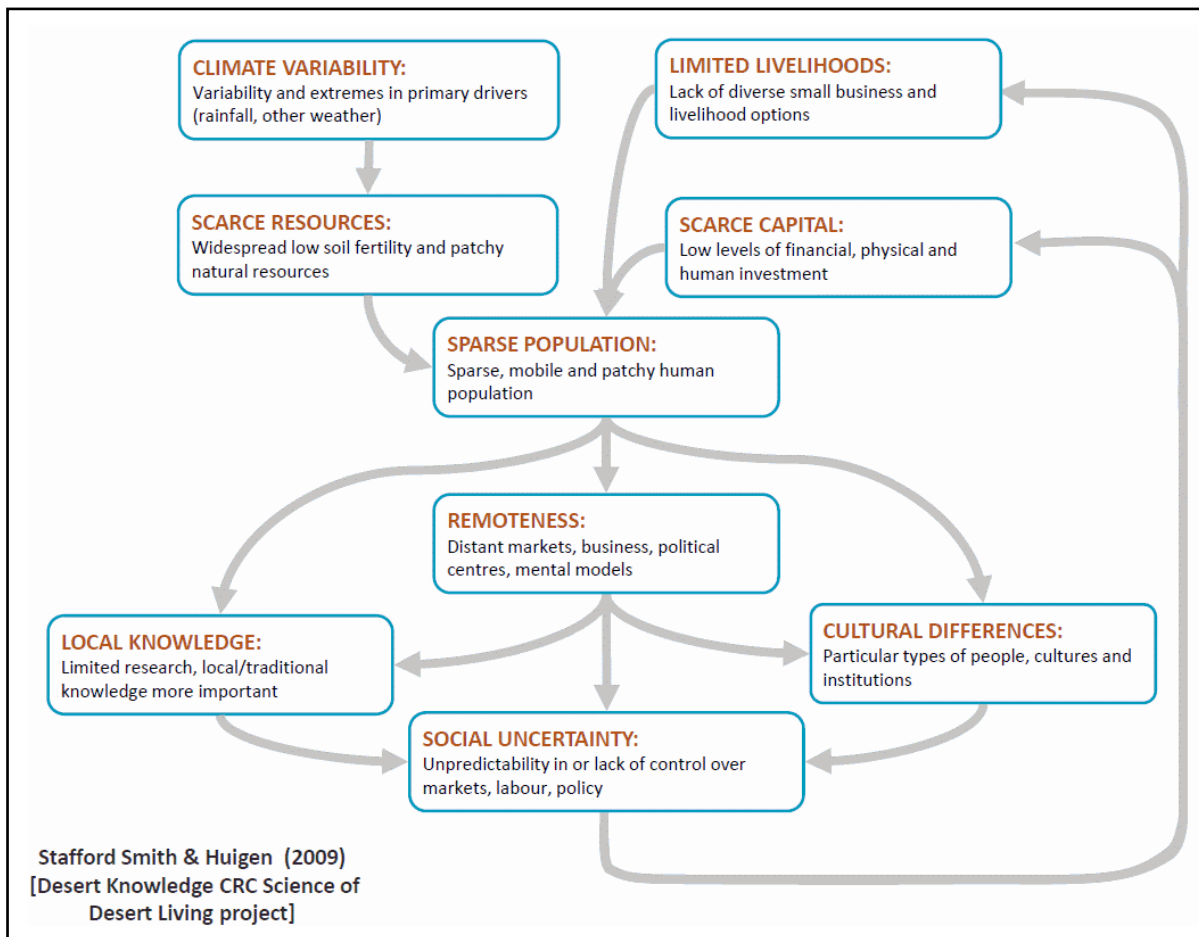


Figure 2 Factors influencing remoteness

Drought is linked to climate variability and is one of these pressures, contributing to uncertainty for people who live in the Central West. The importance of remoteness, scarce resources, scarce capitals and scare population to small business is investigated through the literatures as well as from the perspectives of small business owners themselves. As can be seen, there is a complex web of interrelated factors which influence life in remote communities.

1.4 Methodology

The philosophy underpinning this project argues that informed local people need to have input into decision-making processes that affects their lives. As such, data collection focused on recording the perspectives of small business owners across the region. To provide a broad understanding of how to address the impact of drought, a literature review of resilience was undertaken. Data sources were triangulated to provide rigour, including a survey, in-depth interviews, and a public meeting:

1. Survey (N = 83) implemented at end of 2016 and early 2017;
2. Thirty-five interviews were undertaken in September-October 2017; and
3. A public meeting was held in Longreach in October 2017.

A further trip to all of the small towns in the region will be undertaken to provide feedback in the project, and help build resilience early in 2018. The approach that was adopted generated both quantitative survey data and rich qualitative data, providing a rich understanding of the current context in this region, based on the lived experiences of local people. A brief overview of each of the four methods follows.

- **Literature review**

Two literature reviews were undertaken. The first literature review was to understand the regional context of the Central West and examine the financial, social and mental health issues faced by small businesses in the towns during droughts. Secondly, the literature on resilience was reviewed to ascertain how to best to support rural small business.

- **Survey**

The aim of the survey was two-fold:

4. To examine the impacts of drought on town small business in the Central West; and
5. To investigate the effectiveness of drought assistance measures implemented, current effects of drought assistance measures implemented (from public, private and NGO groups).

The written survey questions (Appendix B) were adapted slightly from the 2015 survey, which was undertaken by the WQDC. The only questions changed were those that were not effective, and a couple of questions were added at the end. The plan is to distribute surveys every 2-3 years, so that longitudinal data can be collected over many years.

The written survey was completed by 83 respondents out of approximately 400 distributed across 17 Central West Queensland towns, with approximately half of the respondents coming from Longreach. This is a return rate of 19% of total number of business in the Central West Queensland region completed the survey. The return rate varied among the towns ranging from a low of 8% and 11% in Barcaldine and Birdsville respectively to 100% in Bedourie and Muttaborra (Table 1).

Table 1 Survey return rate

Towns surveyed in the Central West	Total number of responses	Total number of businesses (estimated by WQDC)	Return rate
Alpha	3	25	12%
Aramac	1	4	25%
Barcaldine	5	60	8%
Bedourie	3	3	100%
Birdsville	1	9	11%
Blackall	6	48	13%
Boulia	1	12	8%
Ilfracombe	3	6	50%
Isisford	4	10	40%
Jericho	2	3	67%
Jundah	1	2	50%
Muttaborra	3	3	100%
Stonehenge	1	3	33%
Tambo	5	23	22%
Windorah	2	5	40%
Winton	7	36	19%
Longreach	35	191	18%
TOTAL	83	443	19%

Survey respondents operated small businesses mainly in either retail (43%), services (35%) agriculture (11%) or tourism (8%). Again we emphasise that businesses listed here in the 'agriculture sector' are town-based small businesses such as produce and agricultural machinery stores, stock and station agents; not large agricultural enterprises running sheep or cattle.

- **Interviews**

The aim of the in-depth interviews was to deepen our understanding of the impacts of drought, especially the social impacts, and to understand more about the effectiveness of drought assistance, and what measures are most appropriate. A total of 35 people were interviewed using semi-structured format (Appendix C). The first 17 telephone interviews, were a sub-set of the people who had answered the written survey. One or more people were interviewed from each of the towns of Longreach, Blackall, Isisford, Jericho, Tambo, Winton and Windorah. The additional 18 face-to-face interviews were conducted with informed stakeholders from Longreach and surrounds, chosen through a snowballing technique. These interviews focused on what measures were appropriate to build resilient communities, and to understand the current positive initiatives in the Central West.

Small businesses represented through interviews included agriculture (such as produce stores, contract mustering, contract fencing, shearing businesses and agricultural consulting), tourism, motels, café/restaurants, grocery stores, engineering, handyman-gardening, massage, catering, post office, butcher, hairdresser and various types of retail businesses. Regional economic development organisations, charity groups, an Indigenous group and health professionals were also involved. Overall, a diverse range of small business interests from communities across the region participated.

- **Public meeting**

The aim of the public meeting in Longreach was to present, discuss and validate preliminary analysis, and to keep research participants and other interested stakeholders informed of project outcomes. Thirty-eight people attended the meeting. This represented a diverse cross-section of small business owners, including contract musters, hairdressers, retail stores and two local councillors. It was noted during the meeting that many of the attendees do not regularly participate in public meetings, suggesting strong local interest in the project.

Meetings were also held with residents and business owners in Isisford and with people from Jericho to discuss and verify preliminary results from surveys and interviews. As providing feedback is important, a further trip to all of the small towns across the Central West is planned for 2018.

2. Drought: Definitions and Contexts

Both the physical characteristics and the impacts of drought are different over time and between regions. In addition, people have different ways of looking at the world, so droughts are seen and understood differently depending on the individual's world view, or perspective.

2.1 Definition of drought

A commonly used measure of drought in Australia is rainfall deficit, which is a comparison of rain in an area compared to the long-term average in an area (Edwards, Gray and Hunter 2015). Grau-Satorras and other authors (Grau-Satorras 2016:1; Wilhite and Glantz 1985, Wilhite 2000) argue that there are three distinct types of drought: “(1) meteorological droughts, i.e. dryness resulting from deficiencies of precipitation; (2) agricultural droughts, i.e. depletion of soil moisture supplies; and (3) hydrological droughts, i.e. shortfalls on surface and subsurface water supply. Botterill and Cockfield (2017:2) highlight another type (4) a socio-economic drought, which has adverse effects on human well-being. This report defines drought as one aspect of climate variability, where a severe moisture deficit has adverse effects on people and communities.

The impacts of drought are complex and interrelated, and can result in a drought of cash, of people, of skills and of resilience. The way drought is perceived by people living with drought, and by policy makers and politicians, influences the impacts, the assistance measures and outcome of drought for rural communities. The various discourses or ways of thinking about drought, is discussed next.

2.2 Discourses of drought

A common discourse² of drought is seen in the media and in books and poems (West and Smith 1996; Anderson 2014). Drought is often seen as responsible for the collapse of the rural way of life in Australia, for “farm bankruptcy, rural suicide, rural–urban migration ... massive stock depletion” (West & Smith 1996:95). The language of ‘war’ is often used to conjure up images of the despair caused by drought - battling drought, crippling, suffering, enemy. This is often combined with images of dry dams, dying stock and dust storms (Leadbeater 2007:22). Australian poems and paintings, such as those by Henry Lawson, Banjo Paterson and Sidney Nolan, depict the harshness and grief associated with drought. In many images, drought represents a “cultural exaggeration of natural rhythms” (Anderson 2014:7), and perhaps the disconnect of city folk from the “bush” exacerbates these perceptions.

The idea of drought as unusual is reflected in the “stunned amazement at the onset of drought”, that persists amongst politicians, policymakers, the media, farmers and the broader public (Botterill and Fisher 2003; Anderson 2014). Drought consistently makes headline news, as frequently today as it did centuries ago (Anderson 2014). This discourse is founded in Australia’s history, where we sought to ‘tame’ the land, expecting that rain will come, and that drought is an aberration.

An alternative discourse has emerged. In the 1990s, drought began to be understood as the norm in Australia’s variable climate, at least by policy makers. Rather than being the sole cause of rural disadvantage, droughts are viewed as a contributing factor (Anderson 2014; Beck 2010). The decoupling of drought from natural disaster means recognising that drought may be linked, to some

² Discourses are rules that govern the way people think, in a certain discipline or domain, at a certain time or period of time (Kelly 2005). They are rules that regulate the norms of truth from Foucault’s (1991a; 2003b) perspective.

extent, to human action through climate change or land management (Anderson 2014:5). Current drought policy calls for farmers and graziers to be self-reliant and prepared for drought.

One of the unintended consequences of this liberal ideology is that it tends to further marginalise those who are already disadvantaged (Anderson 2014). Some (Leadbeater 2007; Stehlik 2005) argue that the current policy discourse around drought has reinforced farmers and graziers feeling responsible for their predicament during drought, and has contributed to a rise in feelings of despair. As Stehlik explains, drought is no longer seen as an external force that cannot be controlled. Rather, it is seen as “an internal farm matter, one that should be anticipated, then controlled and managed” (Stehlik 2005:65). Support is then means-tested, with minimal assistance provided, as welfare needs to be seen as a “hand-up, not a hand-out”. The lack of consistency of how drought is viewed does influence policy development, as can be seen in the history of drought policy and assistance measures (Chapter 2.4 Current drought assistance: Government policies).

The understanding of what rural means, and how rural is valued, also influences the policy response to drought. The value of rural towns was questioned during the Millennium Drought (from ~1995 to 2010), which brought a call for the ‘tiny towns’ of rural Australia be left to die; a conference was held on this topic (Collitis 2000; Stehlik 2016). Discussion about letting some rural communities ‘die’, and the need for rural areas to be de-populated, reflects a lack of value for rural landscapes.

Most people in Australia now live along the coast and may have limited understanding of rural life. Despite there being a strong thread in the nation’s identity, Australia does not value its rural landscapes, unlike the European model (Stehlik 2016); and also unlike the Indigenous Australians. The Indigenous view of ‘country’ is “a place that nourishes and provides meaning and identity. One world view wants to dominate and tame the space while the other lives in and adapts within it” (Walker 2012:7). These different understandings of rural and remote Australia contribute to people in the bush feeling disenfranchised by the political process and increases the rural-urban divide. Droughts need to be understood in the context of an already extreme variability in the Australian climatic patterns.

2.3 Climate Variability

The Central West is in the driest part of Queensland with annual average rainfall of 100 to 400mm (Figure 3 below). Average rainfall belies the problem of drought, as much of Australia has a highly variable climate.

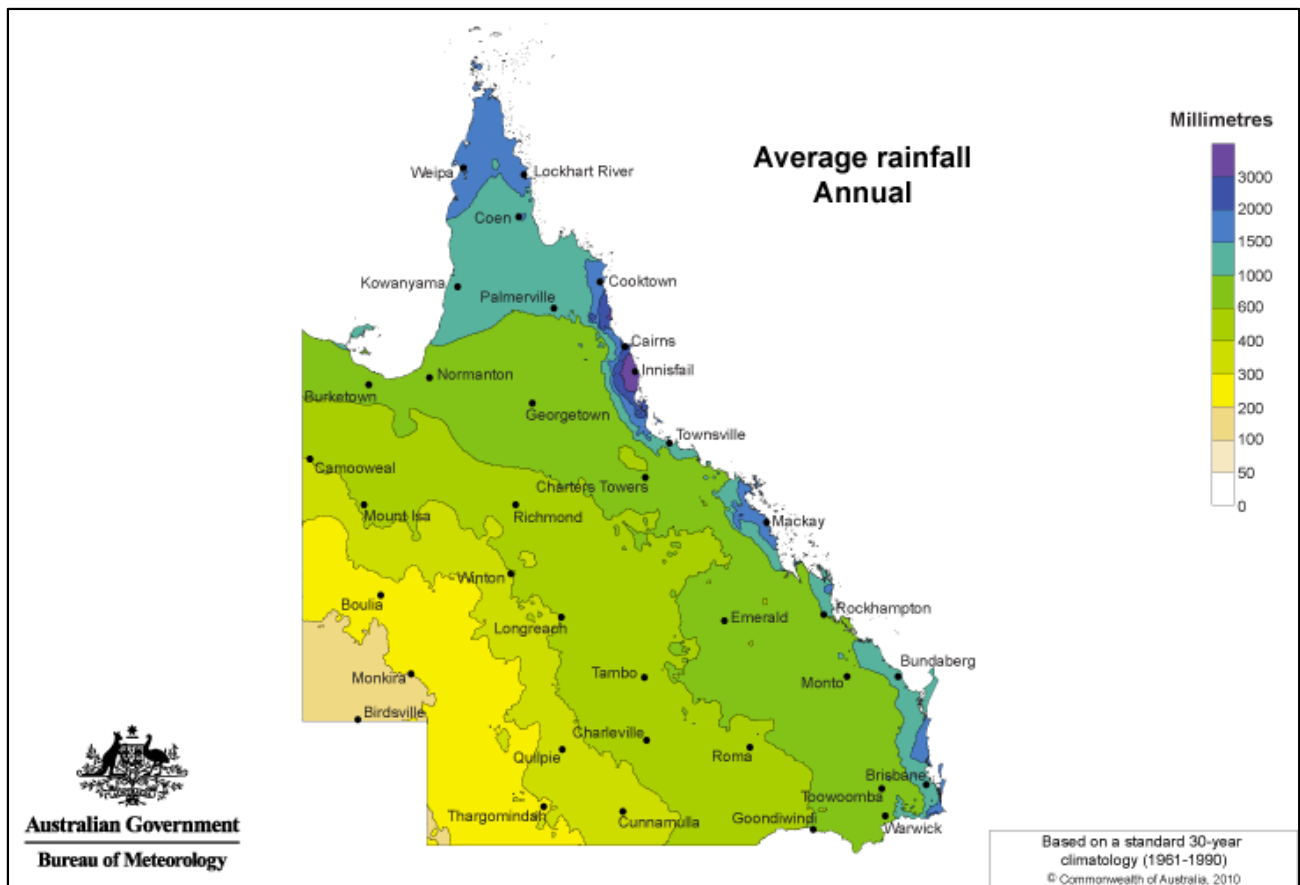


Figure 3 Queensland Average Annual Rainfall (BOM n.d. a)

The spatial and temporal nature of the rainfall deficits are critical in understanding the impacts of low rainfall on agricultural enterprises (Kiem and Austin 2013). The current 2017 drought is one of the most extensive in Queensland's history, with a greater area of Queensland 'drought declared' by the Queensland Government (Appendix D).

Droughts are a frequent occurrence in Australia, and in the Central West of Queensland. Commonwealth Bureau of Meteorology records show that 11 years is the longest sequence of years that Australia has been relatively drought free (Anderson 2014:3). Ten major droughts have impacted Australia since 1895 (Figure 4 below). Three "big" droughts have been comparable in terms of low annual rainfall totals: Federation Drought [~1895 – 1905]; World War II drought [~1939 – 1945]; and the Millennium drought [~1995 – 2010] (Kiem and Austin 2013:1308).

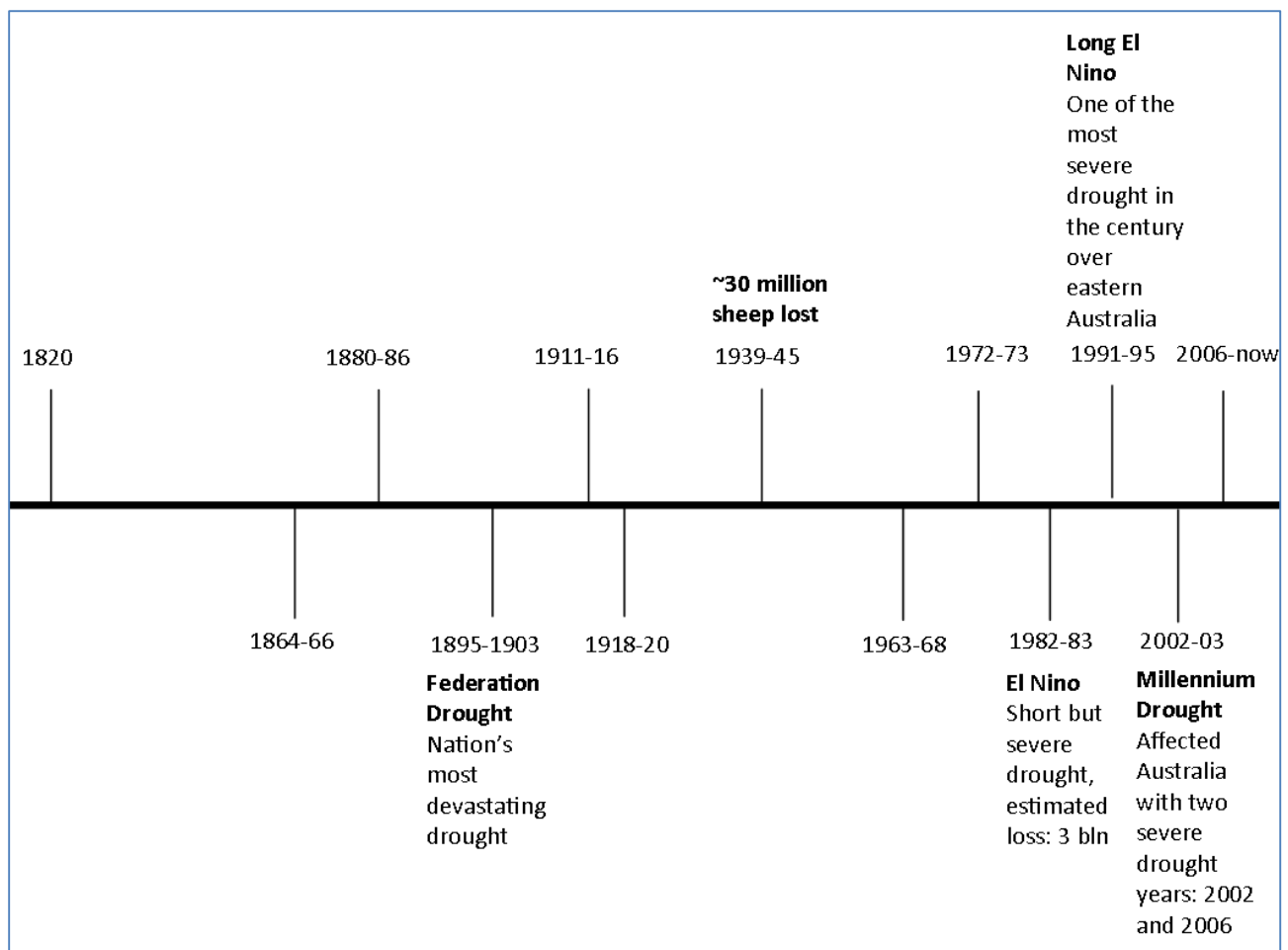


Figure 4 Timeline of major Australian droughts (ABC news n.d.; Anderson 2014)

Multiple droughts have occurred in the Central West. In the past 20 years, the region has had two major droughts, which are having cumulative effects on rural communities. The first drought, called the Millennium drought, started in the summer of 2001/2002. Recovery started in 2007 in patches around the region, with full recovery in 2009/2010. The second drought started in 2013, but an unusual and widespread winter in 2016 brought hope and some relief. Since then, about 20% of people had some summer rain, but for most of the region there has been no follow up rain over the summer of 2016/2017 and the drought is quite severe (pers. comm. Phelps September 2017).

There is a lot of uncertainty regarding the climate of the western Queensland, but both the BOM and CSIRO predicted an increased risk of severe dry weather over the next 20 to 30 years compared to the last 100 years (Drought Policy Review Expert Social Panel 2008). The Drought Policy Review Expert Social Panel (2008) recognised that Australia will face future periods of prolonged dryness.

The increased frequency, intensity and duration of droughts mean that rural and regional communities need improved strategies for dealing with uncertainty (Kiem and Austin 2013). Australian governments have supported rural communities through the droughts, but the type of support has changed as drought policy has evolved over time.

2.4 Current drought assistance

How the impact of drought is perceived by governments changes the way assistance is provided. Until 1989 droughts were seen as natural disasters (Kerin and Botterill 2013). However, compared to other natural disasters such as flood or fire, droughts are long-term chronic problems rather than

events that require short term disaster relief strategies (Stain *et al.* 2011; Askew & Sherval 2012). “The nature of prolonged dryness is insidious. Dryness has both a physical and a social component” and as such requires a particular set of intervention strategies to be successful (Drought Review 2009:8). Hence the natural disaster definition of drought was seen as appropriate, and this has changed. Yet, even today policy responses tend to short-term providing welfare support rather than focusing on long-term strategies.

The common theme rising from the Australian drought literature is the ineffectiveness of current drought policies (Askew & Sherval 2012; Barry 2016; Botterill & Wilhite 2005; Edwards 2009; Kerin and Botterill 2013; Rural Debt and Drought Task Force 2016; Stain *et al.* 2011). Policies tend to be described as reactive, overlapping, inequitable, difficult to access (Askew & Sherval 2012) and narrowly focused on farm businesses (Paton 2014).

Government policies

With the global focus on climate change, drought policies in Australia have received considerable political attention over the past few decades (Askew & Sherval 2012). Drought policies in Australia tend to be utilitarian and very politicised (Stehlik 2016). Since the end of the 1980s, drought was no longer seen by the Australian government as a short-term climate abnormality, and no longer covered under natural disaster relief arrangements (Kerin and Botterill 2013).

In 1992, the National Drought Policy (NDP) was established by the State and Federal Governments (Askew & Sherval 2012), and evolved over the next two decades (Kerin and Botterill 2013; Productivity Commission 2009). The NDP focused on risk management and self-reliance of farming communities (Askew & Sherval 2012). ‘Exceptional Circumstances’³ (EC) policies were introduced a little later to provide government assistance (interest subsidies, small grants, etc.) for landowners and agricultural providers (Askew & Sherval 2012), but the lack of clear definition caused confusion (Kerin and Botterill 2013:91-95). The different discourses around the meaning of drought have resulted in seemingly contradictory responses. Politicians, the media and the community talking about droughts as disasters, have resulted in Exceptional Circumstances payments. On the other hand, policy makers aim to normalise the occurrence of drought, and call for farmers to manage drought as an inevitable risk.

Many critiques of drought policies have been published by academics and the industry (e.g. Askew & Sherval 2012; Drought Policy Review Expert Social Panel 2008; Kerin and Botterill 2013; Stain *et al.* 2011). Perhaps as a consequence, the EC policy was cancelled in 2013 and replaced with Intergovernmental Agreement on National Drought Program Reform (Australian Government n.d). This agreement promotes the idea of farmers managing their own risk, while the government continues to provide social support services (Department of Agriculture and Water Resources 2017). Proactive policies and programs, which focus on long term resilience in communities, are still lacking.

In the last four years federal and state governments have made available a number of support programs for rural communities (Department of Agriculture and Water Resources 2016). Unfortunately, despite such programs, small businesses in rural and remote towns continue to have limited access to support, with farming and grazing agricultural enterprises the key focus of such programs (Paton 2014).

For example, while government incentives are available to farming and primary industry enterprises, only 3 out of 18 federal and state programs are available to small businesses (Table 2). While those three programs do target small businesses directly and are well targeted as it is the whole community that shares social, health and economic benefits (Department of Agriculture and Water Resources 2016).

³ Exceptional Circumstances (EC) policy arrangements have created feelings of division and resentment. The lack of applicants, complexity of the criteria and differing implementation processes across states have contributed to stress (Drought Policy Review Expert Social Panel 2008).

Table 2 Current programs available to drought affected communities

Policy/Agreement/Program	Benefits
COMMONWEALTH GOVERNMENT	
Intergovernmental Agreement on National Drought Program Reform (Australian Government n.d)	Farmers
Farm Business Concessional Loans Scheme (Department of Agriculture and Water Resources 2016)	Farmers
Farm Household Allowance (FHA) (Department of Agriculture and Water Resources 2016)	Farmers and partners
Managing Farm Risk Program (Department of Agriculture and Water Resources 2016)	Farming
Farm Management Deposits (FMD) scheme (Department of Agriculture and Water Resources n.d)	Primary Producers
Rural Financial Counseling Service (RFCS) (QRAA n.d)	Farmers, fishing enterprises, forestry growers and harvesters
Drought Communities Programme (Department of Agriculture and Water Resources 2016)	ALL
Accelerated depreciation to encourage investment in drought preparedness (Department of Agriculture and Water Resources 2016)	Farming
Income tax averaging (Department of Agriculture and Water Resources 2016)	Farming
Australian Taxation Office advice (Department of Agriculture and Water Resources 2016)	Farming
QUEENSLAND GOVERNMENT	
Intergovernmental Agreement on National Drought Program Reform (Australian Government n.d)	Farming
Drought assistance concessional loans (QRAA n.d)	Farmers
Drought Relief Assistance Scheme (DRAS) (QRAA n.d)	Farmers
Land rent rebates/water license waivers (QRAA n.d)	Farmers
Mental health programs (Queensland Health through the Royal Flying Doctor Service) (QRAA n.d)	All
Electricity charges relief for water supply (QRAA n.d)	Farmers
Transport concessions (Department of Transport and Main Roads n.d)	Primary Producers
Community Assistance Package (QRAA n.d)	All

In summary, government drought assistance programs largely overlook town small businesses in rural communities, with 15 out of 18 programs focusing on agricultural enterprises (Table 2). Local Shires and small businesses based in rural and remote communities feel excluded (Canavan and Miller 2015). Current policy and program approaches are seen to be short term and reactive, and missing a whole of community approach. Rather, a proactive approach that builds community resilience is required. This approach should not neglect the need for immediate short-term social welfare support during times of crisis.

Support from charities and donations

Public generosity plays an important role in community recovery, but does need to be well targeted and coordinated. Outside community support and help shows people that others care and boosts morale (Government of South Australia 2011). However, programs are often not well thought through and negative impacts are common.

In 2016, drought affected communities in the Central West and other regions of Queensland, received support from the Burrumbuttock Hay Runners. Trucks brought in hay for farmers, as well as food parcels and services such as hairdressers. While people's generosity provided a morale boost, concerns were raised about the economic impact of those donations on the local economy (Kennedy & Moore 2016). Food parcels provided were not purchased locally, which had a negative impact on small business (Drought Policy Review Expert Social Panel 2008) because it deprived local businesses of sales, at a time when sales were already depressed. Organisations need to be encouraged to shop locally.

Money is recognised as a useful donation to support drought affected areas (Drought Policy Review Expert Social Panel 2008; Government of South Australia 2011). Money provides flexibility and stimulates faster recovery. Donations of goods may be useful in the first few days of a natural disaster, such as floods, fire or earthquake (Stain *et al.* 2011; Drought Policy Review Expert Social Panel 2008; Government of South Australia 2011). However, time considerations, cost of transport and disposing of unused goods presents considerable challenges.

Experience from the Tasmanian and Victorian bushfires highlighted that many donations are unsolicited, and actually cost local communities extra effort in storing, sorting and delivery. Many goods end up being dumped (Government of South Australia 2011, Department of Premier and Cabinet 2013). To demonstrate the extent of this problem:

The 2009 Victorian bushfires resulted in more than 40,000 pallets of goods from across Australia that took up more than 50,000 square metres of storage space. That is twice the size of the Melbourne Cricket Ground (MCG) arena. The cost for storage, staff and transport amounted to more than \$8 million (Government of South Australia 2011:7).

Donations of money are the most useful to avoid these costs, particularly when the money is spent in the local community, thus supporting local businesses. The importance of well-targeted support has been highlighted (Government of South Australia 2011; Drought Policy Review Expert Social Panel 2008; Maybery *et al.* 2010; Department of Premier and Cabinet 2013; Urbis 2010).

Another issue is that some non-governmental assistance organisations seem to be competing with each other and have 'lost sight of their client group' (Drought Policy Review Expert Social Panel 2008:26). These same NGO's and charities are unlikely to accept direction from government or local communities about what is most useful (Drought Policy Review Expert Social Panel 2008); and this was reiterated in interviews undertaken as part of this report (see results in Chapter 5).

To conclude this section, limited coordination and poorly targeted programs have meant that rural communities have sometimes suffered, rather than been helped by efforts by charity groups and other organisations. Drought tends to be emotive, and people from elsewhere are motivated to help, without really understanding the local situation. Likewise, some government policy and programs are not having the desired effect of fostering resilient rural communities, especially town business communities. More long-term proactive strategies are needed, rather than emotive short-term responses. The way drought is perceived continues to influence the assistance provided.

The extent of government assistance programs for farmers and the broader community does influence the extent of spending in the local economy (Edwards 2009), and thus is significant for economic resilience. Assistance needs to support community efforts to re-build, and thus needs to listen to local people about what is already happening. Coordinated efforts are more likely to stimulate recovery of the whole community. The increasing uncertainty of climate variability is likely to increase the need for future assistance, which needs to consider the real needs of rural and remote communities.

3. Impacts of drought

History shows that Australia has suffered from droughts; and rural communities are very vulnerable (Kiem and Austin 2013). In Australia, droughts should not be seen in isolation, but in the context of other trends. Broad social, political and trade factors shape agriculture production, and indirectly influence businesses in rural and remote towns. These factors contribute to the decline in rural and remote regions, and are compounded by the impacts of drought.

One of the signs of decline is rising unemployment. Fewer workers are employed in agriculture because of declining terms of trade and increased productivity. Agricultural terms of trade in 2015-16 were 31 per cent lower than in 1974-75 (Productivity Commission 2017). Innovation has improved productivity by enabling output to increase with fewer workers. Agricultural regions have also experienced consolidation of small towns into larger regional towns. (Productivity Commission 2017:10). The decline in the number of people employed in agriculture, means fewer people relying on rural towns for goods and services.

Rural population decline is a phenomenon Australia shares with the much of rest of the world (Li *et al.* 2016; Livi-Bacci M, 2017; United Nations 2008). even in Mongolia where herder numbers are declining (Enkhbayar 2016). As in Australia, drought is only one of the reasons for the movement of rural people to other areas. Since 2008, the majority of the world's population lives in urban rather than rural environments for the first time in human history (Race *et al.* 2010; United Nations 2008). Nonetheless, drought does impact on a significant number of people around the world, as the dry outback, or rangelands, alone support an estimated 500 million people (UNEP 2017).

The reasons for demographic changes around the world are complex, with 'push' and 'pull' factors, both social and economic. Market volatility, landscape threats [e.g. wildfires, declining soil fertility], climate change and associated water restriction combine with drought to cause negative impacts, leading to farmers and town people wanting to move out of rural areas (Race *et al.* 2010:3). Outmigration from rural areas is common in the developed world (Stehlik 2016). Youth and older people in particular seek better services, education and employment opportunities of urban centres, and this is characteristic of many countries [e.g. USA, Eastern Europe and Russia] (Argent *et al.* 2010; Race *et al.* 2010:6). Many of the factors influencing outmigration are common world-wide.

Migration of people has social impacts which vary enormously across countries and regions (Argent *et al.* 2010; Luck *et al.* 2010). A major impact of drought in Africa, the Middle East and Central Asia is the increasing conflicts in areas where transhumance or mobile livestock systems are common. Conflicts are usually over nomadic pastoralists' rights to traditional lands and over access to pasture and water (e.g. Herrera, Davies and Baena 2014; Njagi Njeru 2017; Nwauche 2017). In many developing countries, drought impacts on food security and, in severe drought, causes famines with loss of livestock and human life (e.g. Hassan Gana 2016; Baudot & Hillier 2016) – such as the current humanitarian crises in Somalia, South Sudan and Nigeria (United Nations 2017).

Rising suicide rates amongst rural people seems common in many countries. Farmer suicide is high in many other countries, including France, India, Sweden, the United Kingdom, Mongolia and the United States of America. All contend with high rates of suicide among farmers (Gregoire 2002; Howden *et al.* 2014). Social and economic impacts of drought in Australia are substantively different to those in many other countries, partly because transhumance (i.e. seasonal movement of people with their livestock) is not practised in Australia. As a consequence, less violent conflict occurs, and where environment, economic or social trade-offs are required collaboration is used, sometimes facilitated by government agencies. While Australia farmers and graziers may not think so, services in rural and remote Australia tends to be better than some other rural communities.

3.1 Impact of drought on small businesses in Australia

Historically, relatively few studies have been conducted on the impact of drought on small businesses in rural and remote Australian communities (Alston and Kent 200 Miles *et al.* 2007; Salimzadeh *et al.* 2013; Schwarz & Williams 2009b), although there has been increasing attention to this area since 2010. Most papers that specifically discuss the impact of drought on such businesses were not Queensland specific (Table 3).

Table 3 Papers relating drought to small business in Australia

Author/s,	Date	Location of research	Topic and comment
Buikstra, Ross, King, Baker, Hegney, McLachlan & Roger-Clark	2010	Stanthorpe	Examined resilience and trialled a resilience kit. In approximate order of frequency, resilience characteristics were as follows: social networks and support, positive outlook, learning, early experience, environment and lifestyle, infrastructure and support services, sense of purpose, diverse and innovative economy, embracing differences, beliefs, and leadership" (Buikastra 2010:981).
Canavan & Millar	2015	South west of Queensland, around Quilpie	An assessment of the impacts of drought conditions on Quilpie businesses: survey of impacts on retail turnover and employment for non-farm businesses in the Quilpie shire.
Collitis	2000	General, with NSW case studies. Paper presented "Future of Australia's Country Towns" Conference, Bendigo, June 2000	Small Town Decline and Survival: Trends, Success Factors and Policy Issues. Discusses different views on problems of small towns, and whether the death of tiny towns is inevitable, given the trend of growth of regional centres (quoting research done by Beer 1999; Productivity Commission 1999; done; and ABARE data to 1996).
Edwards, Gray & Hunter	2015	Random survey in 2017 of 8,000 people across rural and regional Australia	Report to the Drought Policy Review Expert Social Panel (2008) and paper (2015) both using same survey to report on effect of drought on mental health
Kiem and Austin	2013	Rural communities including some small business in Victoria	Investigates the socio-economic impacts of drought, past and present drought adaptation measures, and the future adaptation strategies required to deal with projected impacts of climate change.
Kotey	2014	32 owner/managers from 6 communities in NSW & QLD: Warren, Wee-Waa, Moree, Emerald, Dalby and St George	Examined small business innovation strategies in response to drought in Australia's rural cotton communities. Innovation was either [1] incremental or [2] radical.
Maybery, Hodgins, Pope and Hitchenor	2010	100 participants at community meetings from 8 small rural towns in Riverina, near Wagga Wagga, NSW	Many communities in this study highlighted the stress and strain associated with the drought and the resultant mental health problems. "Suggest a resilience model of community engagement that [1] focuses communities upon their strengths and natural support mechanisms; [2] inherently values the communities' strengths and ability to respond; and [3] builds upon the communities' self-identified needs, activities and assets" (Maybery 2010:65).
Miles, Hyland, Soosay, Greer, O'Dea, Alcock & Kinnear	2007	Regional centres in western Qld – Longreach, Charleville, Blackall and Barcaldine	The study (a) evaluates the strategies adopted by small and medium size business owners and operators to mitigate the effects of drought, and (b) describes how such small businesses can better prepare for future droughts.

Salimzadeh Courvisanos & Ravi Nayak	2013	Regional Australia (literature review)	Examines small and medium size regional businesses to identify barriers to environmental sustainability to promote a transition path towards a more sustainable business model for Regional Australia.
Schwarz & Williams	2009b	10 small business operators in Victoria	Water Reform and the resilience of small business people in Drought-Affected Agricultural Communities
Paton	2014	Fitzroy and Central West Queensland – gathered information from locals	Discusses impact of 'hidden poverty'; looked at factors contributing to economic vulnerability of primary producers & rural communities when drought occurs. "The longer a drought continues, the more evident the negative flow on impact on primary producers, rural contractors, small business and the community becomes: impacts that affect the economic health and social cohesion of whole communities (page 2).

3.2 Central West - Economic issues

The Central West region is seen as highly reliant on the agricultural economy along with sheep and beef cattle enterprises but this has changed over the past few years. In 2013, the Central West contributed 48.4% of Queensland's estimated value of agriculture (Regional Development Australia 2013). By 2016, the contribution from the Central West dropped to approximately 11% of the value of Queensland's agriculture (ABS census data 2016). Within agriculture there is a diversity of enterprises, including "wool and sheep producers, cattle breeders, cattle fatteners, absentee landlords, large agricultural companies and organic producers" (Perkins 2013:24).

In 2017, the high value industry sectors for the Central West region were agriculture, construction and tourism, with public administration also having relatively high economic output (Table 4). Town small business form a component of most of the industry sectors listed below, see notes column. Tourism here is an amalgamation of activities including accommodation, cafes, cultural and recreational services (REMPPLAN 2017).

Table 4 Economic outputs for the Central West as at July 2017

Industry sector	\$M in 2017	% of regional output	Comments (SB = small business)
Agriculture, Forestry & Fishing	\$ 410	25%	Only \$35 M or 10% is related to SB, most of this sector is corporate or family properties
Construction	\$ 279	17%	Hospital & health facilities are one component
Public administration & Safety	\$ 147	9%	Mostly local and state government
Tourism	\$ 105	6%	Majority is SB
Transport, postal & warehousing	\$ 77	5%	Majority is SB
Health Care & social assistance	\$ 68	4%	Mostly government and church groups
Manufacturing	\$ 58	4%	Majority is SB: steel products & metal fabrication
Retail trade	\$ 51	3%	Majority is SB
Mining	\$ 50	3%	Corporate: limited in the Central West
Education and training	\$ 49	3%	Mostly government

(REMPPLAN 2017)

The region relies on agriculture, mainly cattle and sheep/wool, as this sector contributes almost 25%. Construction was significant, contributing 17%; construction outputs include projects such as the solar farm at Camden Park near Longreach, and various new and up-graded medical facilities in

Alpha (cost of \$17.5 million), and Barcaldine (\$4.7 million upgrade), and Longreach hospital (Central West Hospital and Health Service 2014; Interviews 2017).

Public administration contributes 9% (Table 4) which is the third most significant to the regional economy. Public servants have a regular fortnightly pay packet, which means they can spend money in town; and publicly funded positions represent a consistent income stream for many small business. Tourism is considerably less with a contribution of 6%; and the Mining sector is not significant with a contribution of only 3% in the Central West.

Trends

Agricultural production has declined significantly due to drought, from approximately 50% of the regional economy in 2013 (Regional Development Australia 2013), to 25% in 2017 (Table 4, REMPLAN 2017). Conversely, tourism has increased in value approximately 7% per year (average over the past 3 years).

Tourism in the Central West is considered one of the economic success stories of the region, and includes many small businesses. National parks and conservation reserves are increasing, especially privately-owned reserves (e.g. Pew Charitable Trusts, Australian Nature Conservancy), and this is likely to help support visitation to the area. The transition to more of a multi-functional landscape is propelled by the emergence of market-driven amenity values, and a growing societal awareness of sustainability and conservation issues (Holmes 2005:142).

Tourism data is limited and unreliable according to the Queensland Tourism Industry Council. (Outback Regional Snapshot 2017). Data is available for the Outback region - from the Gulf of Carpentaria in the north to the NSW border in the south – a larger area encompassing the Central West. Some tourism trends for the Outback Region are as follows:

- Domestic overnight travel increased 11% to 806,000 visitors over the three years up to the year ending March 2017.
- International tourism was stable at 25,000 visitors in the same period.
- The value of tourism is \$498.1 million per year (averaged over past 3 years).
- The value of tourism is increasing by approximately 7% per year (average over past 3 years). This is a higher increase than 5% for Queensland, and much higher than 3.8% for Australia (3-year average to March 2017).
- The Outback gets 4% of domestic visitors to Queensland compared to other regions such as Whitsundays 2%, Gold Coast 18% and Brisbane 29% (Outback Regional Snapshot 2017).

Tourism is almost certainly growing in the Central West at a higher rate than the Queensland average, and relies predominantly on domestic tourists. The emergence of tourism as a key industry supports the view of Holmes (2005) that the multifunctional transition in rural Australia is contesting the dominance of production values. The tourism sector has the potential for further growth. As most of this sector is comprised of small business, growth in this sector will help support small business and improve economic viability of towns in the Central West.

Declining house prices

The industry sector trends are regional, and tend to hide the impact of drought on small rural and remote towns. As many towns are very small, slight changes such as one family leaving town, can have profound economic impacts. A more sensitive indicator of the impact of drought on the economy may be house prices, as changes in this sector are local, and tend to be obvious quite quickly after the start of a negative event, such as drought.

Thus, the value of house prices can be used as an indicator of the economic situation. The median house price in Longreach has declined significantly since 2007 (see blue bar graph in Figure 5), while the number of sales stayed higher for a longer period of time (see line in Figure 5). The trends in other shires are similar. Blackall and Tambo residential land value has declined due to the

prolonged drought; while other towns have seen a decline through 2014-2015 due to the downturn in the mining industry (DNR 2017).

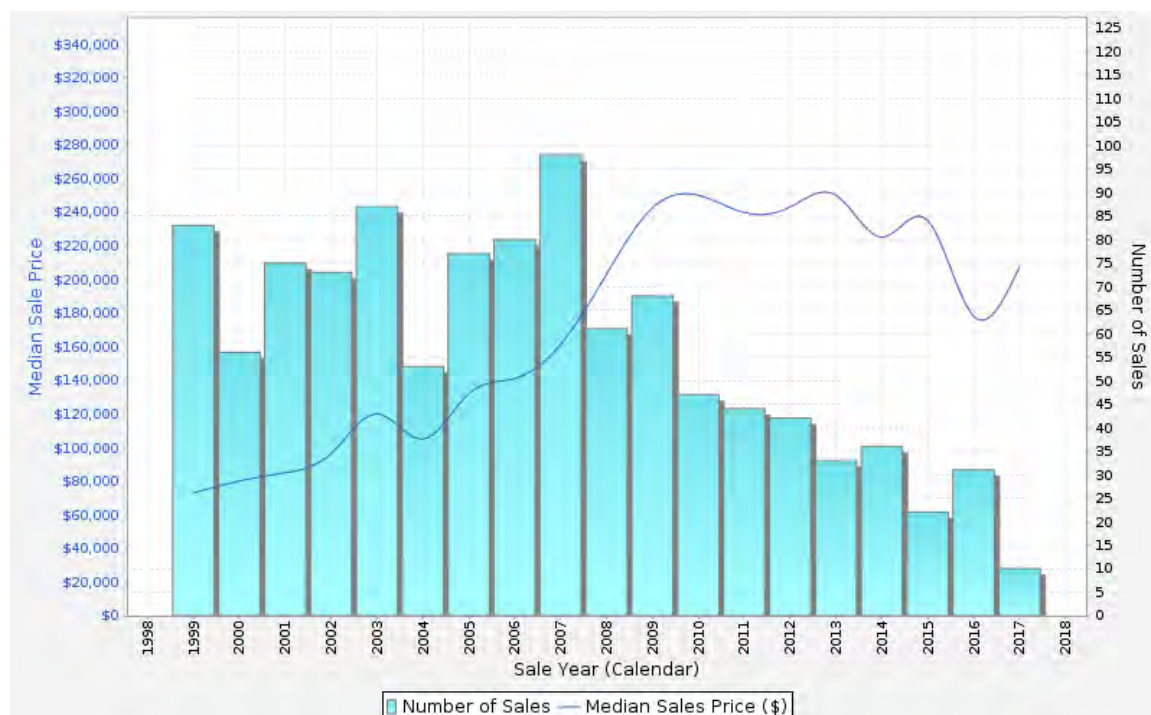


Figure 5 Median house prices in Longreach (Property Data Solutions 2017)

Despite the decline in the value of house prices, the ratio of income to house prices indicates that houses are more affordable to buy here than in the rest of Queensland. Some of the relevant statistics are:

- average income for the region is \$44,000 (ABS 2016);
- 88% of houses are valued at less than \$300,000, based on sales in the last 12 months, ending June 2017 (Property Data Solutions 2017);
- mortgage repayments are less than 30% of household income for 93% of households in Longreach, which means it is easier here than the Queensland average of 87% (Property Data Solutions 2017);
- rents are affordable; rents are less than 30% of income for 97% of households (Property Data Solutions 2017);
- If people own a rental property, then rental return is quite good, with 7.9% return on houses over 12 months from 2016-2017 (Property Data Solutions 2017; see Appendix E for details).

The declining land value of town properties has had an impact on small business as their assets lose value. Certainly, if business owners wish to sell, assets would almost certainly return a loss. Lower values in towns are different to rural property land values, as rangeland land values have increased by 150-300% in the last 10 years (Miller 2010:193). According to Paton (2014), drought and unfavourable economic factors have contributed to real estate purchasers being cautious in rural Queensland towns, further lowering real estate prices. Nonetheless, low house prices mean buying or renting a home in Longreach seems to be quite affordable compared to other areas in Queensland. However, unreliable local employment due to declining turnover in rural and town businesses probably means people are more likely to rent than buy a house in many regional towns.

Employment rate

One of the biggest flow-on impacts of drought in towns tends to be on employment. This was one of the most talked about issues in small towns (WQDC 2015; WQDC 2017). Industry downturns inevitably result in declining employment opportunities. In terms of economic impact, Gross Regional Product in the Central West has declined from \$128 million to \$714 million between the census of 2011 and 2016 (REMPPLAN 2017). This decrease equates to a loss of 705 jobs over this 5 years. With a population of approximately 10,500 people in the Central West in 2016 (ABS 2016), this represents a significant loss of jobs. Flow-on effects in terms of reduction of local purchases of goods and services is likely; and multipliers indicate further reductions in outputs.

This is consistent with ABS data which shows employment rates have declined over the past 5 years for the Outback Region (ABS data 2016). The Outback region of Queensland has an average unemployment rate of 5.4% for 2001 and 2011 (ABS census). This rose significantly in 2016 to 13.5% which is now higher than the Queensland average of 5.6% (Table 5).

Table 5 Employment rate for Queensland Outback

Labour Force Region: Outback Queensland SA4	Australia	Queensland Outback
Working Age Population (15-64)	16,064,700	59,000
Employment Rate (15-64)	72.9%	58.8% (~ 12% lower)
Unemployment Rate (15+)	5.6%	13.5% (~7% higher)
Youth Unemployment Rate (15-24)	12.9%	57.4% (~44% higher)

(ABS data 2016)

Little seems to have changed in 2017, but employment opportunities seem to be improving slightly. Unemployment rates in the Outback Region have declined slightly to 13%. This is still higher than Queensland unemployment rate which has risen to 6.2% (Australian Government Labor Market Information Portal 2017). Rising unemployment figures means there are fewer job opportunities, including fewer opportunities in small business. Employment in the past 5 years has been effected by the drought, causing a downturn in agriculture industry, with flow-on effects impacting on small business in the Central West.

Small Business employment

Australia-wide, small businesses employ a significant proportion of the workforce and thus play an important role on the economic well-being of rural communities (Schwarz & Williams 2009b). In the Central West of Queensland, the number of small businesses in these rural and remote communities is around half of the registered agriculture, forestry and fishing businesses (Figure 6).

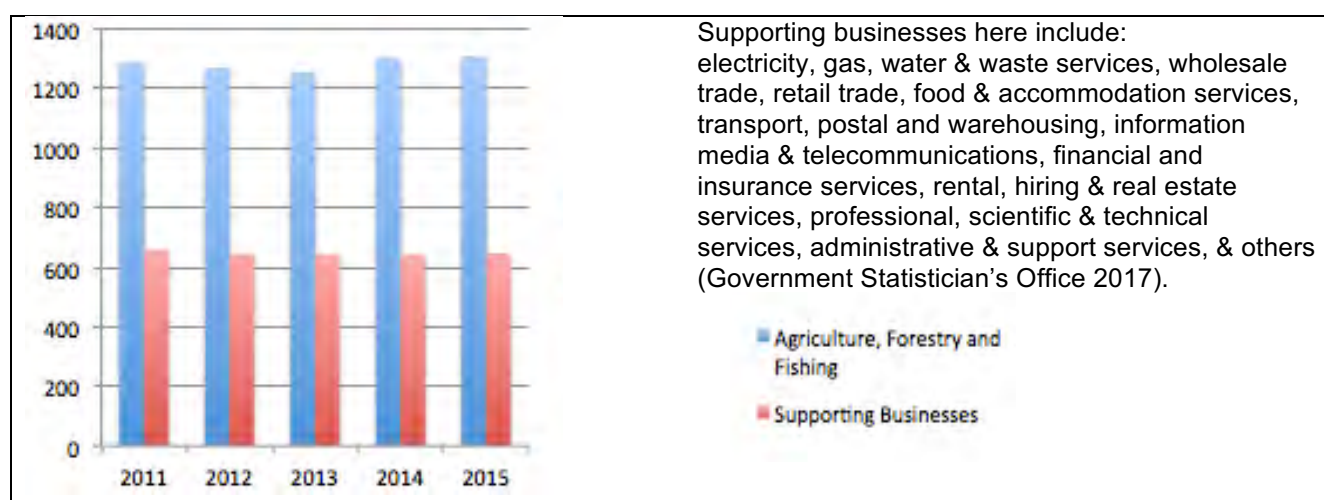


Figure 6 Number of businesses in RAPAD region (Queensland Government Statistician's Office 2017)

One would expect employment opportunities to be roughly proportional to the number of businesses, although this is a simplification. The declines in agricultural industries will undoubtedly affect employment levels, which in turn will affect population, and thus leads to a reduction in employment opportunities in town small businesses.

Impact of declining agriculture on small business

Particular small businesses will be impacted more than others, following the decline in agricultural turnover. For example, a survey conducted in 2004, showed that farmers in Queensland tend to run out of money for fuel and clothes first, which makes those types of businesses more vulnerable (Figure 7 below).

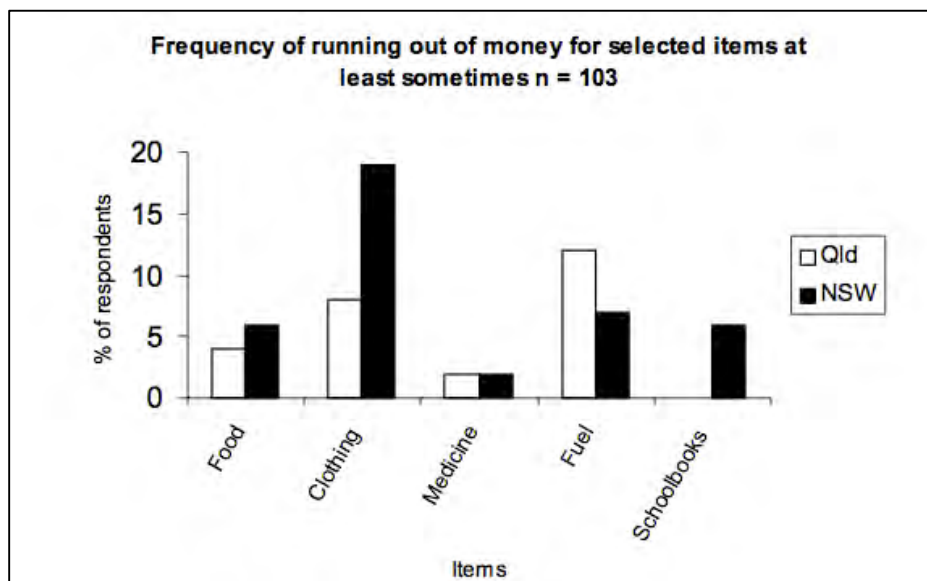


Figure 7 Frequency of running out of money for selected items (Botterill & Wilhite 2005:76)

This suggests that small businesses selling clothing, fuel, schoolbooks and food will all be impacted, while those selling medicine are less likely to be affected. The differences between Queensland and NSW spending habits for clothing is not explained, but the difference for fuel may be explained by the distances travelling to rural and remote towns in Queensland.

However, this does not account for changes in purchasing habits, for some families may shop while visiting larger centres for other reasons, or use on-line shopping. The drought is unlikely to be related to these changes in purchasing habits. Nonetheless, drought does reduce the spending power of graziers in small regional towns. Town small business are already operating in a region where people do have low incomes.

Socio-economic index

Low incomes and low employment opportunities are factors of a low socio-economic index, which links to low spending ability of local people in town small businesses.

The Central West shires of Barcoo, Blackall, Boulia, Diamantina and Winton were among the most socio-economically disadvantaged areas in Queensland and Australia in 2011 [Decile 1, 2 and 3 on Figure 8 below] (Central West Hospital and Health Service 2014).

The socioeconomic index for Longreach [Decile 5 on Figure 8] is much higher, but still only in the middle compared to the rest of Queensland. The declining value of real estate and building approvals is also an indicator of low socio-economic levels.

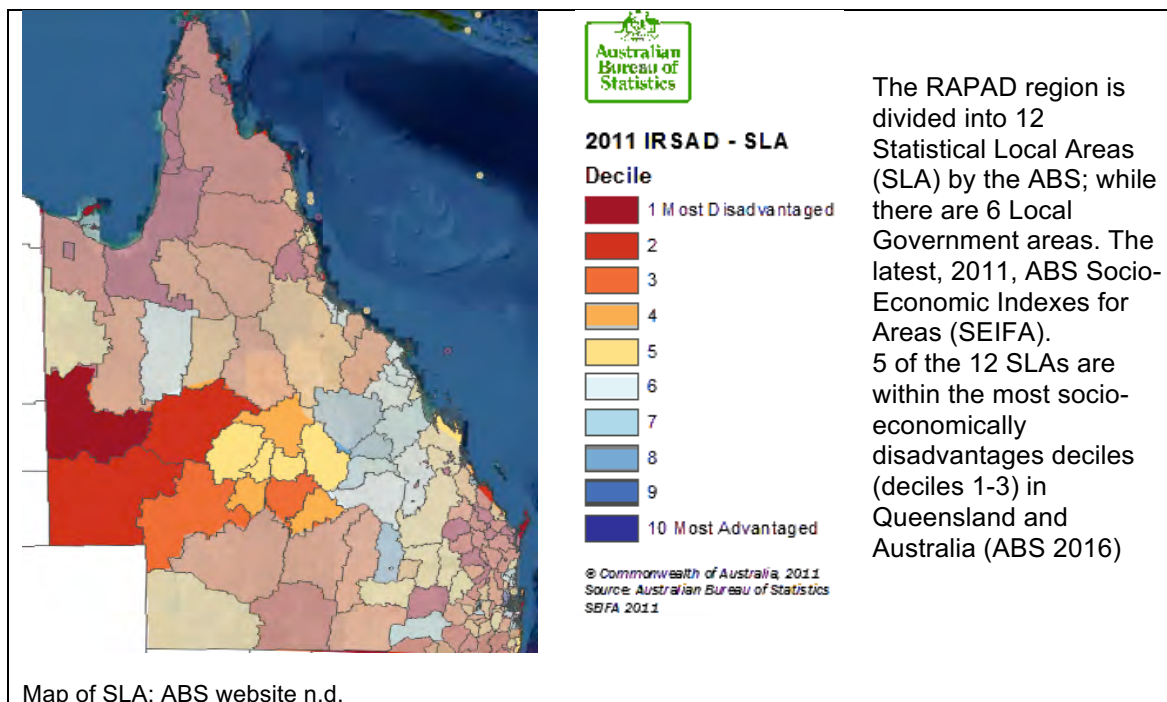


Figure 8 Index of Relative Socio-Economic Advantage and Disadvantage 2011 (ABS 2011)

The low socio-economic situation of the Central West is linked to social characteristics, and is usually linked to people's health and mental health, as outlined in the next section on social characteristics.

3.3 Central West - Social issues

The Central West is sparsely populated. The 2016 population of 10,546 is 0.3% of the total Queensland population, in an area of almost one-quarter of the size of Queensland (ABS 2017), which means the area is very remote.

Some basic social characteristics of the Central West are listed below; sometimes data for the Outback region (i.e. ABS SA4 statistical region) is listed, depending on statistics available.

- The highest level of schooling is Year 11 or 12 for 45.9% of the Central West population in 2016, which is lower than 59% for the rest of Queensland (ABS 2016 census);
- The age structure is similar to the rest of Queensland, but with slightly more young children and people in the 35-44 year groups compared to the averages for Queensland;
- More males than females live in the Central West, with a gender ratio (number of males per 100 females) of 107.4. This is similar to the Queensland Outback area, but contrasts to the ratio for Queensland of 98.5, where there are slightly more females than males. The number proportion by gender in the Central West is males 6,217; females 5,789 (ABS 2017);
- Indigenous population is 7.3% of the total population in 2016, compared to 33% in the Queensland Outback (SA4 statistical region), and 4% in Queensland (ABS census 2016).

In summary, the region has slightly more men than women, However, the region has a similar education level and age structure to the rest of Queensland. The proportion of Indigenous population in the Queensland Outback is larger than average in Queensland, and is growing.

Low population

Longreach is the largest town in the Central West area with a population of almost 3,000 (Table 6), followed by Barcaldine and Blackall which are of similar size; these towns also have the largest

number of businesses (only three towns are over 1000 people Table 6: dark red shading). Each of these towns has about 50 or more businesses – Longreach has almost 200 businesses.

Table 6 Population and businesses per town

Towns in Central West	Total number of businesses (WQDC estimates)	Population in 2016 (ABS census 2016)
1. Alpha	25	335
2. Aramac	4	299
3. Barcaldine	60	1422
4. Bedourie	3	122
5. Birdsville	9	140
6. Blackall	48	1416
7. Boulia	12	301
8. Ilfracombe	6	259
9. Isisford	10	218
10. Jericho	3	115
11. Jundah	2	106
12. Muttaborra	3	88
13. Stonehenge	3	44
14. Tambo	23	367
15. Windorah	5	115
16. Winton	36	875
17. Longreach	191	2970
TOTAL (town population)	443	9192

Eleven out of the 17 of the towns have very small populations, with fewer than 300 people (Table 6: pink shading). Similarly, several of these towns have a small number of businesses; 7 towns have 5 or less businesses (Table 6: light green shading); and 4 towns have between 6 - 12 businesses (Table 6: dark green shading). The already low population is trending lower, and the number of businesses will follow.

Declining population

In Queensland, agricultural industries have had a decrease in employment by about a quarter, as farms adopted more efficient technologies (Productivity Commission 2017; Queensland Government Statistician's Office 2017).

The data on the extent of population decline in the Central West region is confusing. The census data seems to under-estimate the extent of population fluctuations, while data on migration trends and school attendance aligns more closely with local perceptions. The movements of large numbers of short term contractors, such as shearing contractors and other rural farm workers seem to confound population estimates from census data. Resident population estimates based on the census are listed below (Table 7; Figure 9).

Table 7 Estimated resident population (Queensland Government Statistician's Office 2017a:4)

Custom region / LGA / State	As at 30 June				Average annual growth rate	
	2001	2006	2011	2016p	2001–2016p	2011–2016p
	— number —				— % —	
Central West Queensland region	13,330	12,096	12,373	11,911	-0.7	-0.8
Barcaldine (R)	3,483	3,341	3,292	3,234	-0.5	-0.4
Barcoo (S)	454	370	363	347	-1.8	-0.9
Blackall-Tambo (R)	2,385	2,063	2,257	2,176	-0.6	-0.7
Boulia (S)	566	434	493	477	-1.1	-0.7
Diamantina (S)	320	291	292	280	-0.9	-0.8
Longreach (R)	4,537	4,174	4,296	4,075	-0.7	-1.1
Winton (S)	1,585	1,423	1,380	1,322	-1.2	-0.9
Queensland	3,571,469	4,007,992	4,476,778	4,843,303	2.1	1.6

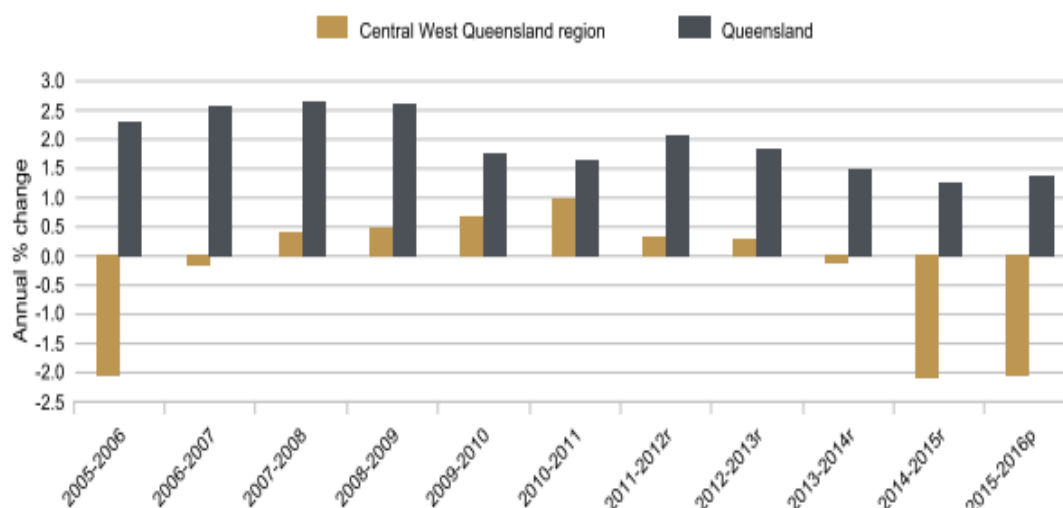


Figure 9 Estimated resident population growth (Queensland Government Statistician's Office 2017a:4; Regional Population Growth, Australia, 2015-16_cat. no. 3218.0).

The impact of the droughts on population can be seen on the graph above (Figure 9). One drought started in 2001 and Central West population declined in 2006-07, showing a delayed effect. Another drought started in 2013 and the population effect was much quicker, evident in 2014-15 and 2015-16. Both droughts contributed to the decline of 0.7% between 2001 and 2016 (Table 7, Figure 9).

Migration figures show a much greater population decline over the same period (Figure 10). Population migration tends to lag by at least 12 months after droughts start, or deepen. Net migration clearly indicates the impact of the 2001 drought, which eased a little in 2007 but did not finish everywhere until 2010; and the deepening of the 2014 drought across the Central West (Figure 10). 2012 was the year that Queensland Premier Newman reduced public servant numbers (Sydney Morning Herald 19 September 2012).

The number of people who have migrated out of the region since 2007 is over 2100 people. Based on the population of 10,500 people in 2016 (ABS 2016), this is a decline of approximately 20% over 9 years. This is considerably more people leaving than the statistics above suggest (Table 7). The ABS (pers. comm. ABS officer, July 2017) explained that the parameters used to calculate net migration are different to population data which is estimated from census data. Census data does not seem to capture fluctuations in the itinerant population.

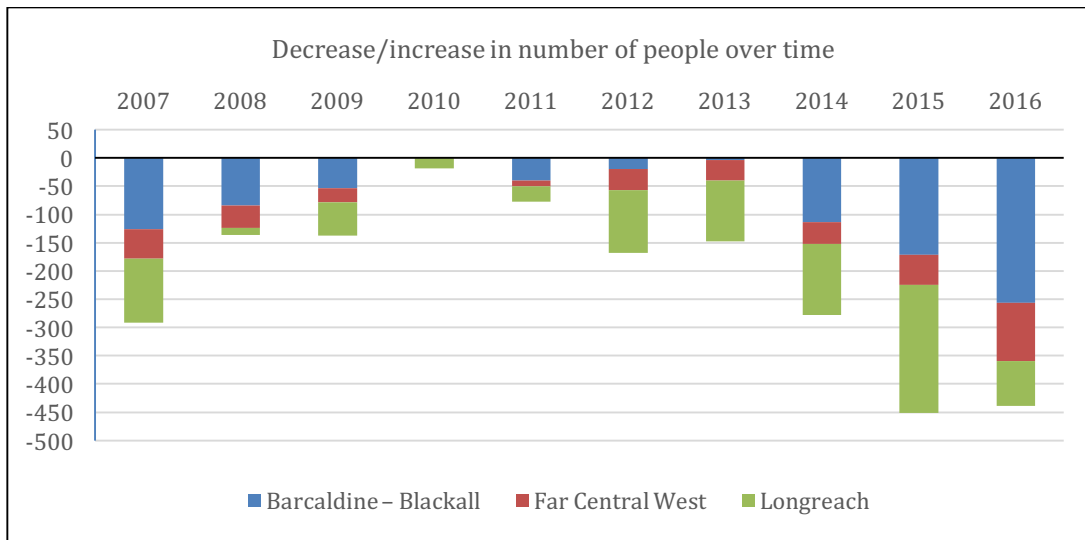


Figure 10 Net migration (ABS 2016)

School attendance is another proxy for population changes, which indicates a significant population decline. School attendance data reflects a similar population decline to the net migration data. The change in numbers of children registered in schools in the RAPAD region from 2008 to 2017 (Figure 11 below) indicates that since the start of the drought in 2013, attendance has been reduced by 19% (Refer Appendix F for details data from each school in the RAPAD region).



Figure 11 Registered students annual change (Department of Education and Training n.d. a & b; My School n.d.; Interviews 2017)

Primary school registration shows a decline in 2010, after the start of a drought in 2006; and then further declines with the onset of drought in 2013. The winter rain in 2016 did little to slow the decline in numbers, but the lack of summer rain in 2017 significantly affected numbers, probably because of the length of this drought.

In summary, population declines seem to occur a year or more after the onset of drought, depending on the severity, length and cumulative effect of successive droughts. Various measures indicate population changes - census data, migration data and school enrolments.

Census figures under-estimate population decline, as these seem to overlook the fluctuations in itinerant workers. These fluctuations are more obvious from net migration and attendance of school children, which reflect similar declines in population, as indicated below:

- 2001 – 2016: 0.8% decline with approx. 1500 people leaving the region over 15 years (Estimated from census data: Table 7; Figure 9).
- 2007 – 2016: 19% decline, with approx. 2100 people leaving the region over 9 years (Net Migration data: Figure 10)
- 2008 – 2017: 19% decline in school children attendance over 9 years (School children data, Figure 11).

The de-population of rural areas has many causes, but drought seems to play a significant role.

3.4 Impact of drought on health

Internationally, drought has negative health impacts, depending on the “drought severity, baseline population vulnerability, existing health and sanitation infrastructure, and available resources with which to mitigate impacts as they occur” (Stanke *et al.* 2013:2). The resilience of rural populations is influenced by the socioeconomic environment in which drought occurs (Stanke *et al.* 2013). This is also true in Australia. This systematic review of the health effects of drought (Stanke *et al.* 2013) is based on a review of 87 papers from Africa, North and South America, Asia and Europe. The results highlighted concerns about lack of nutrition, water related diseases, such as E. coli and cholera, as well as air, dust and vector borne diseases, such as malaria and dengue fever (Stanke *et al.* 2013). Many of these issues are not of concern in Australia; however, the impact on mental health is of concern here, as elsewhere in the world.

In Australia, dryness is well recognised as having an adverse impact on the health and wellbeing of rural businesses and communities (Alston and Kent 2004; Australian Government 2016; Drought Policy Review Expert Social Panel 2008; Schwarz and Williams 2009a). Factors that influence poor health outcomes in rural town business people include socioeconomic disadvantage, low education levels, and access to health services. A couple of surveys in rural NSW (Allen *et al.* 2012; Schrimmer *et al.* 2016), indicate that rural populations report high levels of social capital, that seems to protect people to some extent against poor mental health outcomes. However, few studies have examined exactly how remoteness may influence individual determinants of health (Allen *et al.* 2012:2). Overall, scant information is available on the impact of drought on the physical and mental health of town residents, and only limited data about the impacts on the grazing population.

Australians living in remote areas do tend to have poorer health than people living in major cities, with lower life expectancy, higher rates of disease and injury, and poorer access to, and use of, health services (Australian Government 2016:1; Mission Australia 2006). The **cost** of health services in rural towns also tends to be higher, and the ratio of GP doctors to people is about half that in major cities (Australian Government 2016). A study in 2008 showed that people living in rural areas were 10% less likely to be bulk-billed by their general practitioner (Paton 2014). Remoteness often means people drive longer distances to medical services, which causes financial pressure to pay for fuel, as well as stress related to time spent away from families and friends.

Similarly, in the Central West, rates of disease are 21% higher than the state average (Central West Hospital and Health Services 2014). Chronic disease, preventable hospitalisations and poor mental health characterise the region (RAPAD 2016). Mortality rates in the Central West are significantly higher than the Queensland average (Figure 12 below). While people in the Central West tended to live 10 years less than people in urban areas, this has improved over time according to the Central West Hospital and Health Service (2014).

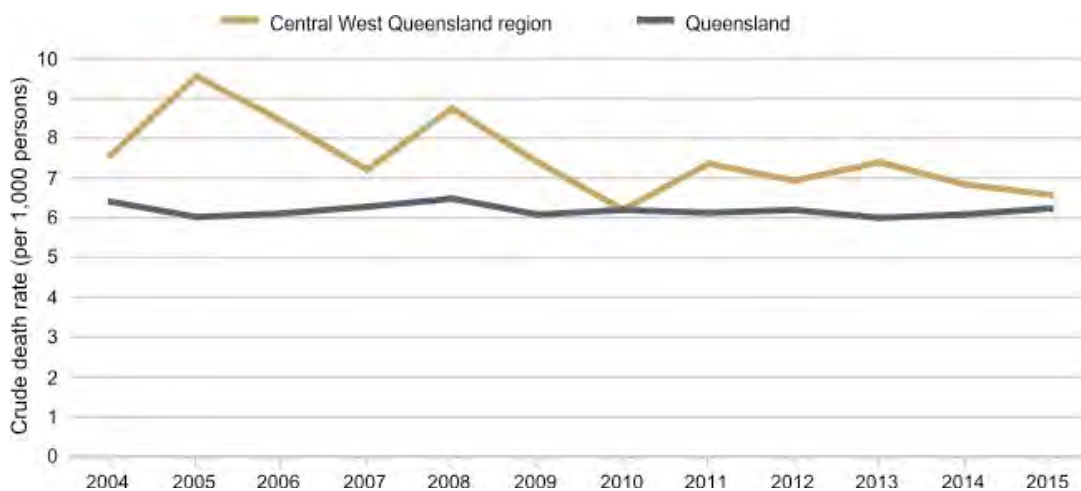


Figure 12 Death rate for Central West and Queensland (Queensland Government Statistician's Office 2017b:14)

Some of high death rates in the Central West would be related to high risk rural occupations, rather than for town people. In addition, the profile of the Central West Indigenous population compared to the total Central West population, indicates that there is significantly lower life expectancy among the Indigenous population, which is in line with the nationwide trend (Central West Hospital and Health Service 2014). Indigenous people could be either rural or town based in the Central West.

In contrast to actual poor health outcomes in the Central West compared to urban areas, residents self-reported similarly good levels of health as other Queenslanders in 2011-12 (RAPAD 2014). This perception of better health is consistent with elsewhere in Australia, where people in small rural towns (fewer than 1000 people) often reported that they had greater life satisfaction than those living in large cities (Wilkins 2015). The reason for this paradox may be that rural communities tend to have high levels of social capital, and look after each other contributing to feelings of wellbeing.

Mental health

The perception of better health outcomes than the actual reality seems to persist in the area of mental health (Allen *et al.* 2012; RAPAD 2017). Mental health and suicide tend to not be frequently discussed by people in the Central West (Interviews 2017). It is difficult to find data specifically about Central West towns. This section on mental health is distilled from the literature, interviews with Central West health professionals, mental health service providers and business owners.

Overall, drought increases stress and anxiety in rural communities, with rural farm owners, rural workers, town business people and residents all affected. A small number of studies correlate drought with increased suicide rates (Congues 2014; Drought Policy Review Social Panel 2008), but this is not always the case in all regions. It would be self-defeating to assume that increased suicides rates are a natural, or acceptable, consequence of drought. Remoteness is sometimes recognised as correlated with increased suicide, especially amongst farmers, young men and older people (Bishop *et al.* 2017), however some studies (Allen *et al.* 2012) suggest social capital and social relationship in remote areas can buffer people from mental health. Suicide rates in remote Queensland are significantly higher than Queensland metropolitan areas (Table 8) (Potts *et al.* 2016; Queensland Mental Health Commission 2016). While remote regions comprised only 3% of the total Queensland population, these regions account for 5.6% (106 people) of total suicides (Queensland Mental Health Commission 2016). Some literature suggests that suicide is an increasing issue in rural Australia. In 2015, suicide was the leading cause of death for Australians aged 15-44, and the highest rate in over 10 years (Lifeline 2017).

Table 8 Queensland Suicide Rates by remoteness (Potts et al. 2016:114)

Gender/Remoteness	2002-2004	2005-2007	2008-2010	2011-2013
MALES				
Metropolitan	20.4	17.3	18.6	19.4
Regional	24.2		25.5	23.3
Remote	29.1		30.7	37.7
FEMALES				
Metropolitan	6.1	5.4	6.0	6.8
Regional	5.9	5.9	7.9	6.5
Remote	7.8	8.9	8.6	14.4
PERSONS				
Metropolitan	13.1	11.3	12.1	12.9
Regional	15.1	14.2	16.6	14.9
Remote	19.1	28.8	20.1	26.8

Interviews with community leaders and service providers suggested that whole communities are exposed to the stresses of drought through population decline (e.g. the loss of friends), economic downturn and loss of services. The towns with the smallest populations are probably the most exposed, as they are even more closely linked both financially and socially to farming families.

Drought causes additional stress for women and children in rural communities (Dean and Stain 2010; Drought Policy Review Expert Social Panel 2008). Women often bear the emotional burden of dryness, as they are expected to 'step up' to support their families and their local communities. Children and adolescent's well-being also tends to be worse in drought-affected areas, as reported by school teachers and researchers (Dean and Stain 2010). Children notice that people are leaving the community and they are losing classmates; there are less sporting and other community events to entertain them (Maybery *et al.* 2010). Despite these issues, many rural schools in Australia lack mental health initiatives (Dean and Stain 2010).

Interviews in the Central West highlighted the complex inter-relationships between town and country communities, and thus the importance of adopting a whole of community approach. Droughts influence all of the community, not only rural enterprises. Some negative impacts reported in Central West interviews, reflect issues discussed the literature, but are not solely attributable to drought:

- increased levels of anxiety and stress due to financial difficulties and uncertain future;
- increased anxieties and worry as a result of businesses closing and people leaving town;
- increased feelings of isolation and lack of energy for community activities.

People in the Central West tended to say that they were coping with the drought. People even said that counselling services were not always needed because they had a strong support network in their families. People made comments such as: *"We are alright, most of the bush is alright. We can handle drought, it is part of our make-up"*. Whether these comments reflect characteristics of a stoic or resilient community is difficult to know.

Resilience should not be confused with stoicism. As one local person said: *"Stoicism is where you grit your teeth and survive; but resilience is where you grit your teeth, you survive, and you bounce back"*. Stoicism of rural people can be mistaken for resilience, but these are quite different concepts. Remote communities possess a culture of self-reliance and stoicism which are likely to compound issues of social isolation and impede help seeking behaviours. Stoicism can foster a reluctance to seek help; as can community stigmas, which can then exacerbate mental health issues.

Nonetheless, resilient, strong community networks where local people support each other, can help individuals cope with psychological stresses, and buffer some of the negative impacts of drought. Improving the availability of, and access to health services and specialist mental health professionals.

Various services are available in the Central West to help support individuals and communities. Pro-active activities to improve the provision of health services are being implemented, with the Central West Hospital and Health Service collaborating with the Central West Rural Wellness Network and other local organisations to improve health outcomes.

An innovative model is attracting GPs to work in the communities. In terms of mental health, the hospital and the Royal Flying Doctor Service provide counselling by qualified professionals. However, access has changed and GP referral is now required to see qualified professionals at the RFDS. Local people like anonymity and not having to go to their doctor or to the hospital. Many professionals interviewed in this study are concerned that the requirement of a GP referral will be an increased barrier for local people seeking help.

The importance of how services are implemented is critical. Services need to be provided to suit the context of rural and remote communities. Health services are improving in the Central West, but it may take some time before improved outcomes are visible (Interviews 2017). The alliance of local organisations has outlined details of improvements needed in health over the next few years (Central West Hospital and Health Service 2014). The efforts of local people need to be supported, partnerships fostered in the longer term and funding certainty improved so that services continue to be transformed to support healthy and resilient communities.

Support is needed to ensure that health and mental health services continue to be reformed, with the aim of building resilient communities. Action is needed to:

[1] Transform governance arrangements to foster local decision-making. Local people and local service providers need to continue to be involved in decisions about health and mental health services through strong partnerships and long-term security of resources. Adopting a whole of community approach to the provision of services is needed, as drought and other stressors affect people across whole communities.

[2] Expand health services. Understanding of how things work in the bush, and not simply transposing urban service models to the bush. Services need to be flexible to adapt to changing circumstances. Appropriate measures need to be taken to attract and retain qualified staff to rural and remote regions.

Strong health services contribute to community resilience, and there is increasing global literature to suggest that resilience fosters healthy communities. Strong health services that are integrated with the local communities they service, can provide long-term health benefits, employment opportunities, economic stimulation and healthier populations in the longer-term.

In summary, this region has a declining population, high unemployment, and poor general health. Mental health issues, including suicide, are a problem that is only recently becoming better recognised. Drought clearly exacerbates social, health and economic pressures on individuals and families in these remote and rural communities. While this profile generally might suggest a region in decline, some aspects are positive, including the affordability of housing (above), the rate of volunteering and the adaptability to change (below).

3.5 Positive characteristics

Despite the negative impacts of drought on small businesses and the broader community in remote rural towns, there are positive indicators. These include the rate of volunteering and adaptive capacity (measured using the Productivity Commission 2017 framework).

Volunteers

People in the Central West are much more likely to volunteer than people in Queensland, but volunteering across the outback is consistently high (Table 9 below; Queensland Statistician's Office 2017b). The 2011 ABS Census shows that 32.3% people in the RAPAD region undertook voluntary work, which is 13.5% higher than the Queensland average (Queensland Government Statistician's Office 2017b).

Table 9 Voluntary work in central west and Queensland, 2011 (Queensland Government Statistician's Office 2017b:34)

Custom region / LGA / State	Volunteer		Not a volunteer		Total ^(a)
	number	%	number	%	number
Central West Queensland region	3,031	32.2	5,639	59.9	9,414
Barcaldine (R)	881	35.0	1,413	56.2	2,516
Barcoo (S)	118	40.7	154	53.1	290
Blackall-Tambo (R)	549	31.1	1,080	61.2	1,765
Boulia (S)	101	27.4	231	62.8	368
Diamantina (S)	65	27.4	156	65.8	237
Longreach (R)	955	30.2	1,982	62.8	3,158
Winton (S)	362	33.5	623	57.7	1,080
Queensland	645,543	18.7	2,521,658	72.9	3,456,877

The literature on the importance of social events in Central West Queensland is scarce; however, a few studies have been conducted in other rural parts of Australia (Maybery *et al.* 2010, Kiem & Austin 2013). A study conducted in New South Wales in 2010 showed that the rural community values social gatherings and events (Maybery *et al.* 2010). Small business is recognised as playing an important role in the organisation of community events by providing volunteers and donations in many rural areas (Drought Policy Review Expert Social Panel 2008). Volunteering is one of the indicators of social cohesion and tends to be high in rural communities (ABS 2006, 2009c in Kiem *et al.* 2010).

However, drought does impede the ability of rural communities to volunteer and to keep community activities such as recreational and sporting activities going; all factors that help sustain resilient communities. Volunteer 'burn-out' is an issue in rural communities with declining population and declining skills base (Kiem *et al.* 2010:103). The decline in, and exhaustion of, volunteers is widespread in drought affected regions of Australia, and symptomatic of the level of stress on members of rural communities (Drought Review Panel 2009:25). Declining volunteers contributes to greater isolation of individuals and is not conducive to well-being. Events to promote social interaction are seen as extremely important for stressed people, and this importance was frequently

recognized and reported by people living in areas affected by drought (Drought Review Panel 2009:26).

A high rate of volunteering suggests high social capital in rural communities, which can help resilience and the ability of communities to adapt to stresses and changes, including drought.

Adaptability capacity

Remote and very remote regions tend to have relatively low adaptive capacity (Productivity Commission 2017:2). A framework, developed by the Productivity Commission, incorporates economic performance over time, income, access to infrastructure, natural resources as well as social factors such as education, skills, employment and health (Productivity Commission 2017:7-13). Most of the Central West is similar to other outback regions with a low capacity to adapt. The exception is the Longreach shire, which has an above average ability (Figure 13).

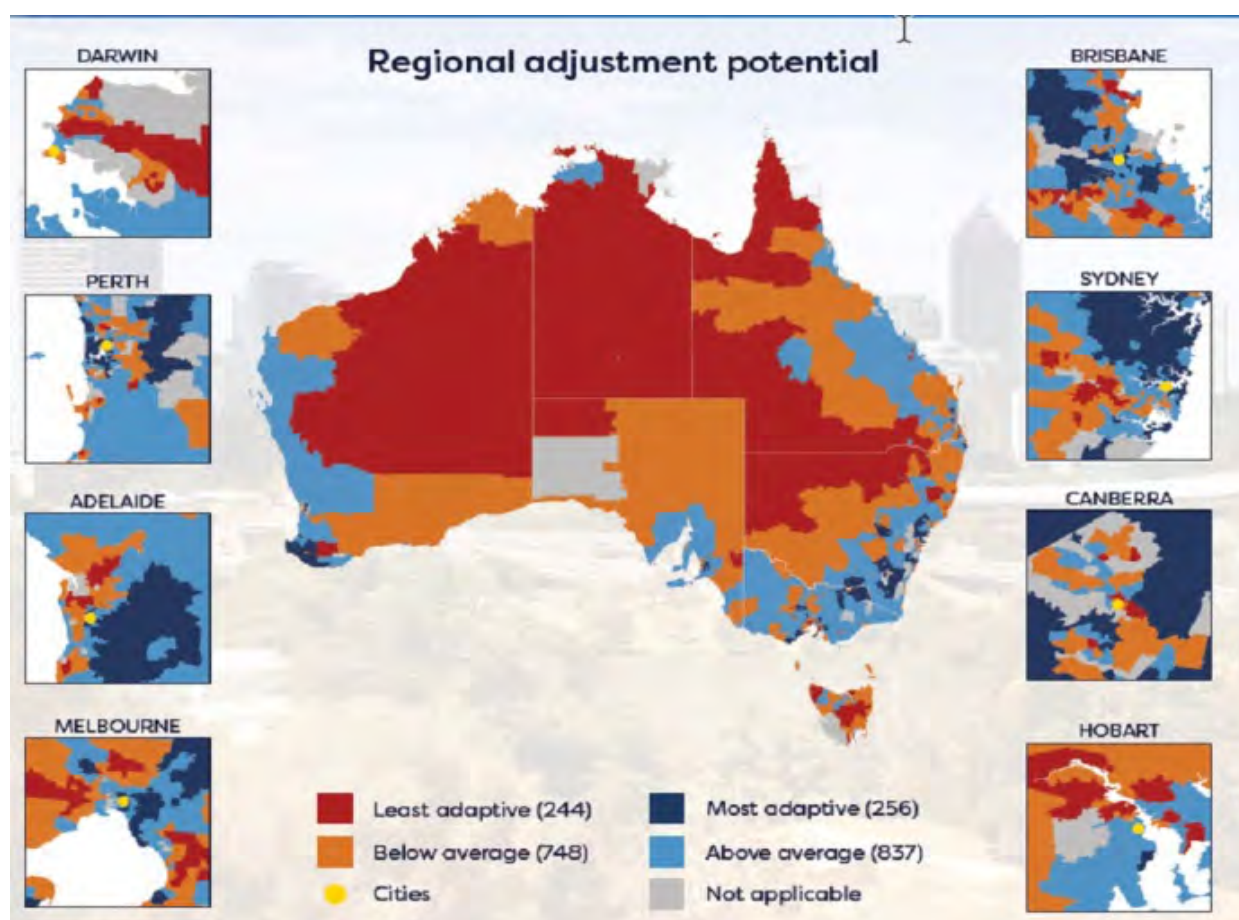


Figure 13 Adaptive capacity of Australia's regions (Productivity Commission 2017:12)

Infrastructure and services were characteristics identified as important for adaptive capacity. Fast and efficient broadband was one identified as "a fundamental enabler for rural communities, allowing them to find new markets" (Productivity Commission 2017:26). Services are tending to consolidate to regional centres, such as Longreach, at the expense of smaller towns. Greater amenity and a wider range of services have helped facilitate this trend (Productivity Commission 2017:20).

Different cultures may influence an individual's view of adaptability, and their ability to manage in remote areas of Australia. The adaptability index developed by the Productivity Commission is largely a white European perspective, based largely on economic factors. A white man's views of remote Australia can be very different to that of Indigenous peoples. "Indigenous Australians see Remote Australia as 'Country', a place that nourishes and provides meaning and identity. One world

view wants to dominate and tame the space, while the other lives in and adapts within it" (Walker 2012:7). To note, attitudes to drought, from Central West Indigenous people, might differ from those described through the adaptability index. Nonetheless, it appears to paint a positive picture for the Longreach community, and seems to reflect the ability of the broader community to adapt to change.

Adaptability is an important consideration for resilient communities. It is characterised through the complex interactions between the various factors. When a high adaptability index is matched with motivated volunteers and significant local effort, this suggests that investment in rural and remote communities is likely to be well used. In small communities the multiplier effect, means an increasing return on investment and a significantly positive effect on the community as a whole. Examples of the benefits of such investments, that have made a difference to the economic and social resilience of communities in Central West Queensland, are described in the Results section.

3.6 Summary: Complex interactions related to drought

Towns in the Central West region are confronted with a declining population (Queensland Government Statistician's Office 2017), prompted by the complex interaction between factors such as socio-economic pressures, fluctuating but declining job opportunities, health inequalities and highly variable climate conditions. In a sometimes rapidly changing and fragile context, drought further compounds and exacerbates these existing factors (Paton 2014).

In the Central West, the decline in agricultural income during the drought has had considerable economic impact on small businesses, creating flow-on impacts for the whole community such as:

- population decline from retrenchment;
- reduced access to services due to businesses closing and reduced operating hours; and
- reduced stock option in shops (Paton 2014).

In a NSW study, participants reported the main impacts of drought related to: finances, transport, stress and health, social disintegration, youth issues and fewer community events (Maybery *et al.* 2010). Declining populations (particularly young people and families) is seen a major result of drought, contributing to a decline in community spirit and fracturing of social fabric (Bureau of Rural Sciences (2008:4). These results were replicated for the Central West region of Queensland, in research undertaken for this project (see Chapter 5). A recent model (Kelly and Phelps 2017) illustrates the complex interaction between these social, health and economic factors in rural and regional communities.

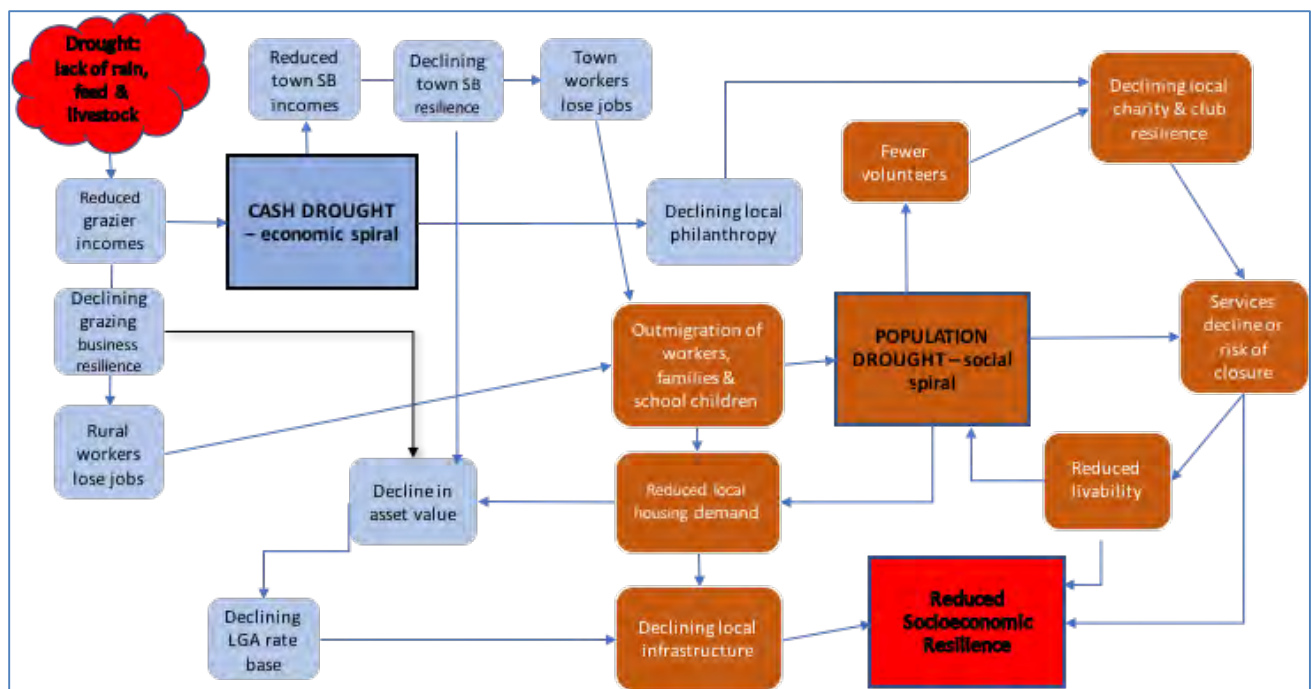


Figure 14 Factors affecting Remoteness (Kelly and Phelps 2017)

In the Central West region, the flow-on effects of drought influence both social and economic characteristics, similar to many rural and remote communities in Australia. Drought causes loss of employment for both rural and town workers, worker relocation, and reduced income for small businesses. The economic decline impacts on the social fabric of the community, and this in turn tends to exacerbate the economic environment.

Six key interacting factors link drought to reduced socio-economic resilience (as outlined in Figure 14 above) and stem from the reliance of small business on rural expenditure:

- 1) Cash drought (rectangle blue box on left in Figure 14)
- 2) Reduced small business incomes (blue box in Figure 14)
- 3) Population drought (rectangle orange box on right in Figure 14)
- 4) Services decline (orange box in Figure 14)
- 5) Reduced livability (orange box in Figure 14)
- 6) Reduced socio-economic resilience (red box in Figure 14).

These complex and interacting relationships, based on the diagram, are discussed next.

1) Cash drought

Cash drought is when graziers from agricultural properties, and their workers, have less money to spend. Small businesses have a high reliance on farming family expenditure (Paton 2014, Drought Policy Review Expert Social Panel 2008, Alston & Kent 2004). As such, small businesses are recognised as particularly vulnerable in times of drought, even those not directly associated with rural enterprises (Miles *et al.* 2007). Drought events tend to exacerbate pressures on small business due to isolation and remoteness. Impact on small business is related to two main factors [1] “whether primary producers were key customers, and [2] the level to which businesses sold discretionary (non-essential) products and services” (Miles *et al.* 2007:3).

The extent that reduced expenditure by farm families on small business in small rural towns is not really clear, but it is significant. Small business in smaller towns are more affected by drought than larger towns (Drought Policy Review Expert Social Panel 2009:26), as the reliance of small business on farm expenditure was lower in larger towns (Alston and Kent 2004). A survey for the

CPA Australia Small Business conducted in 1999 in NSW showed that drought had a negative impact on 24% of businesses (Alston & Kent 2004). Based on the surveyed businesses, the impact of drought on their turnover depended on the extent of their diversification, ranging from a reduction of 40% to 90% (Alston & Kent 2004). “A farmer may only spend 10 per cent of their total expenditure locally but ABARE calculations show farm expenditure represents as much as **one-third of small town economies**” (Drought Policy Review Expert Social Panel 2009:21). Therefore, the impacts on small business range from 33% (Policy Review Expert Social Panel 2009:21) to 90% (Alston & Kent 2004).

2) Reduced small business income

Reduced small business income starts with the agricultural cash drought, the retrenching of rural workers, and the flow-on effects of the population drought, and then tend to compound. As the Mayor of Barcaldine, Rob Chandler said: “*There is a critical threshold that, once passed, tends to be set in concrete. These kinds of changes are very hard to overturn.*” (Morton 2017:1). A negative spiral starts and can be difficult to turn around.

The consequences of lower incomes for small business are also multiple. The economic struggles that small business face during drought in the Central West and Fitzroy regions, lead some businesses to retrench staff, reduce their open hours, reduce their range of stock and some non-essential businesses (cafes, restaurant, clothes) have even closed (Paton 2014). Small business are less likely to donate money or time to local community events such as agricultural shows (Drought Policy Review Expert Social Panel 2008), less local philanthropy occurs.

Consequently, rural communities have reduced access to activities, facilities and services, which leads to reduced quality of life. The residents might have to travel further which has a financial impact due to increased costs such as fuel, but also has a social impact due to reduced leisure time with family.

3) Population drought

In Australia, people leave small towns because of lack of employment, loss of services, and general negative mood of the community. One wide scale survey reported that some household members move temporarily or permanently to areas with better economic opportunity during drought (Edwards 2009). Another study reported a loss of available casual and part-time positions in several communities in rural NSW due to drought (Alston & Kent 2004), often as small business experience reduced income. Rural workers leaving areas affected by drought also leads to teachers, health and other social services workers leaving (Kotey 2014). Children leave towns with their parents looking for work, and this results in class sizes in school shrinking, followed by teachers leaving.

When the drought ends, people often do not return. Youth leave to go to larger towns, and people expressed concern that they will not return (Alston & Kent 2004). It is then very difficult to replace and attract small business and other skilled workers back to the towns (Morton 2017, Kotey 2014, Drought Policy Review Expert Social Panel 2008). The population drought has compounding effects for both agricultural and town small business.

4) Reduced services

Lower population levels mean services are reduced, and some are at risk of closure. A lack of mental health services can occur at a time when these are most needed.

A study published in 2004 on the impact of drought in rural areas of NSW, shows that some towns have lost health workers, banks and other businesses during the drought (Alston & Kent 2004). Professor Sorensen, who undertakes research on regional population and development at the University of New England, stated during an interview with The Australian in March 2017 that: “*the town loses a police station and then the school and then the local businesses begin to lose*

customers and they go, too". This demonstrates the interrelated relationships between these various factors.

Loss of infrastructure, services and businesses have a feed-back impact in the loss of direct and indirect employment (Morrissey & Reser 2007), further reducing the population, and can start a negative spiral of further reduction of services. All of these factors are inter-related, and all eventually lead to lower levels of resilience in drought affected towns.

5) Reduced livability

Declining populations (especially young people) reduce social networks, community activities, volunteering and community engagement (Howden *et al.* 2014:82). All of this builds social isolation and contributes to reduced livability in rural and town communities; social and psychological distress can follow (Howden *et al.* 2014:82). Social disintegration was an important concern for members of one NSW community affected by droughts (Maybery *et al.* 2010), where many people mentioned a decrease of social events during drought events and that there were fewer people **volunteering** (Maybery *et al.* 2010).

A lack of volunteers during drought was also a concern for fire services in another NSW study (Artore *et al.* 2008). The ability for small business to donate funds for local community events and agricultural shows, also makes organisation difficult, with volunteers having to work very hard (Drought Policy Review Expert Social Panel 2008).

In the Central West, the famous community event 'Harry Redford Cattle Drive' was cancelled in 2015 and 2016 due to the drought (Burton 2016). Such events require a major effort from volunteers, the Barcaldine Mayor, Rob Chandler said:

"It is really sad. The Harry Redford Cattle Drive has been an institution; it's been one of the greatest events in outback Queensland for a long, long time" (Burton 2016).

Another cause of reduced community participation is the cost of fuel. With reduced incomes, community members tend to only use fuel for essential activities, not for pleasure (Botterill & Wilhite 2005, Maybery *et al.* 2010). Thus fewer families are able to engage in social activities such as sport or other community events. In communities that are already isolated, lack of social interaction increases this sense of isolation and can lead to mental health issues (Maybery *et al.* 2010).

6) Reduced socio-economic resilience

The economic down turn of small business has a profound flow on effect on the social wellbeing of rural communities (Morton 2017:10, 34, 39). Some characteristics of rural communities mean they are more vulnerable to income shocks (Kim and Prskawetz 2010), for example households with lower education levels are more vulnerable (Skoufias 2007; Silbert 2011). So, increasing education and skills can be important in promoting adaptive capacity (Garbero & Muttarak 2013:1).

Reduced access to amenities, lack of social events and pressure on family structures are exacerbated during drought. Various studies in rural NSW (Allen *et al.* 2012; Maybery *et al.* 2010) confirmed that a decreased level of social support was linked to an increased risk of psychological distress for families and young people.

For the last ten years, the Federal and State Governments and non-governmental agencies have been working on drought policies and programs to assist rural communities (Askew & Sherval 2012). Unless policy and drought assistance measures take account of these interacting remote factors, success is unlikely (Walker 2012).

The next chapter reviews literature relating to resilience. This concept is suggested as a proactive, evidence-based approach that enables a community to prepare for, adapt to, and survive change processes including crises situations such as droughts.



4. Building resilience

When looking for approaches to help Australian communities survive and prosper, *resilience thinking* emerges as one way that can help improve people's well-being (Martin-Breen & Anderies 2011; Schwarz & Williams 2009a). By the 21st century, the theory and political rhetoric moved on from *community engagement* to *engaged governance* and *resilience thinking* (Curtis *et al.* 2014). As Walker and Salt (2006) explain, resilience thinking moves sustainability thinking into the realm of complexity. Drought is one of the 'wicked'⁴ problems inherent in land management; thus a more integrated approach is needed.

The concept of resilience is considered increasingly important in Australian drought policy, particularly in an era of environmental, social and technological change (Drought Policy Review Expert Social Panel 2008). Resilience in this report is 'the extent to which our communities have the capacity, skills and knowledge to adequately prepare, respond and adapt in the face of rapid change' (Queensland Government 2017:4).

Resilience is not the only approach that has attempted to improve integration between social and ecological aspects. For example:

- Sustainability thinking was one of the early attempts at integration, proposing a triple bottom line and overlapping domains of social, economic and environment. This gained prominence in international declarations (e.g. United Nations 1987).
- Social Impact Assessment (SIA) was traditionally done to meet regulatory requirements, to measure the intended and unintended consequences of an intervention e.g. policy or project. SIA can be used to assist affected communities in developing an understanding of the issues they face, whether these be environmental or political (Vanclay & Esteves 2011:3). Thus, it can be an integrating framework.

Nonetheless, resilience thinking is frequently used in drought policy and other fields outlined below. Resilience thinking is so widely used in policy (Davidson *et al.* 2016; Maclean *et al.* 2017) that Maclean and her colleagues suggest that resilience may be the new 'buzz word' replacing sustainability (Maclean *et al.* 2017; Davoudi 2012).

This section of the report first outlines the fields in which resilience is used, and then briefly outlines the historical development of resilience thinking. Thirdly, the aspects of resilience that would need to be addressed to overcome the impacts of drought are discussed. Social attributes are a particular focus, as these are often neglected, but are arguably the most important.

4.1 Resilience – use and attributes

Resilience is used in many fields or disciplines especially those confronting some sort of uncertainty and disruptive change. Some of the key fields relevant to Central West of Queensland are:

- Psychology and mental health (Brown and Westaway 2011; Buikstra *et al.* 2010; Ng *et al.* 2015),
- Social-ecological systems (Berkes *et al.* 2003; Folke *et al.* 2010; Gunderson and Holling 2002; Ross and Berkes 2013; Walker and Salt 2006),
- Disaster management (Maguire and Hagan 2007; Zhou *et al.* 2010),
- Environmental risk management (Sapountzaki 2007),

⁴ 'Wicked' problems are ill-defined, contradictory, unique and do not have a solution, rather they need to be solved over and over. Solutions are not right or wrong (Rittel and Webber 1973).

- Climate change/variability (Boon *et al.* 2012; Cutter *et al.* 2009; Fraser *et al.* 2011; Bahadur 2016),
- Urban planning (Davidson *et al.* 2016; Davoudi 2012; Martin-Breen & Anderies 2011)
- Political science (Martin-Breen & Anderies 2011),
- Community and international development (Berkes and Ross 2012; Brown and Westaway 2011; Davidson *et al.* 2016; Martin-Breen & Anderies 2011), and
- Social learning (Berkes and Ross 2012; Keen, Brown & Dyball 2005; Pahl-Wostl *et al.* 2007).

Despite the term resilience being used in many fields, its meaning is contested and there is no shared understanding of the concepts of resilience. Different uses have generated different methods and different meanings (Martin-Breen & Anderies 2011:5). A brief review of the historical development helps explain this lack of convergence and highlights the key concepts of resilience.

History of resilience

Resilience has largely developed in two parallel but discrete fields firstly: psychology and mental health, and secondly, systems thinking and social-ecological systems (SES). The key concepts that developed in these fields have been outlined in at least three recent reviews (Bahadur 2016; Davidson *et al.* 2016; Maclean *et al.* 2017).

Resilience was initially discussed in the *psychology and mental health field* in the 1940s, and is credited to Norman Garmezy, Emmy Werner and Ruth Smith (Manyena 2006 quoted in Maclean *et al.* 2017). In this field, resilience focuses on personality traits of individuals that help them cope with times of adversity. The fields of disaster resilience and risk management have grown out of this way of thinking. Over time, the scale that is considered has changed, and the community as well as individual situations are now discussed in psychology and mental health. As one Australia training manual says: “Disaster recovery is more than dealing with individuals” (Robinson 2015:5). However, the focus is still more on the factors and personal traits that help individuals and the community to survive disasters, whether these be floods, fires or droughts.

The other field that has contributed significantly to the development of resilience thinking is *complex adaptive systems*, mainly in the ecology (Hollings 1973). Systems thinking encourages a more integrated approach. One fundamental belief from Holling (1973) that has widely influenced thinking is that all elements of the system are mutually interdependent. So, changes in one part of the system will impact on other parts, not necessarily in ways that can be predicted.

Developments in this field clearly link people and the environment (e.g. Gunderson, Holling and Light 1995; Gunderson and Holling 2002). Social-ecological systems (SES) have been defined as:

*“A social-ecological system emphasises the importance of considering **humans as part of ecosystems**. Feedbacks within and across the social-ecological systems determine its behaviour which depends, in turn, on cross scale interactions.”* (Folke *et al.* 2005 quoted in Gorddard 2015:62)

Within Social-ecological systems (SES) thinking, Gunderson and Holling (2002) developed the idea of ‘nested systems’ or ‘panarchy’. Nested systems highlight the interconnectedness between levels, such as local, watershed and regional; as well as the impacts between the fast and slow cycles. Revolution may occur when fast, small events overwhelm the larger, slower systems that tend to bring stability (Resilience Alliance nd). The application of ecology principles is not always simple, because fast and small events are not the only way to initiate revolt in social systems. Inherent difficulties exist in linking social and ecological systems (Maclean *et al.* 2017) mainly because

human beings are capable of independent thought and may not follow ecological or systems principles (Giddens 1984⁵; Gunderson and Holling 2002).

Strengths and weaknesses of resilience literature

The two schools of thinking see resilience differently - psychological/mental health developed from the social sciences, and socio-ecological from the natural sciences. Both ways of thinking see resilience as a process rather than an outcome, but in different ways. Each approach has its inherent strengths and weaknesses (Davidson *et al.* 2016; Maclean *et al.* 2014; Martin-Breen and Andries 2011). A few key points are outlined below in Table 9 below.

Table 9 Strengths and weaknesses of resilience thinking

	Psychology and mental health	Social-ecological systems (SES)
Differences	tends to have shorter time frames (Bahadur 2016:13) tends to be more static e.g. 'bouncing back to normality' (Tanner <i>et al.</i> 2017)	tend to have longer time frames (Bahadur 2016:13) tend to be more dynamic, emphasising non-linear change & dynamism of cross-scale systems (Tanner <i>et al.</i> 2017)
Strengths	Planned interventions to enhance a person's resilience - Focus on individual resilience - Explicitly designed for direct interventions - Emphasis on empirical research, evidence-based policy - Accepting that people have different points of view about the same thing (Bahadur 2016).	Collaboration & adaptive management with learning cycles (Berkes & Folkes 1998) - Focus on how to work with social and ecological uncertainty - Emphasis on flexibility of systems - Importance of adaptive management - Ability of systems to self-organise - Highlights importance of institutions & governance systems (Adger 2000).
Weaknesses	- Needs more focus on larger scale & links between scales - Lacks recognition of the important impact of the natural environment and institutions arrangements in facilitating change.	- Needs more focus on building strengths within SES - Lacks recognition of smaller scales, while the literature discusses 'nesting', most work is on regions - Lacks processes to instigate appropriate change; limited clarity on how to design interventions.
Recent developments	- Community scales which have appeared more recently (e.g. Maguire & Hagan 2007; Buikstra <i>et al.</i> 2010; Robinson 2015)	- Recently addressed through social learning (Pahl-Wostl <i>et al.</i> 2007; Ross <i>et al.</i> 2010), collective learning (Keen, Brown & Dyball 2005) & community development (Buikstra <i>et al.</i> 2010; Ross & Berkes 2014).

(adapted from Maclean *et al.* 2017)

According to a report done by the Rockefeller Institute (Bahadur 2016:10), resilience thinking from the SES field often ignores individuals, their relationships and their social systems. Yet the strengths of psychology/mental health approaches, such as an understanding of the individual, could complement the weaknesses in the SES approach. However, these ways of thinking have largely developed in silos, with very little cross-fertilization (Davidson *et al.* 2016; Maclean *et al.* 2017; Bahadur 2016). Even as the fields have matured, concepts from each field are not always found consistently in other fields, as indicated in the table below (Table 10).

Davidson and her colleagues (Davidson *et al.* 2016) examine what concepts of resilience occur in different domains. Their domains are a simplified list of the fields; of the resilience fields listed above

⁵ Giddens (1984) developed 'structuration' theory which basically says that human beings usually act within the structure or norms of society, but that they are active subjects capable of independent thought and so have the power or agency to make their own decision independent of society's norms.

(Chapter 4.1). They present a typology of resilience, showing how the concepts of resilience have matured in different domains (Table 10 below). Some conceptual elements appear in most domains; other elements occur sporadically or are domain specific. Concepts in the early thinking (the yellow boxes for each domain) were persistence & resistance, and recovery to a stable state. These seem to reflect the foundation in systems thinking.

Table 10 Key resilience concepts grouped by resilience domains (Davidson *et al.* 2016 Fig 1)

Resilience Domains			Resilience conceptual elements													
	Resilience domains	Resilience definitions subcategories	Persistence / Resistance	Disturbance absorption	Recovery to stable or previous state	System identity retention	Renewal by self- or reorganization	Adaptability	Transformability / Transformation	Innovation	Capitalize on new opportunities	Preparedness / Anticipation	Vulnerability reduction	Resilience building	Collective capacities	Collective processes
Ecological	ER	Engineering	Yellow		Yellow											
		Original ecological	Yellow		Yellow	Yellow										
		Extended ecological	Orange	Orange		Orange		Orange								
Social-ecological	SER	Basic social-ecological	Yellow	Yellow		Yellow										
		Extended social-ecological		Yellow		Yellow	Yellow	Yellow								
		Advanced social-ecological		Orange			Orange	Orange	Orange							
Urban	UR	Static urban	Yellow	Yellow		Yellow										
		Social-ecological urban	Yellow	Yellow	Yellow		Yellow	Yellow				Yellow				
		Evolutionary urban					Orange	Orange	Orange	Orange	Orange					
Disaster	DR	Basic disaster	Yellow		Yellow											
		Integrated disaster			Yellow		Yellow	Yellow				Yellow	Yellow	Yellow	Yellow	Yellow
		Advanced disaster	Orange				Orange	Orange	Orange	Orange	Orange	Orange				
Community	CR	Basic community	Yellow	Yellow	Yellow	Yellow										
		Extended community	Yellow		Yellow			Yellow							Yellow	
		Integrated community					Orange	Orange	Orange	Orange				Orange	Orange	Orange

The more recent extended, advanced evolutionary or integrated thinking in each domain show how resilience has matured. Transformation, innovation, preparedness, and vulnerability are concepts of resilience thinking today, but not consistently in all domains. It is clear that collective capacities and processes do not occur in every domain but are limited to domains that have close dealings with communities – disaster and community. The concept of scale does not appear in this analysis, and others have commented that much less resilience research has been done on a community scale than on an individual scale (Buikstra *et al.* 2010; Maclean *et al.* 2017; Maybery *et al.* 2010).

A recent review of resilience (Tanner *et al.* 2017) indicates a lack of understanding of social science. Current projects in climate change and development often support the status quo “and business as usual”, and this is a way to de-politicise disasters and disruption from changing weather patterns (Tanner *et al.* 2017:15). This interpretation of resilience “enables governments to ... transfer responsibility from the authorities to local residents” (Tanner *et al.* 2017:15). Individual levels of “preparedness” and their understanding of business risks are seen as indicators of the level of business resilience. The language of shared responsibility reinforces this idea that people should not rely on government. This is found in the current Queensland Strategy for Disaster Resilience (Queensland Government 2017).

The inherent weaknesses in the concept of resilience have led to the argument that resilience needs to be used in conjunction with other terms, such as ‘vulnerability’ and ‘transformation’ (Adger 2008; Bahadur 2016).

Vulnerability

Vulnerability and resilience are closely linked. Vulnerability is often seen as the opposite of resilience (e.g. Martin-Breen and Anderies 2011). However, Maclean and others (Maclean *et al.* 2017) point out that resilience is neither the opposite of vulnerability; nor is one a component of the other (Maclean *et al.* 2014:146).

It is widely accepted that resilience will reduce vulnerability. However, this assumes that resilience is always positive (Maclean *et al.* 2017). Resilience implies stability to some people (Martin-Breen & Anderies 2011:12), and maintaining the status quo. This may not always be the best strategy if transformative social change is needed in rural and remote communities (Keen, Brown & Dyball 2005; Walker 2012).

Vulnerability is useful “for identifying and addressing risk factors” (Maclean *et al.* 2014:14). As such, it focuses predominantly on the deficits. Conversely, resilience focuses on the strengths already in the community. These concepts complement each other in this aspect. Another reason to integrate these concepts more is that vulnerability emphasises the social-political aspects, while resilience focuses on the ecological-biophysical (Bahadur 2016:14). Vulnerability is rooted in the social sciences and is concerned with issues of power; generally at the household or community scale (Bahadur 2016:13).

Policy makers or development workers need to consider the vulnerabilities, as well as looking to support the positive attributes that already exist in communities. They also need to consider factors that will help protect the local community (Buikstra *et al.* 2010; Maclean *et al.* 2017; Bahadur 2016). Focusing only on vulnerabilities ignores the knowledge and skills and capabilities in local communities, which in many instances is the reason communities such as the tiny towns of Central West Queensland have survived for so long under adversity.

Transformation

One of the weaknesses of both resilience and vulnerability thinking is that these tend to focus on incremental change, without questioning the underlying assumptions and cultural discourses (Bahadur 2016). One of the strengths of transformation is that it does consider the ‘politic’ realm - politics, governance and institutions.

Transformational change and transformational learning are both concepts that enrich resilience (see Table 11 below). Transformation may require destroying part of the existing structures of business or governance: “*Transformational changes ... may alter entrenched systems that are maintained and protected by powerful interests*” (O’Brien 2011:4-5 in Bahadur 2016:16).

Table 11 Resilience and Transformation

	Resilience	Transformation
Goal	Functional persistence in a changing environment	Reconfigure the structures of development
Scope	Change in technology management practice and organisation	Change overarching political economy regime
Policy focus	Resilience building practices. e.g. new seed varieties	New political discourse redefine the basis for distributing security and opportunity in society and socio-ecological relationships

(Bahadur 2016:16)

Transformation may be seen as ‘empowerment’ when it examines and questions issues of equity and rights of local people (Bahadur 2016:17). Empowerment also comes from local people learning about oppressive power structures (Bahadur 2016:17), which was called ‘conscientization’, when explored by Paulo Freire (1970).

In conclusion, both transformation and vulnerability have ideas to complement the resilience literature. The lack of attention paid to institutional structures and organizational cultures is one of the key weaknesses of resilience. Economics and a focus of specific scales, by each way of thinking (Maclean *et al.* 2017: 526), also indicate benefits from more integrated approaches. The understanding of social aspects of resilience generally is less developed, as highlighted by many authors (e.g. Davidson *et al.* 2010; Brown and Westaway 2011; Maclean *et al.* 2014).

Types of resilience

Resilience is sometimes conceptualized in terms of different types of ‘capitals’, the assets or resources of a community or area. The notion of ‘capital’ was popularized by Robert Putnam (1995; 2000). The idea of capital does help to link resilience to economics, sociology, ecology and culture; and it does capture the idea of adaptive capacity (Able *et al.* 2006; Cocklin and Alston 2003). Communities have social capital, in terms of networks, trust and cohesion, and these can adapt as circumstances change.

The various capitals usually include natural, cultural, human, social, political, financial or economic, physical or built; as well as bonding and bridging capitals which provide the links between the other capitals (see Table 12 below).

Table 12 Nine capitals

Capitals	Description
Natural	“The resource condition, including waste generation, consumptive and non-consumptive values, conservation, biodiversity and natural habitat, climate change” (Ross <i>et al.</i> 2010:17)
Cultural	“Relates to the different world-views embodied in different social classes that reflect their values, the way they think, and the perceived possibilities for change” (McCrea <i>et al.</i> 2014:277)
Human	“The status of individuals, including investment and attainment in education and training evidenced through skills, knowledge, life experience, values, leadership, active citizenship (rights and responsibilities)” (Ross <i>et al.</i> 2010:17)
Social	“The fabric of society, including societal strength, cohesion, social inclusion, trust, networks, equity, safety, sense of place, creativity” (Ross <i>et al.</i> 2010:17)
Political	“Refers to the ability to influence the decision making about the distribution of costs and benefits in a community, often concentrated in groups of local elites (and excluded community groups)” (McCrea <i>et al.</i> 2014:277)
Financial	“The stocks and flows of money, savings and pensions, including income generation and distribution, un/employment, economic costs of social and environmental impact and resulting dysfunction, savings and investments.” (Ross <i>et al.</i> 2010:17)
Physical or Built	“The provision of infrastructure to support human needs, including transport, health and education facilities, human services, housing, communications” (Ross <i>et al.</i> 2010:17)
Bonding	“The value assigned to social networks between homogeneous groups of people” (https://en.wikipedia.org/wiki/Social_capital).
Bridging	“Social networks between socially heterogeneous groups” (https://en.wikipedia.org/wiki/Social_capital).

These types of capital are seen as ways to facilitate the development of resilience (Flora & Flora 2013). The model below (Figure 15) outlines how this occurs, using natural, cultural, human, social, political, financial and built capitals.

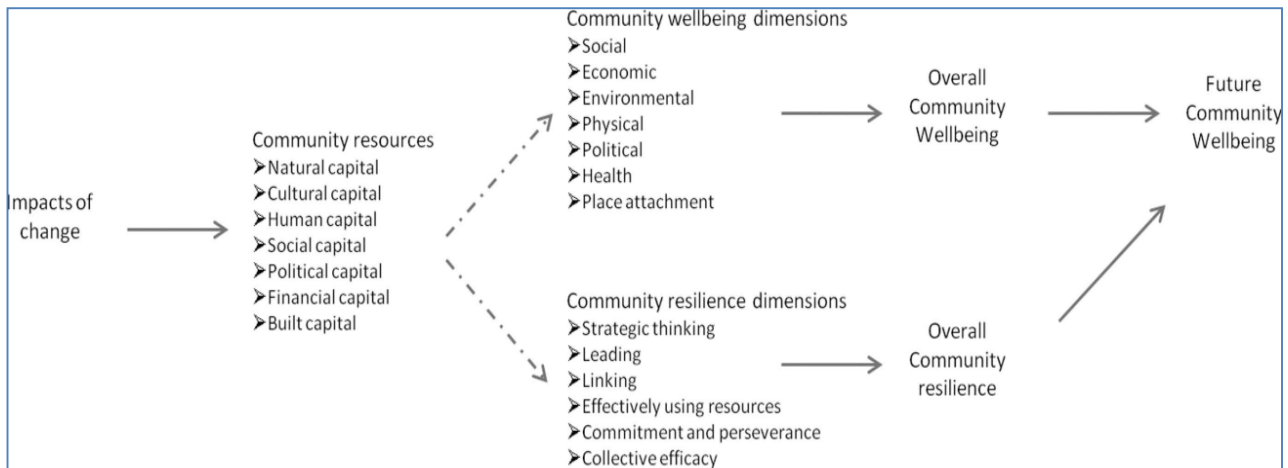


Figure 15 Model for community wellbeing and resilience (McCrea et al. 2014:278)

In drought affected areas, natural capital is reduced due to the lack of rainfall but this is out of people's control. Natural capital changes then impacts on community well-being and/or resilience. For example, correlations between soil salinization and women's mental health has been established in Western Australia (Fearnley et al. 2014). Despite this being a straightforward way of looking at different aspects of resilience, the use of 'capitals' has been widely criticised.

Many of the criticisms of the 'capitals' are very similar to the criticisms of resilience itself. Capital thinking is a tool of neo-liberal politics, as it implies that that marginalized people need to build their social capital to help protect themselves. – People are powerless simply because they do not have enough capital, but this takes no account of any structural inequality within society (Ferragina and Arrigoni 2016). The language certainly has a hard-nosed economic feel, even though it does include social aspects (Halpern 2005). Some other ways of conceptualising resilience mirror the 'capitals' as is indicated in the table below (Table 13).

Table 13 Four ways to conceptualise types of resilience

[1] Competence (Norris et al. 2008)	[2] Dimensions (Berkas & Ross 2013)	[2] Social Attributes (Maclean et al. 2014)	[4] Capitals
Social capital competence	Social networks	Community networks providing support to residents	Social capital
Information & communication	Community infrastructure	Community infrastructure to support community's needs	Built capital
Economic development	Diverse innovative Economy	Diverse and innovation economies	Financial capital
Community competence	Knowledge, skills, & learning	Knowledge, skills and learning	Human capital
	Engaged governance	Collaborative and engaged governance to decision making	Political capital
	People-place relationships	People-place connections	Natural capital
	Leadership		Social
	Positive outlook		Social
	Values & beliefs		Cultural capital

For this report, the focus is on resilience for town-based small businesses in the Central West of Queensland. Thus, social resilience and how it relates to the educational opportunities, economy, governance and infrastructure in rural and remote Australia is most important.

Social resilience

While social aspects are often forgotten by researchers and policy makers, these are seen as vitally important by rural and remote communities themselves e.g. communities in Central West Queensland (Cole 2016 and WQDC 2015), in south-west Queensland (Kelly 2005) and in drought affected areas Australia-wide (Drought Policy Review Expert Social Panel 2008). Social resilience is used in this report to help focus policy recommendations on these issues of importance in Central West of Queensland.

Social resilience has been defined as:

“the way in which individuals, communities and societies adapt, transform, and potentially become stronger when faced with environmental, social, economic or political challenges” (Cuthill et al. 2008:146).

Six attributes of social resilience which connect resilience to the dimensions of sustainability (society, economy and environment) have been developed and validated by Maclean and her colleagues across several white and Indigenous communities in north Queensland (Cuthill et al. 2008; Gooch et al. 2010; Maclean et al. 2014; Maclean et al. 2017; Ross et al. 2010). These attributes are not exclusively social; they also “connect across the dimensions of sustainability – society, economy and environment” (Maclean et al. 2014:153). The six attributes are listed below (Table 14).

Table 14 Explanation of six attributes of resilience (Maclean et al. 2014)

Attributes	Explanation
Knowledge, skills & learning	“Knowledge partnerships are fundamental to individual & community ability to cope & adapt to change ... A diverse skill set, appropriate to local contexts, is seen as essential to successfully negotiate periods of change” (Maclean et al. 2014:149).
Community networks	“The attribute ‘community networks’ draws heavily from the concept of social capital & encompasses the social processes & activities that support people & groups in a place. In times of change these networks provide essential support, operationalise community capacity, identify opportunities, & provide a focus for renewed optimism & hope” (Maclean et al. 2014:149).
People-place connections	People-place connections acknowledges human-environment interdependencies & connections. Two main themes are ‘connection to place’ & ‘sustainable livelihood development’ “(Maclean et al. 2014:150).
Community infrastructure	Community infrastructure is required to support community needs & actions.
Diverse & innovative economy	A regional economy that is over-reliant on a small number of major industries has an increased risk of impacts from national & global events. “Many participants regarded the ability to ‘do things differently’ as an essential aspect of the process of adapting” (Maclean et al. 2014:151).
Engaged governance	Engaged governance revolves around collaborative approaches to regional decision making (Maclean et al. 2014). “Institutions & governance structures can contribute to & detract from resilience” (Martin 2011:18) & must be linked to the context.

In some situations, the first five attributes can be seen as leading to the sixth attribute of engaged governance; however in other situations one attribute may be more important than another, without any being dependent on the achievement of others. Each context needs to be understood.

The next section reviews the literature on each of these six attributes. The aim is to provide an understanding of community resilience to assist future policy and programs in rural drought affected areas.

4.2 How to build resilient communities?

Building resilience means addressing each of these attributes to find the vulnerabilities at individual, community and regional scale. Then non-government organisations and government policy makers need to work with the local people to ascertain what measures are needed to both support local strengths as well as to decide whether or not transformational change is appropriate.

❖ Knowledge, skills and learning

Education and training are often seen as the most important way of increasing resilience. The Queensland Strategy for Disaster Resilience (2017) emphasises the need to have continual learning to build resilience, and the “capacity, skills and knowledge to respond to and recover from a disaster” (Queensland Government 2017:8). In the Central West of Queensland, one study based on locals’ views, emphasises the importance of human capital (education, training for skills, knowledge) in building sustainable development and making regions resilient (Cole 2016:3). Increasing knowledge and skills is desired by rural communities.

One study interviewed rural members of seven communities in NSW (Maybery *et al.* 2010). When asked what their community needs to be more resilient, half identified training. The key training required was about grant writing proposal, how to run effective meetings, as well as short training programmes on mental health and first aid (Maybery *et al.* 2010). Hanna and others (Hanna *et al.* 2011) also propose training for rural businesses and farmers about adaptive strategies for drought, such as changes in type of crops grown, restoration of soil carbon, better water management practices, and investment in solar and wind energies. Training in using the internet and social media to diversify income sources or to reach broader markets is also recommended (Kotey 2014).

Innovation⁶ strategies used by rural SB often relate to visionary and proactive leadership, which can involve risks (Kotey 2014). The most effective innovations seem to be the most radical ones, but these are also the most risky. As innovation requires credit or cash, government could assist in providing training, and encouraging banks provide appropriately structured loans (Kotey 2014:343).

Drought negatively impacts on training and education. The *loss of education* was identified as one of the effects of drought across rural Australia (Drought Policy Review Expert Social Panel 2008), and in Victoria specifically (Schwarz and Williams 2009b). AgForce (2016) urges the government to provide education assistance for all drought affected rural students. Families in financial hardship cannot keep up with the increasing boarding school cost rises, so children have more limited opportunities for education. The Drought Policy Review reported that children arrive at school hungry during drought periods (Drought Policy Review Expert Social Panel 2008:52), which also limits learning ability.

In the RAPAD area, local schools class numbers are reducing as rural populations decline (Drought Policy Review Expert Social Panel 2008) and young people are not able to access higher education and extracurricular opportunities because of household financial limitations resulting from the drought (Drought Policy Review Expert Social Panel 2008). The demand for university undergraduate agriculture places also fell 19 per cent in the period from 2001 to 2006 (Drought Policy Review Expert Social Panel 2008:47), indicating a loss of interest in agriculture as a future for young people. According to Rural Debt and Drought Task Force (2016), hope could be an important factor to the resilience of youth in drought areas. Education can provide hope for their future and a greater sense of meaning. Higher levels of personal hope have been associated with better physical and mental health outcomes (Nestler & Charney 2009 cited in Stain *et al.* 2011). Knowledge, skills and learning is understandable when linked to other attributes of resilience.

⁶ Innovation is defined by the Australian Bureau of Statistics as ‘the introduction of a new or significantly improved good or service; operational process; organisational/managerial process; or marketing method (Kotey 2014:331).

While learning is mentioned in policy documents (e.g. Queensland Government 2017), transformative learning and social learning are rarely mentioned in the resilience literature. The exception is authors such as Berkes and Ross (2012), who state that social learning is needed if communities are to cope with significant change. Transformative solutions are critical for resilience of rural and remote communities in Australia, according to Walker and his colleagues (Walker *et al.* 2012; Walker, Porter and Marsh 2012). Walker called for “*appropriate networking, collaboration and entrepreneurial skills*” to make transformative changes, especially to improve governance (Walker *et al.* 2012:57).

Similarly, Herbert-Cheshire suggests that rural development needs to build on people’s passion and entrepreneurial qualities and to challenge the dominant ideas and structures of governance. Local people can then build networked community organisations and collaborative businesses rather than the current focus on market-driven individual businesses. Herbert-Cheshire cites a successful example from western Queensland where the Booringa Action Group transformed the town of Mitchell in about 5 years (Herbert-Cheshire 2000:210). Education and training is obviously needed to help foster greater collaboration, and to transform governance arrangements.

Transformation, innovation and diversification may be made more difficult for people in rural towns because they already have lower levels of vocational qualifications (Drought Policy Review Expert Social Panel 2008:45). However, education is not the primary determinant of economic outcomes (Walker, Porter & Marsh 2012:39). therefore, some of these assumptions about the links between training and improved economic resilience may be overstated. Other research considers relational aspects to be particularly important in determining economic outcomes (Jacobsen 2017; Young 2006), which is addressed next.

❖ **Community networks**

‘Relationships matter’, especially in disaster recovery (Red Cross 2012). Community networks and relationships are similar to the concept of ‘social capital’ (Putnam 1996) and encompass social processes and activities that support people and groups in times of change (Maclean *et al.* 2014:149). The importance of relationships and a sense of community in helping people recover from disasters is highlighted in several reports (e.g. NRM Regions 2017; Red Cross 2012:23; Robinson 2015; Queensland Government 2017). The Red Cross report (2012) is based on the National Disaster Resilience Advisory Roundtable, which discussed recovery experiences from the fires of Kinglake in Victoria, and the floods in the Lockyer Valley, Queensland. Human interactions and mutual trust are essential to build resilience (Flora & Flora 2013). While droughts are a slow forming disaster, relationships are vital for resilient communities. Policy and other decision-makers need to acknowledge the connections within rural communities, in order to adequately support local communities (Kiem and Austin 2013:1311).

The review of the literature provided some avenues for reinforcing community networks. Social events and festivals are seen as “playing a constructive role in helping communities cope with drought” (Gibson and Connell 2015:445) by rural people surveyed during the Millennium Drought (2007-2008) across NSW, Victoria and Tasmania. Rural communities affected by drought in NSW also expressed a desire for more community events such as sporting and social events (Maybery *et al.* 2010). Events help establish and deepen community networks, and need to be understood in terms of place (Gibson and Connell 2015). Some of the benefits are listed below (Box 1).

Box 1 Benefits from Arts, Festivals and social events

The Arts generally (McHenry 2011) and social events specifically, help build community resilience, with benefits such as:

- Bringing people together
- Strengthening community
- Lifting moral and community spirit
- Providing an 'escape' from depressing circumstances of drought, improving mental health
- Providing a means for communities to come together for support, as well as guidance and advice
- Providing fun and entertainment (Gibson and Connell 2015:453)
- Strengthening a sense of place and community identity
- Providing opportunities for social interaction and networking (McHenry 2011:245).

A key point made in several reports, is that local people do not want to go to events that are labelled 'mental health', 'depression' or 'drought'; they want to talk about topics they choose, for example:

- Workshop labels like depression or drought do not attract community members (Askew & Sherval 2012)
- People do not want to hear over and over again about the issues of climate change and drought (Askew & Sherval 2012)
- Participants want to avoid being reminded of drought, the effects of which are visible every day in the landscape (Artore *et al.* 2008)
- Drought affected participants preferred to discuss issues with families and friends rather than professionals (Botterill and Wilhite 2005).

Thus, social events play a very important role, especially in times of droughts or other disasters. Having professionals in attendance, in a social capacity, is one way of introducing people, and building the trust between local and professional people who may be of assistance in the future.

Disasters can bring communities together. Shared experiences build social cohesion and networks, especially in flood and fire type disasters (Whittaker *et al.* 2017:170). Conversely, droughts often mean that local events, such as local race meetings and sports matches, are cancelled because of a lack of volunteers and money. Agricultural shows were particularly hard hit, which means a key way of disseminating information is lost, as well as of the social and emotional benefits as outlined above (Gibson and Connell 2015:457). Shows, festivals and other events attract locals, and also visitors. In western Queensland, the influx of tourists including "grey nomads" can significantly increase the population for short periods and lead to increased income for local businesses. Many of these events are based on the natural and historical features of the region or place.

❖ People-place connections

People-place connections acknowledge human-environment interdependencies and connections (Maclean *et al.* 2014). Two main themes emerged from research undertaken in North Queensland: 'connection to place' and 'sustainable livelihood development' (Ross *et al.* 2010). It is not only Indigenous people who have a connection to place; town business people demonstrate connections to place, as expressed in workshops in the Central West:

- "untouched natural environment ... sand hills, water, wide open spaces, unique river systems"
- "pristine rivers are the life-blood of local recreation and relaxation"
- "we are a special niche tourist destination, providing genuine Aussie heritage"
- "we are in the Lake Eyre Basin" (Cole 2016:9-10).

Sustainable livelihood development is demonstrated in the tourism industry in western Queensland, which is an indication that people are finding ways to stay and make a living. Ross (Ross *et al.* 2010) explains that organisations might use their knowledge of people-place connections to tailor their communication strategies accordingly. So understanding these connections can help develop innovative place-based businesses.

The disaster management field has recognized the importance of place-based connections and organisations. After the 2011 floods in Queensland, the best organisations to provide support were usually those operated by local people in local areas, as their connections meant they understood the needs of local people (Caniglia and Trotman 2011). These place-based organisations were also nimble, responsive and understood what, where and when support was most needed (Caniglia and Trotman 2011). Such local organisations are recognised as integral to disaster response as they understood the links vital to the community.

❖ **Community infrastructure and services**

Community infrastructure and activities that support community needs are essential for rural and remote communities to survive, and to attract new residents and to some extent tourists. Mitchell in south-western Queensland has become a hub for travelers as it has good services in terms of doctors, a hospital and a good bakery, as well as a free camping/caravanning site (Herbert-Cheshire 2000).

The Drought Policy Review Expert Social Panel (Drought Policy Review Expert Social Panel 2008) advised the government to consider the negative social consequences of withdrawing services in drought-affected areas. In 2015, the Australian government Drought Communities Programme (DCP), was established to help fund infrastructure in drought affected regions to provide employment (Department of Agriculture and Water Resources 2016). One of the core issues highlighted by stakeholders in western Queensland (Miles *et al.* 2007:6) was lack of infrastructure. Poorly maintained infrastructure intensifies the effect of drought in a lot of sectors (Kotey 2014), such as transport and freight affected by poor roads. Infrastructure is needed for transport, communication, medical services, schools, community centres and youth recreation facilities.

As well as sometimes being totally missing, infrastructure is often poorly designed for rural and remote communities. In the literature, the problem where facilities are designed for urban communities and copied for rural communities, and then do not meet local needs - is called "isomorphic mimicry" (Pritchett, Woolcock & Andrews 2010). Working with local people to understand the real needs is essential to overcome this problem.

Poor services are a disincentive for people to move into some rural communities. The lack of recreational opportunities, as well as lack of jobs, certainly encourages the drift of young people to larger centres. Kotey (2014) proposes tax breaks for businesses and people that relocate to drought affected areas. Other financial measures to help support resilience are discussed next.

❖ **Diverse and innovation economies, and drought assistance impacts**

The viability of small-medium size businesses is often regarded as a prerequisite for resilience in many rural areas" (Miles *et al.* 2007:1). However, town business owners in rural Australia said that it is difficult to plan for drought (Drought Policy Review Expert Social Panel 2008; Miles *et al.* 2007).

In droughts, rural producers (mainly graziers in the Central West) have less income to spend in town, so town business incomes also decline. Small business owner-managers in western Queensland have highlighted problems in finding and keeping sales outlets open, "marketing/selling the product or service and dealing with the competition" (Miles *et al.* 2007:6). Cash flow, finance and marketing were also highlighted as particular problems for rural regions in western Queensland (Miles *et al.* 2007).

Public and private grants and charity donations can help support local economies. Some disparities occur as most of the governmental programs are aimed at farming related businesses e.g. selling fencing materials, not all town business. Public generosity and assistance from charities do help local communities feel cared for, supported and more positive (Government of South Australia 2011:7).

However, some assistance measures hurt, rather than help, local economies. Hampers of food and other goods brought in from outside the region deprive local businesses of sales, often at a time when sales are already depressed. Many donations are unsolicited, and actually cost local communities time and resources in storing, sorting and delivery; and many goods end up being dumped (Government of South Australia 2011:5). To demonstrate the extent of this problem:

“The 2009 Victorian bushfires resulted in more than 40,000 pallets of goods from across Australia that took up more than 50,000 square metres of storage space. That is twice the size of the Melbourne Cricket Ground (MCG) arena. The cost for storage, staff and transport amounted to more than \$8 million” (Government of South Australia 2011:7).

Donations of money are the most useful to avoid these costs, and money is likely to be used in the local community, thus supporting local businesses.

While drought does cause negative impacts, drought was seen as a trigger for innovation and resilience building strategies by some small businesses (Kotey 2014:335). As people in the Central West workshops said (Cole 2016), drought encouraged them to do things differently. Results from businesses in rural Victoria (Schwarz and McRae-Williams 2009b), and from regional Queensland (Miles *et al.* 2007), showed successful strategies during drought periods included:

- Diversification (Schwarz and McRae-Williams 2009b; Miles *et al.* 2007)
- Creating a niche business or providing a service or product reaching further than the local market (Schwarz and McRae-Williams 2009b)
- Providing essential services (Schwarz and McRae-Williams 2009b)
- Keeping costs to a minimum (Schwarz and McRae-Williams 2009b)
- Improving operating efficiency (Schwarz and McRae-Williams 2009b; Miles *et al.* 2007:7)
- Understanding customer needs
- Expanding customer base by targeting large businesses as valued customers (Schwarz and McRae-Williams 2009b; Miles *et al.* 2007:7).

Schwarz and Williams (2009b) proposed a framework (Figure 16 below) showing the factors of resilience for small rural businesses. It shows that considering different scales - personal, community and business - is essential. In time of drought, small businesses have a role as a community asset and in turn residents need to be loyal to their local businesses, and buy locally.

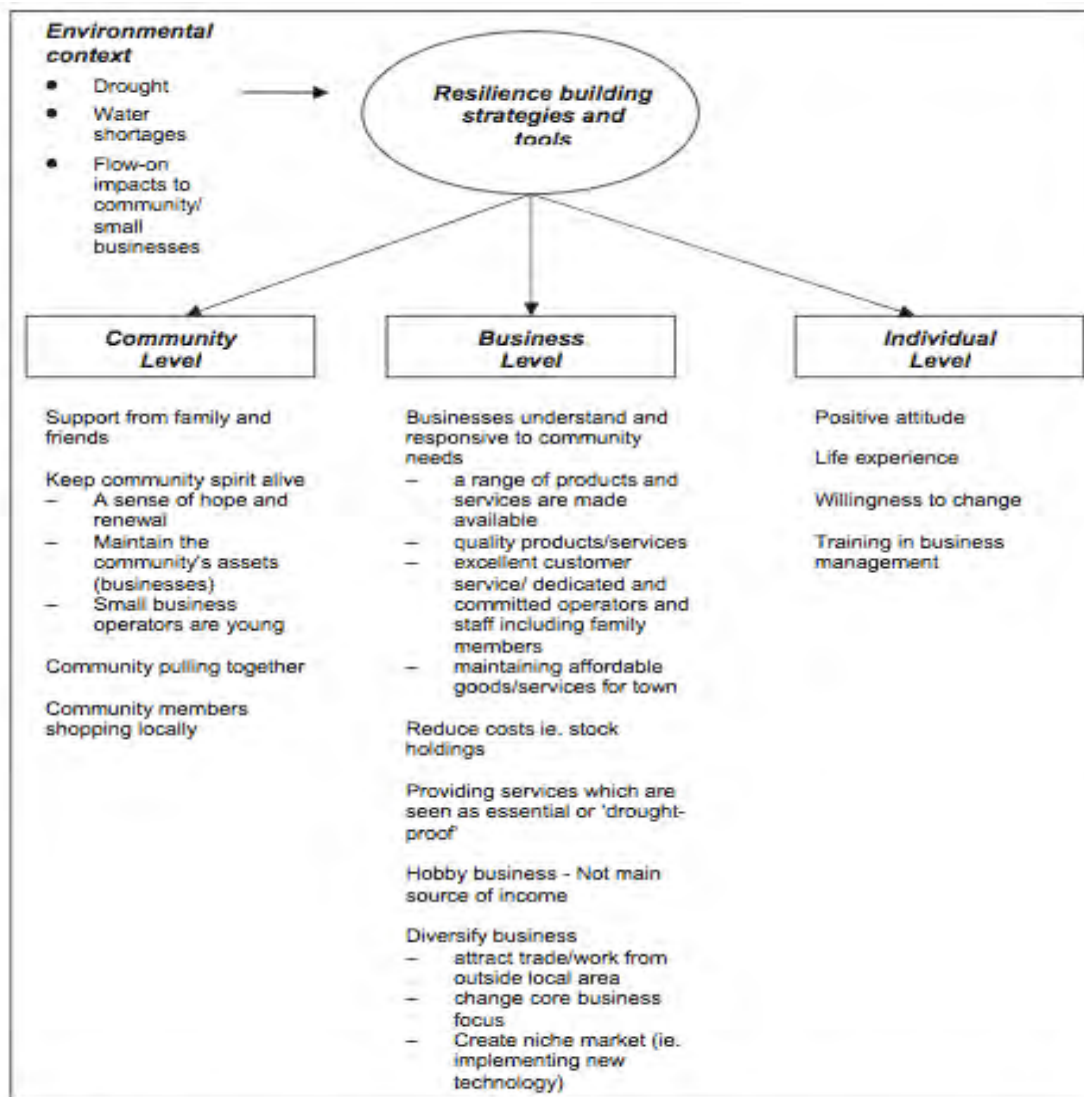


Figure 16 Factors of Resilience for SB (Schwarz & Williams 2009b:205)

Diversification has occurred in some business in the Central West of Queensland with several businesses diversifying into the tourist industry, which was seen as an achievement for the regional economy (Cole 2016). Multi-functionality is recognised as occurring in western Queensland (Holmes 2006). The rise of privately managed conservation reserves (The Nature Conservancy; The Pew Charitable Trusts) indicates diversification in the region, which could further assist the tourism industry.

Innovation is also considered important by people at workshops in the Central West (Cole 2016), where people regarded the ability to 'do things differently' as an essential aspect of coping with drought. The literature suggests that self-organization is related to novelty and innovation (Martin-Breen & Anderies 2011:7), which complements Jacobson's (2017) idea of the need to develop collaborations between remote business to help them prosper. Also, innovation needs to shift from "markers in individual businesses to capabilities to innovate. If this occurs, then it represents a fundamental paradigm shift (Walker *et al.* 2012:82). Supporting self-organisation is likely to generate innovation and inherently new ways of operating, and thus encourages transformative collaborations and partnerships.

One paper (Abel, Cumming and Anderies 2006) agreed that external funding was needed to rebuild resilience, but warned that excessive assistance or subsidies could reduce the capacity of communities for self-organisation. They recommended a long-term perspective, and that cross-

scale relationships needed to not be exploitative by those in power, but not encourage a welfare dependency thus reducing capacity (Abel *et al.* 2006:21). However, this paper does focus on adaptive management and economics, which does have some weaknesses as previously discussed.

Alston and Kent (2004) propose welfare programs to assist businesses to keep people employed, rather than only focusing on the payments of the unemployed. Employment has a flow on effect in improving mental wellbeing as people have more of a sense of purpose. In addition, redundancies often mean people move to larger centres, and not come back when the economic condition improves, leading to de-population of rural towns and loss of skilled workers (Drought Policy Review Expert Social Panel 2008). Despite the rhetoric of risk management, short term support does seem to be needed in circumstances where town businesses face uncertainty in several aspects of business.

In summary, rural town businesses could benefit from financial support and programs that foster innovation, improve skills in business management and technology, as well as providing assistance to keep staff employed. This in turn benefits the whole community.

❖ **Engaged governance**

Engaged governance revolves around collaborative approaches to regional decision making (Maclean *et al.* 2014:152), thus the ability of a community to influence decision-making. The lack of autonomy in regional groups such as in the Lake Eyre Basin and the need for more independence in public engagement is one example indicating change is needed (Measham *et al.* 2013). Effective government support in rural areas in NSW was found to mean government needed to undertake community led projects, collaborate with all service providers while taking long-term and consistent approaches (Askew and Sherval 2012).

Long-term policy planning and proactive responses of government are essential (Drought Policy Review Expert Social Panel 2008; Kiem and Austin 2013; Miller 2012; Morrissey & Reser 2007). The current short-term reactive approach (as previously discussed Chapter 2.4 on Drought policy) is not appropriate to deal with drought events.

Cross agency and interdisciplinary initiatives are also needed. There is a gradual trend in Australia towards more integrated policy approaches (Head 2010:91). For example, community-led approaches are seen as a guiding principle for disaster recovery, so that responses are “responsive and flexible” (Government of South Australia 2011:10). Collaborative or co-operative approaches need to incorporate some of many participatory processes that are successful used in community and rural development (Lathouras 2013; Cavaye 2013; Beer *et al.* 2013).

More recently, social learning has developed as a key approach where there are diverse stakeholders across different sectors in unpredictable and complex situations – such as with climate change and drought (Bradsley 2015; Brown and Lambert 2013; Keen *et al.* 2005; Ison *et al.* 2007; Pahl-Wostl *et al.* 2007). Social learning is one way to achieve such radical change and incorporates principles similar to those espoused by the Rockefeller Institute:

- Innovation
- Effective leadership
- Developing a joint vision or picture of the future
- Including diversity of perspectives
- Ensure critical reflection and conscientization (Bahadur 2016:18).

Engaged governance involves the transformative change that is called for by many (e.g. Bahadur 2016; Herbert-Cheshire 2000; Walker *et al.* 2012; Walker, Porter and Marsh 2012). The Pew Charitable Trusts (Woinarski and Lewis 2017:179) also call for new and distinct policy settings for

remote 'outback' communities, because current governance structures are often frail, and incapable of providing services that would be expected in more settled areas. Transformation is needed in the way roles and responsibilities are assigned between government and local organisations. Some solutions to the issues posed by Walker, Porter and Marsh (2012) are outlined in Table 15.

Table 15 Potential governance solutions

Issues	Potential solutions
Lopsided Governance and Responsibility Government services are being outsourced, as government relies more on the market; then government requires remote communities to increase supervisory and accountability capacities. Conversely, power to define problems and priorities is more centralized (Walker, Porter and Marsh 2012:38-39).	. Enhance accountability skills . Involve local communities in jointly developing accountability measures . Local communities to define problems and priorities
Organisational Deficits and Misalignments The needs of remote communities are not met, especially Indigenous Australians who tend to have fewer opportunities to represent their wishes or participate in government (Walker, Porter and Marsh 2012:40-41). Often services, such as hospitals are created on the model of successful urban hospitals, yet fail to meet the (very different) expectations and needs of local communities; the development literature (e.g. Pritchett, Woolcock & Andrews 2010) calls this technique of failure 'Isomorphic Mimicry'.	. Ensure local communities wishes are heard . Involve local people in the design of infrastructure and services, so that local needs are met, and 'isomorphic mimicry' is avoided.
Policy Overreach and Administrative Under-reach While the rhetoric of policy regularly does not connect with practice, this problem is more severe in rural and remote Australia (Walker, Porter and Marsh 2012:41). Trust in government suffers over consecutive failures of politicians' grand statements. As one Northern Territory person commented, closing the gap between Indigenous and white communities is really difficult because "the gap is between the intention and the action" of the bureaucrats (Walker, Porter and Marsh 2012:39). Administrative under-reach tends to be caused by regional organisations who lack capacities and try to do too much too soon, as expectations of government force them to assume more responsibility; this is called 'premature load bearing' in the development literature (e.g. Andrews Pritchett & Woolcock 2017).	. To help build trust in government: . Provide mentoring as well as training to support local organisations. . Work alongside local communities to avoid failures . Change government procedures so that government actions more closely match policy intentions
Inability to Reconcile Parochial & General Interests The over representation of urban interests in the political agenda is probably the main reason for this dilemma in Australia.	. Local decision-making processes to ensure general societal interests are represented
Policy turbulence and instability The changes in drought policy is one indication, although these changes have moved slowly in comparison to some policy changes, such as those around tree clearing in Queensland (interviews 2017), or the NT Emergency Intervention (Walker, Porter and Marsh 2012:49).	. Mitigate against policy instability and turbulence
Mismatches between Responsibilities and Resources Research undertaken (Walker et al. 2012; Walker, Porter and Marsh 2012) point to (a) available funding consistently being less than the cost of implementation; (b) the way funding is made available undermines and/or causes conflict amongst local organisations (Kelly, Macdonald & Cuthill 2010); and (c) backlogs in capital infrastructure for various reasons (Walker, Porter and Marsh 2012:52).	. Ensure funding actually meets the cost of implementation . Encourage collaboration between local organisations (to minimize funding conflicts at the local level)
(adapted from Walker, Porter and Marsh 2012:38-39).	(Kelly 2017)

One of the key changes is an alteration in the power relationships between government and local organisations. For example, to overcome the problem of “*Lopsided Governance and Responsibility*” (Walker, Porter and Marsh 2012:38-39), the responsibilities of local organisations and government could be swapped around: with local organisations having responsibility for deciding on performance indicators, and managing accountability locally. Government could provide guidelines and training in accountability, but allow greater local self-autonomy.

Existing groups such as RAPAD in the Central West region are heralded as an innovative model for local collaborative organisations (Walker, Brown & Marsh 2012:20-21). The attributes that make RAPAD successful include cross agency collaboration, and stakeholder support. Institutions and governance structures can definitely contribute to resilience as evidenced by the case study from Mitchell (Herbert-Cheshire 2000). Walker (2012:4) suggests that governments are key change agents, yet they are in need of change themselves.

Even with positive case studies available, delivering resilience outcomes across disciplinary and organisational boundaries remains a key challenge (Tanner *et al.* 2017). Disciplinary silos restrict the flow of ideas within academia; and these different disciplinary ways of understanding the world are also present in public and private sectors, frustrating the ability to work holistically across organisations and institutions (Tanner *et al.* 2017:12). In Australia, integrated water and energy management has started to emerge. However, issues related to drought are still not well integrated e.g. water allocation and natural resource management organisations are not well linked. Similarly, in India the importance of integrated management of water, energy and food is recognised (Tanner *et al.* 2017:24).

Insurance companies are seen as being able to help lead societal changes required to build resilience, especially when related to climate change (Tanner 2017:23). This potential ability of insurance companies is “due mainly to their combination of underwriting and asset management activities, their access to extensive data and their engagement in multiple spheres of economic activity” (Tanner *et al.* 2017:23). Awareness about risks associated with uncertainties from climate disruptions may be driven by insurance companies. However, whether insurance companies can help encourage policy and institutional changes required to support engaged governance seems less likely.

The six attributes above form the framework for the rest of this paper, to discuss the learnings from the Central West case study and recommendations for policy makers. The next section of this report presents the results from the survey, the interviews and the public meeting undertaken in 2017.

5 Results: Views of town small business owners

The results presented here stem from data collected from the survey, interviews from across the Central West, and the public meeting held in Longreach. The following four sections cover:

1. The impact of drought
2. Local perspectives on drought assistance
3. Improving current responses
4. Resilience characteristics

5.1 Impact of drought

The ongoing and cumulative impact of drought on small businesses in the Central West region was evident through responses in both the mail survey and the interviews. In particular, small business operators indicated their businesses suffered significant flow on effects from the downturn in agricultural enterprises:

- *This drought has seen how the devastation of the rural industries impacts severely on local town business - from retail to service providers - no one was untouched. Recovery will be slow! (Survey).*
- *More targeted support and acknowledgement for small business owners is needed. We are the last to be impacted by the economic damage of drought and we will be the last to recover (Survey).*
- *The drought is a concern to people, it does not just effect the property owners; it affects the businesses in town (Interview 4).*
- *The towns suffered a lot, not only the graziers (Interview 8).*
- *Drought has the full ripple effect, it affects every aspect of our business, it has had a significant effect (Interview 3).*

However, it was noted that the drought is not the sole cause of social and economic distress in these communities. Rather, a combination of factors, including external factors such as the effects of economic slowdown across Australia and overseas, and changes to the mix of industries in the Central West region, affected business viability.

External impacts

Research participants described external factors such as:

- *The downturn in this business is not only caused by the drought, a lot of things have happened over the last 5 years, outside the region ... when the American dollar was on parity with our dollar, then people were travelling overseas instead of travelling around Australia (Interview 13).*
- *Even the media has a big impact on my business. Earlier this year we were supposed to get a cyclone, and we actually got about 12 mm of rain, but that changed people's travel plans, so people did not come out (Interview 3).*
- *If the grey nomads are on a self-funded retiree program, with interest rates low, they are cash poor [and so do not spend much in town] (Interview 9).*
- *Government spending has slowed down in the last few years, very few government workers, like Ergon (Interview 4).*

Change in industries

They also described how in the Central West, the mix of industries has changed, and some industries have declined, but not because of the drought. For example, impacts have occurred from changes to both the smaller sheep/wool and kangaroo harvesting industries, as well as from the

reduction of the number of government staff. Interviewees described how these regionally based changes impacted them:

- *This drought is different. Most people are now in cattle, not sheep. Sheep weather the drought so much better than cattle; cattle need more water and more feed, so people have had to get rid of all their cattle; then there are no stock around. As long as you have sheep, you have shearers, rouseabouts, the cooks, all of those people. Now everyone is in cattle, you do not have those* (Interview 12).
- *Twenty years ago, we had a roo (kangaroo) industry here ... They are all gone now* (Interview 15).
- *Our main business was from the shearers, the kangaroo shooters; and we also stocked the stuff that graziers use, such as stock feed, hay, chook and dog feed. That has changed* (Interview 7).
- *Those government cut-backs really hurt a lot of little towns. It has slightly recovered now [after many public servants left regional centres around 2012]* (Interview 4).
- *People that have been transferred from Brisbane to Darwin used to be an extremely big part of our business, at least half a dozen going each way over the summer. I have seen that drop away dramatically. I was speaking to a fellow from Darwin recently, and he said we don't have to transfer as much. Government does not want to spend the money to shift them every 2 years. So, them saving money has created a short fall in the community here* (Interview 13).

Clearly there are multiple factors which together have combined over recent years to produce social, health and economic impacts to the Central West Region. One person said that it was difficult to tell: ... *how much of the impact on our downturn ... perhaps 50% is due to drought* (Interview 13).

This comment came from an accommodation business operator who caters for tourists, business travellers, people being transferred, and local people who comprise a small proportion. Small businesses directly linked to agricultural industries are more likely to be directly and severely impacted by drought. Clearly, the focus of the small business plays a large part in determining the level of economic impact which can be attributed to drought.

Economic impacts

Overall, we can see that the financial situation of small businesses in the Central West Region has been impacted by various factors, including drought. These impacts manifest in lower business turnover, reduced staff numbers and staff hours, and whether or not owners paid themselves a wage.

Between financial years, 2012/13 and 2015/16, all business sectors surveyed recorded a **decline in the turnover**. Tourism had positive growth in 2012/13, however the agricultural sector suffered the highest turnover loss of any sector in this first period. Other sectors have been recording losses every year (Figure 17).

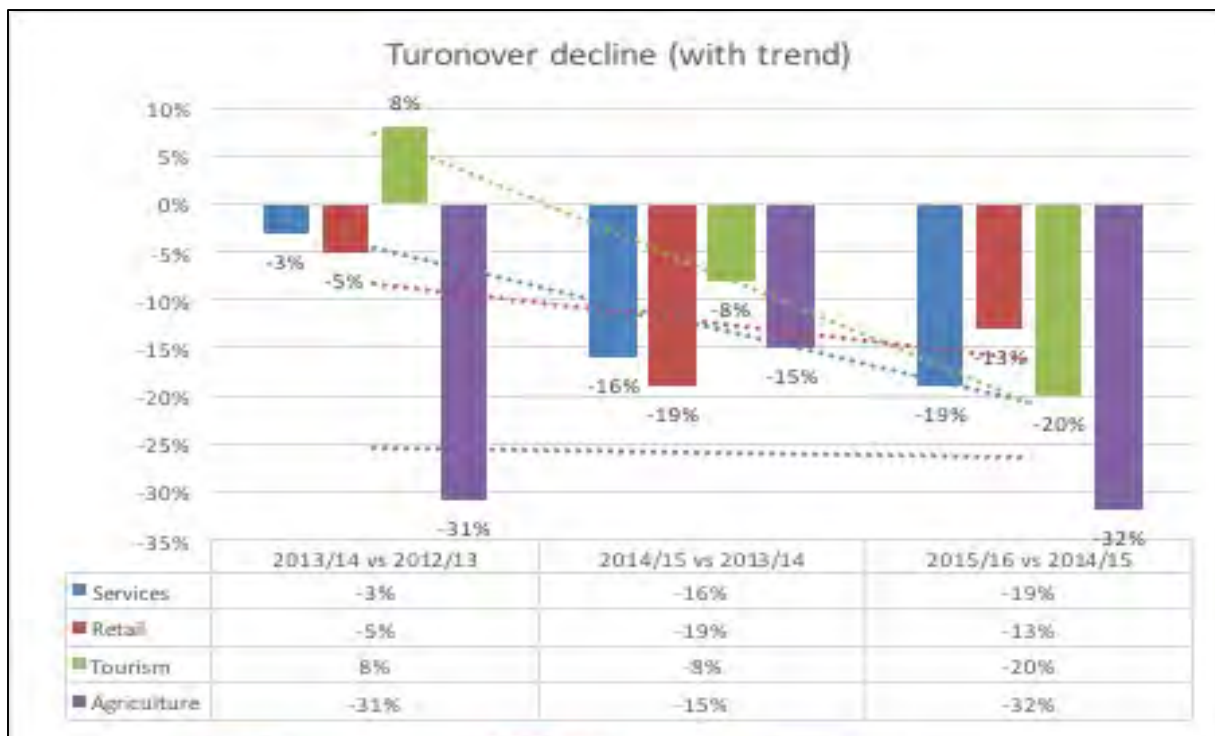


Figure 17 Change in turnover between 2012 and 2016 per business sector (Survey 2017)



People were generally open about the **extent of the decline** in their businesses during interviews, with reports that turnover had dropped by between 50-80%. The following comments relating to decline in turnover provide a deeper understanding of the situation, a personal perspective to underpin the dry accounting figures:

- Our family had a café ... and late every afternoon, 87 roo shooters would go to the café. They would get fuel, buy some cans of coke, four rounds of sandwiches and some ice for the esky. So, \$30-40 was sold every night to each of these roo shooters. Now, nothing ... (Interview 15).
- The drought impacted the weddings. It is only this year, we had a fairly sizeable wedding that filled up the motel for a night. For the property people, their weddings would be 200-300 people. The last 2-3 years they had dried right up, people have not got the money, so they are not having a big wedding (Interview 13).
- Every morning, all the council workers would come and get their morning tea, but they don't do that anymore, we would make \$500 every morning from the locals. Now, we have very limited local trade (Interview 14).
- Huge, huge impact. We still get a lot of tourist trade, but we do not have much local trade. ... If it wasn't for the tourists, we would go under (Interview 16).
- When people are doing it tough, then the first things that go are the cleaning lady, ironing lady, the lawn mowing man (Interview 4).

Increased fixed costs, seasonality of some industries and ability to service account debts were also identified as impacting on social, health and economic well-being. For example, **taxes** (such as GST/ATO), **bank loans and electricity bills** were among the top four most difficult costs to meet by businesses in the region. These were followed by insurance costs in smaller towns, and wages in Longreach, for example:

- Another problem we have is that we have fixed overheads are the same, yet our trade has dropped. We cannot compete on a price basis, because our fixed costs are so high (Interview 9).

- Fixed costs are high in comparison to the turnover of the business. For example: Electricity for our shop was \$2600 per quarter, on top of that rates of \$3000 per quarter, and there are extra water charges as you are a business. People complain, but at the end of the day you have to try and cover your costs (Interview 10).
- I have had to reduce my rates from the peak when the miners were around. But I have to balance paying my bills and keeping the clients happy. There comes a point, where I cannot reduce the rates much lower (Interview 13).
- The main strategy I have had to do is reduce my expenditure, which has had an impact on (other businesses in town) the IGA, the butcher and so on. I have reduced my expenditure in town about \$10,000 a month; I am not spending it here, but I am not going somewhere else to buy things more cheaply; by the time you add your fuel costs, it may not be cheaper anyway (Interview 4).
- Our expenses have gone up, but people's wages have not gone up, so people cannot afford to buy much (Interview 14).

Small businesses in the region also tended to experience **seasonal changes** in their business activity. Although the peak period is generally between May and September, there are slight differences for different sectors – for tourism and retail it is July, for services May and June, and for agriculture small businesses August and September (Figure 18).

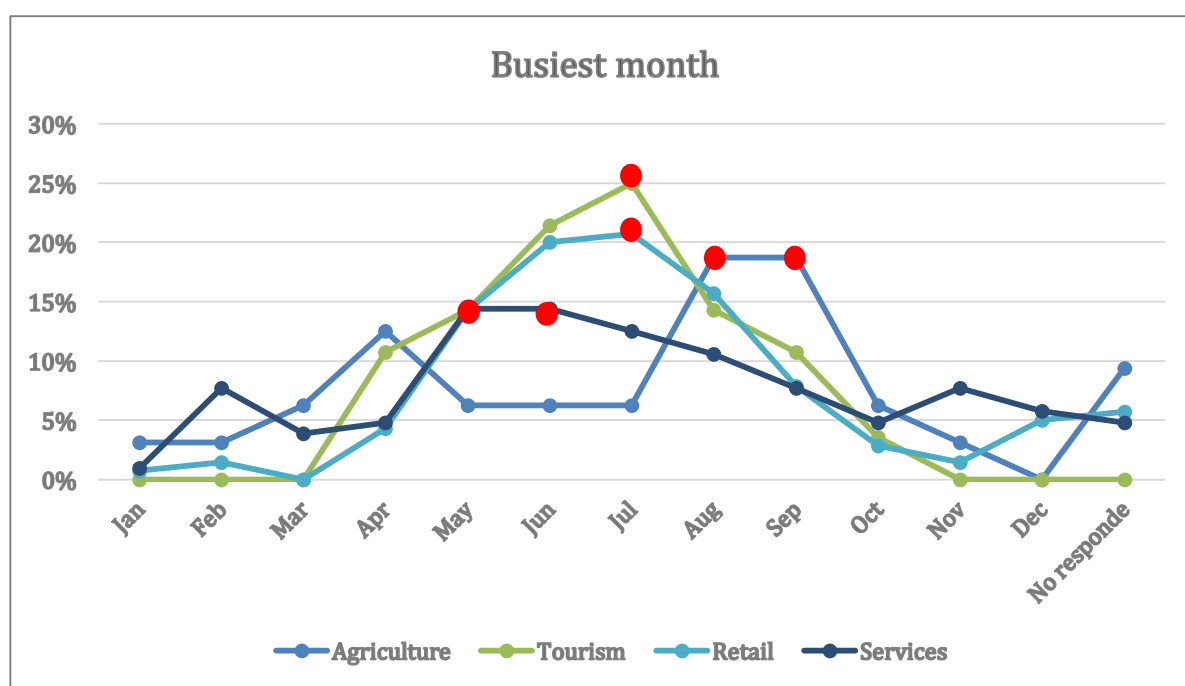


Figure 18 Seasonality: busiest months for each business sector (Survey 2017)

Peak months for each sector are marked in red

Making sufficient income during the peak season of 3-6 months, to pay expenses for the whole financial year, was difficult. The challenges presented by this seasonality were well reflected in interviewee's comments:

- In the summer months' the staffing levels of the businesses in town drops off; in the winter month's they hire the kids from school to stock shelves. April to October is the busy season (Interview 13).

Ability to **service account debts** was identified through survey responses, but not during interviews. There is some suggestion that small business operators are not comfortable discussing outstanding accounts with people in their community, who are most likely friends. Almost 40% of all businesses surveyed reported problems with collecting money from customers' accounts. The tourism sector was found to have the highest rate of outstanding accounts (43%), while small businesses linked to agriculture had the lowest (22%).

The impact of declining turnover, combined with other challenges of seasonal work and rising fixed costs contributes to financial stress. Some indicators of this stress include, a decline in full-time staff, fluctuations in part-time staff employed, and increasing numbers of owners who did not pay themselves.

Employment hours and arrangements

Survey respondents reported overall reductions in employed staff in recent years (Figure 19). Over three financial years, 2012/13 to 2014/15, **full-time staff declined** slightly in the region (233 to 217 FT staff). However, while service industries reported a decline in employed staff, tourism contradicts this trend and now employs more than double the number of staff than it had in 2012. Agriculture had a slight increase in staff (Figure 19).



Figure 19 Full time staff changes by business sector [2012 – 2016] (Survey 2017)

Declines in full time staff tends to be balanced by a slight increase in **more flexible working arrangements**. Survey data identified an increase in part-time employment (27 to 38 PT staff), while casual staff numbers fluctuated. In 2015/16 the number of full-time staff stabilised, but the number of part-time employees started to drop (218 to 217 FT; 38 to 33 PT staff), and casual staff employment rose slightly (138 to 141 staff). All business sectors reported that they had to reduce the number of hours of their employees. This included 57% of small businesses in the Tourism sector, 33% in the Agricultural sector, and 45% in Services and Retail sector.

Interviewee comments describe some of these difficulties:

- *You cannot afford to pay out full time wages. ... We cannot get staff in. We used to have full-time lady during the week, and a couple of juniors over the week-end, we do not have any of that any more (Interview 14).*
- *Our shop's hours reduced, as we could not afford to be open full-time (Interview 5).*

Of concern, is that more than 40% of all small business owners in the region cut costs by **not paying themselves** wages. This trend has increased year by year across all sectors, and is subsequently exacerbated by the owner's inability to any take time off. Participant's comments reflect this, at times, distressing situation:

- *In this business, it is a family business, we cannot pay ourselves, our wages are very minimal. I cannot afford to have people on staff. On one of those government grant schemes, to help young people into the workforce. I did have a young girl start, but she did not work out (Interview 13).*
- *Basically, it is run it yourself ... when you take out all your overheads, you cannot afford to pay out full time wages (Interview 15).*
- *The drought does mean businesses are short of staff, they (owners) do most of the work themselves, and it is difficult to get away (Interview 1).*

Business regulations also contributed in some instances, to small businesses struggling to comply with government requirements. Some examples include:

- *It is getting harder to make ends meet, because of regulations and costs which keep going up and up (Interview 5).*
- *One hindrance to small business is that if we close for more than 6 months, then the new building laws apply and you have to upgrade the building to suit the new laws. There are council rules and building inspections. This old shop here, if it is shut for longer than 6 months, it would have to have wheel chair access, staff toilet. In an area with a small population base, you just cannot afford the expense to get it re-established, because your over heads would be too much. So, the town loses the business (Interview 9).*

Overall, there is strong evidence that small businesses are trying to cope with ongoing financial challenges by reducing a range of costs. Unfortunately, the responses identified tend not to be viable long-term strategies for maintaining resilient town businesses. Social impacts, stemming at least in part from these financial challenges, are also evident.

Social impacts

Social impacts are inextricably linked to the economic decline of rural enterprises and town businesses, in a complex and possibly self-reinforcing cycle. The interviews reveal impacts relating to employment prospects, population decline, social events, family life, and mental health. First, participants clearly identify that **employment opportunities** are in decline, both agriculture and town jobs:

- *Properties that used to employ a couple of people, now they don't, it is just the owners. A lot of places that had staff, do not any more. All the town businesses are affected by that (Interview 8).*
- *My partner is a contract musterer, and so he has felt the effects of the drought. If they have not got stock, they are not mustering; if they have minimised their numbers, then that is less time mustering. If the budget is tight, then they don't get help, they tend to do all the work themselves (Interview 3).*
- *There is very limited employment in this town, the only SB that employs anyone is the garage. He has one bloke working for him, and an apprentice. Everyone else relies on Queensland Health or council – that is the only employment there is. The general store was the last business except for the garage (Interview 9).*
- *It is not just here ... regional Queensland does not have the demand for labour that keeps people out here (Interview 10).*

The last comment refers to the generally **declining populations** in regional Queensland towns and how this has impacted employment opportunities. Overall, the impressions of small business owners in the Central West region is consistent with the ABS data (presented in Figure 10, Chapter 3.3) of significant declines in population in Longreach and surrounding towns. In addition to those people seeking employment elsewhere, the reasons for decreasing population was attributed to:

- *We had shearers, and each team would have 8 shearers, a presser, a wool classer, a rouse-about, a cook and a head guy, so each team would have about 15 people. Now there are no sheep, so we lost these people and all their families (Interview 14).*
- *A number of different companies had kangaroo boxes here (refrigerated boxes to hold carcasses), so we had the boners as well as the shooters. All these people lived here with their families and they supported the businesses in town, but they are all gone now (Interview 15).*

- A lot of government workers were put off, in Longreach and elsewhere, and the impacts from this were significant in the towns (Interview 4).
- Between the government closing services in various departments, and redeploying staff, and the drought, there has been an exodus of people and families (Interview 5).

Interviewees provided rich description of the **subsequent impacts**:

- The drought has had an impact on the declining population, and liveability is declining as people leave (Interview 1).
- I moved here 7 years ago, Jericho had a population of 104 adults, now there are about 51. The problem is that we have no one of working age left in town, most of the people are retired (Interview 9).

A combination of factors such as drought, population decline, less job opportunities, and rising costs has impacted on the **social life** of people in this region. A couple of participants said, only partly in jest: *What social life!?* Other people said:

- The drought has impacted on my personal life. For a while now I've pulled my belt in as far as my personal spending goes (Interview 7).
- The drought has impacted our social life. For a while there when people got a bit negative, it was not a lot of fun to go anywhere. Then we just got so busy just trying to survive. We also have stock, and when you are in drought you tend to muster five times as much, you are shifting stock all the time, then you have cattle away on agistment. And I have been going away further for work. You are running around all over the place, so you do not do as much socialising (Interview 8).
- I don't really go out, I am so buggered when I get home from work (Interview 12).
- I don't go out as much. I play golf once a week, that is all I can afford. I don't go out and eat at the pub, I have eaten once at the pub in the last 4-5 years (Interview 13).

Lack of money to spend on social activities, tiredness from long hours working, as well as negative feelings, such as not feeling like socialising, were common given reasons for not engaging in social activities. Businesses that are suffering financially can **no longer support social activities** with money, or time, in the way they once did, as one survey respondent explained:

- We are a business that never says no to a donation and I have found it hard to decrease this value of donation but we have had to. Sometimes wage money is hard to find (Survey 2017).

Similar issues were also seen to impact on **family life**, especially when one or more people in the family went away from home for extended periods of time for work, for example:

- There is not much work around this area ... so [my partner] has had to go away for work. He is away most weeks, he has not been working week-ends lately, but end of last year they were really busy, so he was away a lot. So yep, it is tough on family life (Interview 6).
- In the drought, I went mining for 10 weeks, because we spent everything we had in the bank I made good money, but this really upset our family lifestyle. My daughter was sent to boarding school, I went mining and my partner stayed at home – that put a bit a bit of pressure on the family. We went in three different directions, all separated, so we could not support each other, because we were all just trying to keep our heads above water – it was really tough (Interview 3).
- I have a friend whose husband is a shearer; he is now working in South Australia. She is still here, with her children; they cannot afford for them all to pack up and leave. The drought is dividing families. Yet she does not qualify for any help, so it is creating a great divide (Interview 12).

These impacts on families also affect the health of individuals, including mental health.

Mental health impacts

Mental health impacts were also identified. However, it was observed that people, living in rural and remote communities, are reluctant to discuss mental health issues. Mental health is potentially a hidden impact, as several participants suggested:

- The suicide rate is higher than we know, because people do not talk about it. They call it an accident or say someone passed away (Interview 14).

- *Drought impacts your cash flow, it impacts your bank account, and you put stress on yourself. Then people think it has all got too hard, so they grab a rifle and go and do something stupid. It all hangs together (Interview 9).*

Increasingly, it is being suggested that in particular men's mental health is at risk, as one male respondent explained:

- *Some of the drought assistance, I know my wife thinks differently. As a bloke, it really is hard to accept it, because you feel you are not supplying your own things to your family. It actually starts to make you depressed. ... I can accept easily things for my animals, like hay. Something for us personally, like food, really sent me into depression ... I know a lot of blokes that will just not accept any of that stuff. I understand exactly where they are coming from. I would have been better off not accepting any of it [assistance]. It did depress me pretty bad (Interview 16).*

Anecdotally, it has been suggested that men find it more difficult than women to discuss mental health issues. One positive aspect of comments during this research is that it appears that men are starting to discuss their mental health issues.

As the results to date describe, the interrelationship between drought and myriad other factors is complex, with many of the economic, health and social impacts clearly linked. Droughts contribute to a negative economic environment which in turn affects both individual health and social well-being. This was confirmed through both the survey and interview results.

Complex links

A link between impacts on rural industries and town small businesses was also evident with participants comments such as:

- *It is not only the farmers feeling the effects of drought. It has a flow-on affect to the contractors and farm workers, which in turn flows on to the local shops/community (Survey 2017).*
- *When drought happens, trade drops off, because people on properties don't use ringers as much, and they get the contractors instead. So, instead of there being ringers permanently based on a property, there are contractors, who come and do their job and leave. This means there are less people living in town ... there are no permanent rural workers (Interview 10).*
- *In the drought people are more inclined to spend money on feeding their livestock, rather than doing repairs and employing people. Property people used come in and spend their money in town, now they don't, so it has a major impact all round (Interview 6).*
- *There are a lot of spin off effects. Some of those really really small towns; they are relying on business from producers. Drought shuts down those small communities, like Muttaborra, when they rely on people to spend and there is no money circulating ... The loss of people affected a lot of things in town. It affected the moral in town as well. Longreach became like the Titanic, everyone was trying to get out ... A lot of younger people with families left ... without that younger demographic, the number of activities has reduced e.g. we had this nice gym, and that has closed down. If you cannot offer services, people do not want to stay (Interview 4).*

One particular concern at the public meeting was the declining youth population:

- *Something that worries me is that we lose our young people. What we need to be able to give them something to come back to when they want to settle and have a family. Young people need to know that it's a great environment out here to raise a family. To me that's where part of our future lies, is in bringing the home bred youth back out here (Public Meeting).*
- *Over the last 30 years in Longreach, of all year 12 students, at least $\frac{3}{4}$ of them leave to further their training or join the workforce and don't come back (Public Meeting).*
- *As someone who was born here, I think we need to get some pride back from our local residents in our local High school. Encourage people to send their children to the local High School. They go away, lose peer groups and don't come back. If we can figure that out, we would solve half our problems with our youth (Public Meeting).*

Clearly, there are multiple factors forming complex interrelationships that have contributed to the current social, health and economic challenges faced within the Central West region. Drought is one of these factors but appropriate responses cannot be implemented without due consideration of each of the other factors.

The most common response to drought is the charity groups and governments providing short-term assistance. This research explored the levels and effectiveness of recent assistance programs.

5.2 Local perspectives on assistance measures

While research participants were generally appreciative of assistance provided, there were concerns relating to inequitable distribution and unintended consequences for local town businesses. Less than half the businesses (44%) in the region reported receiving some kind of assistance. However, that support was not equally distributed between sectors of people who answered the survey (Figure 20).

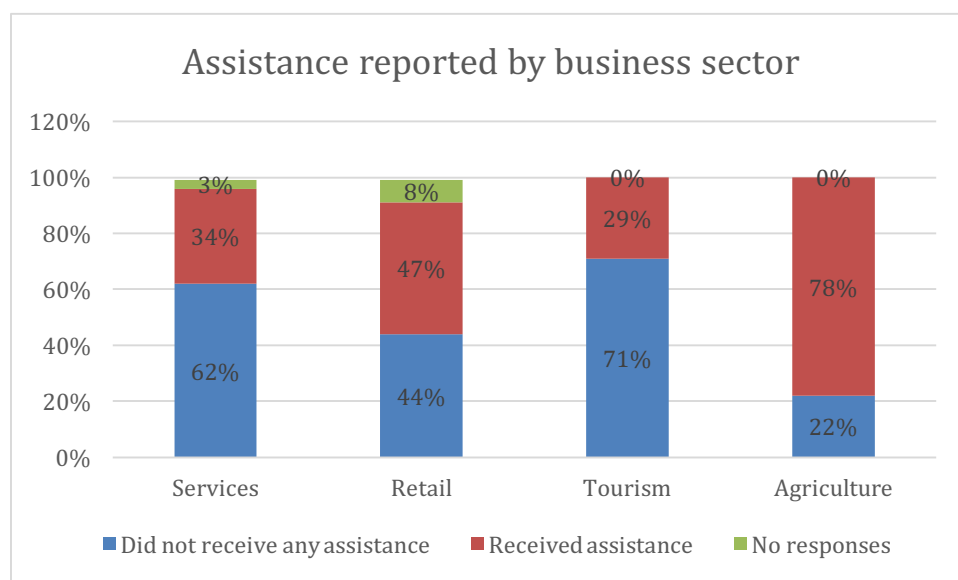


Figure 20 Percentage of business that received assistance per business sector (Survey 2017)

Almost 80% of respondents from the small businesses servicing the agricultural sector said they had received help in the last four years, but only 29% of tourism sector and 34% of services sector businesses received any assistance. This reflects government policy which provide most assistance to agriculture-related town businesses. In addition, more small businesses in Longreach (54%) received assistance than other smaller towns in the region (38%).

As well as the major state and federal government programs, various other groups provided drought assistance. Interviewees commented on the **various providers**:

❖ Councils

- *The local council has been very proactive in getting funds to do things for the community, they have been very, very supportive (Interview 13).*
- *The council is not too bad, they are quite pro-active and try and get funding. They organised free entry to the show; and they gave out money to all the kids to spend at the show (Interview 14).*
- *Some of the shires, like Longreach shire have got organised with their (exclosure or cluster) fencing, and this has got people out doing things. That is positive, providing employment for town people (Interview 7).*

❖ **Western Queensland Drought Committee (WQDC)**

- *The WQDC are trying, and council is trying, but it is too much talking and not enough doing (Interview 12).*
- *The WQDC have done some good work, in terms of promoting events, and getting people together (Interview 7).*

❖ **Remote Area Planning and Development Board (RAPAD)**

- *RAPAD came at a very good time, they came when everything seemed like it had collapsed around us. Now we are slowly getting there, we can see light at the end of the tunnel (Interview 13).*

❖ **Rotary, Salvation Army and various different church groups**

- *There have been a lot of organisations doing great things. Rotary is doing things to keep things ticking along, and that has helped (Interview 7).*
- *The churches and the Salvation Army have done wonders, they have done a lot. They have come out and put on BBQs, that was much appreciated! (Interview 10).*
- *Salvation Army have gone to people's places, put a BBQ and done everything, and invited the neighbours. They have also paid for all the kids' meals at the Gymkhana, things like that. They have done a lot of little things behind the scenes, that have made a lot of difference (Interview 8).*
- *The Uniting Church try and do a bit. Meals on Wheels gave a voucher to every child at the school for fruit and vegetables (Interview 12).*

Overall, organisations providing assistance were praised, however not all aid had a positive impact. Concerns were raised about drought assistance in both the survey and interviews.

Negative impacts

The most vehement criticism was probably directed at some of the charity groups, but government assistance packages were also criticised. Issues around fairness and equity of distribution were frequently mentioned. People stressed the need for more targeted support from the government, and more proactive measures. Frustration emerged when government assistance was seen to favour graziers over town business owners, with some participants identifying that this lack of fairness was dividing the community, essentially creating a **divide between town and country**:

- *Assistance needs to be fair and equal for all impacted by drought (Survey 2017).*
- *It's all about the graziers suffering, hell, we (small business) are too! (Survey 2017).*
- *I have 2 children at boarding school. I do not get the same subsidies to put my kids through boarding school like the primary producers do, because I live in town (Interview 4).*
- *Property owners get electricity subsidies, freight allowances, food hampers, they can defer their tax bill till they get a better income. We cannot do any of that in town. Those things are really starting to divide people, and no one is game to say it (Interview 12).*
- *The community worked together in the past. The property owners did not expect as many handouts. The greed has become quite prominent, and driven a wedge between the graziers and the town (Interview 12).*

Running against this general sentiment, one respondent suggested:

- *If there can be a "plus" to drought, in the last 5 years, I feel, it has broken down a few barriers between cocky/townie. I also feel the media has made more city folk more aware of the importance of rural regions and industries in Australia (Survey 2017).*

There were also general frustrations about the timing of assistance:

- *I think this is too little, too late. I am a business owner who has been here 25 years, and I have never been so disappointed about the help that has been offered (Interview 12).*
- *I have been to meetings here, over and over and over, and nothing comes out of it. It has always got to be a process, it is so frustrating (Interview 13).*

Arguably, it is difficult to please everyone in a situation of high stress such as has been experienced in this region over recent years. The 'process' orientation, complained about in the last quote, is actually an indication that agencies are trying to run an open and accountable assistance program, consulting frequently with the community.

Buy local

One key issue identified was that donated goods are not bought locally, and this means local small businesses miss out on sales, for example,

- *Bringing in truckloads of fruit & veg to give away and local shops not told, so they don't reduce their wholesale orders. Hairdressing services and grocery hampers bought in and given to people on full-time wages unaffected by drought financially, so they then don't spend their dollars locally (Survey 2017).*
- *Handouts of goods where those goods were not purchased locally has a significant flow-on effect to all local businesses and service providers (Survey 2017).*
- *The [charity group] brings in hay, fruit and veges. So, there were no sales at the IGA for a fortnight. We would be better giving local people money to spend in the town, to keep the businesses that are here, alive ... One other group gave everyone an Akubra, when we don't want a hat. The hats were not even bought in Longreach, so that was a lot of money that was spent in the local district. All these little things make a hell of a difference (Interview 14).*
- *They [charity group] brought out all this food, and want to do people's hair and all that. It does have a negative impact on people that sell the food and services. The card system where locals have to spend the money in the community; they were good. By going to IGA to buy grocery, it put money into the shops and circulating in town. However, when the vegetables came in, the IGA had to throw out a lot of food (Interview 13).*

As the last two quotes indicated, a couple of people saw bringing in goods and services as counterproductive, a short-term fix. It was noted by one participant that maintaining relationships between the local people is more important than a little bit of food:

- *When we were going through our toughest time, we were offered free food, but we did not take it. We went to IGA and bought our groceries; and that helped our relationship; and they will help you out when times are tough for you later. That is the relationships you can have in town (Interview 13).*

It was also suggested that government departments and all residents need to be encouraged to support local businesses by purchasing locally, and not just during drought. Other unintended negative consequences were outlined during interviews, for example:

- *One [charity] brought in mouldy hay, and when it was fed to the stock it killed them. The owner had managed to keep these sheep alive all through the drought, they were the last of a family breeding herd (Interview 15).*
- *[Some media reporting] frustrates me, they put those ads on that looks like we are a third world country, and we have no water. I think it is over the top, and it is really negative stuff. It is not a real scenario, and does not help people who are trying to survive, it tends to promote the victim mentality (Interview 7).*
- *Programs are not always useful. Recently we were offered counselling in town. People do not want to go and talk to counsellors, it is a waste of time. Give me some money to pay off debt, and that will make me feel better (Interview 14).*

Better coordination

One participant argued that better co-ordination would help overcome these issues:

- *If organisations come from far away, it can be tricky, they will give things to one person, and not the next, so that can be a negative almost. It creates a drama. I would like to see this better coordinated, so everyone gets to see some help (Interview 7).*

Better coordination had been attempted by the WQDC and by Longreach Council, but not all charity groups would listen.

Overall, respondents identified the following assistance measures that are not equitable between town and country: boarding school subsidies, interest subsidies, electricity subsidies, freight allowances, food hampers, and deferred tax bills. Current drought assistance measures may be creating a divide between town and country, between graziers and small business owners based in rural and remote towns in Central West Queensland.

Positive impact

While the previous discussion has identified some negative aspects of drought assistance, people who participated in this survey and interviews did express appreciation for the assistance offered. Efforts were seen as having **good intentions** shown, and did boost the community's morale, for example:

- *Gifts of goods, hampers etc. uplifted spirits in the community to no end. People's unexpected generosity has been wonderful to our community* (Survey 2017).
- *Morale support and knowing people were thinking of us in WQ and praying for us made a huge mental difference. Financial (vouchers/cards) were a psychological lift even though they didn't have a huge impact on cash flow* (Survey 2017).
- *Most people out there have been extremely generous to people in the drought affected areas; it is amazing what has been given and what people have tried to do. It needs to work well for everyone* (Interview 13).
- *I look at the hay runs from the view of the generosity of people. Truckies, hay suppliers, fuel suppliers, locals who ran the hay distribution with their time, expertise and machinery. The public have big hearts* (Survey 2017).
- *Personally I received a \$200 credit card. This initiative is a great idea. Cash is what is needed most other than rain. Drought affected businesses can then make their own relative choices* (Survey 2017).

Businesses who received assistance indicated in the survey that they found it helpful – although the responses ranged greatly. The assistance offered varied greatly including Cash, Pre-paid cards, Goods/hampers, Business Advice, Food vouchers and Church donations, Movie nights & BBQ, Hay & Fodder, Social Media workshops, Contractors scheme, Consultancy business, Gifts from customers, Back to school vouchers, and Rotary Vouchers. **Gift vouchers and prepaid cards** were seen as particularly useful, as these help to keep money in the town. They prompted people to shop locally and helped local business owners:

- *People splashed a bit of money around with those cards. We saw a few of them come across the counter, not many, but it might have been \$100. Farmers who were doing it tough, would come to town and have a splurge; every bit helps* (Interview 4)
- *Each customer who could spend something in town helped cash flow when there was next to nothing* (Survey 2017).
- *More people endeavoured to buy local to support local businesses* (Survey 2017).
- *Programs/cards/vouchers that ensured people shopped locally was of assistance* (Survey 2017).

Of businesses surveyed 33% said their customers had used pre-paid cards (mostly in retail sector 58%). However, more than half of the respondents claimed that pre-paid cards were only a 'little helpful', the lowest of 4 responses possible. The amount spent using cards ranged from \$100 to \$5,000.

The most useful assistance measures identified here, are in line with what the literature reports from experiences with other natural disasters in Australia over the past ~10 years.

5.3 Improving current responses

People from small businesses in the Central West region also identified ways in which current responses to drought could be improved. The need for further government support in areas such as funding, marketing, infrastructure and services investment, as well creating interstate opportunities, were suggested as appropriate forms of assistance:

- *The Government needs to invest in regional Queensland and there needs to be incentives for other businesses to be here, other than farmers (Survey 2017).*
- *Bringing new visitors and plane loads of people to town for events was helpful (Survey 2017).*
- *I think small businesses employing locals should be considered when assistance is being handed out. Seven of my 11 employees are ratepayers and have kids in school. Two of my employees are apprentices - no kids and one still attending school. 1 of my employees has kids and rents. My son has no children but rents. I think we are helping in sustaining our local town's existence by continuing operating and employ locals and families (Survey 2017).*

Comments were also made about the cluster fences⁷, for which some graziers can get government support. Some groups of graziers have built their own cluster fences:

- *I think fencing is good as it has got people doing something ... but I don't think feral fencing is the only answer. It will definitely help the sheep guys, and it will help get rid of the roos and get some more grass (Interview 7).*
- *A lot of shearing sheds have fallen into disrepair. They are trying to cluster fence, to try and get sheep into the area (Interview 14).*
- *The dingo fence [cluster fence] that is getting funded... It is improving what people have, because the roos are not getting in, their cattle have more feed. But people are not going into sheep, which is what the fence was for. That should have been a stipulation – if you do not go into sheep, you have to pay it back with interest, not an interest free loan or grant. Sheep will get more people into town, and help grow the town (Interview 12).*

Most comments were positive, but there were some concerns about people not going back into sheep, even though changing the enterprise mix can take some time. These fears are unfounded according to the organisation administering the funding, RAPAD (Interview 2017).

While the positive initiatives already in place were acknowledged, local business owners put forward other opportunities, including:

Be equitable,

- *In the drought area, if they could just pay everyone's rates. That would help the local shires, as they have had to carry people that not afford to pay rates. It would help the feelings of inequity when some people accessed a lot of assistance, and others were not. Something like would be fair (Interview 8).*
- *It would be better if we could get cheaper power, and lower rates (Interview 15).*

Buy and invest locally (donated goods to be purchased locally, not from outside the region),

- *The [charity groups] have raised money, they could stop at every small town along the way and hand out money as vouchers (Interview 12).*
- *The credit cards and vouchers, which have to spent locally, are a good thing (Interview 6).*

Develop proactive, long-term strategies,

- *We are better doing pro-active things, rather than being reactive. You don't make good decisions when you are in difficult situations, or you have to do things in a hurry. We need to build resilience in our business before we get to the drought situation (Interview 7).*

⁷ Cluster fences are designed to keep out wild dogs, mainly for sheep graziers. Kangaroo and goat numbers can also be controlled, leading to better management of total grazing pressure. Clusters or property groups can be as large as 10,00 hectares, occasionally more.

Reduce complexity,

- *I think the government wastes money with lots of little packages (Interview 13).*
- *You need a degree to do the paperwork for some of these grant applications, and then you get very little. ... There is some funding out there, but you just do not know about it; some people are in the know (Interview 14).*

Encourage young people to stay,

- *We need to talk to our young people about career paths, and what we have to offer in the region. We have wonderfully skilled people out here, so we could be mentors. We've got people out here who are willing to share their skills, sharing their knowledge or IP with each other (Public Meeting).*
- *The schools could push more apprenticeships, they only push only degrees. Locals out here cannot get apprentices (Public Meeting).*
- *Longreach Pastoral College needs to teach about wool again – shearing, wool classing and handling, for when sheep come back inside the fences (Public Meeting).*
- *Local rural community job opportunities could be promoted in the schools e.g. Career day (Public Meeting).*
- *University needs to be available here, instead of people having to leave town. There is no reason with today's technology why they can sit in on a lecture in Brisbane from out here (Public Meeting).*
- *Promote local career paths e.g. careers day in the region & in other regions (Public Meeting).*
- *[Explore new uses for] the Agricultural college and TAFE. Longreach is 400km from Emerald and 600km from Mt Isa, we are in an ideal location (Public meeting).*

Change the employment incentive scheme,

- *The State Government has a scheme [Youth Boost payment or Federal Government Youth Wage subsidy], whereby you get \$10-20,000 to put on new staff. It is no good out here. For everyone west of the Great Divide who is struggling with the drought, they need to look after the businesses that have staff, to help to keep those people employed (Interview 12).*

Change the first home buyers grant,

- *The first home buyers grant. All the houses that are for sale in Longreach do not qualify for the first home buyers grant because they are not new houses. To help the young kids that are saving, and want to buy a house here while the market is low, they need to allow them to buy older houses, not just new ones (Interview 12).*

These suggestions have been incorporated where possible, into the recommendations for decision-makers and policy makers.

5.4 Resilience characteristics

The concept of a resilient community was discussed during the survey, interviews and at the public meeting. People were asked what helped them manage difficulties in their businesses, and people were divided as to whether or not training, workshops and other similar assistance was helpful. Responses are grouped under five main headings that generally reflect the attributes of resilience (see McLean et al 2014) listed in the literature:

- ❖ Knowledge, skills and attitudes;
- ❖ Community networks;
- ❖ People/place connections;
- ❖ Infrastructure and services; and
- ❖ Diverse and innovative economy
- ❖ Engaged governance.

❖ Knowledge, skills, learning, and attitudes

About half of the small business operators interviewed were keen to improve their knowledge and skills. When asked about whether they attended training and networking events, they made comments such as:

- *I do go to anything I can get to, I try to get to what is available ... I have been to a few different types [of training] (Interview 8).*
- *I went to one training workshop soon after we arrived in town, and that was helpful. It was on business planning. It was good to see the younger business people there too, that was really good. That workshop was very well patronised (Interview 2).*
- *The Longreach Business Group organise a monthly breakfast meeting and get some good speakers ... and you might get some useful information (Interview 4).*
- *This week-end there is a start-up week-end, there are workshops and there is an entrepreneur you can go and talk to at RAPAD (Interview 14).*

Survey and interview data indicated that **business skills** training was most helpful to the retail and tourism sectors. Strategic business skills were said to be lacking the most (Interview 18). Other topics seen as valuable included internet use and general planning skills. Training to use the **internet** effectively was mentioned, for example:

- *Access to free social media workshops was a huge help to me when establishing [my business] (Survey 2017).*
- *We are continually working to improve digital literacy, for example we have a Facebook page We have a big awareness that we need to reach out, and we are setting up a digital strategy to help our marketing. We are still growing the business. Our external on-line orders need to be the mainstay of our business, and at the moment it is only 20-30% (Interview 1).*
- *We want to get onto the internet, rather than doing the wages manually (Interview 2).*

The need for good **planning skills** was also identified as important (with one person's campaign slogan when standing for local government stating, 'Failure to plan is a plan to fail'). Several people said they do plan, but also said that planning needed to happen more frequently:

- *We bought a business out here with a 5-year plan, and we make decisions based on economics (Interview 13).*
- *We need to plan ... I think we need grants to help people to do planning before the drought, that is when you can do good planning (Interview 7).*

- I have got to have my business set up to capture those good years. I have to get to the end of this drought, and I have got to be organised and ready for the good times. It is what we do in the good times that makes a difference. It is important to take time, while you are in the pits, to look forward (Interview 7).

The way training is delivered seems to be just as important as the topics. The **small business Financial Counsellor** was particularly appreciated:

- The Small Business Financial Counsellor has been wonderful and is needed for at least 2-3 years (Survey 2017).*
- RAPAD has been helpful, they had a small business Financial Consultant. He gave me a year to 18 months of invaluable time. I would hate to have paid for an accountant for the amount of work he did. He helped me restructure, better cash flows, a business plan to keep moving forward. He was a God-send. That sort of thing can be available, but not everyone takes advantage of them (Interview 13).*
- [I developed] a better understanding of financial position and able to make decisions for the longevity of our business (Survey 2017).*
- The Financial counsellor was always there, you could ring him about anything. I would not be paying myself if it weren't for him (Interview 10).*
- I have worked with a business coach for the last 3-4 years. This has helped a lot. We have a Skype session every month with the Business coach. As a result, we have held more "open days" ... these were very successful (Interview 14).*

The way the small business Financial Counsellor delivered training was obviously very successful; and he was seen as trusted and credible source of information. Research done in western Queensland (Kelly 2005) found that the way training is delivered, and the credibility of the trainers were more important to attendees, than the topics itself. The personalised approach to training and the need to provide follow up support was seen as important:

- You need to help people understand what to do, but then you need to support them, hold their hand. Mentoring is a good way of saying it (Interview 1).*
- We need training for example in how to set up the payroll. The one on one training was fantastic. On-going support is so necessary (Interview 2).*

Training gaps were identified by a few people, particularly networking and collaboration, as well as skills to assist with governance:

- You need to have the management tools and skills, and you need to be able to manage people better (Interview 10).*
- Perhaps we could have some networking training. It seems like such an obvious thing, but a lot of people do not know how to start (Interview 1).*
- [Small business] would benefit from networking training, knowing how to get people working together. ... We do not do enough networking (Interview 2).*

In summary, training was considered worthwhile if it met local needs. Financial and time constraints to training were identified. Coaching and mentoring at times suitable to the small business owner, rather than formal workshops or class-room situations, seem to be preferable. Follow up support is required.

Despite these motivated people, about half the small business operators surveyed **had not attended training courses** or workshops. **Reasons for non-attendance** included that 'they already had skills', 'because as owner/operators they could not get away from the business', or 'did not have the time or energy after work'.

Only 9 of the 84 survey respondents suggested that business skills training had been useful for them. Participant's comments included:

- They do have all these workshops and things, but as an owner/operator I cannot get away. If it is after hours, I have to play mum and feed animals (Interview 3).*

- *I would love to go to more workshops, where you are networking with people. I cannot seem to get to these. I am very conscious of this, as I know I have keep up on my skills. I miss out on a lot of opportunities, but I just cannot afford it (Interview 4).*
- *I have a financial background, so that helps, I do not need training in that, but I use it a lot (Interview 8).*

One comment suggested that some small business owners were **reluctant to change**, and needed lots of support and skills development. Appropriate use of technology was one example:

- *People seem to need you to hold their hand. The underlying issue is the lack of skills and ability, so the little things are too hard. The example of using Facebook as a marketing tool is not working, because people do not keep up the posts (Interview 1).*

Given that so many small business operators are not accessing training, questions need to be asked about the topics offered, and the way workshops and seminars are provided to make training easy to access. The considerable effort currently put into training by organisations in the Central West may not be meeting a clearly defined purpose.

Attitudes

An individual's or a community's attitude to training, and to their situation in life generally, is an important consideration in terms of resilience. Attitudes are developed over extended time frames and arguably must be open to change. People's attitude to change might challenge some people as the following comments suggest:

- *I do not mean to be critical of people, but they do tend to do things the way it has always been done. So, they need someone to come and suggest, how about you change this a little bit, not big changes, but little bit at a time (Interview 2).*
- *There are a lot of people who think that because they did things one way 30 years ago, why should they do things any different ... they are scared of change, because it is outside their comfort zone, partly cause of the age of people out here, most are over 60, even people in their 90s (Interview 9).*
- *People's resilience has come through. There was a lot of whinging about the drought to start with, but people are quite positive now, whereas a couple of years ago, everyone was fairly negative. We think we are through the worst of it, and we will come out alright, we are looking ahead. We have been at a standstill for 4 years, and if you did not start looking ahead, you would go mad I think (Interview 8).*

The topic of attitudes was explored mainly through interviews where comments reflected on both personal attitudes, and their perceptions of community attitudes:

- *It is important to look forward. If you are looking out the window, and there is not a lot of joy there when it is dry. It is like any community; some people have a victim attitude (Interview 7).*
- *At the moment, people are taking the drought in their stride. People (producers) who have been affected for a long time, do not even want to be hopeful about having a wet season this year. They are too scared to look forward, after the failed summer wet season. They are not talking long term forecasts (Interview 4).*
- *Last year we had winter rain, which disrupted the tourists a bit. However, people in town were smiling more, and you got to see the property owners a little bit more. People's mood changes when there is rain (Interview 2).*
- *Across the Central West, some pockets have had rain, there people are full of confidence and have a grin a mile wide and are ready to take on the world. ... Rain seems to make a difference to people's attitude to their business. ... It is still tough (Interview 7).*

A spectrum of attitudes was evident, from very negative: *I am all doom and gloom at the moment (Interview 14)*; to a few people at the public meeting who were very positive:

- *I am very excited about where our region is heading. There are some great programs, such as the cluster fencing. We are on the cusp of a really good change (Public meeting 2017).*

One person described the **changes in attitude to drought over time**. This description generally reflects comments made by others:

- *What is interesting is the change in people's mood over time. This drought has been going 5 years, and we have been monitoring the attitude of small business in town. In Year 1 and 2, we would ask people how things were going, and they would say "It's not too bad; things are a bit slow"; people were cautiously optimistic. By Year 3, people say that things are not as good as it has been, people were facing reality a bit more, as they did not know when it is going to rain. By Year 4, you ask them the same questions, and people say, "it sucks", "it is really bad", "I don't know what I am going to do". ... So, business attitude has changed, and they are telling you how it is, not what they think you should hear. Probably as we are all in it together now (Interview 5).*

Some people did say they thought that community attitudes were starting to become more positive, but this may be in areas that have had a little bit of rain, which was patchy across the region.

Stoicism

People in rural and remote communities are often portrayed as hardy and enduring, stoically working through challenges. One important distinction was made by one person interviewed, and in the literature, around whether country people are more resilient or more stoic, than urban folk:

- *There is a lot more stoicism in the bush than resilience, it is semantics, but the slight distinction is important. The bush is famous for its resilience, but it is not really resilience. Stoicism is where you grit your teeth and survive; but resilience is where you grit your teeth, you survive, and you bounce back (Interview 7).*

This stoic attitude is perhaps personified by the following comments:

- *We are alright, most of the bush is alright. We can handle drought, it is part of our make-up, it is part of our business. We know it is going to happen. It was a double whammy this time, with low cattle prices, and the drought, and it hurt everyone (Interview 8).*
- *Drought is part of life out here, it is reality out here. Somehow, we have to build that into our thinking, that this is normal ... You have to think, well I am out here for the good years, and there will be one, eventually (Interview 7).*

People's attitudes to drought, and life generally, influences their ability to change, to learn new ways of coping with change, and their enthusiasm for maintaining friendships and community networks.

❖ Community networks

The idea of community networks is similar to the broader and well discussed concept of 'social capital' (Putnam 1996). It involves social processes and activities that support people and groups in times of change (Maclean et al 2014:149). Rural towns are recognised as important to the resilience of rural communities (United Nations 2009). The benefits of a strong and united community were identified in this research:

- *We are stronger if we hunt in a pack. We have great knowledge [in the community] and we need to share our knowledge with each other (Public meeting October 2017).*
- *More businesses need to work together – maybe we should start a Chamber of Commerce, so we can tackle future issues united, not alone (Survey 2017).*

Stories from the 2017 interviews indicate strong community networks exist in the Central West:

- *When there is a tough time, everyone is there to help you out. For example, we had a car roll over earlier in the year, and my husband was offered the use of 3 vehicles, 5 trailers and the 2 ride-on mowers, which is what we lost in the accident. Someone lost their house in a fire, and people put a*

container on the counter for people to put loose change into, and before you know it, they had collected \$10,000 to help them get started with furniture, that is what they do out here - that is what I love about out here (Interview 15).

- There was an auction recently, and people opened their pockets for the charity. People in the west will give you the shirt off their back if it is for a good cause; it was astounding how much we raised (Interview 13).

When asked about what community activities people were involved in, and how the drought impacted on community life, there was some difference in opinion about attendance at community events. **Some events are well attended**, and those people who were actively involved in community activities made comments such as:

- I am involved community events. I am on the Junior Rugby League Committee, I am also on the school P&C and also volunteer with Cubs. The drought has impacted some events, but not all (Interview 6).
- The show is well attended ... also we love a wedding, that always brings some joy (Interview 12).
- Attendance in the events is fine, people are still going to things (Interview 15).
- Blackall is one of those towns that rolls along. People support a lot of events (Interview 13).

However, other people suggested that the **drought had impacted community and social activities**, saying that they personally no longer had time to attend social events. Some community activities are impacted more than others, events effected are particularly those associated with cattle:

- The drought has meant there are not the numbers of people in the clubs, not the people in the community anymore, so not as many people to do things (Interview 14).
- The drought has impacted our social life, for a while there when people got a bit negative, it was not a lot of fun to go anywhere. Then we just got so busy just trying to survive. We also have stock, and when you are in drought you tend to muster five times as much, you are shifting stock all the time, then you have cattle away on agistment. And I have been going away further up north mustering. You are running around all over the place, so you do not do as much socialising (Interview 6).
- I don't really go out, I am so buggered when I get home from work. Morale get s bit low, it is hot, dry and dusty. Everyone tries to rally around. We have a big race meeting here next week, everyone tries to support these sort of things, to keep that positive vibe (Interview 12).
- Camp draft has been impacted as there have been no cattle around to use, so we have not had one for 3-4 years. The Isisford Races have not been that well attended, probably partly cause of the drought. The fishing competition has not been so much affected, because it is not attended by the property people so much (Interview 8).

Lack of money was also identified as a contributing factor to declining numbers of attendees:

- With the drought, people do not have the money to do certain things. People used to bring their kids in to football from out of town, and they don't seem to that now. We have fair distances to travel to go to matches, and some people do not want to travel cause they do not have the money to go places (Interview 6).
- Because there is not the income in town, because their hours have been cut at work, or their husbands are actually out of work. There is not the money to spend like there used to be on pleasurable things (Interview 12).
- I don't go out as much. I play golf once a week, that is all I can afford. I don't go out and eat at the pub, I have eaten once at the pub in the last 4-5 years (Interview 13).

Other people, who said they did not go out much now or during drought times, still tried to keep some connection to community. For example:

- We are not very involved in community things, but we always try and go to the Race Days, and I go to the Show Ball. Last year, people said that there was hardly anyone there, that there are usually more people attending. The last couple of Race Days have been better, there a couple every year (Interview 2).

- I see a decline in the number of people attending events, compared to 10 years ago. I don't go to much, but my kids go to the football and things that happen, and I don't hear of the crowds any more. But, every now and then, something big will happen. Recently we had a variety bash, a rally and it brought people out of the wood-work. It was good festival feel ... getting people together and have a bit of fun – all those things you want to see happen (Interview 13).

A few people were likened to **'fly in/fly-out'** miners, in that they were not well connected within the community, and did not attend many community events. These people are in town during the week for work. As one local business person explained:

- Sometimes the husbands come out to work here, but leave the wife and children back on the coast. It is not just the mines doing this, it is quite a lot of people. So, on the week-end they are off to visit the family. [We see these people] at the grocery store occasionally, but I don't know him and his family. Their hearts are not in the community. People then tend to buy their alcohol and groceries when they are away (Interview 15).

So, while some people outlined extensive community involvement, and some said attendance at activities was good, others said numbers of attendees at community activities was declining. One person tried to explain this apparent difference of perceptions:

- There are less rodeos and that sort of thing, because there are no livestock about. The events still happen, the council puts on drought concerts and things like that. I have heard that attendance at the big events is quite good, because people decide they want to go and let their hair down and enjoy a night of music or something. However, small events are less well attended (Interview 5).

Running events has become more difficult because there are not the people available, as the population declines.

Volunteers

Levels of volunteering also provide insight as to the resilience of a community. A relatively high percentage of people volunteer in these outback communities (ABS 2016). However, results from this research suggest that finding volunteers was not always easy. As population declined, there were less people around to volunteer. As noted previously, people were tired, time poor and stressed, factors not conducive to volunteering. Hence, organising and running activities, such as the show, which somewhat rely on volunteers, has become difficult:

- The impact of the drought is visible in the community, as there are less volunteers to do things. It is usually the same people that do everything, but because there are less people around, it is more difficult (Interview 1).
- The same people do the organising all the time, just like most places, it tends to be the same people all the time (Interview 2).

Changing attitudes to volunteering were also seen to further exacerbate the problem of finding volunteers:

- These days people don't want to be a volunteer. We have our little nub of workers. Basically, people want things given to them. This decline in volunteers is not related to the drought, it is a generational thing (Interview 7).
- And not as many people are prepared to volunteer, people who come out here cause it is cheap to live and they get things given to them. People who move to town these days don't tend to get involved as much. We don't have a Rotary or Lions for people to join (Interview 14).
- People do not have the social ethic to volunteer; that old ethic has faded, it is sad. A lot of people get to the stage where they have nothing more to give, they get burnt-out (Interview 15).

A catering company had actually been founded because of the lack of volunteers:

- The parents from the kindergarten used to do the food at the show; however, the numbers of people helping out at the show declined. The catering company 'Marmalades' was born out of the lack of volunteers prepared to do the work. This business seems to be thriving, and travels from Winton to Roma and anywhere in between (Interview 14).

It was noted that when public servants leave town, one source of volunteers is lost. Such people were seen as well positioned to volunteer with stable jobs including regular pay and set work hours, and the valuable skills and knowledge needed to support community activities.

In summary, involvement in some community activities has declined, especially for events such as camp drafts which need local cattle and have been effected by the drought. Nonetheless, community members had tried to support major activities, and the comment by one person - that the big events are still well attended while smaller events struggle to attract people - may well be true. Volunteers to support these events have become more difficult to find largely due to the declining population, but also attributed to changes attitudes to volunteering. Research participants report that they are usually too tired, too poor and too stressed to contribute to community.

❖ People/place connections

The resilience literature talks about the concept of people-place connections. When people have a strong connection to the place where they live, they often have a desire to build a business that allows them to stay in that place. People in the Central West were positive about their 'place', with comments such as:

- *It is great living here ... in a small town. Everyone talks to everyone; it is so nice to be able to walk down the street, and know someone. People look after each other too (Interview 2).*
- *We do love the area, I have been here on and off since I was 10 years old, I have tried to leave a few times, but I just keep coming back (Interview 15).*
- *One of our children is a Blackall person, and they are due to have their first child later this year. I would say they will never leave Blackall, as they enjoy the country so they are entrenched out here. Blackall, as a town, could not find a better town to bring your kids up. A few of the niceties are not in Blackall, but then a few of nasties are not here either (Interview 13).*
- *People may love the bush, but they want to get going after 2-3 years, especially if they are government workers (Interview 4).*
- *Longreach can show people the social and lifestyle benefits of living in the bush e.g. no travel time to work, sunsets, slower pace, friendlier people. It is a great place to live (Public meeting 2017).*

However, for some people, economics has become the deciding factor about where they live. While they may love the area, the difficulties in making an income seems to be the over-riding decision-making factor at the moment, an indication that things are tough economically. However, low or declining real estate prices mean, for some, it is not possible to leave:

- *People cannot afford to leave. I would be gone tomorrow, but I cannot sell my house. I would not get what it is worth (Interview 12).*
- *One of our businesses has been for sale for 15 years. We cannot sell it, no one has the money, no one wants to work 7 days a week (Interview 15).*
- *Real estate in Longreach has changed, at one point there were 200 rentals available in town. Property for sale tends to sit for a while, if it sells at all (Interview 5).*
- *When a lot of government staff were out off, there were a lot of vacant government houses ... Then government sold all their houses, and they did not put a floor price. This dropped the price of houses down, and this in turn dropped the rents down. It is a vicious cycle. People could not make money from rent; and people could sell either. There are people who want to get out, and they cannot take a cut in price, as it would not cover their mortgage. They still have to pay off their mortgage (Interview 4).*

People's comments that the sale price would not cover their loan costs meant that people were trapped, unable to leave, and not able to afford to stay, especially if there was no employment. The uncertainty of being in such a position is likely to affect both individual and community resilience, as attachment to place has been broken.

❖ Infrastructure and services

Infrastructure and services are seen as a key contributor to community resilience. In particular, roads, internet, schools and medical facilities were all identified in interviews. Generally, comments relating to infrastructure were negative. However, to some extent, people actually seemed resigned to the poor quality of infrastructure and services in the Central West region of Queensland.

Not everyone seems to use the **internet** for their business. Those that did complained during interviews and at the public meeting:

- *One of the main challenges is our internet capacity – it is slow, and has problems with time out, even the telephone is unreliable (Interview 1).*
- *Communication is an issue here, some days everything is out, phones, internet, the lot (Interview 2).*
- *Internet connectivity in the last 6-8 months is not as reliable as it has been, even though we are with Telstra. Power and internet, you pay through the nose for these out here (Interview 5).*

A few people commented positively on a local government initiative which plans to connect the whole of the Central West to WiFi internet:

- *One shire has funding for point-to-point internet (Interview 1).*
- *Blackall-Tambo shire is putting internet through the whole shire – and yet we have been told that cannot be done and it is too expensive. There is a shire that is going to do it! So, you think. We put up with a lot, because that is where we live. But if there are options out there, then you would like to see things happen (Interview 7).*

As with the internet, people seemed resigned to **poor roads**. There was no shortage of comments:

- *If you are driving around in the bush at the moment, the roads are really starting to cut up because it is so dry, rocks are coming through. It is not pleasant. I think people factor that in a bit, if you live out here (Interview 7).*
- *They cannot fix the roads too much when there is no sub-soil moisture, so you just gotta live with them (Interview 8).*
- *Railway shut down, and we were promised sealed roads where they took out railways. There are still dirt roads if you want to get to main centre, like Blackall to Emerald still has a section of dirt, which really slows you down (Interview 15).*
- *We are on the major highway from down south to Darwin, and they repaired it a few years ago, but did such a bad job, you would not know it had been touched. It is wear and tear on the car (Interview 14).*

Considerable frustration was expressed by people with **schooling**, with two inter-related issues. Firstly, unequal subsidies between rural property owners and town's people mean some children can go away to boarding school while others miss out. Secondly, the local High school does not have adequate facilities, the following comment provides more detail on these issues:

- *Families have left town, but it is not to do with the drought. It is probably to do with the high school, because they do not have the facilities to cope; they don't have quite all the subjects that kids need to do. So, I have actually sent my oldest boy away to boarding school this year. This is probably the reason why some families leave, when it is time for their kids to go to High School. They cannot afford the expense of boarding school (Interview 6).*

A level of frustration was expressed with existing **medical facilities**. However, it was noted that major changes that are under way:

- *People out here in Jericho want a doctor. To get a permanent doctor, you need a certain number of people - Queensland Health has a set population threshold of 800 or so people, before you can get a doctor (Interview 9).*
- *One of the most positive things that's happened is the local hospital board. Doctors are not in a fly in/fly out system (Public meeting).*

Part of the aim of the Central West Health Services is to treat more patients within the region, avoiding the need for costly trips to larger centres, where people are away from family and friends (Interview 20). This approach is also a cost saving for Queensland Health. As a result, significant resources are being spent on regional medical services (Interview 20). Infrastructure projects contribute to construction being the second largest GDP for the region (REMPPLAN 2017).

A new Community Hospital opened in Alpha in 2016 at a cost of \$17.5 million and there is a \$4.7 million upgrade at Barcaldine Multi-purpose Health Services. The reconstruction of Longreach hospital including the installation of a CT scanner, a new Primary Healthcare Centre planned for Aramac together, and upgrades in Boulia and Windorah, costing \$16 million, are in progress (Interview 30).

Further compounding these infrastructure challenges, for small businesses, are issues relating to freight, labour, financial capacity, and regulations:

- *Freight is also an issue: we get all our raw materials in; and then we cannot guarantee delivery dates. We can usually fill orders the next day after people order, but it can take many days for delivery. I get 2-4 emails a month asking when they are going to get their order. If you buy on EBay, you expect to get the order the next day, but we cannot give people reliable delivery dates (Interview 1).*
- *Freight is probably the biggest cost we have. Incoming deliveries arrive twice a week, so we cannot get things in quickly if we have run out of something. This is the same problems for lots of small businesses out here. I was in Windorah, and they had been advised to drop their prices to increase sales. Given how much freight costs to get things in they may have had more sales, but they would not have made any more money (Interview 1).*
- *Financial capacity is an issue too. For example, we had a loan with Westpac Bank for the purchase of a building, and we had great service from the local Manager. Recently, I went to re-structure the loan, as the business needs had changed. Now we are not classified as a rural business, so some position in Brisbane is who I need to deal with. This Brisbane person has no idea about running a business in a rural town (Interview 1).*
- *Labour is another issue, as we struggle to get the right people for the job. We currently have a customer service position advertised. There are over 380 people in town, but it is hard to find the right person. We wanted a junior, and have advertised widely. There was no one application from the local region, but we did get 5-6 backpackers, and one of them will start soon. It is about getting the right skills (Interview 1).*

Despite these and other issues which have been discussed, one interviewee commented:

- *I don't know that running a business out here is more difficult, it is just different (Interview 2).*

In summary, the Central West is a business hub with infrastructure and services used by people both in and outside of the region. Some towns are on the major road from Darwin south, and thus roads are used by people and businesses from outside the Central West, for example people being transferred north, and fruit such as mangoes coming south from Darwin.

Internet does not seem to be well used in the region, and those who do use it complain about the quality of service. The internet initiative to connect everyone in the Central West to WiFi is underway. Infrastructure and services to support community needs such as medical services, schools and community centres have been impacted by the declining population.

❖ Diverse and innovative economy

The Central West has many examples of people managing change with innovation in their businesses. The *Qantas Museum* and the *Stockman's Hall of Fame* are two tourist attractions that strive to introduce innovation, including a plan to use charter planes to bring people during the low season (Interviews 2017).

In another example, an increase in patronage points to successful innovation at the Jockey Club in Longreach. Many community activities other than racing are now attracted to the venue, helping to make the place profitable. Local people explained that the success of the Jockey Club is built on an initial grant from government, and the work of dedicated volunteers (Interviews 2017).

As noted in the literature review, **innovation** (which suffers from some definitional issues) is seen to contribute to resilience. While local people did not often use the term 'innovation' *per se*, many of their comments discussed the general ideas relating to innovation. They saw this, as the ability to 'do things differently', a necessity for survival' or 'new ways of operating', and as an essential aspect of coping with drought:

- *We have had to change the way we do things* (Interview 13).
- *I have had to change the way I do business massively* (Interview 4).
- *We have had to change our business, because my partner is working away a lot now* (Interview 6).

Innovation was suggested as having a long history in the development of the tourism sector in the Central West. Tourism is a strategy for diversification for RAPAD (RAPAD 2017). Research participants suggest tourism is one of the success stories in the region. The Central West draws tourists to the major heritage museums in Longreach and Barcaldine, and the dinosaur trail and museum near Winton. Events also attract both tourists and locals, and include the local agricultural show, race days and camp drafts.

Many businesses have **diversified**, not only into tourism. In the survey, 2/3 of people talked about how they had diversified their businesses, many in response to drought. Comments from the interviews supported this:

- *We started this business in a move to help diversify the local economy, and have been going 24 years. This business shows what can happen* (Interview 1).
- *The drought has made us diversify our income* (Interview 5).
- *Prior to the drought, probably 70-80% of my business was from western Queensland. Now only 5% comes from western Queensland, and the rest of my work is from other parts of Queensland, Northern Territory and Western Australia* (Interview 4).
- *We diversified prior to the drought in our business. We did buy another business, but it is hard to do that stuff in the middle of a drought, cause your cash flow is tight, and your confidence is low, so you are better making those decisions when you are in a good space* (Interview 7).

Others argued that still more diversification in the region was needed to help build resilience and stabilise the regional economy:

- *I am hoping that the mines go ahead, and that people want to live here, thus bringing their money back to this little country town, so it has a flow on effect* (Interview 14).
- *We could quite easily put a Government department in Longreach. With high speed internet and video conferencing, there is no reason that they have to live in Brisbane* (Interview 10).

Not all small business people interviewed were as optimistic as these examples, with an aversion to risk, lack of understanding from some service providers, and perhaps a lack of understanding of cultural diversity. For example, diversifying your business can be a risky strategy, and people are cautious in difficult times, a little risk adverse:

- *I have looked at the solar panels, it is difficult to go down that path without having a little bit behind you to make it happen. However, I am not knocking solar, but if it does not do the job they say it will, then I have got to find more money. It is a risk* (Interview 13).

Respondents expressed frustration with people who did not understand how business works in the bush. This affects whether or not people will seek advice, as well as the appropriateness of services provided to rural and remote regions:

- *Banks in Brisbane have no idea about distance and no idea about the importance of a business like this to the region. For example, we needed to sign something, so they wanted myself and 2*

- other people in the business [from other towns] to drive to Longreach, on the same day to sign something! I said no. The bank is not working with clients in rural towns (Interview 1).*
- *I have been to financial counsellors at the bank, and they never get back to you. They come out here from the city, they do not understand the bush (Interview 15).*
 - *Telstra has no idea about where things are out here, they do not understand the distances (Public meeting 2017).*

Indigenous culture was not a specific topic covered in these interviews. One Indigenous person explained that there were very few, if any, local Traditional Owners living in the Longreach shire (Interview 22). However, traditional owners were sought out and involved in land management in other areas such as Windorah and Diamantina (Interview 22). Regional tourism tends to focus on European history, dinosaurs, natural features. Tourism in the Central West does provide a very Australian agricultural and bush experience.

In summary, many small businesses in the Central West have already embraced the need for diversification and innovation to counteract the downturn in agricultural industries, impact of drought and the negative flow-on effects. The high adaptability index of the Longreach shire (Productivity Commission 2017) seems well supported by evidence of several innovative and forward-thinking tourism and event-based businesses. The literature recognises that institutions and governance structures can be critical in supporting and promoting innovation.

❖ Engaged governance

Engaged governance focuses on collaborative local decision-making. Such engaged governance structures can contribute to building resilient local communities in the Central West. One regional organisation, which is built on collaboration between the seven local shires in the Central West, is **RAPAD**. RAPAD is recognised as a model of successful engaged governance for other regions (Walker 2012) and has a successful record of partnering with local, state and federal government as well as community groups and private sector businesses (Interview 20).

Another example of effective local decision-making is the **Central West Hospital and Health Service**. The re-organisation of health services demonstrates that local people can develop local solutions, rather than centralised decision making (Interview 19). In particular, collaboration with James Cook University is encouraging young doctors to build their careers in rural regions. The system of fly-in/fly-out GP doctors so common in rural and remote regions, is now rare in the Central West. Local systems have been put in place to ensure local doctors are supported and have a safe working environment (Interview 18). The Central West Health Services recognised that additional governance capabilities were needed, and has developed systems to support doctors (CWH & HS Strategic Plan 2014:5).

It is important to note that **not all localities are the same** within the Central West region, either in terms of resilience or in their models of governance:

- *The areas are different. In some areas people say it is getting dry, but they are not worried about it. People in the south-west, around Cunnamulla, Quilpie, Thargomindah seem to be more resilient mentally. Some of that area looks like Armageddon and no one complains. Longreach people could be more vocal than other areas. They have done it tough here. I think having a media presence here in Longreach puts Longreach on the map more (Interview 4).*
- *One size doesn't fit all – particular regions respond to different ways. If you talk to the locals, you will understand what they want. It is so important to talk to the locals (Public meeting 2017).*

In concluding this chapter, the results from this research suggest that the Central West Queensland region encompasses diverse small communities, each with distinct characteristics. Data collected in a survey, interviews and a public meeting show that while drought impacts may start with rural enterprises, the flow-on effects impact on town businesses, and the whole of the rural communities. Small businesses, based in towns across the region, have suffered, at times, severe impacts from drought. Declining turnover and employment have caused economic and social impacts. However, larger scale agricultural enterprises are often times the primary focus of government attention when addressing these impacts. Charity groups providing assistance have also largely forgotten the town businesses. Vouchers, credit cards and cash are recognised as the most effective means of assistance. Information from this research paints a complex picture where multiple financial, social, technological and environmental changes have impacted on this region. These impacts have been exacerbated by droughts, certainly over the past ten years.

6 Building resilience in the Central West

This project has explored the financial, social and health impacts of drought on town small businesses in the Central West region of Queensland. Four key questions guided the work:

- What is this region's context - economic and social characteristics?
- What are the impacts of drought on town small business in the Central West?
- What are the current effects of drought assistance, from public, private and NGO groups?
- What are the most appropriate responses to build resilient communities?

Relevant literature has been reviewed, a survey of small business owners in the region was implemented and in-depth interviews conducted. Information relating to the first three questions has been presented in preceding chapters. This chapter primarily addresses the fourth question: *What are the most appropriate responses to build resilient communities?* A comprehensive and informed response to this final question is presented in following four sections:

1. Options;
2. Principles; and
3. Recommendations and future research
4. Conclusions

While this research has focused mainly on town small businesses in the Central West region of Queensland it is important to note that responses listed in the following sections generally adopt a whole of community approach. This approach acknowledges that small businesses are inextricably linked to all other aspects of community.

6.1 Options

This report presents four options as a framework towards taking informed, collaborative action to address identified impacts. Appropriately for the often-dusty Central West, the acronym for this framework is DUST.

D	Decide to act.
U	Understand the context.
S	Support and develop local capacities and local institutions.
T	Transform regional governance.

While it might seem an obvious statement, there is a need for decision makers at all levels to acknowledge that the interrelated challenges faced by communities in the Central West must be addressed proactively. Decision-makers can start anywhere depending on their organisations mandate, as not all guidelines can be implemented by all organisations, but **acting together can make a difference**. All are crucial if resilience is to be maintained and improved.

These rural and remote communities, including the essential town-based small businesses play a key role within the social and economic context of regional Australia. If these communities are to successfully respond to existing and emerging financial, social and environmental changes, they will require support. Without support these communities will likely face increasing health and social issues, population decline, economic decline, and communities could disappear. Not every decision-maker will be able to adopt all of the following recommendations. However, a decision must be made to support these communities.

Existing literature suggests the need to focus on building resilience in rural and remote communities, as described in Chapter 4 of this report. The first step in building resilient communities is to gain an **understanding of the local context**.

Regional towns and communities within the Central West are quite diverse, and it is important to understand differences, both within and between these small towns and across the region. In addition to existing economic and demographic data, it is important to involve local people, to gain a better understanding of their lived experiences, their challenges, needs and aspirations. The importance of understanding the complexities and nuances of local contexts within remote regions is emphasised in the literature. Building on what is already there, from the existing knowledge, abilities and networks, is a relatively simple concept which is so often ignored when 'experts' arrive to solve a community's problems for them. Rather, experts and locals need to work together, drawing on and integrating both expert and local knowledge.

Understanding the context, having a reliable and diverse information base to direct open and accountable decision-making, is a critical first step in building the resilience of rural and remote communities to address the challenges they face. This information base can then be used to **support and develop local capacities and local institutions** so they can take charge of their own futures.

Empowered communities have been shown to be very effective in responding to incremental change processes or specific crises. Local businesses and community organisations are more likely to have established relationships and networks, a reservoir of trust and capacity that external agencies lack. These networks and relationships can be supported and further strengthened to build resilience and capacity to take informed action.

Results from this research suggest that there is already a good foundation of networks and relationships across local businesses, community organisations and government agencies in the Central West region of Queensland. Further investment in capacity building is likely to be well utilised when targeted at local needs.

This capacity building is the first stage in **transforming governance** in the region from a centralised capital city model to a more collaborative regional governance which increases the involvement of local people in decision-making processes. Local people strongly expressed their desire to be involved in decision-making. The Central West already has successful examples of such arrangements, such as:

- *RAPAD* which fosters joint projects and collaboration between the seven local shires; and
- The Central West Rural Wellness Network, which was set up during the drought, and has helped to foster collaboration between government departments and NGO groups, and streamline mental health services.

Literature reviewed for this project also suggests that fostering engaged governance is crucial, not only as a local operational necessity, but also as a pathway to inform and direct the development of appropriate policy relating to regional Australia. The need for such transformational change is most evident when environmental, economic, or social contexts make some existing arrangements untenable. While good governance is evident in some organisations in the Central West, some arrangements could be further transformed to support more resilient communities.

Building on the existing good foundations, greater collaboration between government, businesses and community has the potential to build resilience, thereby supporting positive social and health outcomes, and strengthening regional and national economies. The recognition of high adaptability to change in this region (Productivity Commission 2017), means that investment is very likely to be well used. When matched with significant local effort investment has a significant multiplier effect in these small communities.

A set of four principles, to underpin strong governance arrangements and to support resilience building in the Central West region, are proposed.

6.2 Principles

As described, rural and remote Australian communities, where people live away from centres of economic and political power, are confronted by complex and interrelated challenges, including financial, social and environmental change, large geographical areas which are sparsely populated, an increasingly unpredictable climate, lack of infrastructure and services, and vulnerability to overseas markets and changes in the monetary exchange rates. We identify four key principles which would underpin collaborative responses to the challenges confronting rural and remote communities.

❖ Equity

The first principle is that of equity, the quality of being fair and impartial. In the context of the Central West region equity has relevance at three levels. The first level is equity for each individual within the region. Governance processes must give due consideration to all members of every community. It should not be only the loudest voices that are heard. The second level is equity for all business interests in the region. For example, in the Central West, current drought assistance programs were not seen as equitable, with town businesses often times excluded from support. The third level is equity between 'urban' and 'rural and remote' communities. Sparse population bases, scattered over vast distances, often leaves rural and remote communities without a strong political voice. In terms of building resilience, three questions which encourage equity are:

- Resilience of what?
- Resilience to what? and
- Whose resilience? (Martin-Breen & Anderies 2011:10).

These questions require an understanding of the local context, and to consider all members of the community. Basically the same questions can be asked about vulnerability, transformation or well-being.

Collaborative local governance arrangements support the inclusion of local ideas in decision-making processes, and help address the question of 'Whose reality counts?'. Consideration of how the discussion around drought is framed and presented, by whom and using whose reality, is critical to ensure equitable outcomes.

❖ Flexibility

The second principle which underpins responses to the challenges confronting rural and remote communities is that of flexibility, the ability to successfully adapt to and survive change processes. The localised diversity within and across rural and remote regions and communities brings particular challenges. Flexible arrangements are needed to respond to local contexts. For example, the Central West encompasses diverse communities and towns, and the needs of Longreach are different from smaller centres such as Isisford or Stonehenge. In particular, delivery of services requires consideration of local context and be designed to meet local needs.

The resilience literature highlights the importance of 'flexibility' to help foster innovation. Siloed disciplines, rigid organisations and limiting social norms will stifle innovation. Collaborative local governance is well placed ensure flexibility to respond quickly and appropriately to crises such as droughts.

❖ **Valuing local knowledge**

The third principle which underpins responses to the challenges confronting rural and remote communities is that of valuing local knowledge, the process of including diverse voices in decision making processes.

As highlighted previously, local people in the Central West region want their voices, their concerns and needs to be heard in decision making processes. It is a common complaint in western democracies that local voices are not given the same degree of credibility or attention as scientific, expert or bureaucratic knowledge. One of the failures of participatory processes is that all knowledge is not seen as equal, and local people still feel that their opinions and ideas are not valued.

Processes for including a diversity of voices in decision making processes must be open and accountable, with appropriate feedback provided so that communities understand where their information went, and whether or not it made a difference. Modern resilience approaches advocate for the integration of different knowledges in decision making processes.

❖ **Working together**

The fourth principle which underpins responses to the challenges confronting rural and remote communities is that of working together. In resilience systems thinking, decision-making is required across scales, both vertically and horizontally, and there will be multiple interacting centres of control and power. Genuine collaboration involves both listening, talking, and including diverse voices in decision making processes, with all stakeholders seen as equal partners in the process. The goal of working together must always be towards the 'common good', but this does not mean promoting consensus. Looking for one solution can be difficult, if not impossible when faced with 'wicked' problems. Developing a suite of diverse but complementary solutions can provide better outcomes. This can be achieved through well facilitated processes. It has been shown that the process of working together stimulates new ways of understanding 'wicked problems' facing rural and remote communities, and supports informed, collaborative responses.

The real challenge lies in converting these principles into practice. How do we work together to address the identified challenges and impacts in the Central West region of Queensland, and potentially across the broader regional Australian landscapes. Results from this project identify a set of recommendations to governments and other interested stakeholders.

6.3 Recommendations

A set of 17 major recommendations, which respond to the challenges confronting rural and remote communities in the Central West region of Queensland, are presented. Some specific actions are also included for each resilience characteristic. Suggestions for, and a process towards implementing, ongoing research are also listed.

Attention to these recommendations will help address both the 'symptoms' and 'causes' of such challenges. They draw from both analysis of survey and interview responses, and the current literature on resilience building which is considered at the cutting edge of regional development science. When decision-makers Decide to act [D], these recommendations incorporate strategies to help Understand the local context [U], Support local capacities and institutions [S] and transform towards collaborative local governance [T].

❖ **Transform regional governance so as to foster local decision-making**

Helping to transform governance is a proactive measure that governments and other decision-makers can implement, in line with local people's requests as part of this research. Such governance arrangements will help communities cope with inevitable change, including drought. A more collaborative approach with local decision-making is perhaps the greatest need in rural and remote areas, as highlighted in the literature.

Recommendations

1. Foster more local input to decision-making
 - 1.1 Provide appropriate support to local individuals and organisations so they can be involved in decision making processes.
 - 1.2 Change roles and responsibilities to reduce centralised accountability and reporting requirements.
2. Support the development of stronger links and partnerships between organisations
 - 2.1 Both between regions and within the region.
 - 2.2 Ensure collaboration building processes are well supported and appropriately facilitated.

Some specific actions relating to engaged governance include:

- *Explore a partnership between Queensland Government and Central Queensland University to develop higher education degrees and courses in tourism and agriculture.*
- *Develop a Sheep and Agriculture technology hub in Longreach with a partnership between Department of Agriculture and Forestry and other organisations.*

❖ **Extend infrastructure and services**

Recommendations

1. Build understanding of the local context for infrastructure and services, 'how things work in the bush'.
2. Provide guaranteed funding for state and national roads recognising these are essential infrastructure for state/national economic development.
3. Improve whole-of-government planning for services, including basing relevant public servants in regional towns.

Some specific actions relating to community infrastructure and services include:

- *Support local government initiatives to provide fast WiFi internet across the Central West.*
- *Support initiatives regarding health services, to ensure that the region continues to build its capacity to provide local services, rather than people travelling to large coastal centres.*

❖ **Recognise people-place connections**

Recommendations

1. Recognise people's 'connections to place' and support their desire to stay in the local area.
2. Support people's desire to build sustainable businesses as part of their connection to place.

Some specific actions relating to people-place connections:

- *Amend 1st home owners scheme to allow young people to purchase older homes, as there are no or limited new homes available in the Central West.*

❖ **Acknowledge community networks**

Recommendations

1. Identify and support social activities and events that are important to specific communities/towns/region.
2. Support the development of stronger links and networks between and across the community, social organisations, schools, business and government.

❖ **Build local knowledge and skill levels**

Recommendations

1. Identify the diversity of and develop processes to integrate local knowledge and skills into decision making processes.
2. Implement place-based determination of training needs with local individuals and organisations deciding what is required.
3. Identify and support mentoring and coaching programs appropriate to the local context and needs.
4. Support both existing collaborative local governance arrangements, and development of new local initiatives relating to governance.

Some specific actions relating to knowledge, skills and learning include:

- *Work with local people and businesses to identify training needs.*
- *Provide opportunities for local people to develop skills for networking, partnerships and improving governance*
- *Foster partnerships between government, universities and private industry to allow TAFE and university courses to be run out of Longreach.*
- *Ensure ongoing funding for the small business financial counsellor.*

❖ **Support the development of diverse and innovative economies**

Recommendations

1. Identify and respond to the drought induced financial needs of town businesses to ensure equitable government support to all those in need.
2. Develop processes which encourage/direct government and charity groups to invest and buy locally, supporting local businesses.
3. Develop measures to support and foster stronger collaborations between businesses within the region & between regions.
4. Develop measures to support and foster innovation across the region.

Some specific actions relating to diverse and innovative economy include:

- *Base State Development and other appropriate staff in the Central West.*
- *Foster a buy local campaign, so that all state government departments source goods, services and supplies locally, rather than purchasing from outside the Central West region.*
- *Develop incentives for small business to maintain current staffing levels, similar to the current state government scheme for new employees.*
- *Revise the remote area allowance to be in line with CPI.*

Recommendations for ongoing research and actions

- workshop, evidence based, resilience building

While actions relating to recommendations are listed above, it is strongly suggested that additional research be undertaken to provide a solid evidence base to inform any such actions.

The first step we suggest is that a stakeholder workshop be convened to identify and/or assess research requirements and subsequent actions based on results tabled in this report.

Five suggestions to guide this workshop discussion include the need for:

1. A socio-economic analysis of the contribution of small business to community and economic well-being in the Central West region.
2. An education audit including existing facilities, training and partnerships.
3. A social network analysis of the Central West to identify current links, strength of existing relationships, and opportunities for further development of partnerships.
4. A review of current successful social resilience and governance initiatives operating in the Central West, and other rural and remote Australian regions.
5. An exploration of appropriate governance arrangements for rural and remote Australian communities, including action planning approaches.

Of particular note is the need to focus attention of **resilience** building initiatives, drawing from the evidence based research listed in this report and recommended research.

6.4 Conclusions – Building resilience in the Central West

This research was commissioned by Western Queensland Drought Committee to “*identify the financial, social and mental issues associated with drought and the most appropriate responses to alleviate hardship and build resilient communities across the central-western health region*” (Queensland Department of Health 2016). The project objective, as stated in the contract, was to “*build community resilience by providing evidence based policy advice to influence public, private and NGO service providers to deliver best-practice programs that focus on long-term as well as short-term issues*” (Queensland Department of Heath 2016).

The issues associated with drought are examined with a literature review, as well as through data about local people’s views. This literature review is reported under financial (Chapter 3.2 Economic issues), social (Chapter 3.3 Social issues) and mental issues (Chapter 3.4 Impact of drought on health). A second literature review (Chapter 4 Building resilience) explores resilience, the strengths and weaknesses of the resilience discourse, and how to help build resilient communities.

The project also explored the perspectives of small town businesses in the Central West region of Queensland (Chapter 5). The policy advice and guidelines for appropriate responses build on this evidence base and focus on building resilient communities across the Central West.

Key findings

Town businesses are an important component of regional economies, and provide vitally important social capital. The issues of declining turnover, dwindling population, poor health and mental health of town communities are exacerbated by drought. As part of the highly variable climate, drought is a destabilising factor that overlays all of the other global and national trends, such as declining rural population and lower terms of trade.

Government policies that help support people during a drought are frequently criticised for being both reactive (responding to, rather than preventing impact), and inequitable (providing support for grazing enterprises and not town small businesses). Support for small businesses is essential if the region is to remain economically and socially sustainable.

Some town businesses in the Central West region have developed innovative strategies to enable them to survive. Collaborative partnerships formed between government, private business, NGO's and local communities are helping build resilience and adaptability. These positive stories need to be told, and the lessons from the Central West may solve problems inherent to many rural and remote regions.

A focus on building resilience has been identified as a contemporary approach towards pro-actively addressing the impacts faced within this region. Rural and remote regions tend to be different to other regions, and it is vital to understand the complexities and nuances of the local context. Supporting and enhancing local governance, ensuring that local people are provided with appropriate opportunity to actively engage in decision making processes, is recommended as a first step in the resilience building process. This report calls on all stakeholders to work together to build resilience in the Central West region of Queensland, and in doing so providing a model for all regional Australia.

References

- ABS, n.d. *Region Summary*, <http://stat.data.abs.gov.au/> Viewed 10 April 2017
- ABC news, n.d. Timeline of Australian droughts <http://www.abc.net.au/news/2014-02-26/100-years-of-drought/5282030> Viewed 10 August 2017
- ABS, n.d. *Map of Statistical Local Areas [SLA]* [http://abs.gov.au/AUSSTATS/abs@.nsf/61cfc5401332ba40ca2570_d60018db27/463f50115b6dccfbca2571a9001e1f44/\\$FILE/QLD.pdf](http://abs.gov.au/AUSSTATS/abs@.nsf/61cfc5401332ba40ca2570_d60018db27/463f50115b6dccfbca2571a9001e1f44/$FILE/QLD.pdf) Viewed 10 April 2017
- ABS, 2011. *Statistical Local Area IRSAD, SEIFA 2011*, <http://www.abs.gov.au/ausstats/abs@.nsf/DetailsPage/2033.0.55.0012011?OpenDocument> Viewed 22 June 2017
- Abel N, Cumming H M, and Anderies J M, 2006. Collapse and reorganization in social-ecological systems: questions, some ideas, and policy implications. *Ecology and Society* 11(1):17. <http://www.ecologyandsociety.org/vol11/iss1/art17/> Viewed 2 April 2017
- Adger N, 2008. Resilience and Vulnerability. in Leach, M. *Re-framing Resilience: a Symposium Report*. Brighton: STEPS Centre STEPS Working Paper 13
- AgForce, 2016. Rural Debt and Drought Taskforce: Response to call for submissions, AgForce, Brisbane
- Ai Group, 2016. *Economics fact sheet: Queensland economic performance in 2015-2016*, [http://cdn.aigroup.com.au/Economic Indicators/Fact Sheets/ 2016/QLD Economy 2015-16 Fact Sheet.pdf](http://cdn.aigroup.com.au/Economic%20Indicators/Fact%20Sheets/2016/QLD%20Economy%202015-2016%20Fact%20Sheet.pdf) Viewed 22 June 2017
- Allen J, Inder K, Lewin T, Attia J and Kelly B, 2012. Social support and age influence distress outcomes differentially across urban, regional and remote Australia: an exploratory study, *BMC Public Health*, 12:928
- Alston M and Kent J, 2004. *Social Impacts of Drought: A report to NSW Agriculture*, Centre for Rural Social Research Charles Sturt University, Wagga Wagga NSW
- Alston M and Kent J, 2006. The impact of drought on secondary education access in Australia's rural and remote areas, [http://www.dest.gov.au/NR/rdonlyres/ 4415AD4A-F3AF-40DF-9F1000F5DE08E855 /12764/Impact Droughtreport 23Jan2006.pdf](http://www.dest.gov.au/NR/rdonlyres/4415AD4A-F3AF-40DF-9F1000F5DE08E855/12764/Impact_Droughtreport_23Jan2006.pdf) Viewed 1 June 2017
- Alston M and Whittenbury K, 2012. Does climatic crisis in Australia's food bowl create a basis for change in agricultural gender relations? *Agricultural Human Values*, 2013, 30:115–128
- Anderson D, 2014. *Endurance: Australian stories of drought*, CSIRO Publishing, pp.256
- Argent N, Tonts M, Jones R and Holmes J, 2010. Amenity-Led Migration in Rural Australia: A New Driver of Local Demographic and Environmental Change? Chapter 2 in in Luck G, Race D and Black R (Eds), 2010. *Demographic Change in Australia's Rural Landscapes: Implications for Society and the Environment- Implications for Society and the Environment*. Landscape Series 12. Springer pp23-44
- Arnautovska U, McPhedran S, Kelly B, Reddy P and De Leo D, 2016. Geographic variation in suicide rates in Australian farmers: Why is the problem more frequent in Queensland than in New South Wales? *Death Studies*, 40(6):367-372
- Artore GM, Kelly B, Stain H, Albrecht G and Higginbotham N, 2008. Control, uncertainty, and expectations for the future: a qualitative study of the impact of drought on a rural Australian community, *Rural and remote health*, 8:950
- Askew L E and Sherval M, 2012. Short-Term Emergency or Recurring Climatic Extreme: A Rural Town Perspective on Drought Policy and Programs, *Australian Journal of Public Administration*, 71:290-302
- Australian Bureau of Statistics, 2011. 2011 Census Community Profile, http://www.censusdata.abs.gov.au/census_services/getproduct/census/2011/communityprofile/UCL315055 Viewed 2 July 2017
- Australian Bureau of Statistics, 2016. 2016 Census QuickStats, http://www.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/315031412?opendocument Viewed 2 July 2017

- Australian Government, n.d. *Intergovernmental Agreement on National Drought Program Reform*, <http://www.agriculture.gov.au/ag-farm-food/drought/drought-policy/drought-program-reform/iga-national-drought-program-reform> Viewed 10 April 2017
- Australian Government, 2016. Australia's health 2016 by the Australian Institute of Health and Welfare. <http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129556798> Viewed July 29
- Bahadur A, 2016. *Reimagining Resilience: Bringing resilience, transformation and vulnerability closer for tackling climate change*. Asian Cities Climate Change Resilience Network (ACCCRN) Monitoring the Field: February 2013. Working Paper. January 2016
- Barr N, 2014. *New entrants to Australian agricultural industries. Where are the young farmers?* Rural Industries Research and Development Corporation Publication Number. 14/003.
- Barry D, 2016. *Agforce drought changes*, North Queensland Register, 8 September, <http://www.northqueenslandregister.com.au/story/4151242/agforce-drought-changes/> Viewed 10 April 2017
- Baudot C and Hillier D, 2016. *A Preventable Crisis: El Niño and La Niña events need earlier responses and a renewed focus on prevention*. Oxfam Briefing Note. <http://policy-practice.oxfam.org.uk/publications/a-preventable-crisis-el-nio-and-la-nia-events-need-earlier-responses-and-a-rene-617022> Viewed 10 April 2017
- Beer A, Tually S, Kroehn MM, Martin J, Gerritsen R, Taylor M, Graymore M, Law J and Horne S, 2013. *A Tool Kit ... for assisting Australia's country towns and communities with understanding and addressing longer-term climate change impacts*. Centre for Housing, Urban and Regional Planning, University of Adelaide. Toolkit developed for the National Climate Change Adaptation Research Facility (NCCARF)
- Berkes F and Ross H, 2013. Community Resilience: Toward an Integrated Approach, *Society and Natural Resources*, 26(1):5-20
- Berry H, Kelly B, Hanigan I, Coates J, McMichael A, Welsh J and Kjellstrom T, 2008. *Submission to the Garnaut Climate Change Review: Rural Mental Health Impacts of Climate Change*, [http://www.garnautreview.org.au/CA25734E0016A131/WebObj/03-DMentalhealth/\\$File/03-D%20Mental%20health.pdf](http://www.garnautreview.org.au/CA25734E0016A131/WebObj/03-DMentalhealth/$File/03-D%20Mental%20health.pdf) Viewed 23 July 2017
- Bohnet I, Moore N, 2010. Sea- and Tree-Change Phenomena in Far North Queensland, Australia: Impacts of Land Use Change and Mitigation Potential. Chapter 3 in Luck G, Race D and Black R (Eds), 2010. *Demographic Change in Australia's Rural Landscapes: Implications for Society and the Environment- Implications for Society and the Environment*. Landscape Series 12. Springer pp45-69
- BOM n.d (a). *Average annual, seasonal and monthly rainfall*, 2017, http://www.bom.gov.au/jsp/ncc/climate_averages/rainfall/index.jsp?period=an&area=qd#maps Viewed 10 April
- BOM n.d (b). *Australian Rainfall Deficiency Analyser*, <http://www.bom.gov.au/climate/ada/> Viewed 10 April 2017
- Boon H, Cottrell A, King D, Stevenson R, and Millar J, 2012. Bronfenbrenner's bioecological theory for modelling community resilience to natural disasters. *Natural Hazards*, 60(2):381-408
- Botterill L C and Cockfield G (Eds.), 2013. *Drought, Risk Management, and Policy: Decision-Making Under Uncertainty*, CRC Press/Taylor & Francis Group, Boca Raton, Florida, USA
- Botterill L and Wilhite D A (Eds) 2005. From disaster response to risk management: Australia's national drought policy. Springer, Dordrecht, The Netherlands
- Botterill L and Fisher M, 2003. 'Introduction' in *Beyond Drought: People, Policy and Perspectives*, (Eds). Linda Courtenay Botterill and Melanie Fisher. Collingwood, Victoria: CSIRO, 2003.
- Botterill L C, 2003. Uncertain Climate: The Recent History of Drought Policy in Australia. *Australian Journal of Politics and History*, 49:61-74
- Botterill L and Cockfield G (Eds), 2013. *Drought, Risk Management, and Policy: Decision-Making Under Uncertainty*, CRC Press/Taylor & Francis Group, Boca Raton, Florida, USA
- Brown V A and Harris J A, 2014. *The Human Capacity for Transformational Change: Harnessing the Collective Mind*. Routledge/Earthscan, Abingdon, Oxon and New York, 2014
- Brown V A and Lambert J, 2013. *Collective Social Learning for Transformational Change: A Guide to Collaborative Action*. Earthscan/Routledge, Abingdon, Oxon and New York, 2013

- Brown K and Westaway E, 2011. Agency, Capacity, and Resilience to Environmental Change: Lessons from Human Development, Well-Being, and Disasters. *Annu. Rev. Environ. Resour.* 2011. 36:321–42
- Buikstra E, Ross H, King C A, Baker P G, Hegney D, McLachland K and Rogers-Clark C, 2010. The components of resilience—Perceptions of an Australian rural community, *Journal of Community Psychology*, 38:975-991
- Burdon A, 2005. Dry Paddock, Damp Policies: Drought Assistance Strategies and Their Effectiveness. Canberra 1995
- Bureau of Rural Sciences, 2008. *Social Atlas of Rural and Regional Australia: Country Matters*, Australian Government, <http://affashop.gov.au/product.asp?prodid=13896> Viewed 22 July 2017
- Burton L, 2016. Drought forces cancellation of iconic Harry Redford Cattle Drive for second year, ABC News, 20 April, <http://www.abc.net.au/news/2016-04-20/harry-redford-cattle-drive-cancelled/7341570> Viewed 10 April 2017
- Canavan M and Millar L, 2015. *An assessment of the impacts of drought conditions on Quilpie businesses: survey of impacts on retail turnover and employment for non-farm businesses in the Quilpie shire*. Report to the Parliament House, Rockhampton
- Caniglia F and Trotman A, 2011. *A Silver Lining: Community development, crisis and belonging: exploring the role of community development in Queensland's recovery from the January 2011 floods*. Report for Under 1 Roof: Home at last: community in action, Brisbane.
- Cavaye JM, 2013. *Community capacity building toolkit for rural and regional communities*, Regional Australia Institute. <http://inform.regionalaustralia.org.au/process/regional-development-processes/item/community-capacity-building-toolkit> Viewed 10 April 2017
- Central West Hospital and Health Service, 2014. *The Health of the west 2014-2024: Population and health profile*, Central West Hospital and Health Service, Longreach QLD, http://www.centralwest.health.qld.gov.au/wp-content/uploads/2015/11/population_profile.pdf Viewed 22 June 2017
- Chenoweth L and Stehlik D, 2001. Building resilient communities: Social work practice and rural Queensland, *Australian Social Work*, 54:47-54
- Cockfield G and Botterill L. 2006. Rural Adjustment Schemes: juggling politics, welfare and markets. *Australian Journal of Public Administration* 65(2):70-82
- Cole J, 2016. *Pathways to the future: building local strategies for regional resilience and sustainable development in central west Queensland*. Synthesis Report of Community Workshops (Barcaldine, Boulia, Barcoo, Blackall-Tambo, Longreach) October 2015 – February 2016. Institute of Resilient Regions, University of Southern Queensland
- Collits P, 2000. Small Town Decline and Survival: Trends, Success Factors and Policy Issues. Paper presented to the “Future of Australia’s Country Towns” Conference at La Trobe University, Bendigo, June 2000
- Drought Policy Review Expert Social Panel, 2008. *It’s About People: Changing Perspective*. A Report to Government by an Expert Social Panel on Dryness, Report to the Minister for Agriculture, Fisheries and Forestry, Canberra, September
- Congues J, 2014. Promoting collective well-being as a means of defying the odds: Drought in the Goulburn Valley, Australia, *Rural Society*, 23(3):229-242
- Crichton M, 2016. Book Review of Endurance: Australian stories of drought, by Deb Anderson. *Rural Society*, 2016, 25(3):268–270
- Cutter S, Emrich C T, Webb J J, and Morath D, 2009. *Social Vulnerability to Climate Variability Hazards: A Review of the Literature*. Final Report to Oxfam America, June 17, 2009
- Curtis A, Ross H, Marshall G R, Baldwin C, Cavaye J, Freeman C, Carr A and Syme G J, 2014. The great experiment with devolved NRM governance: lessons from community engagement in Australia and New Zealand since the 1980s, *Australasian Journal of Environmental Management*, 21(2):175-199
- Cuthill M, Ross H, Maclean K, Owens K, and Witt B 2008. Reporting Social Outcomes of Development: An Analysis of Diverse Approaches. *The International Journal of Interdisciplinary Social Science* 3:145–158

- Daly D, 1994. *Wet as a Shag, Dry as a Bone: Drought in a variable climate*. Brisbane, Queensland Department of Primary industries, 1994 pp 93
- Darryl M, Rod P, Gene H and Yvonne H, 2010. Fostering resilience: Empowering rural communities in the face of hardship. *Gateways: International Journal of Community Research and Engagement*, 3:55-69.
- Davidson J L, Jacobson C, Lyth A, Dedekorkut-Howes A, Baldwin C L, Ellison J C, Holbrook N J, Howes M J, Serrao-Neumann S, Singh-Peterson L and Smith T F, 2016. Interrogating resilience: toward a typology to improve its operationalization. *Ecology and Society* 21(2):27.
- Davoudi S, 2012. Resilience: A Bridging Concept for a Dead End? *Planning Theory and Practice* 13 (2):299-307
- Dean J G and Stain H J, 2010. Mental health impact for adolescents living with prolonged drought, *Australian Journal of Rural Health*, 18:32-37
- Department of Agriculture 2015. *Rural Financial Counselling Service Programme 2016 to 2019: Grant programme guidelines*, Australian Government, Canberra, <http://www.agriculture.gov.au/SiteCollectionDocuments/ag-food/drought/rfcs/rfcs-2016-to-2019-grant-guidelines.pdf> Viewed 10 April 2017
- Department of Agriculture and Water Resources, 2016. *Supporting farmers and rural communities*, Australian Government, Canberra, <http://www.agriculture.gov.au/SiteCollectionDocuments/ag-food/drought/assistance-measures/supporting-farmers-rural-communities-in-drought.pdf> Viewed 10 April 2017
- Department of Agriculture and Water Resources, n.d. *Farm Management Deposits*, <http://www.agriculture.gov.au/ag-farm-food/drought/assistance/fmd> Viewed 10 April 2017
- Department of Education and Training n.d (a), *Education Statistics and Information*, <http://education.qld.gov.au/schools/statistics/enrolments.html> Viewed 10 April 2017
- Department of Education and Training n.d (b), *Geographic resources*, <http://education.qld.gov.au/schools/statistics/geo-resources.html> Viewed 10 April 2017
- Department of Health, Australian Government, 2013. *A national framework for recovery-oriented mental health services: Guide for practitioners and providers*. (Based on a report written by Rickwood in 2006 for the National Mental Health Promotion and Prevention Working Party, Pathways of recovery: 4As framework for preventing further episodes of mental illness).
- Department of Premier and Cabinet, 2013. *2013 Tasmanian bushfires inquiry report, Volume 1*, Department of Premier and Cabinet Report, [http://www.dpac.tas.gov.au/data/assets/pdf_file/0015/208131/1.Tasmanian Bushfires Inquiry Report.pdf](http://www.dpac.tas.gov.au/data/assets/pdf_file/0015/208131/1.Tasmanian_Bushfires_Inquiry_Report.pdf) Viewed 10 April 2017
- Department of Transport and Main Roads, n.d. Information Bulletin Drought assistance package, <http://www.tmr.qld.gov.au/~media/communityandenvironment/commengage/disasterassistance/droughtassistancepackage.pdf> Viewed 10 April 2017
- Downing K, Jones R, and Singley B, 2016. Handout or Hand-up: ongoing tensions in the Long History of Government Response to Drought in Australia. *Australian Journal of Politics and History* 2016 62(2):186-202
- Drought Policy Review Expert Social Panel, 2008. *It's about people: Changing perspectives on dryness: a report to government by an Expert Social Panel on Dryness*. Report to the Minister for Agriculture, Fisheries and Forestry, Canberra
- Edwards B, 2009. A sunburnt country: the economic and financial impact of drought on rural and regional families in Australia in an era of climate change, *Australian Journal of Labor Economics*, 12:109-131
- Edwards B, Gray M, Hunter B, 2008. Social and Economic impacts of drought on farm families and rural communities: submission to the Drought Policy Review Expert Social Panel. Australian Institute of Family Studies, Melbourne, Victoria
- Enkhbayar B, 2016. Will Mongolia's Herders Disappear within 10 Years? *Journal of Rangeland Science*, 2017, 7(2)
- Fearnley E, Magalhaes R, Speldewinde P, Weinstein P and Dobson A, 2014. Environmental Correlates of Mental Health Measures for Women in Western Australia, *One Health - Ecology and Health - Public Health | Official journal of International Association for Ecology and Health*, 11:502-511

- Flora C B and Flora J L, 2013, *Rural communities legacy and change*. Cornelia Butler Flora and Jan L. Flora, Westview Press, Boulder, CO.
- Folke C, Carpenter S R, Walker B ,Scheffer M , Chapin T and Rockstroöm J, 2010. Resilience thinking: Integrating resilience, adaptability and transformability. *Ecol. Society* 15(4):20.
- Fraser E D G, Dougill A J, Hubacek K, Quinn C H, Sendzimir J and Termansen M, 2011. Assessing vulnerability to climate change in dryland livelihood systems: conceptual challenges and interdisciplinary solutions. *Ecology and Society* 16(3): 3. <http://dx.doi.org/10.5751/ES-03402-160303>
- Freire, Paulo, 1970. *Pedagogy of the Oppressed*. New York: Continuum, (reprinted 2007).
- Friel S, Berry H, Dinh H, O'Brien L and Wallis H L, 2014. The impact of drought on the association between food security and mental health in a nationally representative Australian sample, *BMC public health*, 14:1102
- Garbero A, and Muttarak R, 2013. Impacts of the 2010 droughts and floods on community welfare in rural Thailand: differential effects of village educational attainment. *Ecology and Society* 18(4):27
- Gibson C and Connell J, 2015, The Role of Festivals in Drought-affected Australian Communities, *Event Management*, 19:445-459
- Gooch M, Rigano D, Butler J and Cullen L, 2010. *Developing and refining indicators of community-scale resilience to changing water quality*. Report prepared for the Marine and Tropical Sciences Research Facility (MTSRF), Cairns (April 2010).
- Gibson C R and Connell J, 2015. *The role of festivals in drought-affected Australian communities*. *Event Management: an international journal* 19(4):445-459
- Government of South Australia, 2011. *National guidelines for managing donated goods – Strengthening the nation's disaster resilience*, Australian Government, South Australia, http://www.dcsi.sa.gov.au/data/assets/pdf_file/0004/1894/national-guidelines-for-managing-donated-goods.pdf Viewed 10 April 2017
- Grau-Satorras M, Otero I, Gómez-Baggethun E and Reyes-García V, 2016. Long-term community responses to droughts in the early modern period: the case study of Terrassa, Spain. *Ecology and Society* 21(2):33
- Gray I and Lawrence G, 2001. *A future for regional Australia: Escaping Global Misfortune*. Cambridge: Cambridge University Press.
- Gunderson, L. H., C. S. Holling, and S. Light. 1995. *Barriers and bridges to renewal of ecosystems and institutions*. Columbia University Press, New York, USA.
- Gunderson L H and Holling C S, 2002. *Panarchy: Understanding Transformations in Human and Natural Systems*. Island Press: Washington. pp450
- Halpern D 2005. *Social Capital* Cambridge: Polity Press
- Hanna E G, Bell E, King D and Woodruff R, 2011. Climate Change and Australian Agriculture: A Review of the Threats Facing Rural Communities and the Health Policy Landscape, *Asia-Pacific Journal of Public Health*, 23:105S-118S.
- Hassan Gana A, Fullen M, Oloke D, 2016. Socio-Economic Effects of Drought In The Semi-Arid Sahel: A Review. *International Journal of Advances in Science, Engineering and Technology* 4(1):95-99
- Head B, 2010. Evidence-based policy: principles and requirements. *Policy and Society*, February 2010 29(2):13-26
- Herbert-Cheshire L, 2000. Contemporary strategies for rural community development in Australia: a governmentality perspective. *Journal of Rural Studies* 2000 16:203-215
- Herrera P, Davies J and Baena P (Eds), 2014. *The Governance of Rangelands: Collective Action for Sustainable Pastoralism*, Taylor and Francis
- Hollings C S, 1973. Resilience and stability of ecological systems. *Annual Review of Ecology and Systematics*. 4:1-23
- Holmes J, 2006. Impulses towards a multifunctional transition in rural Australia: Gaps in the research agenda. *Journal of Rural Studies* (2006) 22:142–160
- Howden M, Schroeter S, Crimp S, Hanigan I, 2014. The changing roles of science in managing Australian droughts: An agricultural perspective. *Weather and Climate Extremes* 2014 3:80–89

- Hunt W, Vanclay F, Birch C, Coutts J, Flittner N and Williams B, 2011. Agricultural extension: Building capacity and resilience in rural industries and communities, *Rural Society*, 20(2):112-127
- Ison R L, Röling N and Watson D, 2007. Challenges to science and society in the sustainable management and use of water: Investigating the role of social learning. *Environmental Science and Policy*, 10(6):499–511
- Jacobsen D, 2017. Tourism enterprises beyond the margins: the relational practices of Aboriginal and Torres Strait Islander SMEs in remote Australia, *Tourism Planning and Development*, 14(1):31-49
- Janssen M, 2007. An update on the scholarly networks on resilience, vulnerability, and adaptation within the human dimensions of global environmental change. [Electronic version] *Ecology and Society*, 12(2):1-9
- Judd F, Jackson H, Komiti A, Murray G, Fraser C, Grieve A, Gomez R, 2006. Help-seeking by rural residents for mental health problems: the importance of agrarian values. *Australia NZ Journal Psychiatry*. 2006 Sept 40(9):769-76
- Keen M, Brown V A and Dyball R, 2005. *Social Learning in Environmental Management*, Earthscan, Sterling, VA.
- Kennedy, D, Moore, B 2016. Burrumbuttock Hay Runners welcomed but donations raise concerns for local businesses, ABC News, 13 April, <http://www.abc.net.au/news/2016-04-13/burrumbuttock-hayrunners-donations-raise-concerns/7324154> Viewed 10 April
- Kerin J and Botterill L C, 2013. Institutionalising the Science–Policy Interface in Australia, in Botterill and Cockfield, 2013. *Drought, Risk Management, and Policy*. Jan 2013:87-104
- Kiem A S and Austen E K, 2013. Drought and the future of rural communities: Opportunities and challenges for climate change adaptation in regional Victoria, Australia, *Global Environmental Change*, 23:1307-1316
- Kim J and Prskawetz A, 2010. External shocks, household consumption and fertility in Indonesia. *Population Research and Policy Review* 29:503-526 <http://dx.doi.org/10.1007/s11113-009-9157-2>
- King C and Cruickshank M, 2010. Building capacity to engage: community engagement or government engagement? *Community Dev Journal* (2012) 47(1):5-28. Online: <https://doi.org/10.1093/cdj/bsq018> Viewed 1 June 2017
- Knox P and Mayer H, 2013. (2nd edition). *Small Town Sustainability: Economic, Social and Environmental Innovation*. Birkhäuser
- Kotey, B. 2014, Small business innovation in the hostile environment of Australia's drought stricken rural communities (Report), *Australasian Journal of Regional Studies*, 20:325
- Kulig J and Botey A, 2016. Facing a wildfire: What did we learn about individual and community resilience? *Journal of the International Society for the Prevention and Mitigation of Natural Hazards*, 82:1919-1929
- Lathouras T, 2013. The Power of Structural Community Development to Unlock Citizen-Led Change. The Les Halliwell Keynote Address** delivered at the 2013 Queensland Community Development Conference, Deception Bay, Queensland, 31st October, 2013
- Lawrence G, Gray I and Stehlik D, 1999. Changing spaces: The effects of macrosocial forces on Regional Australia. In C. Kasimis and A. G. Papadopoulos (Eds.), *Local responses to global integration* (pp. 63–87). Aldershot, United Kingdom: Ashgate Publishing Ltd.
- Leadbeater 2007 Social Policy or Divine Intervention? The Changing Face of Drought. *Just Policy*, December 2007 46:21-27
- Leviston Z, Price J C and Bates L E, 2011. Key influences on the adoption of improved land management practice in rural Australia: The role of attitudes, values and situation, *Rural Society*, 20(2):142-159
- Li Y, Westlund H, Zheng X and Liu Y, 2016. Bottom-up initiatives and revival in the face of rural decline: Case studies from China and Sweden. *Journal of Rural Studies*, October 2016, 47(B):506-513
- Livi-Bacci M, 2017. *Demographic Growth, in A Concise History of World Population*, John Wiley & Sons, Ltd, Chichester, UK

- Longpaddock, 2017. *Queensland Drought Situation* as at 1-th March 2017, <https://www.longpaddock.qld.gov.au/queenslanddroughtmonitor/queenslanddroughtreport/2017/mar2.pdf> Viewed 10 April 2017
- Luck G, 2010. Demographic Change and Rural Nature. Chapter 5 in in Luck G, Race D and Black R (Eds), 2010. *Demographic Change in Australia's Rural Landscapes: Implications for Society and the Environment- Implications for Society and the Environment*. Landscape Series 12. Springer pp101-123
- Luck G, Race D and Black R (Eds), 2010. Demographic Change in Australia's Rural Landscapes: Implications for Society and the Environment- Implications for Society and the Environment. Landscape Series 12. Springer Science + Business Media
- Maclean K, Cuthill M, and Ross H, 2014. Six Attributes of Social Resilience. *Journal of Environmental Planning and Management* 57:144-156
- Maclean K, Ross H, Cuthill M and Witt B, 2017. Converging disciplinary understandings of social aspects of resilience, *Journal of Environmental Planning and Management*, 60(3):519-537
- Mahonge C, Mwilawa A, Ngendello M and Mtambuki A, 2014. Policies issues for enhancing pastoralists' resilience to climate variability versus reality in Longido district Tanzania. *Livestock Research for Rural Development* 26(12) 2014
- McCrea R, Walton A and Leonard R, 2014. A conceptual framework for investigating community wellbeing and resilience, *Rural Society*, 23:270-282
- McHenry J, 2011. Rural empowerment through the arts: The role of the arts in civic and social participation in the Mid West region of Western Australia. *Journal of Rural Studies* 2011 27:245-253
- Maguire B and Hagan P, 2007. Disasters and communities: understanding social resilience. *The Australian Journal of Emergency Management*, 22:16-20.
- Martin-Breen P and Anderies J M, 2011. *Resilience: A Literature Review*. New York: The Rockefeller Foundation. www.rockefellerfoundation.org/blog/resilience-literature-review Viewed 14 July 2017
- Maybery D, Hodgins G, Pope R and Hitchenor Y, 2010. Fostering Resilience Empowering rural communities in the face of hardship. *International Journal of Community Research and Engagement* 2010 3:55-69
- Measham T G, Richards C, Robinson C, Larson S and Brake, L, 2013. Terms of engagement: consensus or control in remote Australian resource management? In Aslin H and Lockie S (Eds.) *Engaged Environmental Citizenship*. Charles Darwin University Press and Australian National University ePress, Da
- Miles RL, Hyland P, Soosay C, Greer L, O'Dea G, Alcock D and Kinnear S, 2007. Effect of drought on small businesses in regional Queensland: implications for sustainable regional development, *Changing regions: the road to success: proceedings of the 11th SEGRA Conference*, 17-19 September 2007, Wollongong, Illawarra Region, NSW, pp1-11
- Miller J, 2012. Land-Use Planning and Demographic Change: Mechanisms for Designing Rural Landscapes and Communities, Chapter 8 in Luck G W et al (Eds) 2012 *Demographic Change in Australia's Rural Landscapes*, 189 Landscape Series 12
- Morrissey S A and Reser J P, 2007. Natural disasters, climate change and mental health considerations for rural Australia, *Australian Journal of Rural Health*, 15:120-125
- Morton R, 2017. Economic and social forces emptying out distant towns, *The Australian*, 1st March, <http://www.theaustralian.com.au/news/nation/economic-and-social-forces-emptying-our-distant-towns/news-story/04656f879acf147211708412f07f6f1c> Viewed 10 April
- My School n.d. www.myschool.edu.au Viewed 10 April 2017
- Nicholls N, Butler C D, Hanigan I, 2006. Inter-annual rainfall variations and suicide in New South Wales, Australia, 1964-2001. *Int. J. Biometeorol.* 50(3):139-143.
- Njagi Njeru T, 2017. Collective land tenure is under threat in Kenya. Why it needs to be protected. *The Conversation* March 26, 2017
- Ng F Y, Wilson L A and Veitch C, 2015. Climate adversity and resilience: the voice of rural Australia. *Rural and Remote Health* 15:3071. <http://www.rrh.org.au> Viewed 4 July 2017

- Norris F, Stevens S, Pfefferbaum B, Wyche K and Pfefferbaum R, 2008. Community Resilience as a Metaphor, Theory, Set of Capacities, and Strategy for Disaster Readiness *American Journal Community Psychology*, 2008 41:127–150
- NRM regions, 2017. *Resilient Communities* Online: <http://nrmregionsaustralia.com.au/resilient-communities-1000s-of-local-solutions/> Viewed 20 July 2017
- Nwauche E, 2017. *A Rights Framework for the Protection of Traditional Cultural Expressions in Africa*, in *The Protection of Traditional Cultural Expressions in Africa*, Springer International Publishing. pp 151-199
- O'Brien K, Eriksen S, Schjoden A and Nygaard L, 2004. *Conflicting interpretations of vulnerability in climate change research*. Norway: Center for International Climate and Environmental Research
- Outback Regional Snapshot, 2017. Internal data report provided by Queensland Tourism Industry Council
- Pahl-Wostl C, Craps M, Dewulf A, Mostert E, Tabara D and Taillieu T, 2007. Social Learning and Water Resources Management. *Ecology and Society* 12:5
<http://www.ecologyandsociety.org/vol12/iss2/art5/>.
- Paton S, 2014. *Drought and Poverty in Central Western Queensland*, Regional Development Australia Fitzroy and Central West, Rockhampton
- Perkins I, 2013. Wild Dog Check Fence Feasibility Study, LPM Creative Rural Solutions, Stanthorpe QLD, <http://www.southwestnrm.org.au/sites/default/files/uploads/ihub/wild-dog-check-fence-feasibility-study-october-2013.pdf> Viewed 2 July 2017
- Poteete A R, Janssen MA and Ostrom E (Eds.) 2010. *Working Together: Collective Action, the Commons, and Multiple Methods in Practice*. Princeton, NJ: Princeton University Press.
- Potts, B, Kolves, K, O'Gorman, J, De Leo, D, 2016. *Suicide in Queensland, Mortality Rates and Related Data 2011-2013*, Australian Institute for Suicide Research and Prevention, Brisbane QLD,
[https://www.griffith.edu.au/data/assets/pdf_file/0012/927678/Suicide in Queensland web.pdf](https://www.griffith.edu.au/data/assets/pdf_file/0012/927678/Suicide_in_Queensland_web.pdf) Viewed 22 June 2017
- Powers J R, Dobson A J, Berry H, Graves A, Hanigan I, Loxton D, 2015. Lack of association between drought and mental health in a cohort of 45–61 year old rural Australian women. *Australian and New Zealand J of Public Health* 2015 39:6
- Productivity Commission 2017. *Transitioning Regional Economies*, Initial Report, Canberra.
- Property Data Solutions 2017. qld.gov.au/web/community-engagement/guides-factsheets/documents/rural-capacity-buildingtoolkit.pdf Viewed 2 August 2016
- QRAA n.d, *Current programs*, <https://www.daf.qld.gov.au/environment/drought/assistance-programs> Viewed 10 April 2017
- Queensland Department of Health, 2016. Project Contract. TARDDHiS Program Grants - Community Resilience: FCMU2015.16-007
- Queensland Government, 2017. *The Queensland Strategy for Disaster Resilience: making Queensland the most disaster resilient state in Australia*, Minister for Local Government, Community Recovery and Resilience, 2017 pp 24
- Queensland Government Statistician's Office, 2016. *Gross state product at factor cost by industry and main components, Queensland, 2005–06 to 2015–16 (a)*,
<http://www.qgso.qld.gov.au/subjects/economy/state-accounts/tables/gsp-factor-cost-industry-components/index.php> Viewed 22 June 2017
- Queensland Government Statistician's Office, 2017 a. *Queensland Regional Time Series – Central West Queensland Region*, State of Queensland (Queensland Treasury), Brisbane,
<http://statistics.qgso.qld.gov.au/qld-regional-profiles> Viewed 22 June 2017
- Queensland Government Statistician's Office, 2017 b. *Queensland Regional Profile – Central West Queensland Region*, State of Queensland (Queensland Treasury), Brisbane,
<http://statistics.qgso.qld.gov.au/qld-regional-profiles> Viewed 22 June 2017
- Queensland Government Statistician's Office, 2017. *Queensland Regional Profiles – Custom Region*, State of Queensland (Queensland Treasury), Brisbane,
<http://statistics.qgso.qld.gov.au/qld-regional-profiles> Viewed 22 April 2017
- Queensland Mental Health Commission, 2016. *Annual Report 2015-16*.

- Queensland Treasury and Trade, 2013. State Budget 2013-14 Service Delivery Statements Queensland Treasury and Trade. <https://s3.treasury.qld.gov.au/files/bp5-qtt-2013-14.pdf> Viewed 10th April 2017
- Queensland Treasury and Trade 2013, *Experimental Estimates of Gross Regional Product 2000-01, 2006-07 and 2010-11*, Queensland Treasury and Trade, Brisbane QLD, <http://www.qgso.qld.gov.au/products/reports/experimental-estimates-grp/experimental-estimates-grp-2010-11.pdf> Viewed 22 June 2017
- Race D, Luck G, Black R, 2010. Patterns, Drivers and Implications of Demographic Change in Rural Landscapes. Chapter 1 in Luck G, Race D and Black R (Eds), 2010. *Demographic Change in Australia's Rural Landscapes: Implications for Society and the Environment- Implications for Society and the Environment*. Landscape Series 12. Springer. Pages 1-22
- Ragusa A, 2010. Seeking Trees or Escaping Traffic? Socio-Cultural Factors and 'Tree-Change' Migration in Australia. Chapter 4 in in Luck G, Race D and Black R (Eds), 2010. *Demographic Change in Australia's Rural Landscapes: Implications for Society and the Environment- Implications for Society and the Environment*. Landscape Series 12. Springer. Pages 71-99
- RAPAD (Remote Area Planning & Development) 2016. Remote Area Planning & Development Board. Annual Report 2015 – 2016. Remote Area Planning & Development Board, Central West Queensland. <http://www.rapad.com.au> Viewed 10 April 2017
- RAPAD (Remote Area Planning & Development) 2017. RAPAD State Election 10 Point Policy Plan. Remote Area Planning & Development Board, Central West Queensland.
- RAPAD (Remote Area Planning and Development) n.d. *RAPAD Region*, <http://www.rapad.com.au> Viewed 1 April 2017
- Red Cross Australia, 2012. Relationships Matter: the application of social capital to disaster resilience. National Disaster Resilience Roundtable report, 20 September 2012, Melbourne, Australia
- Regional Australia Institute, 2013. [In]Sight: *Australia's Regional Competitiveness Index*, 2013 Technical Report. [In]Sight Technical Report
- Regional Development Australia, 2013. *An Overview of Food and Fibre Industries in Central Queensland*, Regional Development Australia Fitzroy and Central West Inc., Rockhampton, <http://rdafcw.com.au/wp-content/uploads/Food-and-Fibre-Report-Dec2013.pdf> Viewed 10 April 2017
- REMPAN 2017, <http://www.rempplan.com.au/> Viewed October 2017
- Robinson S, 2015. *NSW Disaster Recovery Chaplaincy Training and Assessment Manual*. Internal Training Manual for Uniting Church in Australia (Synod of NSW and ACT), Sydney
- Ross H, Cuthill M, Maclean K, Jansen D and Witt B, 2010. *Understanding, enhancing and managing for social resilience at the regional scale: opportunities in North Queensland*. Marine and Tropical Sciences Research Facility
- Berkes F and Ross H, (2013). Community Resilience: Toward an Integrated Approach. *Society and Natural Resources*, 26(1):5-20
- Rural Debt and Drought Task Force, 2016. *Addressing debt and drought problems in rural Queensland*, Rural Debt and Drought Task Force, Mount Isa
- Salimzadeh P, Courvisanos J and Ravi Nayak R, 2013. *Sustainability in Small and Medium Sized Enterprises in Regional Australia: A Framework of Analysis*. Paper in Small Enterprise Association of Australia and New Zealand 26th Annual SEAAANZ Conference Proceedings 11-12 Sydney 2013
- Sapountzaki K, 2007. "Social Resilience to Environmental Risks." *Management of Environmental Quality* 18:274
- Schwarz I, and McRae-Williams P, 2009 a. *Does major regional infrastructure influence the resilience of a rural community?*, Proceedings of the 10th National Rural Health Conference, Cairns, Qld, 17-20 May, 2009
- Schwarz I and Williams P M, 2009 b. Water Reform and the Resilience of Small Business People in Drought-Affected Agricultural Communities, *Rural Society*, 19:199-210.
- Schrimer J, Yabsley B, Mylek M and Peel D. 2016. Wellbeing, resilience and liveability in rural and regional Australia; The 2015 Regional Wellbeing Survey. University of Canberra, Canberra.
- Skoufias E, 2007. Poverty alleviation and consumption insurance: evidence from PROGRESA in Mexico. *Journal of Socio-Economics* 36:630-649
<http://dx.doi.org/10.1016/j.socec.2006.12.020> Viewed 20 November 2016

- Silbert M E, 2011. Small island economic vulnerability to natural disasters. Dissertation. University of Florida, Gainesville, Florida, USA
http://warrington.ufl.edu/centers/purc/purcdocs/papers/1001_Silbert_Small_Island_Economic.pdf Viewed August 2017
- Stain H J, Kelly B, Carr V J, Lewin T J, Fitzgerald M and Fragar L, 2011. The psychological impact of chronic environmental adversity: Responding to prolonged drought, *Social Science and Medicine*, 73:1593-1599
- Stanke C, Kerac M, Prudhomme C, Medlock J and Murray V, 2013. Health Effects of Drought: a Systematic Review of the Evidence. *PLOS Currents Disasters*. 2013 Jun 5 . Edition 1.
- Stehlik D, 2016. Rural lifestyles, community well-being and social change: lessons from country Australia for global citizens, *Rural Society*, 25(1):74-82
- Syme G, Kals E, Nancarrow B, Leo M, 2006. Ecological Risks and Community Perceptions of Fairness and Justice: A Cross-Cultural Model. *Human and Ecological Risk Assessment: An International Journal*, 01 February 2006, 12(1):102-119
- Tanner T, Lovell E, Weingärtner L and Batra P, 2017. *Resilience Scan October–December 2016: a review of literature, debates and blogs on resilience*. London: Overseas Development Institute.
- Thompson and Powell, 1998. Exceptional Circumstances Provisions in Australia, *Agricultural Systems* July 1998, 57(3):469-488
- Udmale P, Ichikawa Y, Manandhar S, Ishidaira H, Kiem A, Shaowei N and Panda S, 2015. How did the 2012 drought affect rural livelihoods in vulnerable areas? Empirical evidence from India. *International Journal of Disaster Risk Reduction* 2015 13:454–469
- United Nations, 2017. UN Aid Chief: 20 Million People in 4 Countries Face Starvation, Famine, in VOA News March 10, 2017, <https://www.voanews.com/a/twenty-million-people-four-countries-face-starvation-famine-un-aid-chief-says/3760816.html> Viewed 1 April 2017
- Urbis, 2010. *Evaluation of the Victorian Bushfire Case Management Services – Literature Review*, Urbis, Melbourne, 2017 http://www.dhs.vic.gov.au/data/assets/pdf_file/0005/644783/3-Evaluation-of-the-Victorian-Bushfire-Case-Management-Service-Literature-review-May-2010.pdf Viewed 10 April
- Vanclay F and Esteves A M (Eds), 2011. *New Directions in Social Impact Assessment: Conceptual and Methodological Advances*, Cheltenham (UK): Edward Elgar
- Walker B and Salt D, 2006. *Resilience Thinking: Sustaining Ecosystems and People in a Changing World*. Island Press, Washington, pp 192
- Walker BW, (Ed) 2012. *The Challenge, Conversation, Commissioned Papers and Regional Studies of Remote Australia*, Desert Knowledge Australia, Alice Springs.
https://eprints.utas.edu.au/15067/3/remoteFOCUS_Compendum_August_2012%5B1%5D.pdf Viewed 2 August 2017
- Walker BW, Porter DJ and Marsh I, 2012. *Fixing the Hole in Australia's Heartland: How government needs to work in remote Australia*. Desert Knowledge Australia, Alice Springs.
- Whittaker J, Handmer J and Mercer D, 2017. Vulnerability to bushfires in rural Australia: A case study from East Gippsland, Victoria. *Journal of Rural Studies* 2012 28:161-173
- Wilhite D A, 2000. Drought as a natural hazard: concepts and definitions. In: Wilhite DA (Ed) *Drought: a global assessment*, vol 1. Routledge Publishers, London, UK, pp 3–18
- Wilhite DA, Sivakumar M and Pulwarty R, 2014. Managing drought risk in a changing climate: The role of national drought policy. *Weather and Climate Extremes* June 2014, 3:4-13
- West B and Smith P, 1997. Natural disasters and national identity: time, space and mythology. *The Australian and New Zealand Journal of Sociology* 33(2): 205–215
- Western Queensland Drought Committee [WQDC], 2015. Survey results, unpublished report
- Woinarski J and Lewis D, 2017. *My Country, Our Outback Voices from the land on hope and change in Australia's heartland*. A report from The Pew Charitable Trusts June 2017.
- Young N, 2006. Distance as a hybrid actor in rural economies. *Journal of Rural Studies*, 22(3):253–266
- Zhou H, Wang J A, Wan J and Jia H, 2010. Resilience to natural hazards: a geographic perspective. *Natural Hazards*, 53(1):21-41



Appendices

Appendix A: Remoteness Index and Central West Queensland Travel Distances

Appendix B: Written survey questions

Appendix C: Interviews outline

Appendix D: Drought declared shires in Queensland in 2017

Appendix E: Real Estate – Building approvals, House Prices

Appendix F: RAPAD Schools Registration

Appendix A: Remoteness Index and Central West Queensland Travel Distances

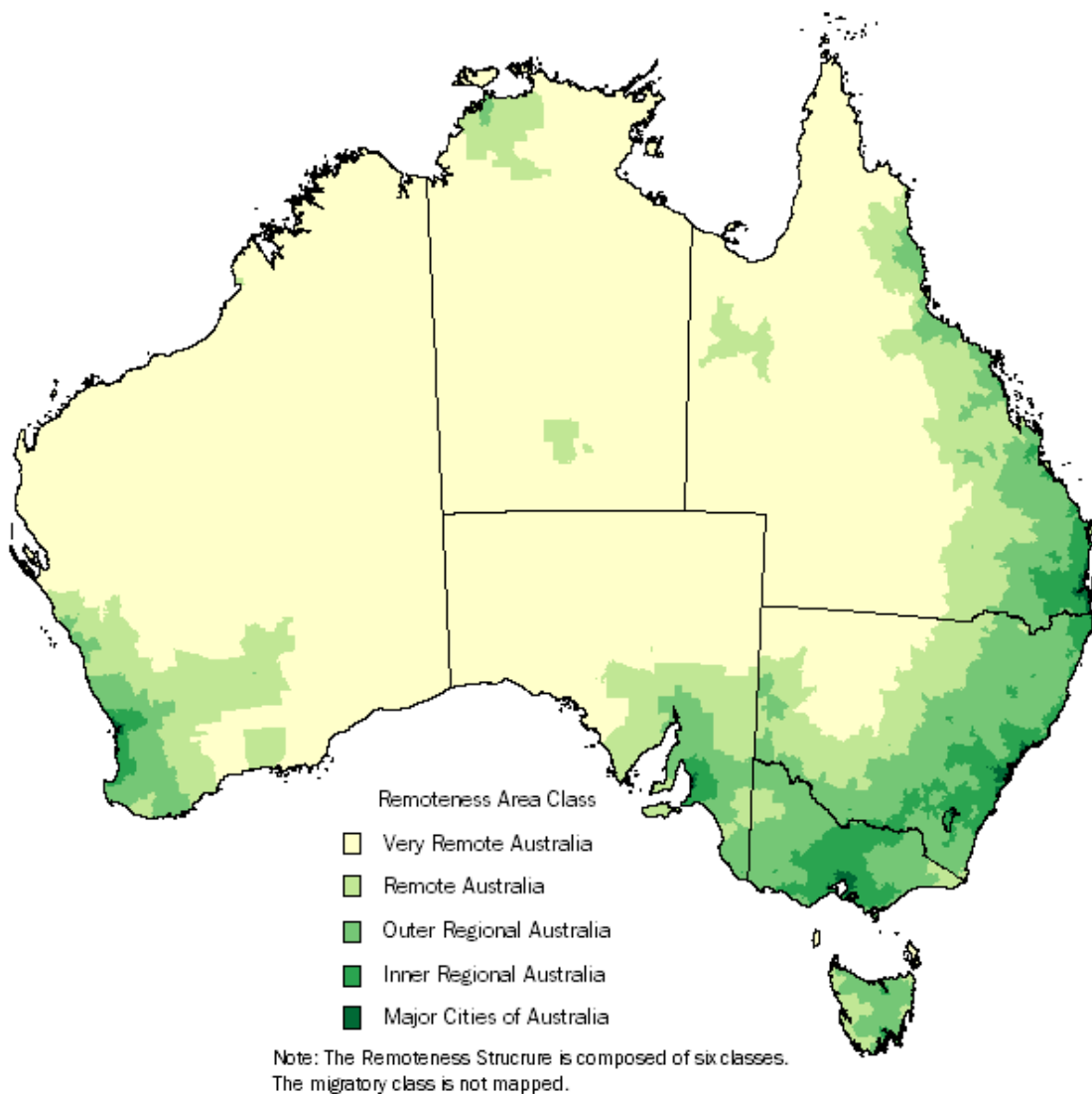
The purpose of the Remoteness Structure

“The concept of **remoteness** is an important dimension of policy development in Australia. The provision of many government services are influenced by the typically long distances that people are required to travel outside the major metropolitan areas. The purpose of the Remoteness Structure is to provide a classification for the release of statistics that inform policy development by classifying Australia into large regions that share common characteristics of remoteness”

(<http://www.abs.gov.au/websitedbs/d3310114.nsf/home/remoteness+structure#Anchor2a>).

MAP OF AUSTRALIA ILLUSTRATING THE 2006 REMOTENESS STRUCTURE

(<http://www.abs.gov.au/websitedbs/d3310114.nsf/home/remoteness+structure#Anchor2a>).



The Remoteness Area Classes on this map come from the Accessibility/Remoteness Index of Australia (ARIA+). This index is determined by a formula based on factors such as the road distance to service towns classified into five categories based on population size.

Service Centre Category	Urban Centre Population
A	250,000 persons or more
B	48,000 - 249,999 persons
C	18,000 - 47,999 persons
D	5,000 - 17,999 persons
E	1,000 - 4,999 persons
F (ARIA++ only)	200 - 999 persons

(https://www.adelaide.edu.au/apmrc/research/projects/category/about_aria.html).

The table below lists the RA categories developed by the Australian Bureau of Statistics (ABS).

RA Category	RA Name	SA1 Average ARIA+ Value Ranges
0	Major Cities of Australia	0 to 0.2
1	Inner Regional Australia	greater than 0.2 and less than or equal to 2.4
2	Outer Regional Australia	greater than 2.4 and less than or equal to 5.92
3	Remote Australia	greater than 5.92 and less than or equal to 10.53
4	Very Remote Australia	greater than 10.53
5	Migratory - Offshore - Shipping	
9	No usual address	

Figure 2 - 2011 Remoteness Areas of Australia

([http://www.abs.gov.au/websitedbs/d3310114.nsf/4a256353001af3ed4b%202562bb00121564/6b6e07234c98365aca25792d0010d730/\\$FILE/ASGS%20Remoteness%20Structure%20-%20Fact%20Sheet.pdf](http://www.abs.gov.au/websitedbs/d3310114.nsf/4a256353001af3ed4b%202562bb00121564/6b6e07234c98365aca25792d0010d730/$FILE/ASGS%20Remoteness%20Structure%20-%20Fact%20Sheet.pdf))

Remoteness classifications provide the opportunity to compare statistics of regions that share common remoteness characteristics.

(<http://www.abs.gov.au/websitedbs/d3310114.nsf/home/remoteness+structure#Anchor2a>).

Appendix B: Written survey questions

Western Queensland Drought Committee _ 2016 Business Survey

Section one: Respondents' business profile

- Q 1. How would you classify your business?
- Q 2. What is the location of your business?
- Q 3. What would you consider your busiest months of the year?

Section two: impact of the drought on central western Queensland businesses

- Q 4. What percentage has your turnover dropped since 2013?
- Q 5. What costs do you consider the hardest to meet every Month/Quarter?
- Q 6. Are you experiencing increased problems collecting money from customer accounts?
- Q 7. How many staff, including yourself, have you employed over the last three financial years?
- Q 8. Have you had to reduce hours for any staff?
- Q 9. Did you pay yourself a wage in any of those years?

Section three: small business drought assistance

- Q 10. Have your customers used Prepaid debit/credit cards in your business?
 - a. If yes, how helpful were these to your business?
 - b. If possible, please estimate the amount of purchases made with pre-paid cards.
- Q 11. Have you received any assistance in the past 4 years, since 2013?
- Q 12. Assistance can have impacts on local businesses, both positive and negative. Please list any impacts you have experienced personally, to help us better target future programs.

Appendix C: Interview outline

Semi-structured interviews are like a free-flowing conversation, but based on a few key questions, sometimes with a list of subsidiary questions to make sure the interviewer covers all the key aspects.

Telephone interviews

Hello, I am Dana Kelly and I am working with the WQDC looking at the impact of drought on small business. I understand that you answered a WQDC survey recently, and said that you would be happy to be interviewed. I was wondering if you had time now for a chat, or if we schedule a time for me to ring you back? Our chat will probably take about 30 minutes.

I would like to let you know that everything you say to me is confidential. I will be amalgamating the information provided during these telephone interviews, and only giving the summary to the WQDA people. Of course, as western Qld is a relatively small community, some things you say may be able to be linked to you by people living in the community here.

If you like, I am happy to provide a summary to you before I send this to the WQDC. You will certainly be able to get a copy of the final report if you would like.

[A] What sort of business do you have please?

[B] What town are you located in?

[C] What impact has the drought had on your business?

[D] What impact has the drought had on your social life?

- What has been the most difficult things for you to cope with personally?
 - What has the impact on your involvement in community activities?
-

Face-to-face interviews

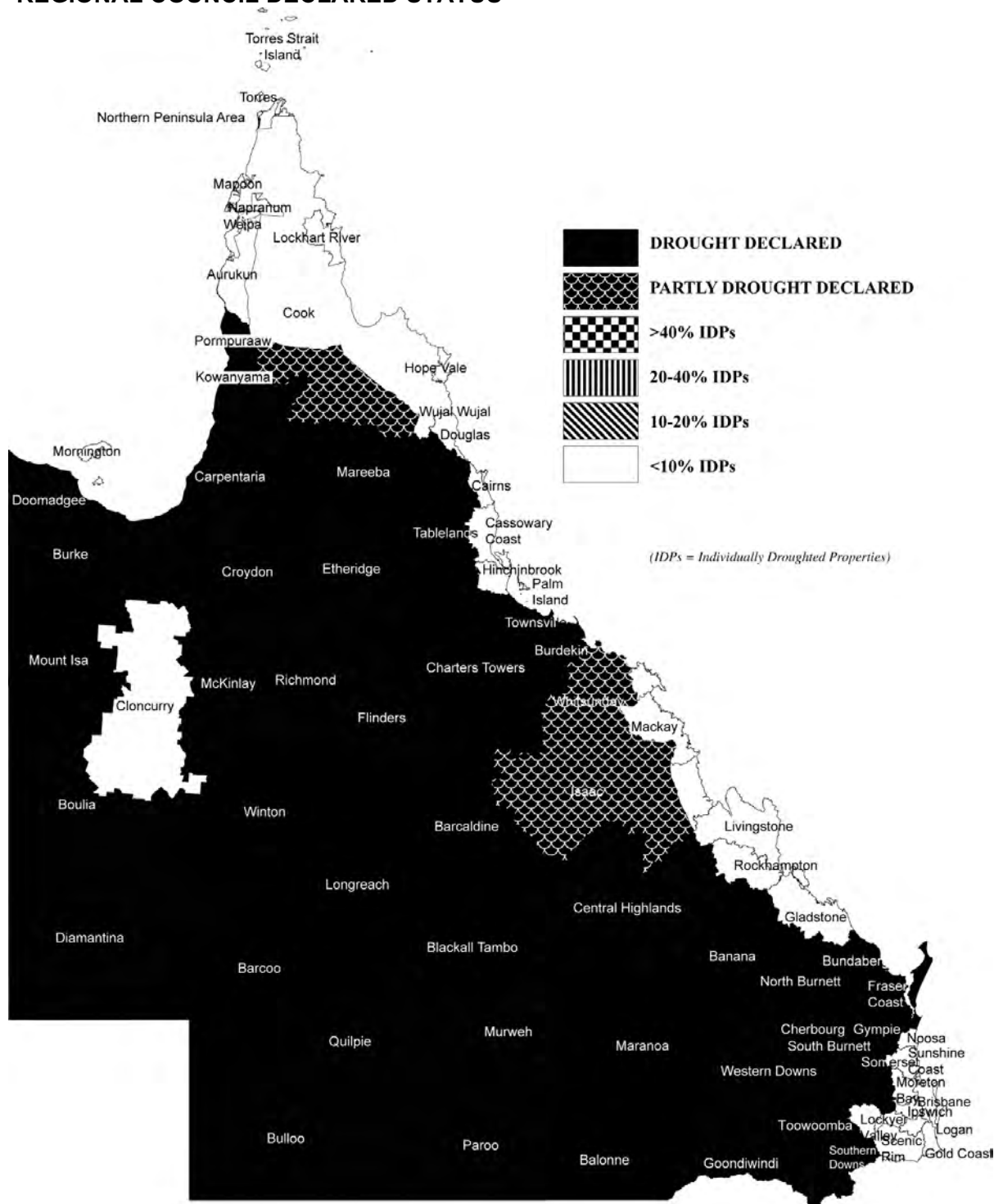
1. What positive things are you doing in your organisation (business) that boosts community resilience?
 - a. What are you doing (have done) that is different or innovative to other regions? How? Why?
 - b. Are there any difference in running a business (OR delivering programs) in the Central West?
2. Where do you see this community in 5 or 10 year's time?
3. How do you feel about living in this region?
4. What advice would you give someone new to the outback?
5. What advice would you give someone if they were setting up a similar business (running programs like yours) in another region of Australia?
6. From your point of view, is there something missing in this community that would make it a better place?

Appendix D: Drought declared shires in Queensland in 2017

QUEENSLAND DROUGHT SITUATION as at 10th March 2017

www.LongPaddock.qld.gov.au Information contained in this publication is provided as general advice only. For application to specific circumstances, professional advice should be sought. The Department of Agriculture and Fisheries, Queensland, has taken all reasonable steps to ensure the information in this publication is accurate at the time of publication. Readers should ensure that they make appropriate inquiries to determine whether new information is available on the particular subject matter.

REGIONAL COUNCIL DECLARED STATUS



Appendix E Real Estate: Building approvals, House Prices

Value of Building Approval in the RAPAD Region

Building value	Financial year								Total change	
	2013-14		2014-15		2015-16		2016-17 YTD ^(b)		2013-14 to 2015-16	
	\$'000	%	\$'000	%	\$'000	%	\$'000	%	\$'000	%
Custom region										
Residential building value	6,302	57.0	7,211	59.8	2,480	9.7	2,414	30.3	-3,822	-60.6
Non-residential building value	4,746	43.0	4,840	40.2	23,171	90.3	5,565	69.7	18,425	388.3
Total building value	11,048	100.0	12,051	100.0	25,652	100.0	7,979	100.0	14,604	132.2
Queensland										
Residential building value	11,039,800	63.0	13,074,883	68.3	14,838,512	67.2	7,282,602	63.2	3,798,712	34.4
Non-residential building value	6,475,426	37.0	6,072,864	31.7	7,233,074	32.8	4,244,328	36.8	757,649	11.7
Total building value	17,515,226	100.0	19,147,747	100.0	22,071,586	100.0	11,526,930	100.0	4,556,361	26.0

(a) It is anticipated that building approvals data prior to July 2012 for local government areas will be released by the end of 2013.

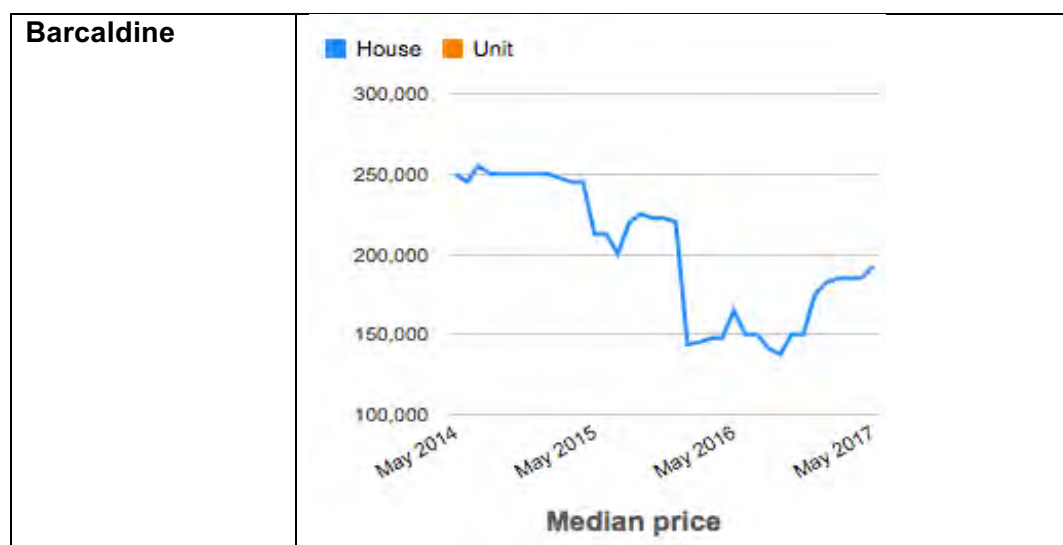
(b) Year to date as at 31 January 2017.

(Queensland Government Statistician's Office 2017:20)

Declining House prices

According to Paton (2014), drought and unfavourable economic factors have contributed to purchasers being cautious, and consequently lower real-estate prices.

The median house price in the three biggest shires, Longreach, Barcaldine and Blackall-Tambo, has reduced as shown in the tables below (<http://www.yourinvestmentpropertymag.com.au/top-suburbs/qld/>)





Lower land value has an impact on farmers, until 2017 when prices rose; but also all SB as their land loses value and has an impact on real estate businesses and local investors.

Total land value

	Residential land	Commercial land value	Rural land value
Barcaldine	58000 49500	2013: 6 323 800 2016: 5077800	390874500 470185960
Blackall-Tambo	41500 25000	3587200 2192400	263067400 315069600

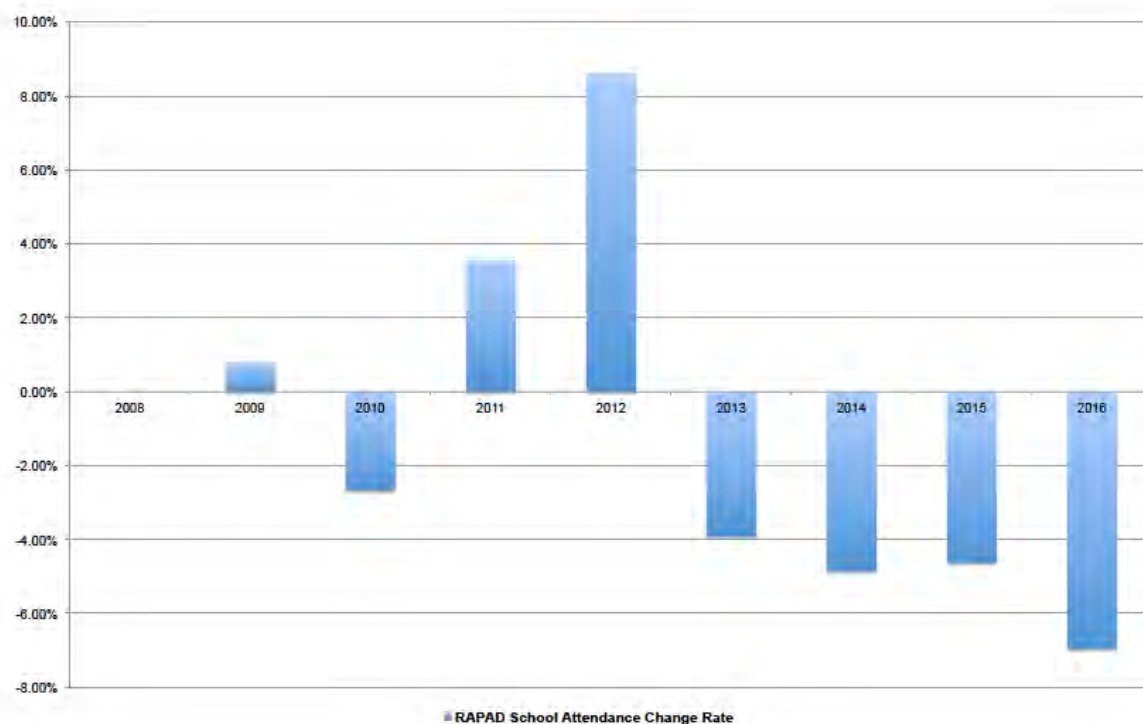
<https://www.dnrm.qld.gov.au/our-department/news/2017/march/2017-statutory-land-valuations>

“Some localities such as Blackall and Tambo reflected significant decreases in median values due to the prolonged drought conditions that the shire has experienced through 2014–15 with the median value of residential land in Blackall falling from \$46,000 to \$27,750” (DNRM 2017). The residential markets in Alpha, Jericho, Aramac and Muttaborra have seen a significant decline in property values, due to the downturn in the mining industry and the effect of the severe drought in the region. Due to the diverse economy of Barcaldine, residential land values in Barcaldine town have remained static with little sales activity (DNRM 2017). Primary production land has seen a moderate increase in value within the Barcaldine Regional Council area as confidence builds from unseasonal winter rain being received in 2016, record high cattle prices and low interest rates

Appendix F: RAPAD Schools Registration

Town	School	Official Low Year Level	Official High Year Level	School type (State/other)	Year (August)									
					2008	2009	2010	2011	2012	2013	2014	2015	2016	
Alpha	Alpha State School	Prep Year	Year 10	State School	69	67	62	68	67	69	57	44	46	
Aramac	Aramac State School	Early Childhood	Year 10	State School	57	51	50	47	49	47	50	53	50	
Barcaldine	Barcaldine Prep-12 State School	Early Childhood	Year 12	State School	298	288	271	275	262	261	258	262	257	
Barcaldine	St Joseph's Catholic Primary School (Barcaldine)	Prep Year	Year 5	Non-State School	25	25	36	25	32	36	30	22	20	
Bedourie	Bedourie State School	Early Childhood	Year 6	State School	9	10	13	13	14	16	10	13	13	
Birdsville	Birdsville State School	Early Childhood	Year 6	State School	8	7	7	4	4	8	5	5	4	
Blackall	Blackall State School	Prep Year	Year 12	State School	148	161	165	164	152	151	150	144	128	
Blackall	St Joseph's Catholic Primary School (Blackall)	Prep Year	Year 6	Non-State School	71	62	7	80	58	58	63	42	30	
Boulia	Boulia State School	Early Childhood	Year 6	State School	24	35	39	36	27	28	30	24	30	
Ilfracombe	Ilfracombe State School	Prep Year	Year 6	State School	33	34	39	37	32	22	21	16	11	
Isisford	Isisford State School	Prep Year	Year 6	State School	20	24	20	19	18	12	13	10	8	
Jericho	Jericho State School	Prep Year	Year 6	State School	12	12	19	14	14	13	19	17	11	
Jundah	Jundah State School	Prep Year	Year 6	State School	15	13	16	13	9	7	10	9	10	
Longreach	Longreach State High School	Year 7	Year 12	State High School	179	181	194	214	227	214	203	218	205	
Longreach	Longreach State School	Early Childhood	Year 12	State School	310	317	308	341	312	298	262	225	190	
Longreach	Our Lady's Catholic Primary School (Longreach) Non-State School	Prep Year	Year 6	Non-State School	138	141	132	123	129	123	114	115	106	
Mttaburra	Mttaburra State School	Early Childhood	Year 6	State School	20	16	14	11	15	14	10	11	11	
Stonehenge	Stonehenge State School	Prep Year	Year 6	State School	5	5	4	4	6	5	7	5	4	
Tambo	Tambo State School	Early Childhood	Year 10	State School	67	75	79	71	78	70	67	75	67	
Urundangi	Urundangi State School	Prep Year	Year 6	State School	20	15	14	13	9	6	12	8	12	
Windorah	Windorah State School	Prep Year	Year 6	State School	12	8	9	8	8	7	5	5	14	
Winton	Winton State School	Prep Year	Year 12	State School	93	108	117	104	89	85	90	91	92	
Winton	St Patrick's Catholic School (Winton)	Prep Year	Year 6	Non-State School	44	33	28	37	57	55	46	31	26	
TOTAL					1675	1688	1643	1701	1847	1775	1689	1611	1499	
					Annual Change of student registered									
						0.78%	-2.67%	3.53%	8.58%	-3.90%	-4.85%	-4.62%	-6.95%	

Data extracted from <http://education.qld.gov.au/schools/statistics/enrolments.html>
 August
www.myschool.edu.au
 List of school extracted from : <http://education.qld.gov.au/schools/statistics/geo-resources.html>



WESTERN QUEENSLAND
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