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Building Drought Resilient Regions: Lessons from Central-Western Queensland

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Abstract

There are indications that grass-roots communities, Local, State and Australian governments are recognising the need for a framework to identify issues and solutions at a regional scale. Vulnerability theory has emerged globally as an approach to help build regional resilience, especially to climate variability and drought. Within central-western Queensland, on-going drought since 2012 has highlighted an above-average adaptive capacity, but high exposure to the impacts of drought. The economy depends on the financial success of grazing, which is directly coupled to a variable climate and high drought risk. A large proportion of the region's town economies and population depends on the grazing industry, and shocks to the grazing economy lead to high socioeconomic impacts. The exposure and sensitivity to these shocks is far greater than in eastern Queensland which is more populous and has a more diversified economic base.

Resilience can be enhanced or undermined through a range of actions, and is generally enhanced when external parties engage with local communities to determine their needs. Socioeconomic responses which build resilience include improved infrastructure, economic diversification, enhanced governance and strengthening human capital. Socioeconomic responses which undermine resilience include a loss of decision making power, excessive population change, and maladapted management systems.

Determining vulnerability based on regional factors of:

- exposure (stress factors, exposed population, and socioeconomics);
- sensitivity (characterised by technology, socioeconomics and regional activities); and
- adaptive capacity (human capital, governance systems and livelihoods)

is recommended as a useful framework to build resilience.

Keywords: drought, resilience, vulnerability, regional policy, central-western Queensland, grazing communities

Introduction

Drought intensifies underlying issues such as low-commodity prices, maladapted enterprises, land degradation and inadequate regional policy and business investment. Australia's rural landscape is dotted with failed communities, towns and farms. These serve as reminders for our contemporaneous approach to policy that regions have different exposures, sensitivities and adaptive capacities to rainfall variability. The Intergovernmental Agreement on National Drought Program Reform encourages farmer preparedness and self-reliance nationally, and further policy refinement could help build resilience against key vulnerabilities.

This paper presents central-western Queensland (CWQ) as a case study to explore the impacts of and responses to drought. It also highlights the benefits of, and need for, public and private planning and policy to address regional differences in vulnerability, and the need for on-going and whole-community approaches to building resilience.

Vulnerability is defined as 'the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity' (Adger 2006). As a framework (e.g. Fig. 1) it can highlight regional issues and group communities and Local Government Areas (LGAs) based on similarities in issues and constraints, providing a planned approach to build resilience.

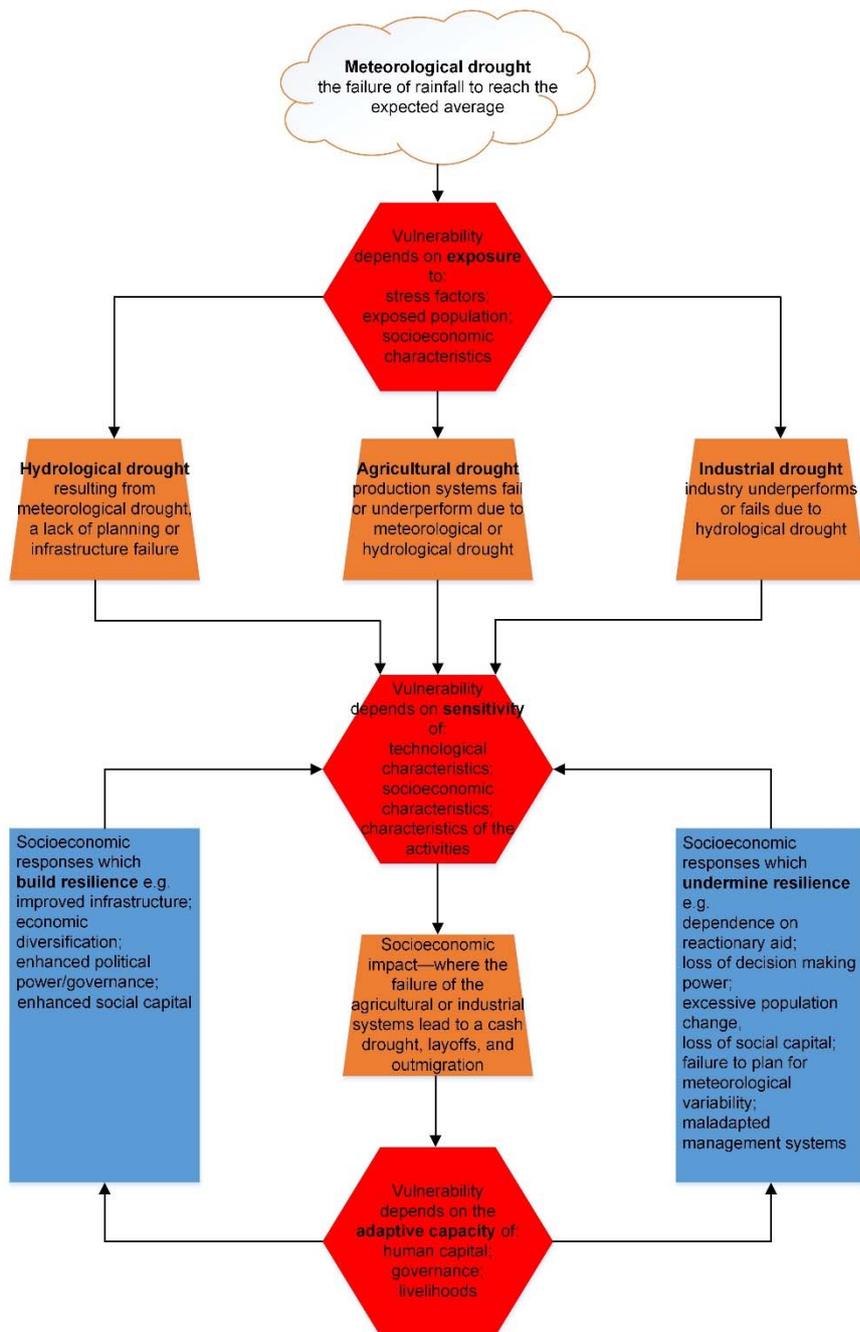


Fig. 1. The socioeconomic impact of drought depends on vulnerability factors and responses at grass-roots and government levels.

The CWQ vulnerability profile

CWQ is a semi-arid region with highly variable summer dominant rainfall. For example, the current drought commenced in the 2012-13 summer and was preceded by three above-average seasons. Prior to those years was the 'Millennium drought' (2001-2009). The majority of graziers report the impacts of the current drought to be more severe than any previous drought, with low commodity prices during the three better years preventing the rebuilding of financial reserves (AgForce 2015).

CWQ has relatively low public and private service availability, a low and transitory population, minimal telecommunications, high freight costs and town economies strongly coupled to the fluctuating financial position of grazing businesses (Kelly *et al.* 2017). A lack of cash in the region's farm sector through the current drought has led to a strong socioeconomic impact, with severe downturn in town economies and population decline. The region faces high sensitivity to the impacts of droughts relative to more seasonally reliable, closely settled, better serviced and economically diverse communities of eastern Queensland (Kelly *et al.* 2017). The adaptive capacity of CWQ is generally poor compared with eastern Queensland (Productivity Commission 2017).

The vulnerability profile of CWQ is in contrast with eastern Queensland and thus policy which suits eastern Queensland is likely to be maladapted to CWQ—and vice versa. Drought and regional development policies would benefit from adopting a vulnerability approach to better meet regional priorities, guide programs implemented by charity and government, and guide policy, investment and grants with the goal of building resilience.

Socioeconomic responses

Adaptive capacity is strongly influenced by the build-up or undermining of the elements of socio-ecological resilience (Adger 2006). Resilience goes beyond stoicism and allows communities to grow, adapt and strengthen in the face of adversity. Whilst the adaptive capacity of CWQ is generally poor, the Longreach district stands out as being above average and this capacity has been evident during the current drought.

Longreach has a history of innovation and self-reliance e.g. as the birthplace of Qantas. Social capacity is high, as demonstrated by CWQ having twice the level of volunteering as eastern Queensland (ABS 2017). This high level of local volunteering is evident in service clubs such as Rotary and Lions, local Churches and the Country Women's Association. The community—perhaps subconsciously, perhaps purposefully—understood that becoming dependent on reactionary aid or allowing external groups to make decisions without local guidance would undermine the region's resilience (see Fig. 1).

Government and non-government organisations responded early in the drought, forming a mental-health network which was influential in securing and directing a range of services under new delivery models. Local volunteer groups strengthened their external networks to bring an estimated \$2,000,000 in philanthropic financial support into the region, directing funds towards resilience building activities through social cohesion and youth leadership, and assisting graziers to employ farm contractors to retain families in the region. The local community established the Western Queensland Drought Committee (WQDC) to better coordinate local charity, service club and church responses and help guide external relief. Previously, goods and services were being brought in and thus undermining resilience by displacing local supply. The WQDC launched its charitable drought appeal in 2015 with a Paul Kelly drought-relief concert and having the *Today Show* broadcast from Longreach. Strong media coverage and advocacy from these local groups has led to support for local initiatives by both the Queensland and Australian Governments.

Local governance is generally strong in the region, for example Winton's recent creation of the Vison Splendid Outback Film Festival and the seven CWQ LGAs forming the Remote Area Planning and Development Board (RAPAD) to promote economic growth. RAPAD secured over \$7,000,000 in public grants to assist building wild-dog proof fencing to re-establish a sheep and wool industry. This is already returning strong financial dividends and is expected to grow local town populations through the return of shearers and other contractors (RAPAD 2017). The Longreach Regional Council has commenced drought resilience planning for the future, which may provide a model approach for multi-level governance arrangements and public-private investment.

CWQ drought relief thus provides examples of responses that build resilience, such as:

- public and private co-investment in farm infrastructure for improved productivity;
- mental health service provision; and
- youth and community group leadership programs.

Other responses may have dichotomous outcomes. For example, Farm Management Deposits and five-year income averaging are excellent financial tools for primary producers to smooth income and taxation within a variable climate, and hence build economic resilience. However, town business people within CWQ often perceive such sectoral approaches as creating an artificial socioeconomic divide between town and farm businesses which undermines community cohesion and increases vulnerability.

Ideally, public and private responses would be directed towards building longer-term community resilience, building capacity for greater self-reliance and moving beyond disaster-relief approaches to drought. To build resilience, current assistance measures should be re-evaluated in the context of regional vulnerability. Changes to drought policy should be done with empathy and continue to provide a safety-net for those most exposed to drought e.g. by retaining the Farm Household Assistance scheme for primary producers facing hardship.

The CWQ experience may already be guiding public investment. For example, the Queensland Government's new Drought and Climate Adaptation Program (DCAP) recognises the interrelationship between agriculture and local communities as it seeks to build grazing business resilience across western Queensland through the *GrazingFutures* extension project and improve the ability of graziers to plan for climate risks through the Queensland Drought Mitigation Centre. The Tackling Regional Adversity through Integrated Care program under Queensland Health is an example of mental health services specifically designed to build resilience in rural communities, based on the lessons learned through this drought. These lessons could be expanded across other government programs.

CWQ is building resilience through a positive local response supported by external partners in both the public and private sectors. The region will further benefit from longer-term investment to reduce exposure and sensitivity factors and allow the region to express its strong adaptive capacity. Investment to diversify the economic base, improve infrastructure to access the global economy and provide greater services to boost liveability and tourism would reduce net out-migration, and allow the region to reach its potential. The identification of an Outback Region within the Queensland Government budget is an initial step towards targeted investment to build resilience, otherwise confounded by less vulnerable east coast centres. The Australian Government's transitioning regional economies approach (Productivity Commission 2017) is another sign of the recognition of the importance of regional differences in issues and adaptive capacity. It is recommended that a regional vulnerability and resilience framework be adopted to complement these initiatives and provide the platform for a regional approach for national drought policy reform.

Conclusions

Grass-roots communities, Local, State and Australian governments are recognising the need to identify issues and solutions at a regional scale. A regional vulnerability and resilience framework is one useful approach to frame a range of policies, including the recognition that the socioeconomic structure of rangeland regions is directly linked to variable rainfall patterns. Under this approach, drought assistance measures and programs to build regional resilience are likely to encompass whole communities, recognising that grazing and town businesses, and the social fabric of communities, are all exposed to the effects of drought. As the Longreach locals say 'we're all in this together'.

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