



Gwydir and Inverell Shire's Regional Drought Resilience Plan

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Executive Summary

Drought is a defining feature of the Australian landscape. Even in wetter regions, very dry years disrupt normal activities and lead to fodder and water shortages. Of most concern is that extreme climate events and droughts are anticipated to become more frequent and severe across the country because of the changing climate.

The Gwydir and Inverell Shires were selected by the NSW Government as regions for pilot projects to understand how to strengthen drought resilience. In turn, the Councils sought support from the University of New England (UNE) to engage with the Gwydir and Inverell Shire communities to co-design beneficial projects to increase resilience to drought.

This project, the Gwydir and Inverell Shires' Regional Drought Resilience Plan (the Plan), was jointly funded through the Australian Government's Future Drought Fund and the NSW Government's Regional Growth Fund. The Plan was developed drawing on local knowledge and the experience of those who live and work in the region.

The purpose of this Plan is to:

- Create stronger connections and greater social capital within communities, contributing to well-being and security.
- Empower communities to implement adaptive and transformative activities that improve their resilience to drought.
- Support farmers to understand their assets and resources, to adopt whole-of-system approaches to improve sustainability and utilise information, data and tools combined with forward planning to prepare for and to make decisions during drought.

The Gwydir and Inverell Shire's Regional Drought Resilience Planning project was undertaken in three phases.

1. Desktop review and preliminary resilience assessment based on the literature
2. Consultation, co-design, and assessment of community ideas
3. Ideas, themes, program logics and recommended projects for Gwydir and Inverell Shires.

The final activity was the preparation of a summary booklet for distribution to the community.

Phase 1 - Desktop review and preliminary resilience assessment

Resilience is defined as the ability of a system to absorb a disturbance and reorganise to maintain the existing functions, structure and feedbacks. This definition contemplates the community we live in as a system. Resilience comes in different forms across economic, environmental, and social resilience pillars.

The response of individuals and groups to environmental and socioeconomic changes caused by drought is described through three key capacities. No adaptation or change in behaviour is known as absorptive capacity. The ability of individuals and groups to adjust and respond to environmental and socioeconomic changes is known as adaptive capacity. Beyond adaptation is transformative capacity. These classifications were used to assess resilience impact in Phase 3 of this project.

Resilience assessment based on desk-top analysis

Gwydir and Inverell communities' level of resilience during drought was considered in terms of economic, social, and environmental effects with economic output, during

drought, impacted predominantly through the agricultural sector. Whilst environmental effects are observed every day during prolonged drought, there were a lack of data to quantify accumulated loss of natural resources in the Gwydir and Inverell Shires.

Regional NSW identified three priority regions consisting of two Local Government Areas (LGAs) each using agricultural employment as a proxy for the vulnerability of local economies to drought, alongside other relevant criteria such as water security and alignment of related initiatives under the Future Ready Regions Strategy. There are 128 LGAs in NSW and this criteria places Inverell and Gwydir in the most vulnerable 5%. Relative to other Australian regions, Gwydir and Inverell were assessed as having low resilience typical of rural and regional areas.

The status of the Shires was also considered in terms of disaster resilience. The Gwydir – Inverell region was classified, using the Australian Disaster Resilience Index, as a Group 3 region. Strengths of Group 3 regions are social character, community capital, and social and community engagement. Barriers to disaster resilience in Group 3 regions are:

- Economic capital
- Planning and the built environment
- Emergency services
- Information access
- Governance and leadership.

Although drought is not considered to be a natural disaster, based on the results generated using the disaster resilience tool, the level of disaster resilience for Inverell East community and Inverell West (which overlays Gwydir Shire) was low.

A community is like a living creature having interdependent elements that represent specialised functions – it is a system in which people can recognise and resolve problems and enhance its well-being. Gwydir-Inverell resilience baseline reflects access to water, education, health services, governance and public services, employment opportunities and transport. When any one of these is altered, it can create ripple effects throughout the broader community and system.

Because of the relatively small population and agricultural dependency, the Gwydir-Inverell region is inherently exposed to challenges and changes, as a result of drought, of a scale that are simply not experienced in urban and metropolitan communities. This heightened sensitivity means that the economy and service provision is affected in circumstances unlikely to have impact in more densely populated regions. Implications for the Gwydir-Inverell region are an increasing need to diversify the economy to reduce shock from drought. This includes the need for more off-farm income earning opportunities - preferably in employment not highly exposed to weather events and agricultural supply chains.

Climate variability

As climate change impacts take greater hold, the region is expected to experience:

- Increased occurrence of heatwaves, hot days and fire risk
- Potential for increases in seasonal extremes, particularly rainfall events and droughts
- An increase in maximum temperatures in the near future (2020-2039) by 0.4°C and in the far future (2060-2079) by 2.2°C to 2.5°C

Strategies to address drought resilience

There is considerable alignment of government strategies to strengthen drought resilience in regional NSW. Governments can best facilitate regional transition and development by ensuring that their policies and regulations do not necessarily impede the forces of progress and change. This particularly applies to planning, promoting mobility, such as in the agricultural workforce, and enabling business owners to develop or adopt new products and services.

Of the three tiers of government, local government has the greatest on-ground understanding of what communities need and has a key influential role in supporting and sustaining them during prolonged drought. In reality, regional and rural councils in NSW have just sufficient resources to carry out business-as-usual activities providing services for the community and must rely on external income for significant strategic projects.

Phase 2 – Consultation, co-design, and assessment of community ideas

The Stakeholder and Community Engagement Plan used a community and stakeholder codesign approach to gather input and ideas. A list of fifty-two (52) ideas were gathered from the consultation phase.

The community consultations focused on the most recent 2017-20 drought and the key lines of inquiry were:

- Drought or lived experience during the last drought
- Communication and support mechanisms during the drought
- Ideas for increasing drought resilience in the future.

A range of groups and organisations participated in the consultation with twelve (12) community events hosted over the two Shires. The ideas were ranked using assessment criteria that qualitatively assessed impact and value (size and level of benefit), complexity to implement and future focus.

The last drought was widely described as ‘very hard’. The slow nature of the developing drought masked the realisation of the impending crisis. This was a crisis by stealth and many farmers, in hindsight, ended up being slow to respond. Every section of the community was affected, directly or indirectly. Throughout the consultation process, communities, business owners, farming enterprises and service providers described the suffering and stress of this major climatic event.

Businesses, whether directly or indirectly related to agriculture suffered. Income reductions up to 75% were reported. Jobs were lost, working hours reduced and people and families left the Shires.

An outside observer, not experiencing the daily effects of the drought, might understand that the drought was devastating, but might take a simplistic view that the impacts could be endured (absorbed) with some basic management processes. However, the regional community was dealing with a complex and confusing range of factors, many of which they had limited control over.

There were many stories of uplifting community actions. Community groups, local governments and individuals rallied together to provide much needed support in the form of informal gatherings, professional advice, support and information for navigating government and not for profit support (income support, low interest loans, fodder and freight subsidies, charitable provisions of fodder donations and care packages).

A common theme throughout the consultation was the importance of seeing the region itself as an interconnected system and that changes in one part, influence other elements of the region. Likewise, businesses in towns are inextricably linked to the rhythms of the

surrounding farms. Community and government networks are the lifeblood within and across the region and are important components if drought resilience projects are to be successful and sustainable.

Another key insight from the consultation meetings was the heavy reliance on financial and physical support (government and not for profit) to endure the drought and an expectation that these programs will be ongoing, perhaps inadvertently negating the need for personal responsibility or preparedness for the future.

There was no single effective method by which communities, organisations, farmers and businesses communicated and connected during the last drought, so a mix of channels is necessary.

Phase 3 - Identifying the drought resilience themes and projects

Five community drought resilient characteristics were identified and they highlight the need to take a systems and program approach to addressing drought resilience planning. They are:

- Networked community
- Collaboration between community system actors
- Communication
- Underpinning policy and regulation
- Prepared businesses and community.

Drought resilience themes that address these characteristics were developed by assessment against three criteria:

- Impact across the economic, environmental and social pillars
- Application to the Drought Preparation, In Drought Management or Recovering from Drought phases
- Whether the outcomes may be Absorptive, Adaptive or Transformational.

Based on these factors the following drought resilience themes were identified:

- Prepared businesses (Farming as well as non-farming)
- Community leadership/ Networked community
- Community wellbeing support/ Collaborative community
- Council Drought Support Coordination
- Prepared infrastructure – Water.

A sixth theme related to government policy advocacy was identified and included in the suggested technical studies.

Program Logic for each theme

A program logic was developed for each theme:

- Program Logic 1 - Prepared businesses and community (Theme 1 - Prepared businesses and Theme 5 - Prepared infrastructure – Water)
- Program Logic 2 - Networked community (Theme 2 - Community leadership/ Networked community)

- Program Logic 3 - Collaborative community (Theme 3 - Community wellbeing support/ Collaborative community)
- Program Logic 4 – Communication (Theme 4 - Council Drought Support Coordination).

Projects recommended for Gwydir and Inverell Shires

Five recommended projects were identified from this process. For each project a summary of outputs, timelines, assumptions, and possible pathways to adoption are provided. They are:

- Develop and deliver climate resilient whole farm plans using a range of pathways to connect with farmers in the region and a capacity building program for non-farm businesses
- Establish a Community Leaders Network
- Enable community connectivity through hosting regular events that include informal interaction with professional services
- Drought preparedness coordinators for Gwydir and Inverell Shires
- Additional water standpipes for Gwydir and Inverell to enable continued maintenance during drought and community access to domestic water supplies.

Further technical studies

A number of technical studies have been suggested to support the recommended projects as well as systemic improvement to deliver lasting impact.

Introduction

Drought is a defining feature of the Australian landscape. Even in wetter regions, very dry years disrupt normal activities and lead to fodder and water shortages (BOM, 2004). Of most concern is that extreme climate events and droughts are anticipated to become more frequent and severe across the country because of the changing climate.

The Gwydir and Inverell Shires were selected by the NSW Government as regions for pilot projects to understand how to strengthen drought resilience. In turn, the Councils sought support from the University of New England (UNE) to engage with the Gwydir and Inverell Shire communities to co-design beneficial projects to increase resilience to drought.

This project, the Gwydir and Inverell Shires' Regional Drought Resilience Plan (the Plan), is jointly funded through the Australian Government's Future Drought Fund and the NSW Government's Regional Growth Fund. The Plan is designed to support people in the region to plan for and implement activities that increase resilience to the impacts of drought over time. It has been developed drawing on local knowledge and the experience of those who live and work in the region.

The purpose of this Plan is to:

- Create stronger connections and greater social capital within communities, contributing to well-being and security.
- Empower communities to implement adaptive and transformative activities that improve their resilience to drought.
- Support farmers to understand their assets and resources, to adopt whole-of-system approaches to improve sustainability and utilise information, data and tools combined with forward planning to prepare for and to make decisions during drought.

A key output of developing the Plan is a list of recommended projects fitting within prescribed budgetary constraints that, when implemented, will help strengthen drought resilience in the Gwydir and Inverell Shires.

Numerous other reports and studies associated with drought and drought resilience have been reviewed in preparation of this plan. These include:

- Gwydir Shire Council community Strategic Plan 2017–2027
- Draft Inverell Shire Local Strategic Planning Statement 2036
- Goondiwindi Regional Council Drought Resilience Plan
- Report prepared for the Queensland Government in 2020 - Central West Regional Resilience Strategy
- NSW Government: Upper North West Regional Economic Development Strategy 2018–2022
- NSW Government's Future Ready Regions Strategy
- NSW Government February 2021: A 20-Year Economic Vision for Regional NSW
- Australian Government Drought Response, Resilience and Preparedness Plan
- Australian Government National Climate Resilience and Adaptation Strategy 2021 – 2025
- Report prepared for the National Farmers Federation 2020 Future-Proofing Farming Collaborating to Manage Risk and Build Resilience

- Report for Regional Australia Institute - Building Resilience in Rural Communities: Toolkit.

The full desktop review is provided as Attachment A to this report. An executive summary of the review is provided in this main report.

Glossary of terms

The following terms are used or are relevant in this report.

Absorptive capacity	The ability of individuals and groups to continue without adapting or changing their behaviour in response to environmental and socio-economic changes (Béné et al., 2012 https://www.researchgate.net/figure/The-3D-Resilience-Framework-Source-Bene-et-al-2012_fig4_341161308)
Adaptation	Adjustment or modification in natural and/or human systems in response to actual or expected shocks and stresses to moderate harm, reduce vulnerability and/or exploit beneficial opportunities (CSIRO, 2022 https://www.sciencedirect.com/science/article/pii/S2212096321001236?via%3DiHub)
Adaptive capacity	The ability of individuals and groups to adjust and respond to environmental and socioeconomic changes (CSIRO, 2022 https://www.sciencedirect.com/science/article/pii/S2212096321001236?via%3DiHub)
Co-design	The process of partnership to develop and formulate project delivery and agreed objectives and needs, using participatory methods. A process of working together utilising generative and explorative processes.
Drought	Drought in general means acute water shortage. Drought is a prolonged, abnormally dry period when the amount of available water is insufficient to meet our normal use (BoM, 2022 http://www.bom.gov.au/climate/drought/knowledgecentre/understanding.shtml)
Economic resilience	The ability of the economy to absorb the economic impact of shocks and stressors without changing the economic status or outcomes (CSIRO, 2022 https://www.sciencedirect.com/science/article/pii/S2212096321001236?via%3DiHub)
Environmental resilience	The ability of the natural environment to cope with a diverse range of shocks and stressors while maintaining natural processes and ecosystem services (CSIRO, 2022 https://www.sciencedirect.com/science/article/pii/S2212096321001236?via%3DiHub)
Governance	Governance is the structures and processes by which individuals, groups and agencies in a society share power and make decisions. It can be formally institutionalised, or informal (CSIRO, 2022 https://www.sciencedirect.com/science/article/pii/S2212096321001236?via%3DiHub).
Local knowledge	Local knowledge and First Nations knowledge incorporate elements of lived experience within a landscape, bearing witness to the operation of systems. It includes aspects of people, landscape, culture – how people interact with surroundings and as part of communities and processes.

Project Control Group	The Project Control Group (PCG) is the group of representatives from the Inverell and Gwydir Shire Councils and NSW Government that governed the development of this Plan.
Resilience	The ability of a system to absorb a disturbance and reorganise so as to maintain the existing functions, structure and feedbacks (Walker et al., 2004 https://www.ecologyandsociety.org/vol9/iss2/art5/).
Risk	The potential for adverse consequences for human or ecological systems, recognising the diversity of values and objectives associated with such systems (IPCC, 2020 https://www.ipcc.ch/site/assets/uploads/2021/02/Risk-guidanceFINAL-5October2020.pdf).
Shock	Sudden, short-term events that threaten a city (or region). Examples include major storms, floods, bush fires, heatwaves, disease outbreaks, terrorism and cyberattacks' (Resilient Sydney, 2018 https://www.cityofsydney.nsw.gov.au/resilient-city).
Social resilience	The ability of the human society to cope with a diverse range of shocks and stressors while maintaining existing social and community functions (CSIRO, 2022 https://www.sciencedirect.com/science/article/pii/S2212096321001236?via%3Dihub).
Stressor	An event that occurs gradually over a timeframe that causes an adverse effect, e.g., drought (CSIRO, 2022 https://www.sciencedirect.com/science/article/pii/S2212096321001236?via%3Dihub).
Systems	The interaction of processes, networks and inter-dependencies across a complex 'whole'.
Trends	Major global or regional influences that have driven change in the past and are expected to shape change into the future (Taylor et al., 2017).
Transform	The process of radically changing or building a new system with different structure, functions, feedbacks and identity (Folke et al., 2010 https://www.researchgate.net/publication/258374985_Resilience_Thinking_Integrating_Resilience_Adaptability_and_Transformability).

Methodology

The Gwydir and Inverell Shire's Regional Drought Resilience Planning project was undertaken in three phases.

1. Desktop review and preliminary resilience assessment based on the literature (Attachment A)
2. Consultation, co-design, and assessment of community ideas (Attachment B)
3. Ideas, themes, program logics and recommended projects for Gwydir and Inverell Shires.

Phase 1: Desktop review and preliminary resilience assessment (based on the literature)

Phase 1 includes:

- Key features and indicators of resilience for the Shires
- A summary of relevant strategic visions and plans
- Assessment of the impact of the recent drought (2017–2020) on the local community and economy.

The desktop review was used to inform and design consultation and co-design with the local community, including an assessment of constraints and opportunities for local government as drought resilience actors.

Phase 2: Consultation, co-design, and assessment of community ideas

Phase 2 includes:

- The Stakeholder and Community Engagement Plan
- Preparation and facilitation of twelve (12) resilience consultation workshops with the community
- Workshops with Councils
- One on one interviews
- Fifty-five (55) community members consulted
- Ranking of community ideas.

Phase 3: Ideas, themes and recommended drought resilience projects for Gwydir and Inverell Shires

In Phase 3 community ideas were assessed and the ten (10) ideas with the highest impact ranking were grouped into project themes with an associated program logic. The final step was the description of five (5) potential projects that fit within the themes and of a scale and budget suitable for Regional Drought Resilience Plans as per the project guidelines.

The final activity was the preparation of a summary booklet for distribution to the community.

Phase 1 – Desktop review and preliminary resilience assessment

Introduction

This section summarises the desktop review and preliminary resilience assessment (based on the literature). The full review is provided in Attachment A.

Background

Drought can, and has, reaped devastation in Australia both historically and recently. Future droughts are inevitable. Preparing for drought considers not only the productivity of land and resources but also, importantly, personal and family emotional wellbeing.

Resilience is defined as the ability of a system to absorb a disturbance and reorganise to maintain the existing functions, structure and feedbacks¹. This definition contemplates the community we live in as a system.

¹ <https://www.ecologyandsociety.org/vol9/iss2/art5/>

Major contributing factors to deliver higher levels of resilience in rural communities include:

- Robust social networks and support
- Learning experiences
- Positive environment and lifestyle factors ● Existing infrastructure and support services, ● A sense of purpose, and strong leadership².

Resilience comes in different forms across economic, environmental, and social resilience pillars. They are defined as:

- Economic resilience - the ability of the economy to absorb the economic impact of shocks and stressors without changing the economic status or outcomes
- Environmental resilience - the ability of the natural environment to cope with a diverse range of shocks and stressors while maintaining natural processes and ecosystem services
- Social resilience - the ability of the human society to cope with a diverse range of shocks and stressors while maintaining existing social and community functions³.

Adaptive capacity relates to a complex set of factors influencing the capacity of regions to be resilient. These factors include the skills and education of regional workforces, access to infrastructure and services, availability of natural resources, financial resources available to businesses and individuals, and industry diversity.

Three concepts relating to the way drought impact is expressed are the ability of individuals and groups to continue without adapting or changing their behaviour in response to environmental and socioeconomic changes – known as absorptive capacity⁴ and the ability of individuals and groups to adjust and respond to environmental and socioeconomic changes – adaptive capacity⁵. This spectrum is depicted in Figure 1:

² <https://positivepsychology.com/3-resilience-scales/>

³ Maru et al. (2022) Regional Drought Resilience Plans Assessment Guidelines. CSIRO, Australia.

⁴ <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.2040-0209.2012.00405.x>

⁵ Maru et al. (2022) Regional Drought Resilience Plans Assessment Guidelines. CSIRO, Australia

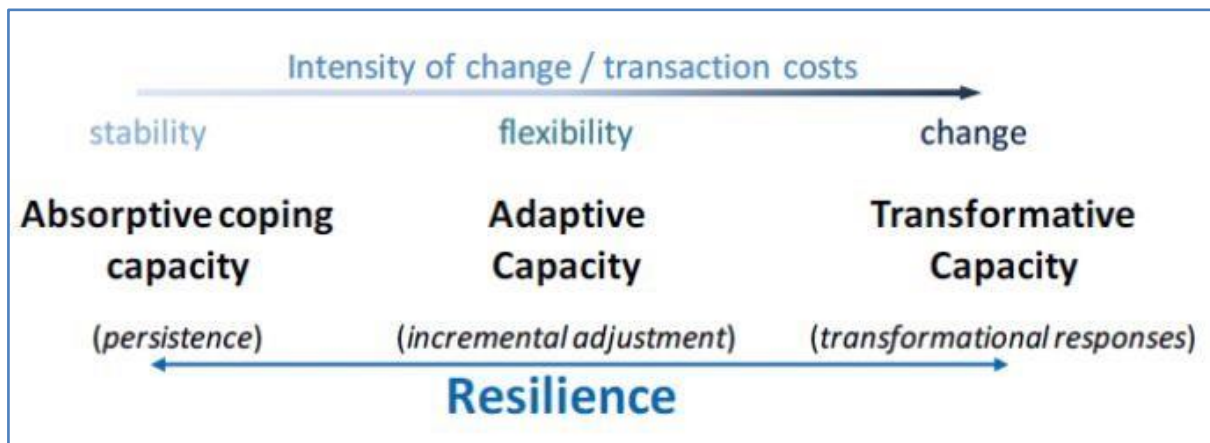


Figure 1. *The resilience 3D framework*

Source: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.2040-0209.2012.00405.x> Accessed June 2022.

In addition to absorptive and adaptive capacity, there is transformative capacity. Each capacity leads to different outcomes: persistence, incremental adjustment, or transformational responses. These classifications were used to assess resilience impact in Phase 3 of this project.

Resilience assessment based on desk-top analysis

Gwydir and Inverell communities' level of resilience during drought was considered in terms of economic, social and environmental effects. Economic output for Gwydir and Inverell, during drought, is impacted predominantly through the agricultural sector, by changes in cash flow, levels of debt, financial losses due to selling stock in poor condition and inability to invest to re-stock once the drought eased. A downturn in agriculture reduces money able to be spent, rippling through the community and businesses. There is also the impact of deferring projects that then limit the ability to grow or recover rapidly post-drought, for example when farm improvements have been delayed. This is not immediately evident in Gross Regional Product (GRP) of the region (Table A1 and Figure A16 in Attachment A), however it may be that GRP was trending upward from 2015 but drought then dampened that growth to give flat GRP.

Whilst environmental effects are observed every day during prolonged drought, there is a lack of data to quantify accumulated loss of natural resources in the Gwydir and Inverell Shires. Without this benchmark in place, it is difficult to communicate objective information to others about the impacts of drought on the foundational resources of the Shires.

Typical information used to assess how vulnerable a community is to drought includes understanding the region's geography, its current and historic socioeconomic status, economy and climate. Information about these aspects is in the section '*About Our Region*' (Page 16 of Attachment A). Having established this understanding, vulnerability factors of exposure, sensitivity and adaptive capacity are considered to arrive at an indicative level of resilience for a community.

Regional NSW has identified three priority regions consisting of two Local Government Areas (LGAs) each using agricultural employment as a proxy for the vulnerability of local economies to drought, alongside other relevant criteria such as water security and alignment of related initiatives under the *Future Ready Regions Strategy*. There are 128 LGAs in NSW and this criteria places Inverell and Gwydir in the most vulnerable 5%.

Data and interpretation useful for assessing the resilience status for the Gwydir and Inverell Shires is contained in Attachment A. In summary, the two Shires have some base level of resilience, as indicated through ability to continue to pay property rates on time. Relative to other Australian regions, Gwydir and Inverell are however assessed as having low resilience typical of rural and regional areas. Social indicators during the drought years do point to a rise in inequality in Gwydir Shire.

The status of the Shires has also been considered in terms of disaster resilience. The Gwydir – Inverell region is classified, in the Australian Disaster Resilience Index⁶, as a Group 3 region. Strengths of Group 3 regions are social character, community capital, and social and community engagement. Barriers to disaster resilience in Group 3 regions are:

- Economic capital
- Planning and the built environment
- Emergency services
- Information access
- Governance and leadership.

Although drought is not considered to be a natural disaster⁷, because it is not considered to be a short and sharp shock, factors for disaster resilience and drought resilience overlap. Based on the results generated using the disaster resilience tool, the level of disaster resilience for Inverell East community is classified as low (score of 0.3664). Inverell West, which overlays Gwydir Shire, has a slightly higher resilience score of 0.3817, but is still classified as having low disaster resilience. In contrast, Armidale North region (slightly to the east of Inverell and Gwydir shires and more heavily populated) has a higher resilience score of 0.4508.

Gwydir and Inverell Shires deliver significant economic output from agriculture, particularly dryland farming. The Northern Inland economy has higher employment generated by agriculture compared to the average employment in that sector in NSW. Northern Inland is weaker in areas like finance, accounting, and IT - sectors that support businesses.

What is known about increasing resilience to drought?

As described in the section '*How does resilience connect with drought and our community?*' (Page 3 Attachment A), resilience emerges as the result of three capacities: absorptive, adaptive and transformative, each of them leading to different outcomes: persistence, incremental adjustment, or transformational responses.

Typically, when there is a shock that results in a crisis, the initial response is resistance, to cope with the stress. Once absorptive (coping) capacity is exceeded, then individuals must rely on their adaptive resilience, which refers to incremental changes that people make to keep functioning without major changes. These incremental adjustments can take many forms (for example in adopting new farming techniques, change in farming practices, and engaging in new social networks).

Eventually, if the change required is so large that it overwhelms the adaptive capacity of the household, community or (eco)system, transformation will have to occur. In this case, changes are not incremental but are transformative, resulting in alterations in the individual or community's primary structure and function. These transformational changes

⁶ <https://www.adri.bnhcrc.com.au/#!/resilienceFactors>

⁷ <https://recovery.gov.au/sites/default/files/national-strategy-disaster-resilience.pdf>

often involve shifts in the nature of the system, the introduction of new state variables and possibly the loss of others, such as when a household adopts a new direction in earning a living or when a region moves from an agrarian to a resource extraction economy. It can be a deliberate process, initiated by the people involved, or it can be forced on them by changing environmental or socioeconomic conditions.

The main challenges associated with transformation are not all technical in nature. These shifts may include a combination of technological innovations, institutional reforms, behavioural shifts and cultural changes; they often involve the questioning of values, the challenging of assumptions, and the capacity to closely examine fixed beliefs, identities and stereotypes. In other words, they challenge the status quo⁸.

System considerations

A community is like a living creature having interdependent elements that represent specialised functions, activities, or interests, each operating within specific boundaries to meet community needs – it is a system in which people can recognise and resolve problems and enhance its well-being. Gwydir-Inverell's resilience baseline reflects access to water, education, health services, governance and public services; employment opportunities and transport^{9,10}. When any one of these is altered, it can create ripple effects throughout the broader community and system. A significant factor for the region is the disparate nature of its community – an estimated 22,193 people live in an area of 18,059 square kilometres¹⁰ (there is just one town centre – Inverell - with a population of greater than 10,000). The 'system' for Gwydir-Inverell reflects the interaction of these components in the unique setting of the region and is depicted in Figure 2.

⁸ <https://journals.sagepub.com/doi/10.1177/0309132511425767>

⁹ https://www.qra.qld.gov.au/sites/default/files/2020-03/0516_Central%20West%20Regional%20Resilience%20Strategy_January2020_LR.pdf

¹⁰ estimate based on 2016 ABS census data

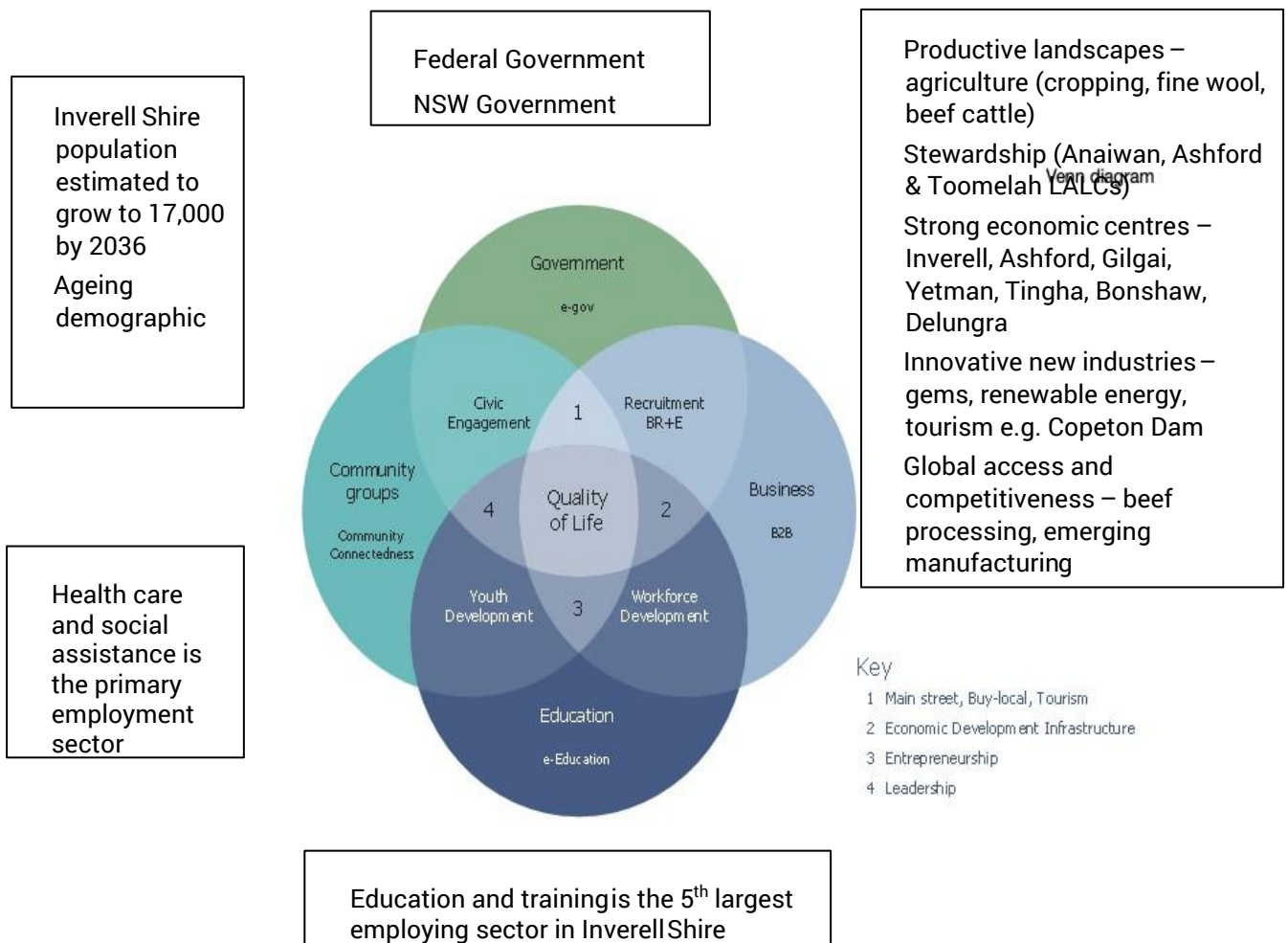


Figure 2. Elements of community that are integral in the community resilience system

<https://conceptdraw.com/a374c4/preview> and <http://srcd.msstate.edu> Accessed June 2022.

Because of the relatively small population, the Gwydir-Inverell region is inherently exposed to challenges and changes of a scale that are simply not experienced in urban and metropolitan communities. This heightened sensitivity means that the economy and potentially service provision is affected in circumstances unlikely to have impact in more densely populated regions¹¹. Implications for the Gwydir-Inverell region are an increasing need to diversify the economy to reduce shock from drought. This includes the need for more off-farm income earning opportunities¹² - preferably in employment not highly exposed to weather events and agricultural supply chains.

Trends typically associated with regional and rural Australia are provided in Attachment A. A few of the most impactful trends for Gwydir and Inverell are:

- Small town decline/ within region population aggregation to major centres

¹¹ https://www.qra.qld.gov.au/sites/default/files/2020-03/0516_Central%20West%20Regional%20Resilience%20Strategy_January2020_LR.pdf

¹² <https://www.pottinger.com/agriculture.html>

¹³ <https://www.pottinger.com/agriculture.html>

- Increasing volatility in the agricultural sector on a baseline that is already the most volatile of any major exporting nation¹³
- Increased competition for limited water

-
- Increasing cost of energy, particularly fuel
 - Growing inequality (Table A1 Appendix A)
 - Ageing population – population is stable, but ageing is growing¹³ (median age in 2021 was 50 years for Gwydir, up from 48 in 2016; median age in 2021 was 43 years for Inverell, up from 41 in 2016 – all NSW in 2021 median age was 43 years)¹⁴
 - Digital divide is increasing although the number of internet connections is growing (50% in 2015, 60.5% in 2020) – country people generally use the Internet less even when they do have reliable Internet access.

A key factor for the regions are the forces or influencing factors that drive work to be centralising and are driven by:

- Improvements in transport
- Improvements in telecommunications
- Technology innovation (for example computerised banking) ● Rationalisation of services as efficiencies are found.

While improvements in technology, transport and telecommunications are necessary to survive in the global competitive environment, smaller centres are less able to capture the benefits of these advances. They struggle to remain viable as services and employment opportunities are rationalised into regional centres, resulting in a pull of people out of rural areas and challenging the ability of a rural community to retain and attract residents and future investment. As services are withdrawn, the quality of life, measured in terms of access to essential and higher value goods and services, declines¹⁵.

Some potential implications from these trends for the Gwydir-Inverell Councils are, given there are strong forces at work causing population to aggregate to regional centres, to view opportunities of moving with this trend and to strengthen existing business within Inverell as well as design outreach services from key regional centres.

Climate variability

As climate change impacts take greater hold, the Inverell region is expected to experience¹⁶:

- Increased occurrence of heatwaves, hot days and fire risk
- Potential for increases in seasonal extremes, particularly rainfall events and droughts

¹³ <https://dbr.abs.gov.au/region.html?lyr=lga&rgn=14220>

¹⁴ <https://abs.gov.au/census/find-census-data/quickstats/2016/SSC11981>

¹⁵ <http://www.regional.org.au/au/countrytowns/global/collits.htm>

¹⁶ <https://www.planning.nsw.gov.au/-/media/Files/DPE/Plans-and-policies/new-england-north-west-finalregional-plan-2017-09.pdf>

- Increased autumn rainfall and decreased winter rainfall in both the near and far future, with rainfall patterns to vary across the region
- Increased short and intense rainfall events, resulting in increased localised flooding from smaller urban streams and urban drainage systems
- An increase in maximum temperatures in the near future (2020-2039) by 0.4°C and in the far future (2060-2079) by 2.2°C to 2.5°C
- An increase in minimum temperatures in the near future by 0.7°C and in the far future by 2.3°C.

Strategies to address drought resilience

There is considerable alignment of strategies to strengthen drought resilience in regional NSW, typified in the NSW government's report Future Ready Regions Strategy, which includes the following strategies:

- Clear and consistent policy responses must be developed, agreed to and communicated to industry early to provide certainty at each stage of drought
- Where government assistance is provided, there must be accessible and streamlined processes and guidelines
- Access to expertise, data and tools support early decisions and improved resilience
- Investment in R&D across the agricultural sector is critical to managing, preparing for and recovering from drought
- Farm business resilience is enhanced through improved business literacy, social structures and wellbeing support
- When food and water resources are under pressure, it is even more critical to make timely decisions to prevent animal welfare issues
- Regular evaluation of policies and programs should be undertaken
- Investment in on-farm infrastructure supports resilience and preparedness.

What role can local government have in strengthening resilience?

Governments can best facilitate regional transition and development by ensuring that their policies and regulations do not impede the forces of progress and change. This particularly applies to planning, promoting mobility, such as in the agricultural workforce, and enabling business owners to develop or adopt new products and services.

Of the three tiers of government, local government has the greatest on-ground understanding of what communities need and has a key influential role in supporting and sustaining them during prolonged drought. Local government also has an important role as a significant employer and partnering with state governments and the Australian Government to secure town water, provide local leadership, build social capital, maintain employment to support the local economy and advocate for the needs of the community. Local government works in context with global market forces, which are particularly apparent in regional and rural areas of Australia.

In reality, regional and rural councils in NSW have just sufficient resources to carry out business-as-usual activities providing services for the community and must rely on

external income for significant strategic projects¹⁷. This means that the councils may not have the freedom to direct funds as they see necessary and councils with smaller populations may also be excluded from some state support programs.

Globally there is an increasing demand from the public and private sectors to reduce risk associated with disasters and climate change. Funding for disaster risk reduction, climate adaptation, and building resilience cannot be met by governments alone. Increasingly there will be expectations for private sector investment into infrastructure and other major projects that deliver both a financial return to investors and create community and economic resilience¹⁸.

Phase 2 – Consultation, co-design and assessment of community ideas

The Stakeholder and Community Engagement Plan (Attachment B) describes the structure, approach and processes for engaging with community and gathering input and ideas. The list of fifty-two (52) ideas gathered are detailed and ranked in Attachment B using the impact assessment criteria. The most highly ranked ten (10) community ideas are provided in Table 1.

1.

Table 1. Top 10 ideas following qualitative assessment

1	Develop and deliver business planning and financial strategy linked to education and adopting improved farm practices (farm decision points that align to financial plan/budget) (may involve rural financial counselors).
2	Collaborate/partner with Bindaree Beef to develop and conduct engagement and training to their farmer supplier network (4,000 farms) to deliver 'a drought plan on every dinner table'.
3	Coordinate the establishment of a network of 'local leaders' to enable them to initiate drought projects and activities, minimise red tape and bureaucracy, as a cohort that shares and problem solves. This would include a coordination role (part time).
4	Stockpile fodder in good times and build more sheds.
5	Establish a coordination function in each Council for access to all relevant grants, information, advice for all phases of drought.

¹⁷ <https://www.yourcouncil.nsw.gov.au/wp-admin/admin-ajax.php>

¹⁸ O'Connell et al. (2021) Towards visions, options and pathways for an adaptive future in Bega Valley: Building national capability for Enabling Resilience Investment. Report prepared by CSIRO, Value Advisory Partners and University of Adelaide. CSIRO, Australia

6	Establish regular events and hubs to develop community connections combined with access to professional services and education (build this momentum and culture prior to the next drought).
7	Establish/appoint more Rural Financial Counselors to be available in good times so farmers can build a relationship with them and prepare for drought.
8	Engage local radio to strengthen this as a key information channel.
9	Develop a water mapping resource to improve predictability and success of drilling (bores) for water.
10	Include farm practices in science curriculum for senior (secondary) students.

Learnings from community engagement

The community consultations focused on the most recent 2017–20 drought (noting that participants' perception of the duration of this drought differs across the region). The key lines of inquiry were:

- Drought or lived experience during the last drought
- Communication and support mechanisms during the drought
- Ideas for increasing drought resilience in the future.

The following groups and organisations participated in the consultations:

- Vision 2020
- Landcare – Northern Slopes, GLENRAC Inc and Gwymac Inc
- Country Women's Association (CWA)
- Primary Schools & Secondary schools
- NSW Farmers Association
- Farmers and agribusinesses
- Accountants
- Community leaders & members
- Gwydir and Inverell Shires
- First Nations representatives and Tingha Aboriginal Land Council
- Health and wellbeing service providers – state and federal – NSW Health, Healthwise, Rural Adversity Mental Health Program, National Recovery and Disaster Agency

- Business Chambers and small and medium businesses (manufacturing, rural supplies, retailers)
- Rural Aid
- St Vincent de Paul
- NSW Irrigators Council.

Of the twelve (12) community events hosted over the two Shires, three (3) events were well attended, and the planned workshop process could be implemented. Other locations were poorly attended and the team pursued a less formal approach of one on one discussions with targeted individuals (phone and face to face) and ad hoc conversations in each town and village. In total, approximately fifty-five (55) individuals were consulted. A specific workshop was also conducted with Gwydir Shire staff and senior Inverell Shire managers were interviewed.

Feedback from community suggested several reasons for the low attendance at consultation sessions;

- Letterbox drop material was not received in all villages
- Farmers were busy with planting after a recent wet period
- People with multiple jobs were time poor
- Reluctance to attend what might be perceived as being ‘formal consultation’ and the expectations this might raise
- A general perception by the community that there have been too many consultation events (low or poor attendance is common and not specific to this consultation activity).

The communities’ felt experience of drought

The last drought (2017–2020) was widely described as ‘very hard’. The slow nature of the developing drought masked the realisation of the impending crisis. This was a crisis by stealth and many farmers, in hindsight, ended up being slow to respond. Every section of the community was affected, directly or indirectly, whether it was from an economic, social or environmental perspective. Throughout the consultation process, community, non-farm business owners, farming enterprises and service providers described the suffering and stress of this major climatic event.

Participants described the great Australian trait of stoicism which made it hard to:

- Connect people, especially male farmers
- Bring people and communities together to share experiences and information
- Encourage people to take respite
- Learn about services, grants and support available.

Community groups, local governments and individuals did however, rally together and provided much needed support in the form of informal gatherings, professional advice, support and information for navigating government and not for profit support (income support, low interest loans, fodder and freight subsidies, charitable provisions of fodder donations and care packages).

Farmers described various levels of farm management plans and practices to manage the drought cycle. Some farmers, recognising what they have just been through, are now

seeking education and training to improve their business and farming practices. The duration, severity and uncertainty created by the drought, resulted in a high stress environment for individuals and families. Some community members described experiencing high levels of stress, as differentiated from suffering from a longer-term mental illness. The need to differentiate between stress and suffering from a mental illness was recognised as an important distinction, and a barrier to seeking help. There were very sad and confronting stories of families and people who have lost their sense of hope for the future.

Businesses, whether directly or indirectly related to agriculture suffered. Income reductions up to 75% were reported. Jobs were lost, working hours reduced and people and families left the Shires. The economic viability of non-farm businesses was sorely tested. Some adapted (changed product/service offerings), some closed and some simply 'hung on' with significant impacts on financial viability. There was a perception of inequity in government support for rural and regional non-farm businesses compared to the offering for farmers.

The community fabric was stretched but amongst the stress, pain and uncertainty there were many stories of uplifting community actions such as:

- Waiving of school fees
- Making sure children had a 'feed in their belly'
- Community events (i.e. barbecue, concerts and some fun)
- Reduction or straight out waiving of service fees
- Council initiating projects which provided employment and off farm income
- Council staff providing services and advice to people who struggled with 'government forms'
- Community leaders who understood the importance of local networks and pursued every avenue to get the most vulnerable involved.

An outside observer, not experiencing the daily effects of the drought, might understand that the drought was devastating, but might take a simplistic view that the impacts could be endured with some basic management processes. However, the regional community was dealing with a complex and confusing range of factors, many of which they had limited control over.

These factors included:

- Uncertainty about when the drought would break
- Historical drought models that did not match the drought being endured. This meant all business, farm, family, and community decisions were highly stressful and deeply uncertain
- Families were running out of income and some couldn't pay for basics such as school fees or student excursion costs
- The ability of community and professional support services to connect with those most vulnerable was limited by an unwillingness of these individuals to seek help
- School aged children were doing the work of adults plus attending school. This was physically and emotionally complex and demanding

- Navigating grant applications was time consuming, complex and at times personally embarrassing
- Families and workers facing complete uncertainty were leaving the region. This was impacting schools, communities, and the economy
- Farmers, deeply connected to their animals, were facing decisions around large feeding costs, sale, or euthanasia of stock. These actions and decisions were stressful and emotionally charged.

Many residents have not yet recovered from the last drought and simple conversations at the consultations triggered emotional responses. Many recognised the reality of climate variability, which demands a change in mindset and business practice.

A common theme was the need to see the region itself as an interconnected system and that changes in one part, influence other elements of the region. Likewise, businesses in towns are inextricably linked to the rhythms of the surrounding farms. Community and government networks are the lifeblood within and across the region and are important components if drought resilience projects are to be successful and sustainable.

Another key insight from the consultation meetings was the heavy reliance on financial and physical support (government and not for profit) to endure the drought and an expectation that these programs will be ongoing, perhaps inadvertently negating the need for personal responsibility or preparedness for the future. It was also noted that:

- Attempts to improve water security during drought were either unsuccessful or very costly
- Financial planning was predominantly reactive
- Support services were welcome, but access was limited due to availability and knowledge of how to access, and impeded where service providers had not already built trust in their communities
- Farming by its nature is solitary and during times of high stress (drought), males particularly did not recognise or were unwilling to recognise this stress and take proactive action. A mindset that someone else is doing it harder than me was common. This made it more difficult for support services to connect with farmers
- The high workload of providing feed and water during drought kept farmers time poor, further hampering their access to social support
- Training and education are regarded as a critical success pathway to improve drought resilience
- Any facility (pub, cafe, greenspace) that acted as a community hub was critical in connecting people and sharing knowledge and providing well-being support
- Visionary leadership came from people within communities and was critical in developing novel solutions that reflected local needs and priorities
- Local councils and many charity and service agencies provided essential support but were hampered by limited resources and relevant skills. Overcoming mindsets and willingness for people to seek and accept help was also difficult
- Accessible and timely education and training is important

- Regular and active use of ‘community hubs’ prior to the next drought will help develop strong relationships that will reduce the risk of high stress events, provide timely support and improved sharing of key decision information
- The coordination of various resilience systems and activities could be improved.

Communication during drought

The following summarises the ways that communities, organisations, farmers and businesses communicated and connected during the last drought:

- Informal channels such as trusted friends, family and neighbours were an important source of information on topics such as grant availability, future events, access to support and general information. Informal channels included phone calls, community events and meeting in the street, local club or pub
- Newspapers (only available monthly) were less preferred due to the time lag in publication schedules
- Social media (particularly Facebook) was generally effective but had gaps due to connectivity and some demographic groups not having digital literacy
- The Councils were proactive about distributing information but often under resourced
- There was no single effective communication method, so a mix of channels is necessary
- Communities need support to strengthen internal connections among neighbours and community members and external connections with service providers.

Community validation

It was agreed with the Project Control Group that a second round of consultation to elicit feedback on the recommended projects would be valuable. It was agreed that it was not necessary to replicate the initial program and that some targeted interviews would be sufficient to gather any final feedback. Invitations to a range of people from the region who represented a range of backgrounds were extended. They covered:

- Shire - Councillor
- Primary Industry – Farming and related industries
- Landcare ○ Financial services.

The recommended projects and the process to arrive at those projects was described and the participants were asked to provide any feedback. The feedback was positive and can be summarised as follows:

- The initial consultation was very effective and covered a suitable diversity of community members
- All aspects of drought resilience were effectively covered during the consultation ○ There is support for the recommended projects
- The CEO and the Livestock Manager from Bindaree Beef have provided support for exploring a partnership arrangement for the design and delivery of Project 1 (see next section) and have agreed to further meetings to progress the thinking
- Changing mindsets is a major hurdle to overcome, particularly with regard to adopting farm business plans and drought action plans
- The recommended projects and the drought themes generated could equally be applied to other climate variability impacts such as flood and bushfire.

The second round of consultation was valuable to validate the proposed projects.

Conclusion

The conversations across the villages and towns of the region, elicited consistent feedback in terms of lived experience of drought and consistent ideas for future drought resilience. These ideas and concepts provided a rich foundation for the development of the recommended projects for Gwydir and Inverell Shires.

Phase 3 – Identifying drought resilience themes and projects

This section describes the final stage of the drought resilience assessment to identify the recommended projects to the Shires.

The top 10 ranked ideas (Table 1) from the community consultation and impact assessment process were further assessed and grouped into themes.

Grouping the top community ideas into themes

The methodology for grouping the 10 ideas into themes was adapted from *We're in this together: capacities and relationships to enable community resilience*, Urban Research & Practice¹⁹.

Using this approach, five community characteristics were identified that support the development of a drought resilient community and highlight the need to take a systems and program approach to addressing drought resilience planning. They are:

- Networked community
- Collaboration between community system actors
- Communication
- Underpinning policy and regulation
- Prepared businesses and community.

The themes (Table 2) that address these community characteristics, were then assessed against three further criteria:

- Impact across the economic, environmental and social pillars
- Application to the Drought Preparation, In Drought Management or Recovering from Drought phases
- Whether the outcomes may be Absorptive, Adaptive or Transformational.

¹⁹ https://www.researchgate.net/profile/Geertje-Slingerland/publication/358896706_We%27re_in_this_together_Capacities_and_relationships_to_enable_community_resilience/links/621cb868579f1c041720cf97/Were-in-this-together-Capacities-and-relationships-to-enable-communityresilience.pdf?origin=publication_detail

Table 2. Themes emerging from consultation with the Gwydir-Inverell communities

No.	Theme	Description	Pillars Economic, Social, Environmental	Drought phase: Preparing (P) During (D) Recovery (R)	Resilience effect
1	Prepared businesses (Farming as well as nonfarming)	Work with farm and non-farm businesses to increase skills and capability to develop climate resilient enterprises and processes. Making better use of data, economic and climate forecasts and financial planning skills, to ensure suitable infrastructure, enterprise balance and adaptive/transformational capacity	Social, Economic & Environmental	P D R	Adaptive and Transformational
2	Community leadership/ Networked community	Build a network of 'local leaders' as a cohort that shares and solves problems. Enable them to initiate drought projects and activities through minimising red tape and bureaucracy	Social, Economic & Environmental	P D R	Adaptive and Transformational

3	Community wellbeing support/ Collaborative community	Community connections, support, and amenity help to stabilise community wellbeing, in good and bad seasons. A long-term support and capacity building initiative	Economic & Social	P D R	Absorptive and Adaptive
4	Council Drought Support Coordination	Develop and strengthen the concept of Council as a one stop shop for information, support and coordination on funding, grants and community programs	Economic, Social & Environmental	P D R	Absorptive
5	Prepared infrastructure - Water	Additional water standpipes for Gwydir and Inverell to enable continued dirt road maintenance during drought and access for stock and domestic use outside of town boundaries	Economic & Social	P D R	Absorptive

Program Logic for each theme

For each of the themes in Table 2 a program logic was developed. The projects recommended to Gwydir and Inverell Shires are nested within this broader program logic to provide context and the broader range of activities and outcomes that are possible with a systems approach to investment. The program logics are:

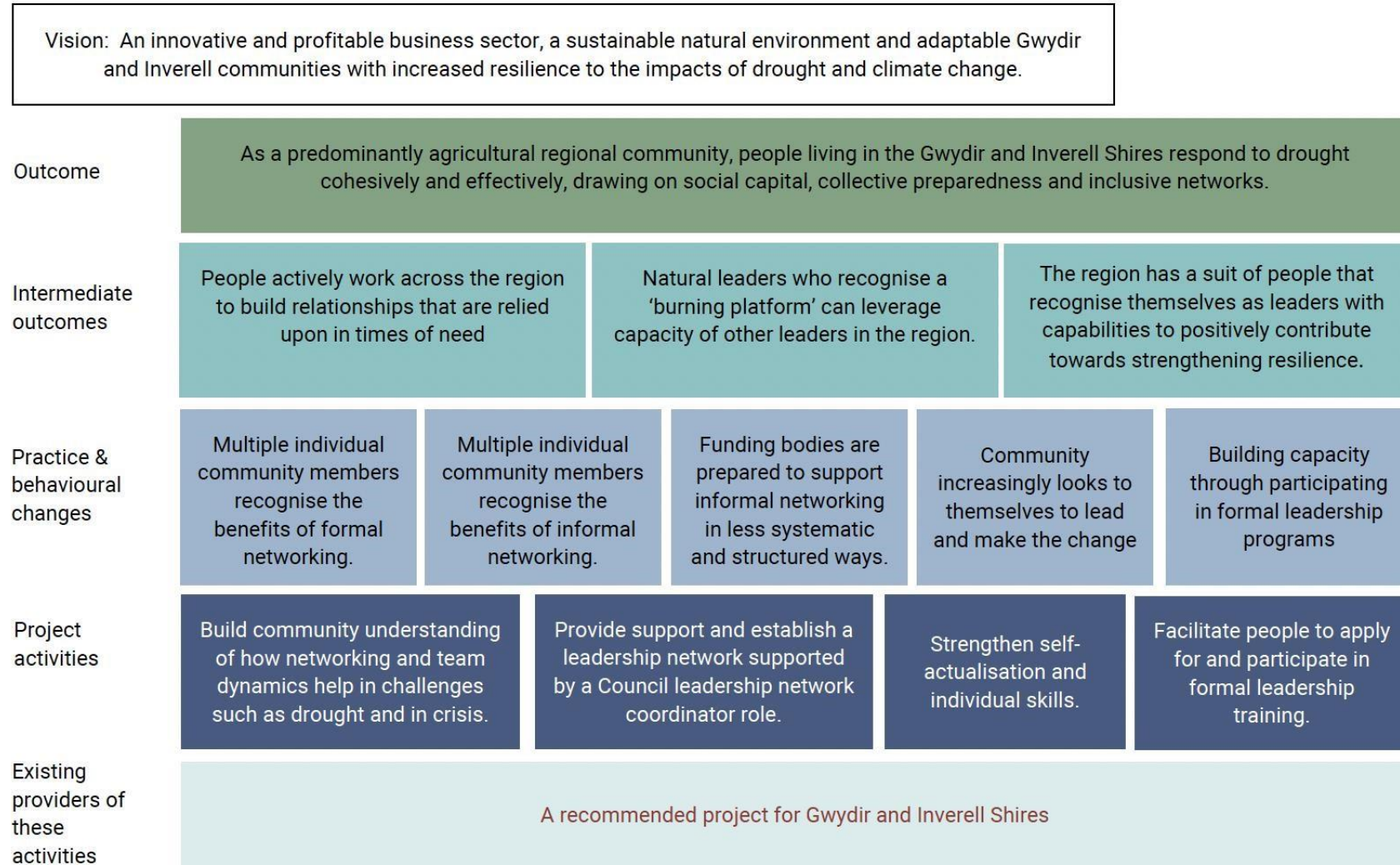
- Program Logic 1 - Prepared businesses and community (Themes 1 and 5)
- Program Logic 2 - Networked community (Theme 2) • Program Logic 3 - Collaborative community (Theme 3)
- Program Logic 4 – Communication (Theme 4).

Program Logic 1 - Prepared businesses and community (Themes 1 and 5)

Vision: An innovative and profitable business sector, a sustainable natural environment and adaptable Gwydir and Inverell communities with increased resilience to the impacts of drought and climate change.

Outcome	As a predominantly agricultural regional community, people living in the Gwydir and Inverell Shires prepare for and respond to drought cohesively and effectively, drawing on social capital, collective preparedness inclusive networks, supported by resilient infrastructure.			
Intermediate outcomes	Farming businesses are prepared for drought, updating their drought plans regularly.	Non-farming businesses are healthy and are prepared for drought, updating their drought plans regularly.	Infrastructure connecting individuals, families, businesses, and communities is resilient to drought & can be maintained during drought.	The conversations within communities about preparing for drought and responding to drought are frequent, open & embraced.
Practice & behavioural changes	Those responsible for managing land know what is important to sustain their business and natural resource base.		Those responsible for directing and managing businesses know what is important to sustain their business.	Drought-critical infrastructure is prioritised as being necessary to maintain in all phases of drought.
Project activities	Support the development of farm drought plans that document resources & capacity and key decision points based on identified data sets.		Support the development of business drought plans that document their sensitivity to the wider agricultural system, risks and key decision points based on identified data sets.	Enable Councils to invest in preparing to maintain critical infrastructure during drought.
Existing providers of these activities	Multiple. These resources may come from private and public sector providers. The key challenge is to increase participation, utilisation and adoption of existing resources. A recommended project is to use novel channels to increase participation and skills development for business (farm and non-farm) across the region.			Strengthen councils ability to maintain critical water infrastructure in drought A recommended project is for Councils to address infrastructure maintenance weak points.

Program Logic 2 - Networked community (Theme 2)

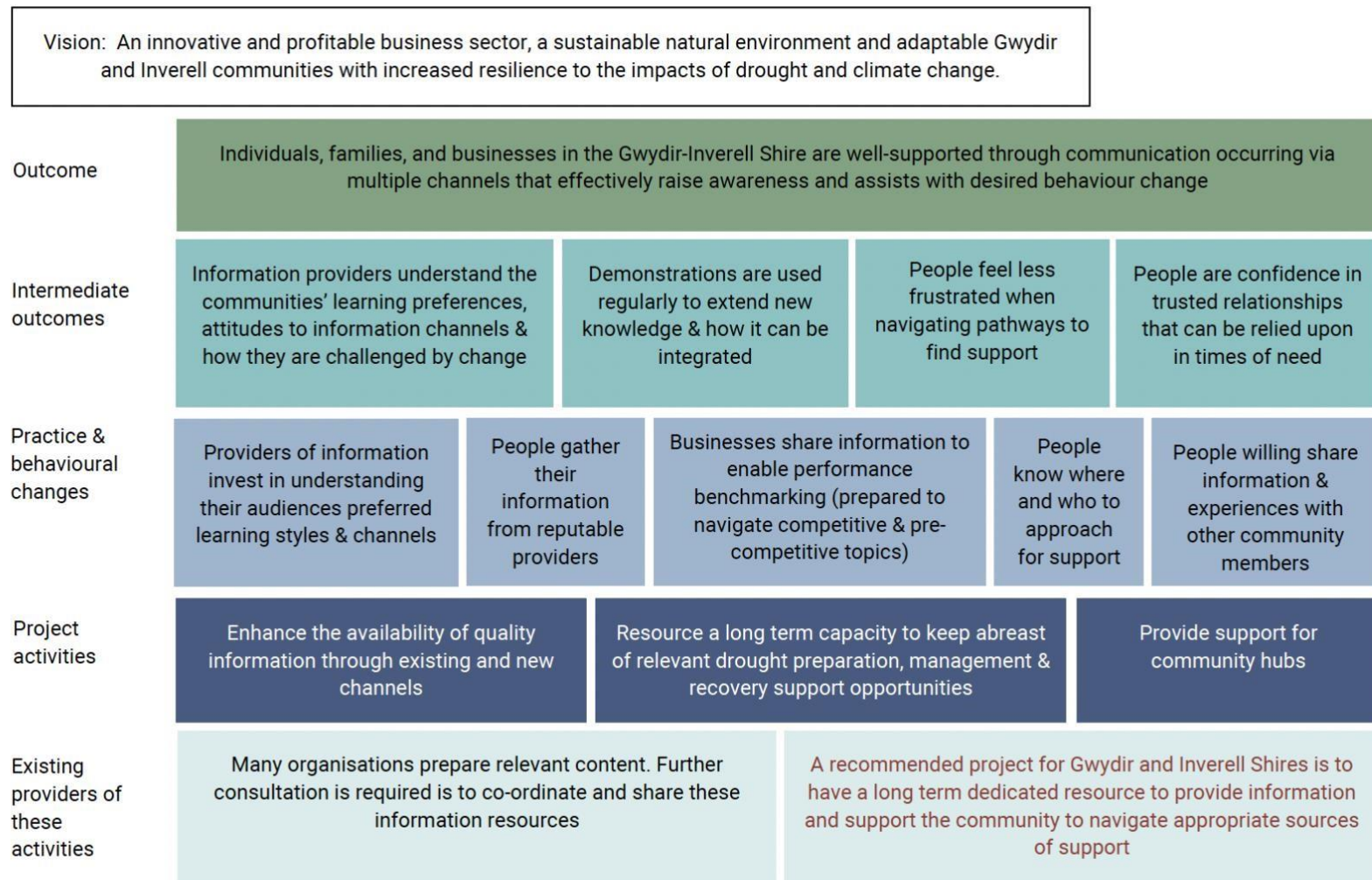


Program Logic 3 - Collaborative community (Theme 3)

Vision: An innovative and profitable business sector, a sustainable natural environment and adaptable Gwydir and Inverell communities with increased resilience to the impacts of drought and climate change.

Outcome	The Gwydir-Inverell community have multiple organisations, families and individuals that have aligned values, trusting relationships and they frequently work together to problem-solve.			
Intermediate outcomes	People actively work across the region to build relationships that are relied upon in times of need	Trusting relationships built in good times serve the community well in times of drought duress	Data and qualitative feedback from the community demonstrates improvement in the wellbeing and mental health of the community	
Practice & behavioural changes	Gwydir-Inverell communities recognise their strength in community capital	Individuals and families ‘socialise’ regularly with professional service providers, and professional providers support their personnel to participate in these informal events	Formal institutions and informal organisations and associations invest to build working relationships with each other	Community has the knowledge and connections to self-organise
Project activities	Map formal institutions, organisations and informal associations in the Gwydir-Inverell Shires and make public	Provide support to connect organisations & run exercises to demonstrate capacities & to build trust	Working through multiple channels, support professional service providers & community to form relationships in good seasons	Provide support for community hubs
Existing providers of these activities	This activity is a recommended project for Gwydir and Inverell Shires, placing emphasis on mental health and well-being			

Program Logic 4 – Communication (Theme 4)



Projects recommended for Gwydir and Inverell Shires

This section provides a high-level description of the recommended projects identified in the previous Program Logics section.

Project 1 - Prepared Businesses and Community (Farm and non-farm) Outcome

– 3-5 years

- Farming businesses are prepared for drought, updating their drought plans regularly
- Non-farming businesses are prepared for drought disruptions.

Idea/ issue:

The consultation illustrated how highly interdependent the success or otherwise of farms during drought are with the success of non-farming businesses that support the community.

A major difficulty with dealing with drought is the uncertainty of when it starts and ends. Unlike floods and fires, a drought is the creeping culmination of a period of adverse weather and climatic conditions tied to insufficient preparation. Addressing climate resilience (rather than drought) by adopting systems thinking, in terms of supporting communities, avoids the problems of defining start and end dates, and the typical short-term nature of support for an event that isn't readily defined.

Farmers

Engaging with farm owners, to support climate resilience, needs to address social and financial aspects. Each farm is different, each farmer has different experiences, mindsets and education by which they make tactical and strategic decisions on managing their farms and livestock. The consistent feedback from the community consultation was that many, if not most, farmers do not have a drought action plan, and do not have a whole farm management plan that reflects the growing climate variability and extreme circumstances. For the purposes of this project we are defining a 'whole farm plan' as one that reflects financial, animal welfare, environmental and social aspects as well as climate variability (and hence drought). Implementing the whole farm plan relies on data and evidence gathering for decision making, benchmarking and setting strategy.

Professional advice, education, peer support, individual commitment and motivation are required for development of climate resilient (drought) action plans. Farmers are often time poor and find it difficult to seek support. What is required is an effective extension channel to farmers that is familiar, and motivating, and can endure to provide scaled impact. The possibility of using Bindaree Beef, as an extension pathway, emerged during the consultation.

Non-farming businesses

We recognise that non-farm businesses would also benefit from a review of their business plans and their suitability to cope with climate variability, altered supply chains and customer needs. These businesses may need support to build resilient business plans, financial skills and consideration of diversification and scale. This activity with non-farm businesses should be scoped after the activities with farming businesses are established.

Proposed Project Title:

Develop and deliver climate resilient whole farm plans using a range of pathways to connect with farmers in the region and a capacity building program for non-farm businesses.

Project Outputs:

- By 30 November 2022 pathways for delivery of this farm business initiative have been confirmed
- By 31 December 2022, a training partner or partners with the appropriate skills and capacity is on-boarded to work with identified channels and their farmer network to develop 'drought plans'.
- By March 2023, a pilot training program has been delivered with 2 delivery channels and 20 producers
- By July 2023 the pilot training program has been evaluated and revised based on feedback
- By 30 June 2024, 60 producers have completed the training program
- By 30 June 2024, a capacity building program for non-farm businesses has been scoped, piloted and evaluated.

Pathway to Adoption:

- The potential to partner with Bindaree Beef for delivery was identified during the consultation
- SQNNSW Innovation Hub
- Training and education providers
- Current farm business planning service providers.

Assumptions:

- Bindaree Beef agree to collaborate
- SQNNSW Innovation Hub will support the project.

Project 2 - Community Leadership Outcome

– 3-5 years

- A high performing community leadership group is delivering positive community impact.

Idea/ issue:

The consultation identified people within Gwydir and Inverell Shire communities who are 'grassroots' leaders. They seemed to possess the ideas, skills, resources, and networks to instigate projects and community events that can strengthen resilience to drought. Often these people don't see themselves as leaders, they just have ideas and get them done. They can be typified as passionate about the region and their communities, have the vision to initiate ideas that deliver broader benefits not just to themselves but their community.

Often these local leaders are disconnected from other leaders beyond their immediate communities. They are typically time poor, and often resistant to bureaucracy and process.

Modelled on concepts such as startup and entrepreneurial programs, a network of these leaders could share and catalyse ideas, solve problems - essentially develop ideas between themselves to provide transformative change for their communities.

For this to be efficient and effective and to have a chance of being successful, a part time network coordinator, with the right mindset, should be established by the Councils to manage logistics, planning and administrative support of the network.

Proposed Project Title:

Establish a Community Leaders Network.

Project Outputs:

- By 31 December 2022, a part time coordinator position is established by the Gwydir and Inverell Shires, and the role is filled by an appropriately skilled person
- By 31 March 2023, an initial network meeting/event has been hosted with at least 6 leaders from across the region participating, followed up by quarterly discussions or meetings
- By 30 June 2023, 2 regional impact projects have been scoped with outputs defined and funding pathways identified.

Pathway to Adoption:

Principally through motivated and influential individuals. The network itself is the pathway.

Assumptions:

- A suitably experienced and knowledgeable coordinator can be recruited who understands the profiles and mindsets of the community leaders
- Sufficient knowledge of potential leaders to be approached exist within council ●
That these leaders are willing to give the network a go.

Procurement considerations / potential partners:

- ARLP as mentors
- SQNNSW Innovation Hub.

Project 3 – Community and regional wellbeing support

Outcome – 3-5 years

- A measurable increase in the number of community members that understand the impact of drought on mental health and well-being and are more open to discussions on the topic with peers and friends and have established trusting relationships with professional service providers.

Idea/ issue:

During the consultation there was consistent feedback of the impact that drought had on individual and community wellbeing. It was recognised that many individuals suffered from stress during the drought but were reluctant to seek help and risk being labelled as mentally ill. The importance of differentiating between managing stress and mental illness was highlighted regularly during the consultation. The complexity and stigma of mental illness as opposed to managing a significant stress event requires attention in any programs that are implemented.

Identifying those at risk and their reluctance to accept help and a lack of awareness of how to access services were identified by communities as challenges during the last drought.

A known factor in improving resilience and wellbeing is healthy relationships and community connections. There is a program of work that could assist people to build their

capabilities and grow their connections both to other community members as well as to professional service providers before a drought or other challenge emerges.

Community events during the last drought were identified as very important to the communities. They were seen as accessible, informal events that enabled all members of the community to participate. There was a consistent observation that these events should occur in the 'good times' and they should include participation by professional service organisations and personnel in a low-key approach to build positive relationships, awareness and trust. Establishing regular events and hubs to develop community and professional service connections was considered a high priority by the community.

Proposed Project Title:

Enabling community connectivity through hosting regular events that include informal interaction with professional services.

Project Outputs:

- By 31 March 2023, a pilot community events program has been designed in collaboration with the community and service providers covering health, mental health and financial counselling
- By 30 June 2023, a promotional campaign has been delivered and impact assessment metrics have been designed to benchmark the pilot
- By 31 December 2023, the community events pilot has been implemented and evaluated against the impact metrics
- By 30 June 2024, a fully developed program, incorporating all the learnings from the pilot is resourced and becomes a recurrent program during all phases of drought.

Pathway to Adoption:

- Primary Health Network ● Rural financial counsellors
- Mental health professionals.

Assumptions:

- The communities identify who will be responsible for organising events - initial coordination and logistics by Gwydir and Inverell Council staff
- There are sufficient professionals to attend community events consistently
- NSW DPI and DAWE engage with this project and support more Rural Financial Counsellors in Gwydir and Inverell Shires.

Procurement considerations / potential partners:

- Rural & Remote Mental Health <https://rrmh.com.au/blog/>
- Foundation for Regional and Rural Renewal <https://frrr.org.au/blog/2021/09/21/rural-mental-health-and-wellbeing-gets-a200000-boost/>
- Federal Government's National Recovery and Resilience Agency – Community Outreach Events <https://recovery.gov.au/drought-community-outreach-program>

- SQNNSW Innovation Hub (Drought Resilience Adoption and Innovation Hub) <https://www.unisq.edu.au/research/sqnsw-hub>
- Primary Health Network Hunter, New England and Central Coast PHN •
Community groups that have capacity to organise events.

Project 4 – Council Drought Support Co-ordination Outcome

– 3-5 years

- Gwydir and Inverell residents and business owners are more confident on how to access and complete drought-related grants applications and access advice.

Idea/ issue:

Consistent frustration and a strong sense of vulnerability was regularly expressed during the consultation by community members attempting to navigate government processes, particularly grant applications and in-drought support services. There was also gratitude expressed for the efforts of Council staff during the last drought who assisted people to apply for government grants and assistance.

The idea of establishing a coordination function or a one stop shop/service function, within each Council, to support and guide those seeking government support was a consistent theme. The coordination function could deliver greater benefit if it covered advice and support for community members during all phases of drought – preparing, during and recovering.

Establishing on-going positions to support communities would enable trusted relationships to be developed which would alleviate some of the frustration, time wasted and more efficiently match applicants with the most suitable support. The coordinators would add particular value if there is a focus on proactive actions to prepare the community for drought, rather than in crisis support.

Proposed Project Title:

Drought preparedness coordinators for Gwydir and Inverell Shires.

Project Outputs:

- By 31 December 2022, Gwydir and Inverell Shires have agreed on a position description and the level of resource required to support the communities
- By 31 March 2023, a Council-based grant and support coordinator is engaged for the two local government areas
- By 31 December 2023, the coordinator will have established deep networks in the region and an extensive knowledge of government services and support. This will be linked in with the One-stop Shop for Drought Support in NSW run by National Recovery and Resilience Agency
- By 31 December 2023, the coordinator will have had multiple engagements with individuals and community groups
- By 30 June 2024, a review of the impact of the coordinator role will be completed and changes made if required
- By 30 June 2024, over 500 people will have engaged with the coordinator

- By 30 June 2024, the coordinators will have designed and validated a drought coordination action plan for the future.

Pathway to Adoption:

Councils to recruit and resource the position(s).

Assumptions:

- A fit for purpose promotional campaign will engage people and gain traction during good times, not just when people are in the grip of drought
- Ongoing training and support to coordinators.

Procurement considerations / potential partners:

- Internal recruitment process.

Project 5 – Water Infrastructure Outcome

– 3-5 years

- Council and community are more secure in their ability to access water to maintain roads and emergency water supplies during a drought.

Idea/ issue:

Regional and rural Shires must maintain extensive networks of gravel roads. As an example, Gwydir Shire has 1,400 kilometres of gravel road. During the last drought, road maintenance had to be suspended as water resources available through stand pipes were prioritised for domestic use. As a consequence, the gravel road maintenance program fell behind, affecting community access, safety and vehicle wear and tear.

The installation of additional water standpipes (water access generally) was a consistent request during the community consultation and an issue raised by council.

Proposed Project Title:

Additional water standpipes for Gwydir and Inverell to enable continued gravel road maintenance during drought and community access to domestic water supplies.

Project Outputs:

- By 30 June 2023, a review of water standpipes is complete, identifying the feasibility and recommended number of additional standpipes will be installed
- By 31 December 2023, funding secured to complete the capital works
- By 31 December 2024 additional water standpipes have been installed across Gwydir and Inverell Shires.

Pathway to Adoption:

Gwydir and Inverell Councils.

Assumptions:

- Capital funding can be accessed.

Procurement considerations / potential partners:

- Suitable capital grants.

Further technical studies

A number of technical studies could be completed to support the program themes and recommended projects to deliver lasting impact.

To sustain the momentum of the recommended projects the following studies could be completed:

- Prepare a feasibility and more detailed project plan for each recommended project to facilitate funding applications and procurement processes
- Conduct an environmental scan to map existing activities and projects against the recommended program themes and projects in this report to avoid overlap, encourage collaboration and coordination
- Conduct an audit of the natural asset base that exists in the Shires to facilitate benchmarking drought impacts on the environment.

The following potential studies emerged while preparing this report and would deliver systemic and sustained drought resilience impact:

- Review rules and regulations for tax averaging schemes (e.g., Farm Management Deposits) as they apply to different business structures and regional businesses beyond direct primary production
- Review farm water capture, capacity limits and distribution policies and the interaction between catchment plans and the imperative to make farms water secure
- Review incentives for peri-urban and rural properties to optimise water security under future variable climate scenarios
- Develop Federal and State based policies for continuously managing climate variability rather than specific Drought Policies
- Review all Federal and State support programs with a view to incorporating an obligation to undertake training and capacity building in return for support measures
- Develop data and resources to assist with sourcing ground water to increase security of farm stock and domestic water supplies. Ensure sustainable extraction of groundwater
- Review the grant criteria and access channels for end users to simplify user interface requirements and criteria and implement a system that captures core end user/applicant criteria data as a single record or data set for applicants who make multiple applications.

Monitoring progress and evaluating outcomes

The Regional Drought Resilience Plan for the Inverell and Gwydir Shire regions acts as an important first step in building regional drought resilience. It establishes the local context of drought, identifies future impacts of drought and confirms the related risk management activities and requirements of drought.

The Gwydir and Inverell – Monitoring, Evaluation and Review Plan (Attachment C), further defines appropriate risk assessment, management, recording, reporting, monitoring and review tasks needed to keep the plan current. Based on the Future Drought Fund Monitoring, Evaluation and Learning Framework indicators and the actions developed within this plan, the Monitoring, Evaluation and Review Plan establishes how to best monitor and evaluate the performance of the Regional Drought Resilience Plan pathways and actions, and also allows for the plan to be updated with community and implementation learnings as the plan matures.

Attachments

A: Phase 1 Desktop Review and Preliminary Resilience Assessment

B: Phase 2 Consultation, codesign and ranking of community ideas.

C: Gwydir and Inverell – Monitoring, Evaluation and Review Plan.

Attachment A – Phase 1 Desktop Review and Preliminary Resilience Assessment

This attachment provides the Phase 1 Desktop Review and Preliminary Resilience Assessment. It establishes the context for Phase 2 (Stakeholder engagement and community consultation) and Phase 3 (Identifying the drought resilience themes, program logics and projects) of this project.

This desktop review draws on multiple sources and references and is designed to draw on broader resilience experience and information, external to the Gwydir and Inverell Shires, to capture lessons and benefits from a cross section of sources.

The Regional Drought Resilience Plan for Inverell and Gwydir Shire Regions designed for Inverell and Gwydir community reading contains extracts from this attachment.

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Introduction

What has Gwydir and Inverell Councils asked the University of New England to do?

The Gwydir and Inverell Shires were selected by the NSW government as regions to complete a pilot project to identify projects that can strengthen drought resilience. This project includes consultation and codesign with the communities of Gwydir and Inverell.

This pilot project, called the Regional Drought Resilience Planning program, was jointly funded by the Australian Government's Future Drought Fund and the NSW Government's Regional Growth Fund.

The Terms of Reference for this consultancy project are in Appendix 1.

What is resilience?

Resilience is defined as the ability of a system to absorb a disturbance and reorganise to maintain the existing functions, structure and feedbacksⁱ. This definition contemplates the community we live in as a system.

Major contributing factors to deliver higher levels of resilience in rural communities include:

- Robust social networks and support
- Learning experiences
- Positive environment and lifestyle factors
- Existing infrastructure and support services,
- A sense of purpose, and strong leadershipⁱⁱ.

Resilience comes in different forms across economic, environmental, and social resilience pillars. They are defined as:

- Economic resilience - the ability of the economy to absorb the economic impact of shocks and stressors without changing the economic status or outcomes
- Environmental resilience - the ability of the natural environment to cope with a diverse range of shocks and stressors while maintaining natural processes and ecosystem services
- Social resilience - the ability of the human society to cope with a diverse range of shocks and stressors while maintaining existing social and community functionsⁱⁱⁱ.

These are not the only categories of resilience referred to in relevant literature: other categories include 'transport resilience' and 'infrastructure resilience'. For the purposes of this project the focus is on the economic, environmental, and social pillars.

How does resilience connect with drought and our community?

Drought can, and has, reaped devastation in Australia both historically and recently. Future droughts are inevitable. Preparing for drought considers not only the productivity of land and resources but also, importantly, personal and family emotional wellbeing.

Two ways of expressing the impact of drought are at different ends of the emotional – tactical/ scientific spectrum. For example, drought is often presented back to communities as a disruptive power that is managed using ‘endurance, hope and ingenuity’. Drought can also be viewed objectively as a business risk that can be managed using rational planning skills and scientific knowledge^{iv}.

Two concepts relating to the way drought impact is expressed are the ability of individuals and groups to continue without adapting or changing their behaviour in response to environmental and socioeconomic changes – known as absorptive capacity^v and the ability of individuals and groups to adjust and respond to environmental and socioeconomic changes – adaptive capacity^{vi}. This spectrum is depicted in Figure A1:

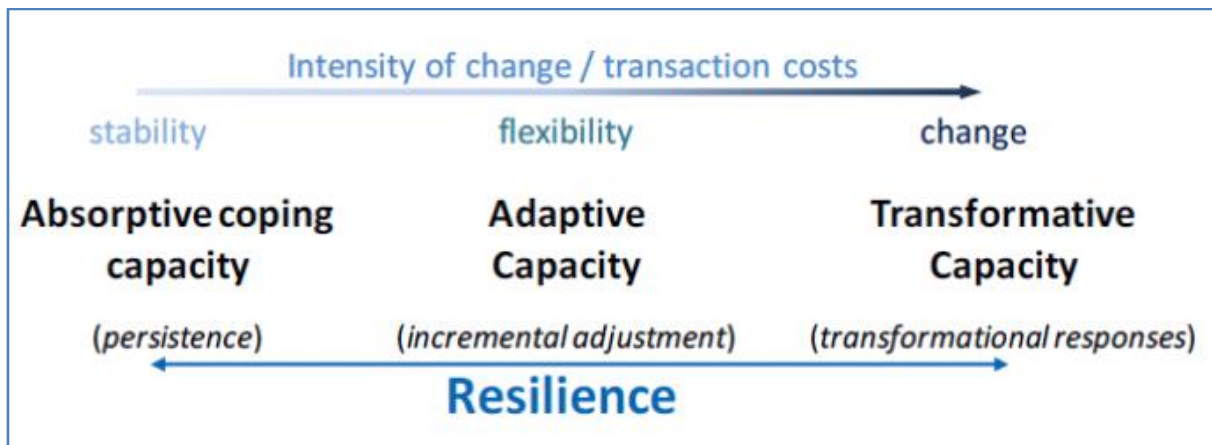


Figure A1. The resilience 3D framework.

Source: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.2040-0209.2012.00405.x> Accessed June 2022.

In addition to absorptive and adaptive capacity, there is transformative capacity, each capacity leading to different outcomes: persistence, incremental adjustment, or transformational responses. These classifications are explored in more detail later in this Attachment and were used to assess resilience impact in Phase 3 of this project.

How would you describe the level of resilience during the last drought?

Gwydir and Inverell communities’ level of resilience during drought was considered in terms of economic, social and environmental effects. Essential services such as roads, power consistency, internet access and water are considered within the ‘environment’ pillar.

Economic output for Gwydir and Inverell Shires during drought is impacted predominantly through the agricultural sector, through changes in cash flow, levels of debt, financial losses due to selling stock in poor condition and inability to invest to re-stock once the drought eased. A downturn in agriculture reduces money able to be spent, rippling through the community and businesses. There is also the impact of deferring projects that then limit the ability to grow rapidly post-drought, for example when farm improvements have been delayed. This is not immediately evident in Gross

Regional Product (GRP) of the region (refer to Table 1 and Figure 16). One reason may be that GRP was trending upward from 2015 to early stages of the drought, and the drought impacted to reduce the growth.

Negative social effects during the 2017–2019 drought were felt by individuals, families, and communities. These effects endured beyond the technical end of the drought. Even small businesses, not directly linked to the agricultural supply chain, were impacted as people reduced discretionary spending, and experienced distress and angst over the welfare of animals and water allocation decisions. Anecdotally people were less inclined to participate in community events leading to social withdrawal.

Whilst environmental effects are observed every day during prolonged drought, there is a lack of data to quantify accumulated loss of natural resources in the Gwydir and Inverell Shires. Without this benchmark in place, it is difficult to communicate objective information to others about the impacts of drought on the foundational resources of the Shires.

Under each of the effects described above, four components have been researched to attempt to find relevant data to map across the 2017–20 drought years. This is provided in Table A1. Generally, the available data are not sufficiently granular to provide specific information on the two Shires.

Table A1. Useful indicators of regional disparities and decline applied to Gwydir and Inverell.

	Year	2016	2017	2018	2019	2020	2021
Economic							
Gross Regional Product ^{vii} (i.e., nominal net wealth generated) \$ Billion	Gwydir	NA	0.271	0.308	0.304	0.301	0.307
	Inverell	NA	0.984	1.058	1.080	1.046	1.069
	TOTAL	NA	<u>1.255</u>	<u>1.366</u>	<u>1.384</u>	<u>1.347</u>	<u>1.366</u>
Farm profit	Data not granular enough to look at Gwydir and Inverell Shire as a combined region separate to the rest of Australia. For a typical Australian cropping farm, profit decreases from around A\$230,000 in a 'typical year' down to a loss of \$125,000 in a dry year (a 1 in 10 poor climate year). For a typical Australian beef farm, profit falls from \$60,000 in a 'typical year' down to a loss of \$5,000 in a dry year. ^{viii}						
Farm debt levels	Data not granular enough to look at Gwydir and Inverell Shires as a combined region separate to the rest of Australia. In general, smaller farms are less profitable on average, with lower rates of return. Small farms are much more likely to experience low cash income and negative profits during drought years.						
Wealth, income and skills levels	Based on 2021 Census data, for Gwydir Shire the personal median weekly income was \$541 pa ^{ix} and for Inverell Shire, \$691, compared to NSW at \$813 ^x . The proportion of people with a university or other higher education was 4.3%, 4.0%, & 15.3% for Gwydir, Inverell & NSW respectively ^{xi} (2021 Census).						

FINAL

	Year	2016	2017	2018	2019	2020	2021
Social							
Socio-Economic Indexes for Areas (SEIFA) ^{xii} index (RDANI is Regional Development Australia Northern Inland, which includes Armidale)	Gwydir	941	Data not available				Data for 2021 not available as at 27 July 2022
	Inverell	916					
	TOTAL	950 (RDANI)					
Population (2021 from RemPlan). Note Census population figure for Gwydir is 4,910 for 2021	Gwydir	5,326	5,318	5,344	5,352	5,299	5,323
	Inverell	17,815	17,815	17,801	17,849	17,781	17,696
	TOTAL	<u>23,141</u>	<u>23,133</u>	<u>23,145</u>	<u>23,201</u>	<u>23,080</u>	<u>23,019</u>
Unemployment levels (December of each year) (%)	Gwydir	6.2	5.0	4.9	4.1	4.6	4.2
	Inverell	9.9	8.7	8.1	6.4	6.7	6.4
Degree of dependence on social security [substituted in Gini coefficient (income inequality measure)]	Gwydir	0.466	0.564	0.583	0.809	NA	NA
	Inverell	0.466	0.476	0.480	0.496	NA	NA
Environmental							
Stock and domestic water security (independence from cartage)	No longitudinal data found. Data for New England & North West on numerous water aspects for 2019–20 is available ^{xiii} and could be used as a benchmark						
Soil health measures	No data found						
Biodiversity measures against benchmarks	No data found						
Access to new technologies	No data found other than that for internet connections, which are increasing (regardless there's still a digital divide)						

Strengthening resilience

The key to successfully strengthening resilience is the ability to change. Implicit in this ability is a knowledge of the assets and resources available and their application across the business, family, and individual spectrum. For example, change could manifest as more diligent planning to prepare for drought, more clearly defined decision points and active management in line with a drought plan. This could also be making greater use of weather and commodity price forecasts, adjusting crop area and inputs more actively, improved on-farm stock rotation systems including better use of sacrificial plots (i.e. containment areas) and in response to wider business environment considerations; holding increased grain and hay stocks for livestock, and knowing at what point to reduce herd/ flock size. Having farm businesses in different climatic regions can also be advantageous to mitigate climate change risk.

Non-farm businesses also will be challenged by increased climate variability. The severity will relate to how closely their core drivers of value creation are linked to industries reliant on good growing seasons. Resilience may be built in these businesses through integration of climate change response into their strategies, focusing on understanding the risk, risk mitigation including diversification^{xiv}.

Governments have provided relief to drought affected communities. This policy setting is complex: whilst welfare relieves immediate cash flow challenges for people negatively impacted by drought, policy implementation has tended to reward those who have done less planning and preparation. Drought handouts tend to slow industry structural adjustments and innovation^{xv}. The Future Drought Fund aims to address this issue through programs promoting preparation for drought and improved productivity during good seasons when farmers and communities are receptive to ideas for change and are not in the throes of managing a drought.

How vulnerable are the Gwydir and Inverell regions to impacts of drought?

Recognising and understanding individual and shared vulnerability is a core aspect of strengthening resilience. A fundamental task for securing ongoing resilience and prosperity is to better understand these causes and effects on vulnerability in order to inform how to overcome them^{xvi}.

Regional NSW has identified three priority regions consisting of two Local Government Areas (LGAs) each using agricultural employment as a proxy for the vulnerability of local economies to drought, alongside other relevant criteria such as water security and alignment of related initiatives under the Future Ready Regions Strategy. There are 128 LGAs in NSW and this criteria places Inverell and Gwydir in the most vulnerable 5% of LGAs in NSW.

Typical information used to assess how vulnerable a community is to drought includes understanding the region's geography, its current and historic socioeconomic status, economy and climate. Information about these aspects is in the section 'About Our Region' (refer to page 14 of this Attachment). Having established this understanding, vulnerability factors of exposure, sensitivity and adaptive capacity are considered to arrive at an indicative level of resilience for a community. The connectivity between drought, impact, adaptive capacity and responses that either strengthen or undermine resilience is depicted in Figure A2.

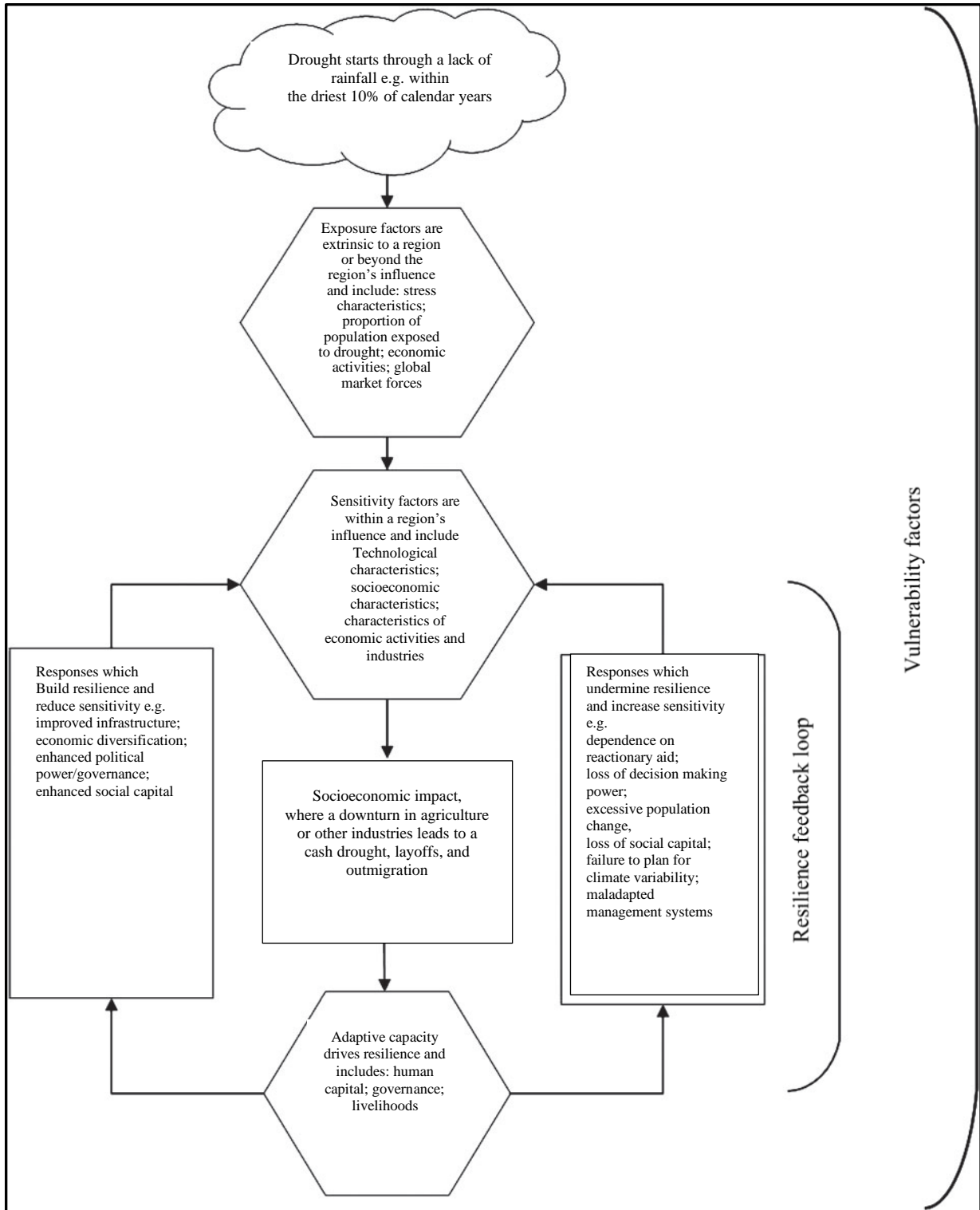


Figure A2. Conceptual framework of drought, which starts through a lack of rainfall, with the extent of resulting socioeconomic impacts depending on the vulnerability factors of exposure, sensitivity and adaptive capacity. Subsequent socioeconomic impacts can be alleviated through responses that build resilience, or exacerbated by responses that undermine resilience within a feedback loop.

Source: David Phelps and Dana Kelly, Overcoming drought vulnerability in rangeland communities: lessons from central-western Queensland CSIRO PUBLISHING The Rangeland Journal, 2019, 41, 251–270 <https://doi.org/10.1071/RJ18052> Accessed June 2022.

The Gwydir – Inverell region is classified in the Australian Disaster Resilience Index^{xvii} as a Group 3 region. Strengths of Group 3 regions are social character, community

capital, and social and community engagement. Barriers to disaster resilience in Group 3 regions are:

- Economic capital
- Planning and the built environment
- Emergency services
- Information access
- Governance and leadership.

Although drought is not considered to be a natural disaster^{xviii}, because it is not considered to be a short and sharp shock, factors for disaster resilience and drought resilience overlap. Figure A3 describes the resilience characteristics for Group 3 regions.

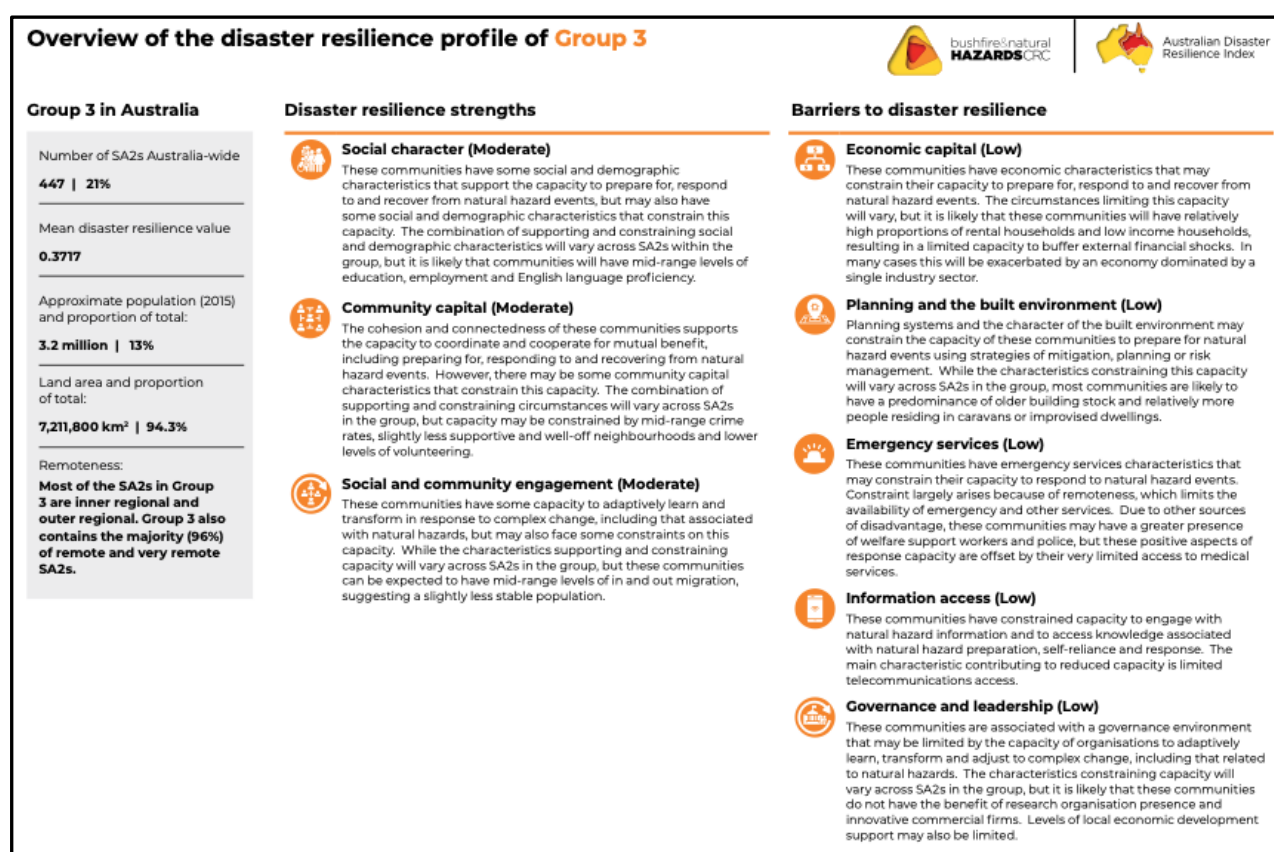


Figure A3. Characteristics of the Inverell – Gwydir region and similar regions (Group 3) across Australia.

Source: <https://www.adri.bnhcrc.com.au> The Australian Disaster Resilience Index (2020) Bushfire and Natural Hazards CRC website. Accessed 20 May 2022.

Based on the results generated using the disaster resilience tool, the level of disaster resilience for Inverell East community is classified as low (score of 0.3664). Inverell West, which overlays Gwydir Shire, has a slightly higher resilience score of 0.3817, but is still classified as having low disaster resilience. In contrast, Armidale North region (slightly to the east of Inverell and Gwydir shires and more heavily populated) has a higher resilience score of 0.4508. Figure A4 illustrates the mapping of the disaster resilience factors and a Group 2 region is provided as a comparison. All three regions of Gwydir, Inverell and Armidale North have been assessed by the Productivity Commission as having below average adaptive capacity based on 2016 data^{xix}.

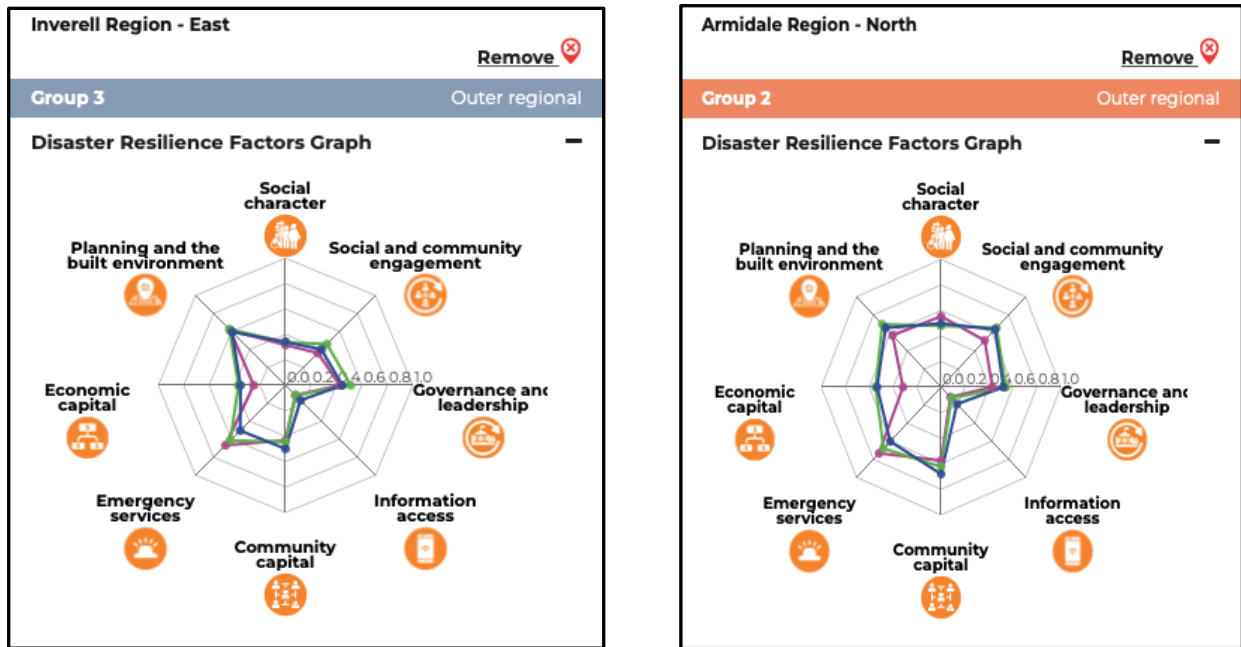


Figure A4. Comparison of Inverell Region East and Armidale Region – North as examples of Group 3 and Group 2 areas, with Group 2 regions being assessed as having greater disaster resilience compared to Group 3 regions.

Communities in areas of low disaster resilience may be limited in their capacity to use available resources to cope with adverse events and are limited in their capacity to adjust to change through learning, adaptation, and transformation. Limitations to disaster resilience may be further entrenched by social and economic disadvantage, less access to or provision of resources and services, lower community cohesion and limited opportunities for adaptive learning and problem solving^{xx}.

Gwydir and Inverell Shires have significant economic output from agriculture, particularly dryland farming. The Northern Inland economy has higher employment generated by agriculture compared to the average employment in that sector in NSW as a whole (refer Figure A5). Northern Inland is weaker in areas like finance, accounting and IT - sectors that support businesses.

Whilst diversification is an approach to have economic output and jobs that are not directly linked to weather and commodity prices, it has proven difficult to achieve in regional areas. There is some indication from experience in the United States that the best option may be to support existing local businesses with the capacity for significant growth^{xxi}.

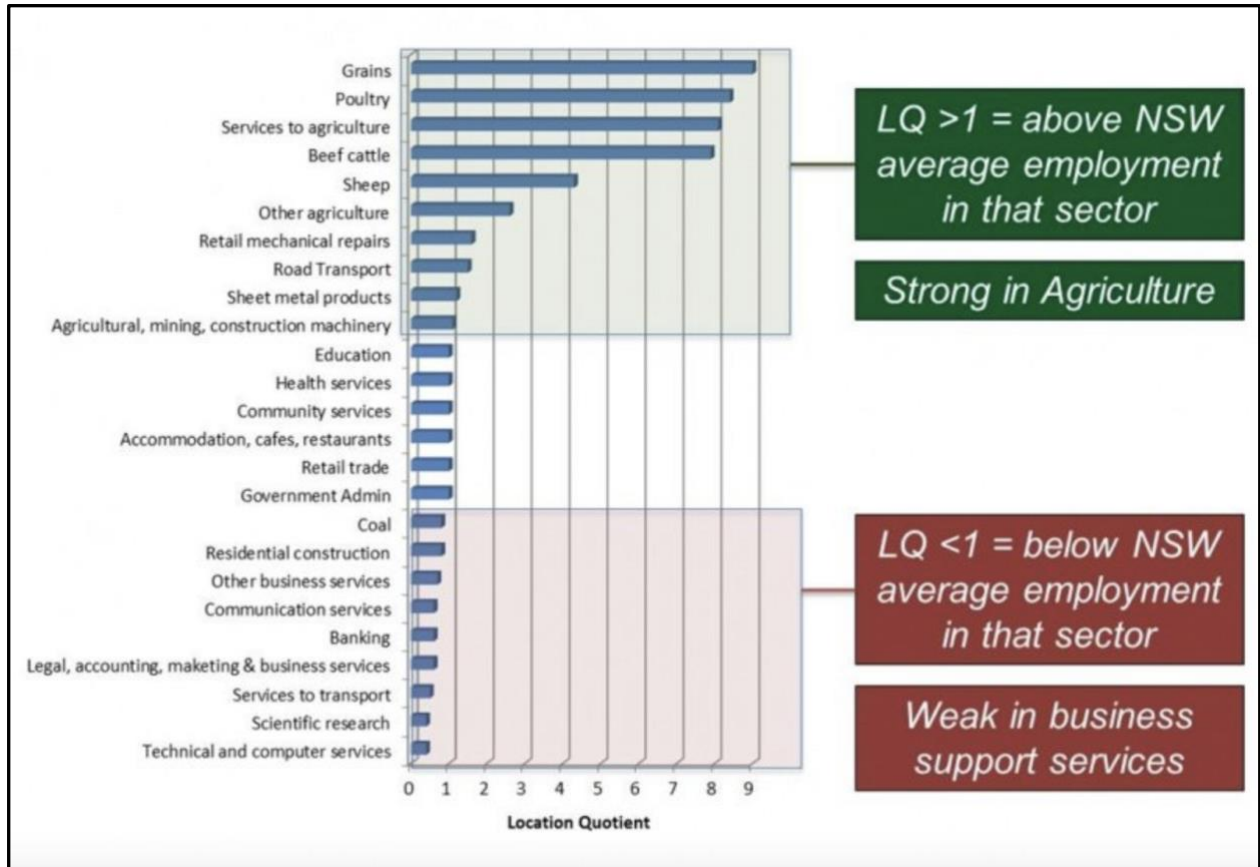


Figure A5. Location Quotients for Namoi economy (2011).

<https://www.rdani.org.au/our-region/current-regional-issues/the-northern-inland-economy.php>

Accessed June 2022.

What is known about increasing resilience to drought?

As described in the section 'How does resilience connect with drought and our community?' (page 2 of this Attachment), resilience emerges as the result of three capacities: absorptive, adaptive and transformative, each of them leading to different outcomes: persistence, incremental adjustment, or transformational responses.

Typically, when there is a shock that results in a crisis, the initial response is resistance, to cope with the stress. Once absorptive (coping) capacity is exceeded, then individuals must rely on their adaptive resilience, which refers to incremental changes that people make to keep functioning without major changes. These incremental adjustments can take many forms (for example in adopting new farming techniques, change in farming practices, diversifying livelihood bases, and engaging in new social networks).

Eventually, if the change required is so large that it overwhelms the adaptive capacity of the household, community or (eco)system, transformation will have to occur. In this case, changes are not incremental but are transformative, resulting in alterations in the individual or community's primary structure and function. These transformational changes often involve shifts in the nature of the system, the introduction of new state variables and possibly the loss of others, such as when a household adopts a new direction in earning a living or when a region moves from an agrarian to a resource extraction economy. It can be a deliberate process, initiated by the people involved, or it can be forced on them by changing environmental or socioeconomic conditions.

The main challenges associated with transformation are not all technical in nature. These shifts may include a combination of technological innovations, institutional reforms, behavioural shifts and cultural changes; they often involve the questioning of values, the challenging of assumptions, and the capacity to closely examine fixed beliefs, identities and stereotypes. In other words, they challenge the status quo^{xxii}.

To be successful these transformational changes can typically require changes to entrenched systems maintained and protected by powerful interests. There are, consequently, enormous barriers to transformation, rooted in culture and cognition and expressed through economic and social policies, land-use legislation, resource management practices, and other institutions and social practices.

A model used in health assessment that is useful when considering resilience improvement is the social ecological model. It models the interactions between the individual, the community and the physical, social and political environments. Interactions in the system are at four levels: the individual, interpersonal relationships, the community, and society itself (Figure A6).

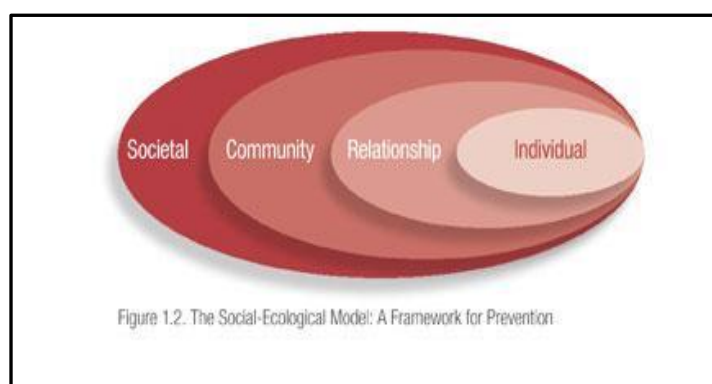


Figure A6. Four-levels of interaction that impact on health.

Source: Courtesy of Centres for Disease Control and Prevention.

https://www.atsdr.cdc.gov/communityengagement/pce_models.html Accessed 20 May 2022.

The first level of the model (at the extreme right) includes individual biology and other personal characteristics, such as age, education, income, and health history. The second level, relationship, includes a person's closest social circle, such as friends, partners, and family members, all of whom influence a person's behaviour and contribute to their experiences. The third level, community, explores the settings in which people have social relationships, such as schools, workplaces, and neighbourhoods, and seeks to identify the characteristics of these settings that affect health. Finally, the fourth level looks at the broad societal factors that favour or impair health, for example cultural and social norms and health, economic, educational, and social policies that help to create, maintain, or lessen socioeconomic inequalities between groups^{xxiii}.

How would you describe 'our' Gwydir and Inverell community system?

A community is like a living creature having interdependent elements that represent specialised functions, activities, or interests, each operating within specific boundaries to meet community needs – it is a system. For the community to function well, each component needs to be effectively carrying out its role in relation to the whole system. A healthy community has well-connected sectors that share responsibility for recognising and resolving problems and enhancing its well-being. Successfully

addressing a community’s complex problems requires collaboration and coordination of resources from all parts^{xxiv}.

A community’s resilience baseline in a region such as Gwydir-Inverell reflects access to water, education, health services, governance, and public services; employment opportunities and transport^{xxv}. When any one of these is altered, it can create ripple effects throughout the broader community and system.

The ‘system’ for Gwydir-Inverell reflects the above interacting components in the unique setting of the region. A significant factor for the region is the disparate nature of its community – an estimated 22,193 people living in an area of 18,059 square kilometres^{xxvi} (there is just one town centre – Inverell - with a population of greater than 10,000). Building resilience can involve maintaining, modifying, or transforming parts, sectors, or whole systems in a region^{xxvii}. Community system components for the Inverell Local Government Area are overlaid on a generalised community system map in Figure A7.

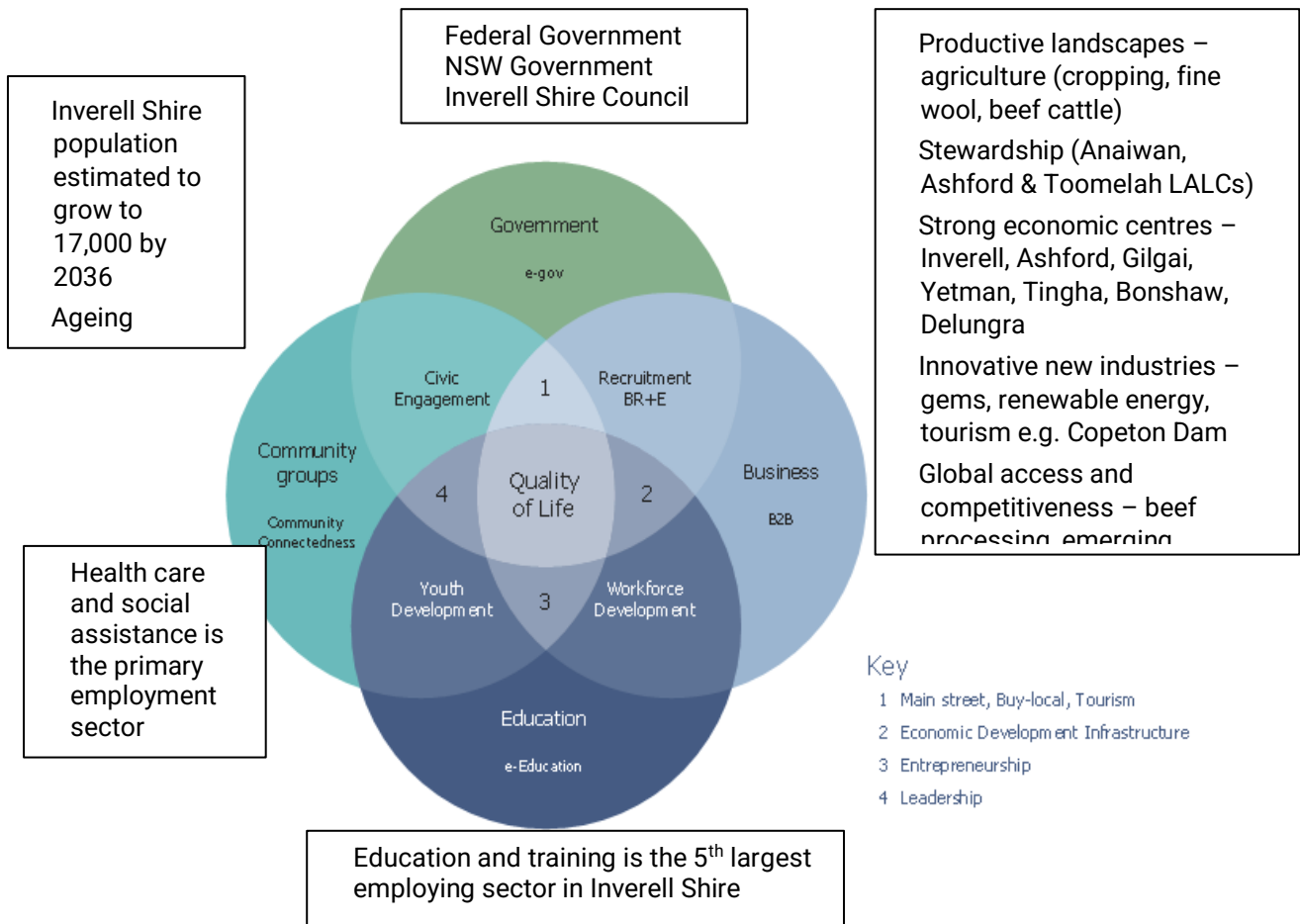


Figure A7. Elements of community that are integral in the community resilience system.

<https://conceptdraw.com/a374c4/preview> and <http://srdc.msstate.edu> Accessed June 2022.

Because of the relatively small population, the Gwydir-Inverell region is inherently exposed to challenges and changes of a scale that are simply not experienced in urban and metropolitan communities. This heightened sensitivity means that the economy and potentially service provision is affected in circumstances unlikely to have impact in more densely populated regions^{xxviii}. Implications for the Gwydir-Inverell region are an increasing need to diversify the economy to reduce shock from drought. This includes

the need for more off-farm income earning opportunities^{xxix} - preferably in employment not highly exposed to weather events and agricultural supply chains. However, diversifying is easier said than done, as noted earlier.

What trends are impacting our system?

As international trade is integral to Australia’s economic and geopolitical system, it is worth considering global risks in general. These were collated in 2020 from the World Economic Forum Global Risks Perception Survey. The most concerning are presented in Table A2. It identifies that climate change is the most pressing risk to address.

Table A2. Most concerning global risks in 2020.

https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2021.pdf Accessed June 2022.

8 th	6 th	4 th	2 nd	1 st	3 rd	5 th	7 th	9 th
Extreme Weather	Debt Crises	Social Cohesion Erosion	Infectious Diseases	Climate Action Failure	Livelihood Crises	Biodiversity Loss	Prolonged Stagnation	Human Environmental Damage

Of note is that the failure to act on climate change was ranked the number one concerning global risk in 2020. The top risk by likelihood was extreme weather, and the second top risk by consequence was climate action failure (the top risk being infectious disease).

In its July 2022 ‘*Our Future World: Global megatrends impacting the way we live over coming decades*’, CSIRO state that extreme and unprecedented weather events are increasing in their frequency and scale of impact. Current climate forecasts predict that we are likely to experience extreme weather conditions that exceed the bounds of historical norms and concurrent climate hazards are likely to compound the overall climate risk for sectors and regions. Adapting the healthcare system, critical infrastructure and settlement patterns to climate change and extreme weather conditions will become a growing reality for many countries in the years and decades to come. And this megatrend speaks to the new ways of operating that organisations and communities will need to adapt to in the face of a changing climate^{xxx}.

Figure A8 shows global emissions scenarios and their impact on global warming.

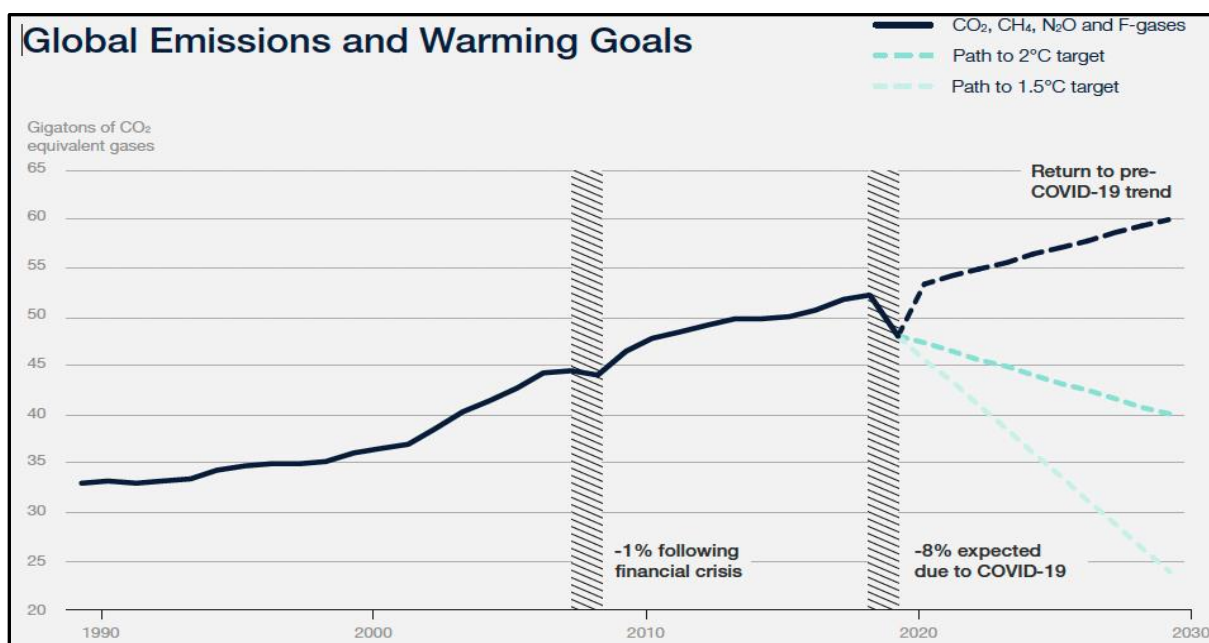


Figure A8. Global emissions scenarios and global warming.

https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2021.pdf Accessed July 2022.

Trends typically associated with regional and rural Australia are:

- Poorer health outcomes compared with people living in metropolitan areas^{xxxii} (shorter lives, higher levels of disease and injury, poorer access to and use of services)
- Small town decline/ within region population aggregation to major centres
- Post pandemic change – some growth in urban migration to regional areas
- Increasing volatility in the agricultural sector on a baseline that is already the most volatile of any major exporting nation^{xxxii}
- Changing export demand for food is increasing soft commodity prices, translating to changes in the traditional market shares and destinations of Australia's exports
- Increased competition for limited water
- Increasing cost of energy, particularly fuel
- Growing inequality (refer to Table A1 on page 4 – Gini coefficient)
- Ageing population – population is stable, but median age is growing^{xxxiii} (median age in 2021 was 50 years for Gwydir, up from 48 in 2016; median age in 2021 was 43 years for Inverell, up from 41 in 2016 – all NSW in 2021 median age was 43 years)^{xxxiv}
- Net internal migration is growing (-68 in 2015, in 2020 it was -157 for Inverell-Gwydir)
- Changes in agricultural – cost of inputs, particularly fertiliser and energy, are increasing; poor access to and affordability of labour is driving further automation; rise of and application of artificial intelligence (AI) learning and robotisation

- Decrease in the number of employing businesses and increase in the number of non-employing businesses^{xxxv}
- Small business (that is 5 or less employees) exits are growing
- Industries with increasing number of businesses are: finance and insurance; rental/real estate; professional, scientific and technical services; education and training; arts and recreation
- Residential building approvals are decreasing; non-residential building is increasing
- Number of working age people is decreasing (10,472 in 2015, 2020 in 10,297)
- Education – decrease in children enrolled in preschool; increase in year 12 completion rate
- Number of jobs in health care and social assistance is increasing
- Digital divide is increasing although the number of Internet connections is growing (50% in 2015, in 2020 it was 60.5%) – country people generally use the Internet less even when they do have reliable Internet access.

A key factor for the regions is the forces or influencing factors that drive work to be centralising and are driven by:

- Improvements in transport
- Improvements in telecommunications
- Technology innovation (for example computerised banking)
- Rationalisation of services as efficiencies are found.

While improvements in technology, transport and telecommunications are necessary to survive in the global competitive environment, smaller centres are less able to capture the benefits of these advances. They struggle to remain viable as services and employment opportunities are rationalised into regional centres, resulting in a pull of people out of rural areas and challenging the ability of a rural community to retain and attract residents and future investment. As services are withdrawn, the quality of life, measured in terms of access to essential and higher value goods and services, declines^{xxxvi}.

Some potential implications from these trends for the Gwydir-Inverell Councils are that, given there are strong forces at work causing population to aggregate to regional centres, to view opportunities of moving with this trend and to strengthen existing business within Inverell as well as design outreach services from key regional centres.

Who are the key stakeholders in our system?

Preliminary stakeholder mapping prior to community engagement and consultation has identified the core (client), direct and indirect stakeholders for the Gwydir-Inverell region. The relationship between these types of stakeholders is shown in Figure A9 and examples of direct and indirect stakeholders are listed in Table A3. Consultation approaches and feedback is captured in Attachment B (Phase 2 Consultation, codesign and ranking of community ideas).

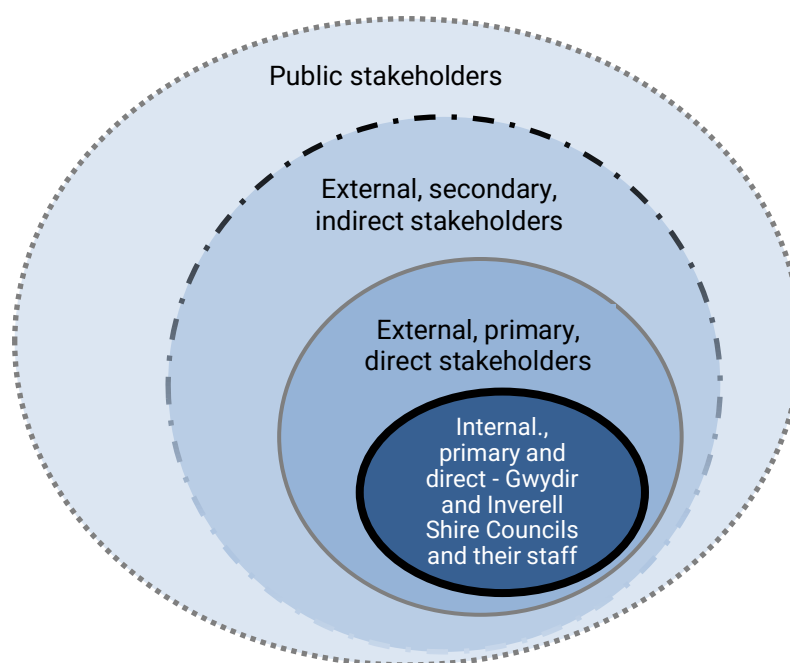


Figure A9. Relationship of stakeholder types for the Regional Drought Resilience Plan for Inverell and Gwydir Shire Regions.

Table A3. Direct and indirect stakeholders for the Regional Drought Resilience Plan for Inverell and Gwydir Shire Regions.

Stakeholder	Direct	Indirect
Gwydir Shire Council	✓	
Inverell Shire Council	✓	
NSW Government	✓	
Australian Government	✓	
All those responsible for land management (includes public as well as Indigenous lands)	✓	
Gwydir and Inverell communities	✓	
Aboriginal Land Councils		✓
Landcare – Northern Slopes, GLENRAC Inc and Gwymac Inc		✓
Country Women’s Association		✓
Schools		✓
NSW Farmers		✓
Accountants		✓
Professional financial advisors		✓
Professional health services and their personnel		✓
Businesses within the Shires		✓
External businesses supplying key inputs to Shire business		✓
Value chain partners		✓
NGOs		✓
Providers of services likely to be required to implement projects	✓	

About the region

Both the Gwydir and Inverell Shires are located in the New England North West region of NSW, with their northern most borders meeting the NSW QLD border. Both Shires are on the tablelands between Sydney and Brisbane and stretch to the west. The Shires' location in relation to New England North West NSW is provided in Figure A10.

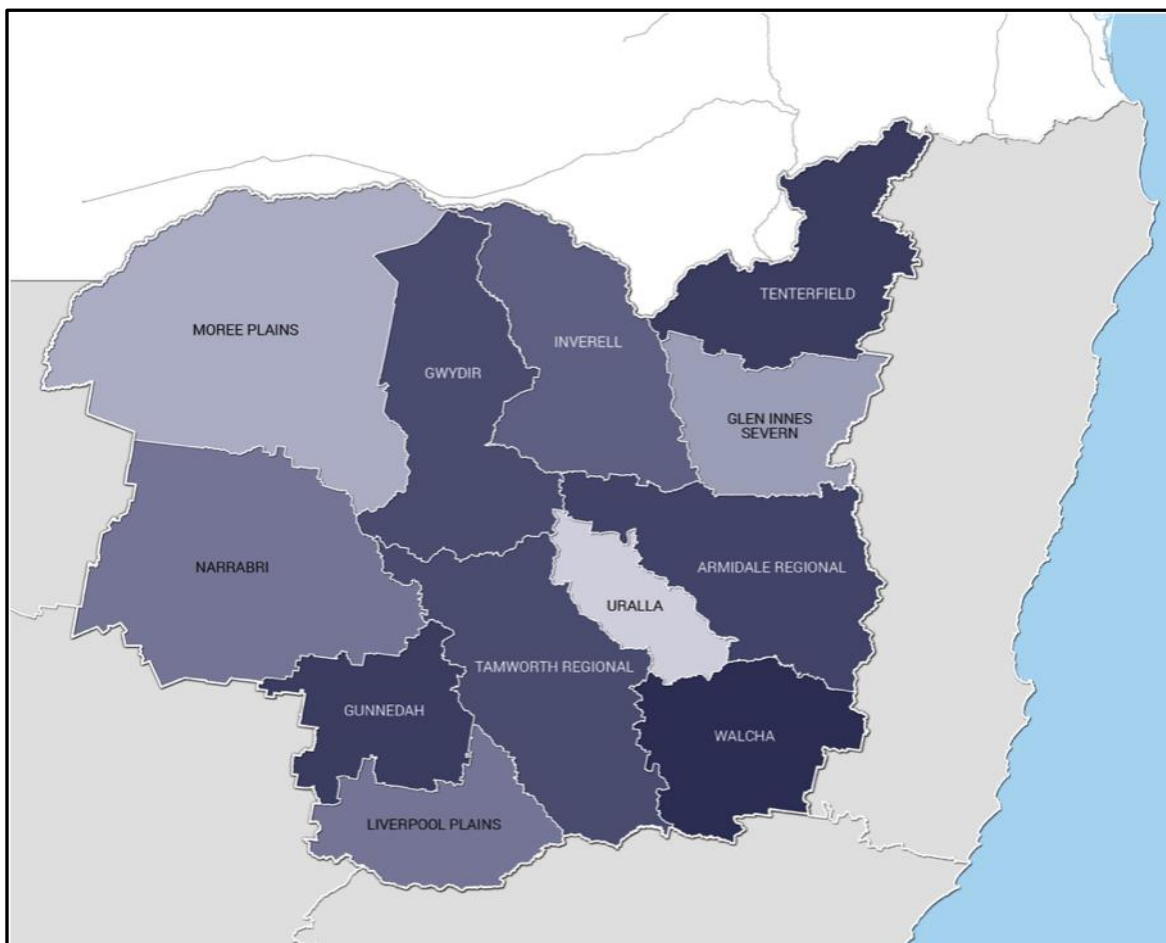


Figure A10. Local government areas of the New England North West region of NSW, showing the geographic location of Gwydir and Inverell Shires.

Source: Courtesy of NSW Government Planning and Environment publication New England North West Regional Plan 2036 <https://www.planning.nsw.gov.au/-/media/Images/DPE/Maps/new-england-north-west-goal-4-fig-10-local-government-area-map2000x1922.jpg?la=en> Accessed 19 May 2022.

Within Gwydir Shire, the townships of Bingara and Warialda provide local retail, commercial and community services and a high quality of life for residents and visitors. Gravesend, Cobbadah, Upper Horton, Croppa Creek, North Star and Warialda fulfil local service needs and contribute to the unique local character of the area^{xxxvii}.

Inverell LGA is nestled alongside the Macintyre River on the western slopes of New England. Inverell is the focal centre located on the Gwydir Highway and provides essential retail, commercial and community services to a range of local communities. Ashford, Gilgai, Yetman and Delungra fulfil local service needs and contribute to the unique local character of the area^{xxxviii}.

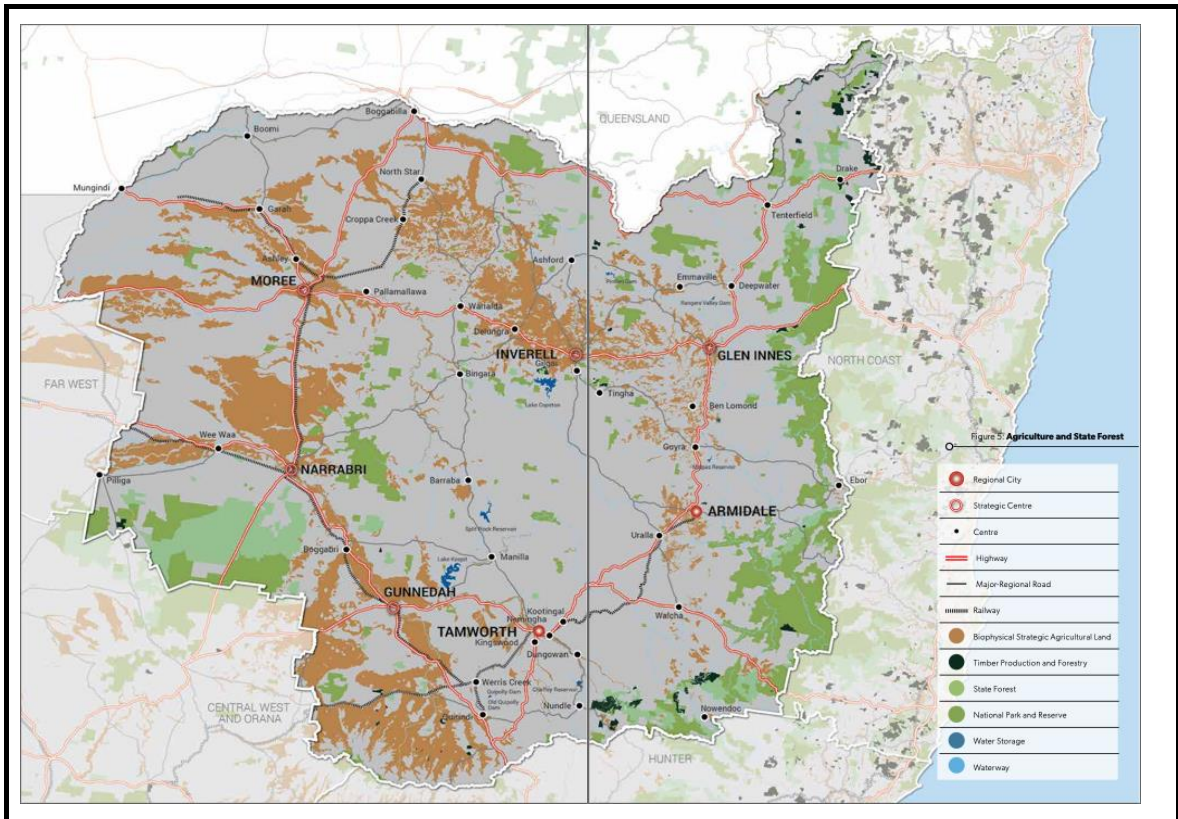


Figure A11. Main roads, agricultural areas and state forest in the New England North West region in 2017.

Source: Courtesy of NSW Government Planning and Environment publication New England North West Regional Plan 2036 <https://www.planning.nsw.gov.au/-/media/Files/DPE/Plans-and-policies/Plans-for-your-area/Regional-plans/New-England-North-West---Final-regional-plan-2017-09.pdf> Accessed 19 May 2022.

The Inverell Shire has interconnections with Tamworth and Armidale located approximately 200km south and 125km southeast and the regional centres of Gunnedah, Narrabri, Moree and Glen Innes. These centres in relation to Inverell and Gwydir Shires are shown in Figure A11.

In all likelihood, Aboriginal peoples occupied the New England area up to 40,000 years ago, when sea levels were much lower than today and the Papuan Islands to the north of Australia to Tasmania in the south were a single continent. Nearly 20,000 years on, the Last Glacial Maximum began, with sea levels falling to about 130 metres to where they are now, temperatures falling dramatically on land and in the sea, and rainfalls declining sharply. Around 15,000 years ago, a warmer period (Holocene) began, and the Australian continent was separated from Papua and Tasmania as sea levels rose. Then came European occupation in the 1830's, driven by demand for wool to feed the British growing textile industry^{xxxix}.

In New England, the European advance forced Aboriginal groups to the more remote and rugged country where horses could not easily penetrate. There, different Aboriginal groups came together to mount larger scale attacks on people and stock. Growing European settlement on the coast seems to have forced coastal Aborigines to the west where they joined with Tablelands' groups including traditional enemies to mount large scale attacks. The patterns created are thought to last to this day but in reality, the exact patterns including regional linkages are poorly understood. Figure A12 shows current day aboriginal Land Council areas.



Figure A12. New England Local Aboriginal Land Council boundaries and name.

Source: <https://alc.org.au/wp-content/uploads/2020/04/state-alc-2013.jpg> Accessed 19 May 2022.

The Local Aboriginal Land Councils are:

- Ashford Local Aboriginal Land Council https://alc.org.au/land_council/ashford/
- Anaiwan Local Aboriginal Land Council https://alc.org.au/land_council/anaiwan/
- Moombahlene Local Aboriginal Land Council https://alc.org.au/land_council/moombahlene/.

Geography

The Gwydir subregion is located within the Murray–Darling Basin in northern NSW. To the north, it is separated from the Maranoa-Balonne-Condamine subregion by the Dumaresq, Macintyre and Barwon rivers and to the south from the Namoi subregion by the Namoi river basin topographic divide. These boundaries correspond to those for the Border Rivers and Gwydir river basins in NSW, but the eastern, upland part of the Border Rivers and Gwydir river basins is not included within this subregion. The eastern boundary of the Gwydir subregion is defined as the extent of the coal-bearing geology.

The southern areas of the Shire are hilly with pockets of highly fertile river flats along the Gwydir River and its main tributaries. Agriculture is the primary land use and economic activity, dominated in the southern and central areas of the Shire with livestock production. Broadacre cropping is undertaken in the northern part of the Shire, with the main crops being wheat, sorghum and barley.

The Gwydir subregion spans an area of 28,109 km², extending westward from the lower slopes of the New England Tablelands onto the low-lying riverine plains of the Barwon-Darling system.

The main rivers draining the subregion are the Gwydir and Macintyre-Barwon rivers. The subregion's most noteworthy water-dependent asset is the Ramsar-listed Gwydir Wetlands on the lower Gwydir and Gingham watercourses, and the Morella Watercourse, Boobera Lagoon and Pungboulal Lagoon on the Macintyre floodplains, which are listed in the *Directory of Important Wetlands in Australia* ([Environment Australia, 2001](#)).

Inverell is located between Sydney and Brisbane. The Inverell Shire Council describes the region as having strong transport links to Newcastle and South East Queensland and being well positioned to access domestic and international markets. They go on to say that the "Shire boasts rich farm and grazing land, including large mineral deposits, particularly tin and sapphires, with the area producing the majority of the world's sapphires. The Shire features diverse retail, manufacturing, professional services, construction and agricultural sectors which are all major contributors to the local economy. Tourism, in particular, is a growing industry in the Shire"^{xi}.

Resource base

The Gwydir subregion is dominated by the Upper Darling Plains physiographic region which is characterised by alluvial sediments (>50%) with minimal saprolite (deeply weathered rock) (<20%). The dominance of one physiographic region in the Gwydir subregion is reflected in the relative uniformity of soil type, land cover and land use.

- Forestry in the Gwydir is native timber dependent i.e. hardwood including ironbark and softwood including cypress pine. The industry is not impacted by drought, and additional water to the Gwydir Wetlands will not affect forestry in the region^{xii}.
- Gwydir-based mining is focussed on quarrying, gem stones and tin mining. The industry may have experienced some limits on processing capacity associated with water shortages during drought¹⁰.
- Competition for water allocation between different agricultural enterprises e.g. horticulture (pecans) and cotton.

Climate

Much of Gwydir Shire lies between the 29°S and 30°S latitudes, placing it mid-way in the realm of arable lands within the Southern Hemisphere. It has a temperate climate with warm to hot summers (25°C–35°C) and cool to mild winters (10°C–20°C). The average elevation across the Shire is approximately 350m above sea level.

Inverell is also located in the temperate to cool temperate climate zone of NSW, which is characterised by warm summers, with uniform rainfall generally occurring in summer. Based on data from 1995–2012, the monthly mean maximum temperature averaged 16.3°C in July to 30.4°C in January. Mean minimum temperatures vary from -0.3°C in July to 15°C in January. Average rainfall recorded over the past 17 years is 794 mm with the highest rain falling in the months of November and December^{xlii}.

As climate change impacts takes greater hold, the Inverell region is expected to experience^{xliii}:

- Increased occurrence of heatwaves, hot days and fire risk
- Potential for increases in seasonal extremes, particularly rainfall events and droughts

- Increased autumn rainfall and decreased winter rainfall in both the near and far future, with rainfall patterns to vary across the region
- Increased short and intense rainfall events, resulting in increased localised flooding from smaller urban streams and urban drainage systems
- An increase in maximum temperatures in the near future (2020-2039) by 0.4°C and in the far future (2060-2079) by 2.2°C to 2.5°C
- An increase in minimum temperatures in the near future by 0.7°C and in the far future by 2.3°C.

Key climate change data for Inverell (refer to Table A4) and for the broader North-West region (Figure A13) are below.

Table A4: Average number of days a year greater than threshold daily maximum temperature values, in incremental 15-year blocks of time, recorded at Inverell Research Centre.

Temperature greater than	1966-80	1981-95	1996-2010	2011-22
30°C	36.8	45.2	50.3	60.9
35°C	2.2	2.2	4.6	10.7
40°C	0.0	0.0	0.0	0.2

Source: BoM Station Number 56018

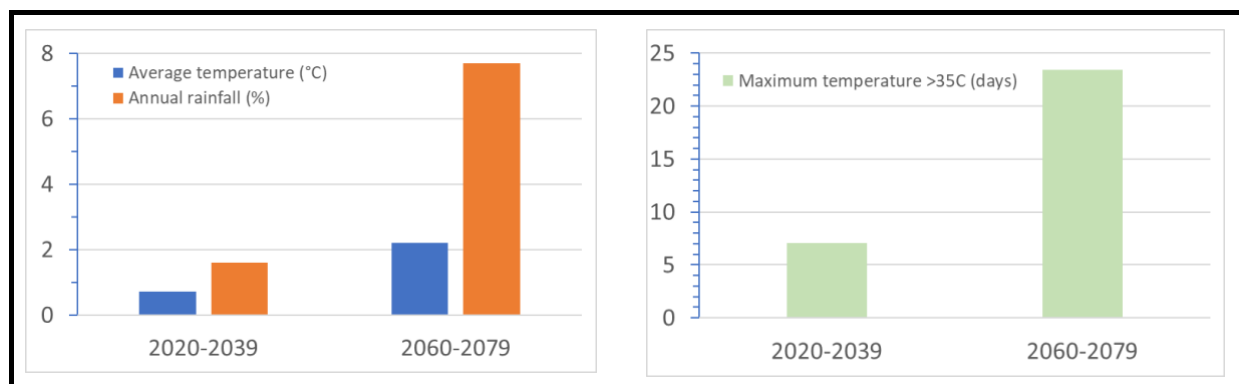


Figure A13. Predicted change in average temperature, annual rainfall and number of days with maximum temperature greater than 35°C, in the New England and North West for the time ranges 2020-39 and 2060-79 (mean values of the predictions from 12 models are displayed).

Source: Adapt NSW <https://www.climatechange.environment.nsw.gov.au/projections-map> Accessed June 2022.

Gwydir Shire at a glance

Gwydir Shire has a population of just under 5,000 people who live in an area of 9,000km². Aboriginal and Torres Strait Islander people make up 5.8% of the population.

The gross regional product of Gwydir Shire in 2021 was \$230 million.

Major employing industries are the education and training, agricultural, construction, healthcare and social services, retail and public administration sectors.

The average annual wage is \$40,000 whilst the median annual wage is \$41,000. Figure A14 depicts major industries of employment^{xliv}.

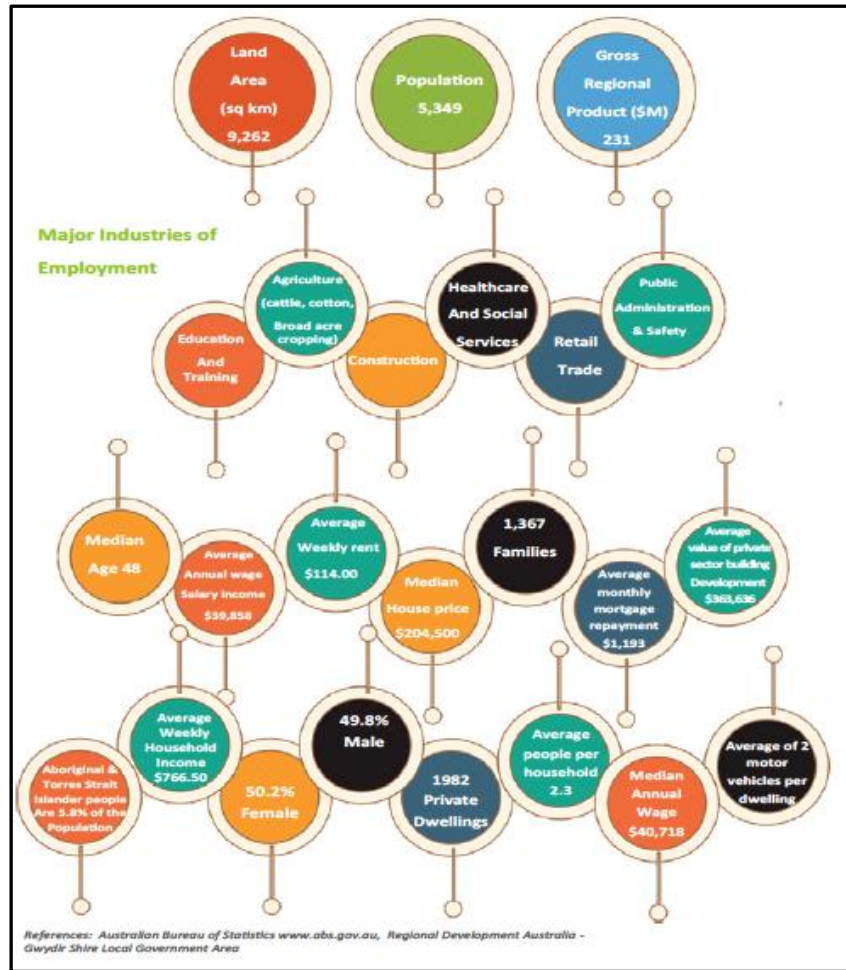


Figure A14. Gwydir Shire at a glance^{xlv}.
Reproduced with permission from Gwydir Shire Council.

Inverell Shire at a glance

Inverell has a strong and growing economy based on agriculture, particularly beef cattle and cropping. It is the operating centre for a large beef processing company, the largest employer in Inverell. Inverell is also a major contributor to Australia’s sapphire production and offers a tourist attraction in gem fossicking.

Below in Figure A15 is data for Inverell Shire from 2016^{xlvi}.

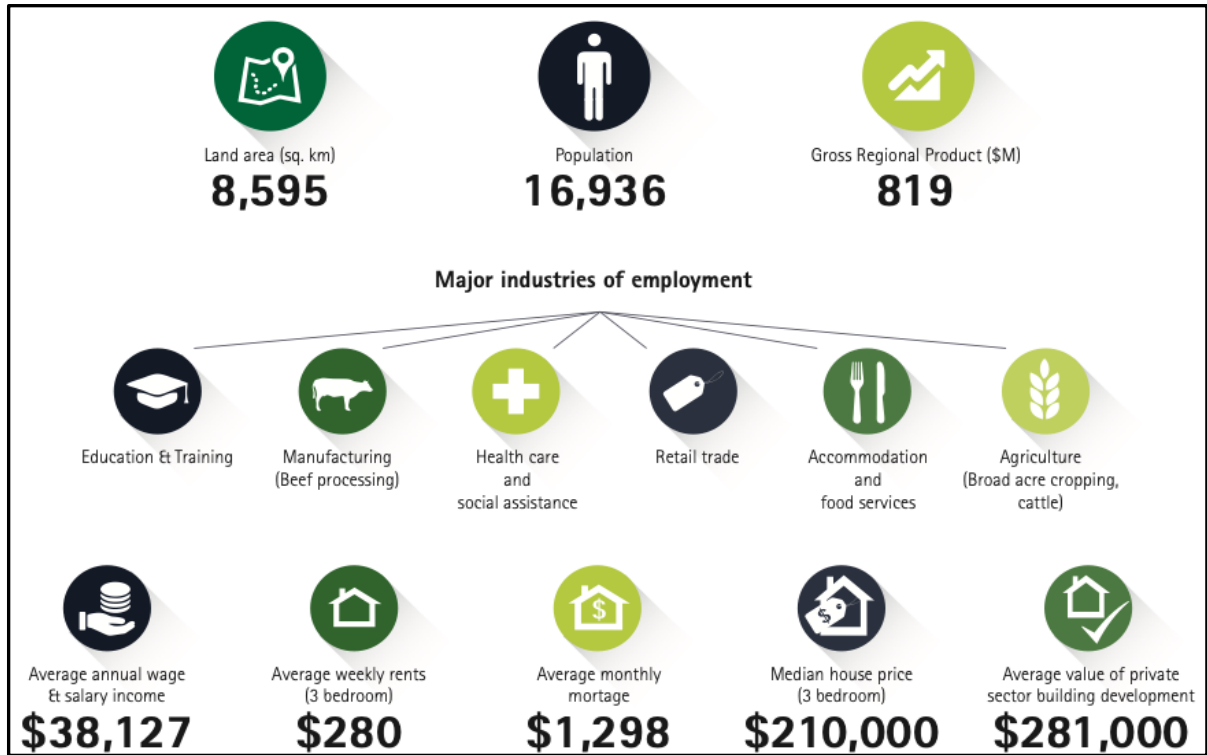


Figure A15. Inverell Shire at a glance^{xlvii}.
 Reproduced with permission from Inverell Shire Council.

Economic characteristics

Figure A16 provides a quarterly depiction from March 2019 to March 2022 of unemployment for the Gwydir-Inverell region^{xlviii} and estimates that:

- Economic output (real \$) for Gwydir-Inverell region in 2021 was \$1,325 million, agriculture accounting for \$578 million of this output
- Employment was 8,622 jobs (1,881 in Gwydir (871 in agriculture, 196 in healthcare); 6,735 in Inverell (810 in agriculture, 962 in healthcare) - 2016 data
- Unemployment rate in December 2021 was 4.0% for Gwydir and 6.5% in Inverell.

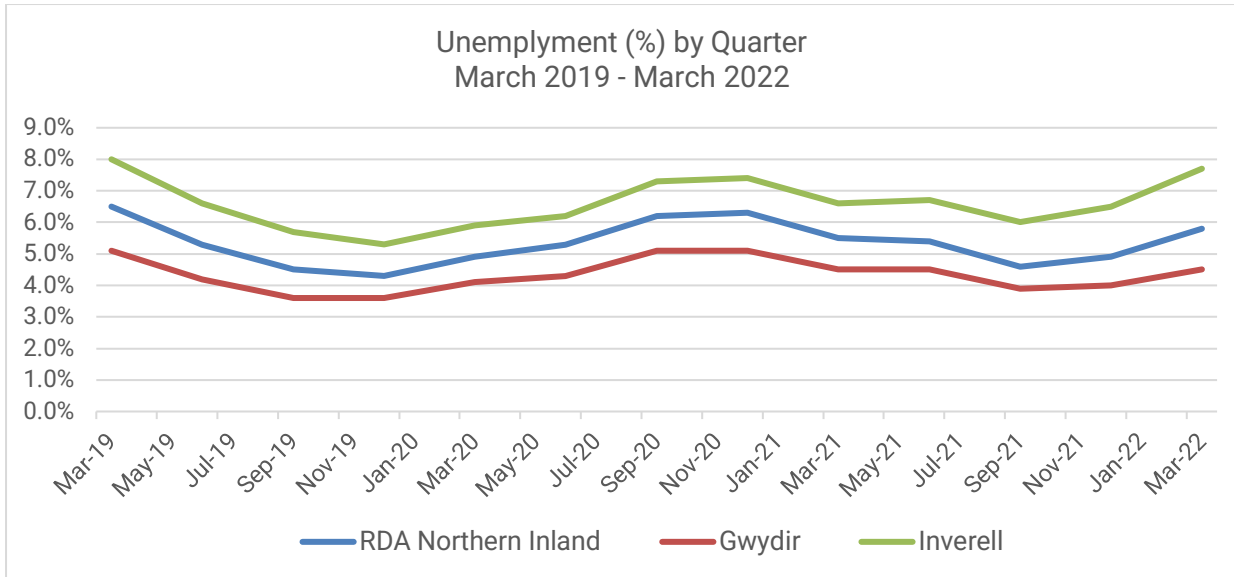


Figure A16. Quarterly depiction of unemployment for the Gwydir-Inverell region

Source: <https://app.rempln.com.au/northerninland/economy/summary?state=40a2UNWwVUmLK8zTZIOLv0HWHASbdGeWRseZK> Accessed June 2022.

Real GDP (June 2020 prices), in the region, has flattened since 2018, as depicted in Figure A17. The flattening could be the effect of drought dampening what was set to be a trend of increasing growth in GDP from 2015.

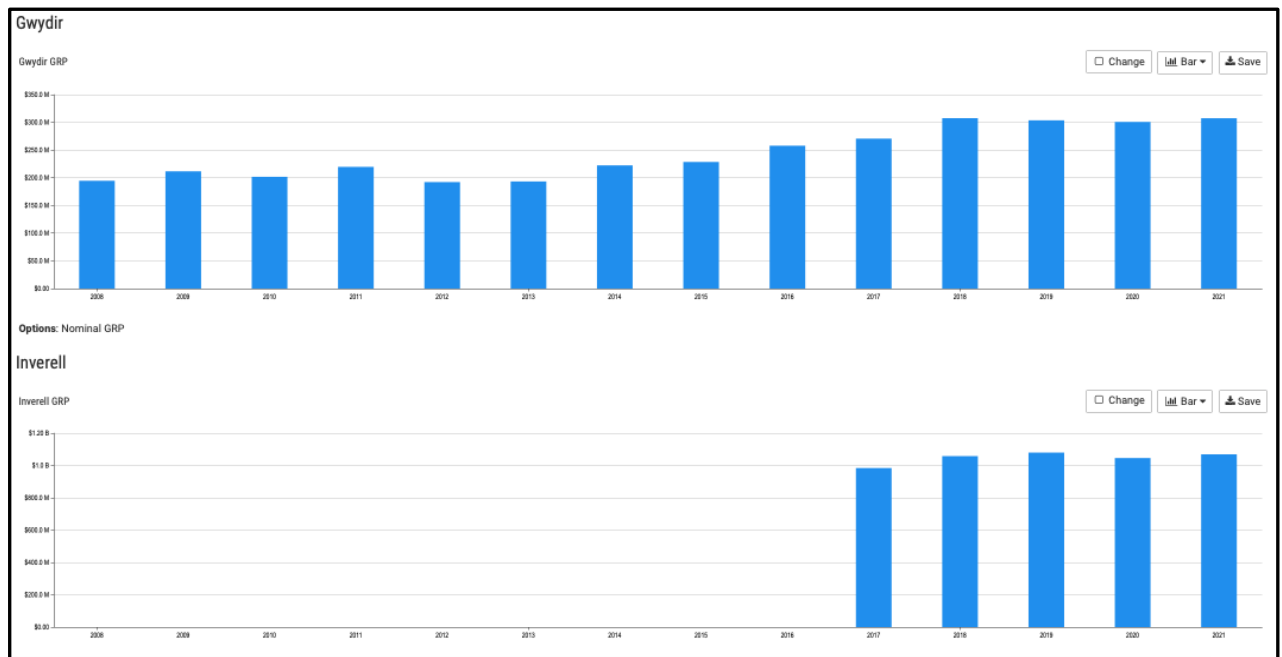


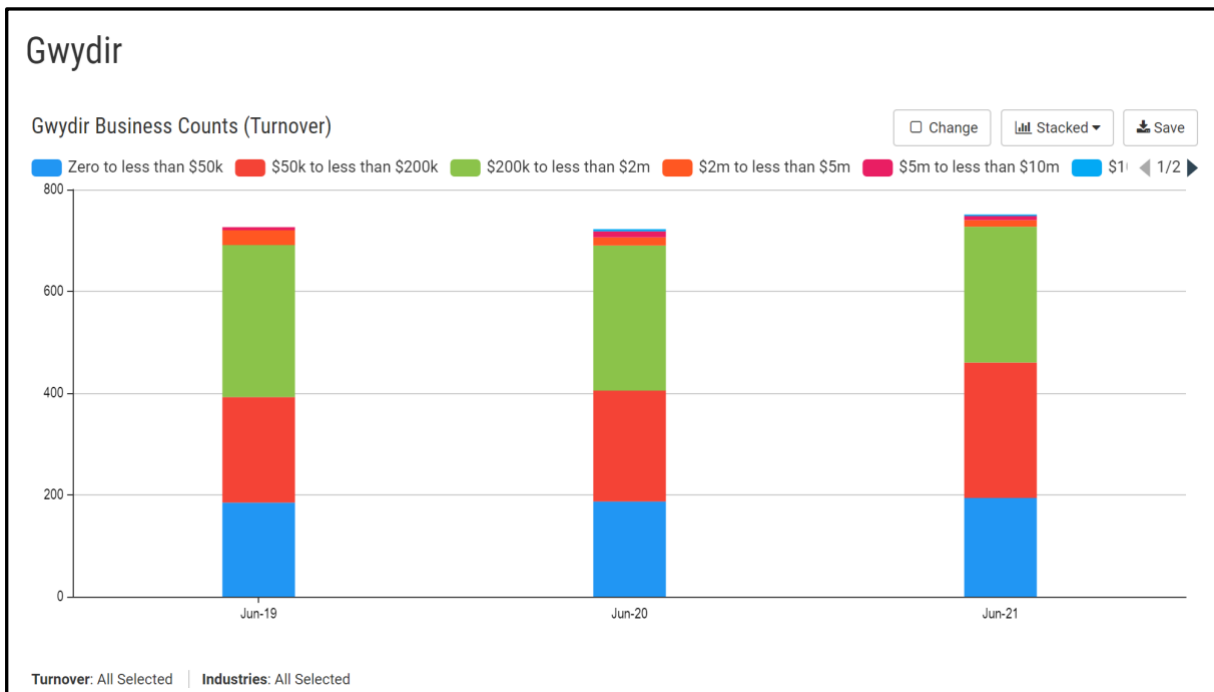
Figure A17. Real GDP of the Gwydir (top bar graph) and Inverell shire (bottom) regions across time.

Source: <https://app.rempln.com.au/northerninland/economy/trends/gross-regional-product?state=PRV1CO!vO1pUj3DOF1RRYdhmy3YVtoTJHVP0lrHzHMVH0S0sRS0SVwy> Accessed June 2022.

The sourced dataset is not complete for Inverell shire region however the following observations have been made:

- Investment between 2011-16: none recorded for Gwydir, Inverell

- Building approvals have risen from 2019-20 for both Shires, but off a low base, noting stable number of occupants per household for Gwydir and a slight decrease in occupants per household since 2011 for Inverell^{xlix}
- Drought sensitive services in the region include long haul road freight, rail transport, services to transport sector, and grain storage
- Other drought sensitive business activities include machinery sales, farm inputs (fertiliser, fuel, chemicals) and motor vehicles (sales and parts)
- Tourism is indirectly affected by drought as people are thought to be less likely to travel inland for holidays during drought and more likely to head to the coast
- There were 38 and 213 jobs in tourism for Gwydir and Inverell^l
- Government administration, education, health and community services accounted for 27% of employment Gwydir, and 28% in Inverell
- Differentials between Gwydir and Inverell Shires in business turnover – in Gwydir, some growth in turnover, particularly for the \$50-\$200K group, which may be larger business dropping back. For Inverell, there’s been a decline in business number turnover, although there is an increase in churn of the small businesses (Figure A18).



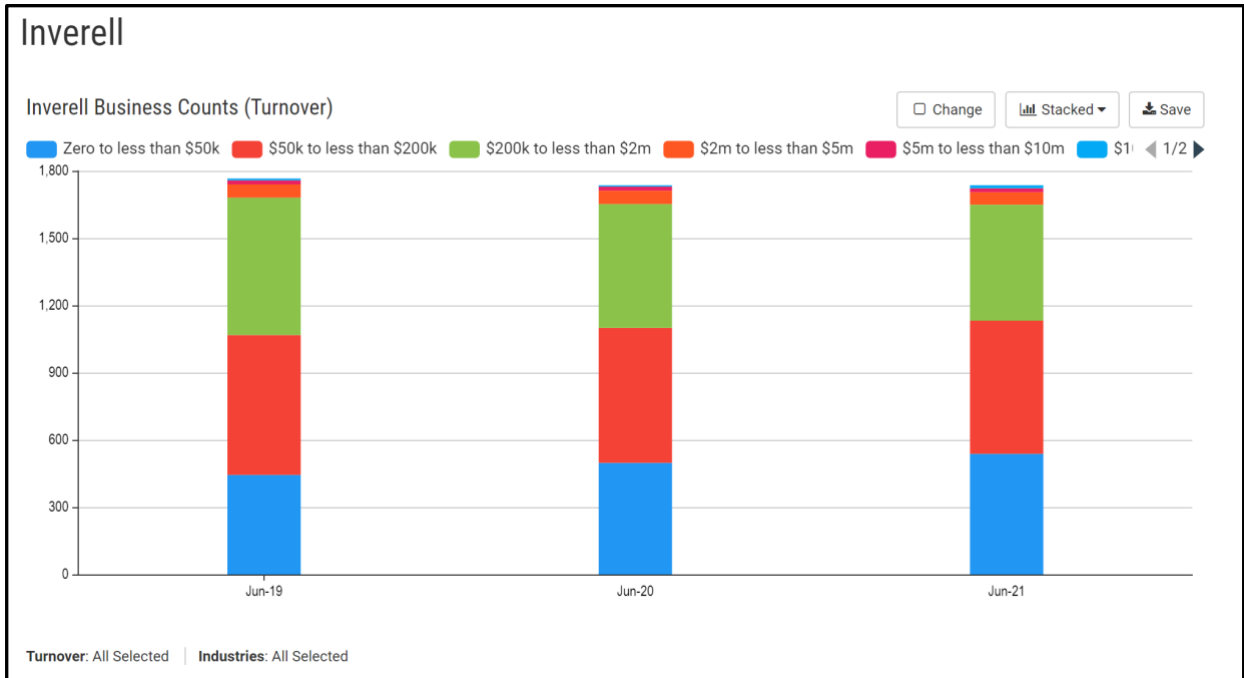


Figure A18. Business turnover Gwydir-Inverell region. **Source:**

<https://app.remplan.com.au/northerninland/community/trends/business-counts-turnover?state=jJDgTD!e1DrIY4BNSD88OQC4JXDQTxUxuY3eSdumuKmVi9uAsWqXocEsezU93B> Accessed July 2022.

Infrastructure

Copeton Dam: Copeton Dam is one of the largest inland dams in NSW with a capacity of 1,364,000 megalitres of water. The construction of the dam was initiated to provide more reliable town water supplies and to boost agricultural production through the provision of river irrigation water in the Gwydir Valley. It provides reliable town water for Inverell via a pipeline and other towns downstream, including Bingara, Gravesend and Weemelah. Copeton Dam has an active release capacity of 11,000 megalitres per day but the spillway is designed to allow for 1,280,000 megalitres if required^{li}.

Inland Rail: Development of the Melbourne-Brisbane Inland Rail and intermodal freight terminals are making it easier for goods, services and people to move across the region and beyond and provides the opportunity for job creation during construction (about 500 in the New England North West region) and once operational^{liii}. The Narrabri to North Star section comprises 184 km of upgraded track and 2 km of new track.

Mobile phone network coverage: A spin-off from the inland rail project is an improvement in mobile phone coverage. In a partnership between the Australian Rail Track Corporation (ARTC) and Telstra, new and upgraded mobile telecommunications infrastructure are being installed along the rail corridor of Narrabri to North Star. ARTC is taking the opportunity to extend local coverage as they implement telecommunications infrastructure during construction. The telecommunications works will include a new radio base station in North Star, a new small cell in Croppa Creek, an upgrade to the existing base station in Gurley and a new radio base station in Crooble^{liiv}.

Renewable Energy Zone: Renewable Energy Zones (REZs) are modern-day power stations. They combine renewable energy generation such as wind and solar, storage such as batteries, and high-voltage poles and wires to deliver energy to homes, businesses and industries. By connecting multiple generators and storage in the same location, REZs capitalise on economies of scale to deliver cheap, reliable and clean

electricity for NSW^{lv}. The New England REZ has been announced and will be developed in the area surrounding Armidale in the New England region of NSW. It will aim to support the development of up to 8,000 megawatts of renewable generation capacity^{lvi}.

Renewable energy does present some opportunity for farmers to be paid to host infrastructure on their land, with income typically unaffected by factors associated with drought.

Strategies to address drought resilience

This section explores drought resilience improvement actions and activities in other regions and maps them against existing drought resilience activities in the Gwydir-Inverell region.

What's being suggested in other regions and in the social sciences to improve resilience?

Key steps for individuals in developing resilience are:

- Developing optimism (leading to positive expectations enabling a person to take positive action)
- Acceptance of the situation
- Focusing on potential solutions
- Taking responsibility for one's own life
- Escaping from the role as a victim of circumstance
- Building a support network
- Planning a flexible strategy for dealing with future challenges.

Feedback from Queensland Government's drought and climate adaptation program from drought-affected farmers in a comparable region to Gwydir–Inverell provides some key learnings such as:

- The need for producer-contributed resources to be available for other producers to draw upon
- The positive value of networking with other producers.

This program resulted in publishing key learnings for grazing businesses, for managing livestock, and for emotional well-being. Key learnings for emotional well-being for farmers included^{lvii}:

- Having off-farm focuses within the community such as sporting clubs
- Going on a holiday or at least plan one
- Finding mechanisms that work for them to reduce stress
- Looking out for themselves, their family and friends
- Accepting that not every decision is going to be the right one.

The NSW government's report Future Ready Regions Strategy documents key learnings from the experience of the most recent drought^{lviii}. These are:

- Clear and consistent policy responses must be developed, agreed to and communicated to industry early to provide certainty at each stage of drought

- Where government assistance is provided, there must be accessible and streamlined processes and guidelines
- Access to expertise, data and tools support early decisions and improved resilience
- Investment in R&D across the agricultural sector is critical to managing, preparing for and recovering from drought
- Farm business resilience is enhanced through improved business literacy, social structures and wellbeing support
- When food and water resources are under pressure, it is even more critical to make timely decisions to prevent animal welfare issues
- Regular evaluation of policies and programs should be undertaken
- Investment in on-farm infrastructure supports resilience and preparedness.

There are many organisations that work directly and indirectly to improve adaptive capacity to drought. For example, the network of Rural Research and Development Corporations, often partnering with State Governments, have projects relevant to the Gwydir-Inverell region. There are multiple leadership programs aiming to build capacity within regional communities, such as the Australian Rural Leadership Foundation's Future Drought Resilience Leaders Program^{lix} and Building Resilient Regional Leaders Program.

Many relevant reports of resilience to disasters and drought in regional Australia exist. The main themes for several of these reports, chosen due to their relevance for developing the Gwydir-Inverell Regional Drought Resilience Plan, have been mapped to the strategic priorities in Table A5. Broadly these reports align and emphasise the wellbeing and social capital of rural, regional and remote communities and place less emphasis on natural capital.

Table A5. Key findings and/or recommendations from relevant reports mapped against strategic priorities.

Report	Grow self-reliance and performance of the agricultural sector	Improve natural capital of agricultural landscapes for better environmental outcomes	Strengthen the wellbeing and social capital of rural, regional and remote communities	Other (includes infrastructure)
Gwydir Shire Council community Strategic Plan 2017 – 2027 ^{lx}		<ul style="list-style-type: none"> • Council’s Circular Economy initiative • An environmentally responsible Shire 	<ul style="list-style-type: none"> • Increase the level of disposable income in the Shire • Opening the Shire to migrants and refugees under the Federal and State Governments’ resettlement programs • Build capacity among people already working in each sector by involving them in the planning process • Aspirational target of increasing the Shire’s population to 8,000 residents by 2031 	<ul style="list-style-type: none"> • Renewable energy
Draft Inverell Shire Local Strategic Planning Statement 2036 ^{lxi}	<ul style="list-style-type: none"> • Grow our agriculture, agribusiness and manufacturing sectors 	<ul style="list-style-type: none"> • Expand nature-based adventure and cultural tourism 	<ul style="list-style-type: none"> • Deliver diverse housing choice that reinforces our unique character 	<ul style="list-style-type: none"> • Manage and support renewable energy

Report	Grow self-reliance and performance of the agricultural sector	Improve natural capital of agricultural landscapes for better environmental outcomes	Strengthen the wellbeing and social capital of rural, regional and remote communities	Other (includes infrastructure)
	<ul style="list-style-type: none"> • Protect productive agricultural lands from land use conflict and fragmentation • Foster resilience and diversification • Encourage diversification of agriculture, horticulture, manufacturing and agri-business • Increase opportunities to move produce to domestic and international markets 	<ul style="list-style-type: none"> • Protect and celebrate our unique sense of place • Protect and enhance our natural environment 	<ul style="list-style-type: none"> • Promote business and lifestyle opportunities • Plan for climate change and risks such as bushfire and flooding 	<ul style="list-style-type: none"> • Support infrastructure that encourages new industries • Plan for integrated land use and transport
<p>New England North West Regional Plan 2036^{lxii}</p>	<ul style="list-style-type: none"> • A growing and diversified agricultural sector • Expand agribusiness and food processing sectors 	<ul style="list-style-type: none"> • Protected water environment and heritage • Sustainably manage and conserve water resources 	<ul style="list-style-type: none"> • Communities resilient to change with housing choice and services that meet shifting needs and lifestyles • Prosperous urban centres with job opportunities 	<ul style="list-style-type: none"> • A diverse economy through the management of mineral and energy resources including renewable energy generation

Report	Grow self-reliance and performance of the agricultural sector	Improve natural capital of agricultural landscapes for better environmental outcomes	Strengthen the wellbeing and social capital of rural, regional and remote communities	Other (includes infrastructure)
	<ul style="list-style-type: none"> • Build agricultural productivity • Protect and enhance productive agricultural lands • Protect areas of potential high environmental value 	<ul style="list-style-type: none"> • Protect areas of potential high environmental value • Collaborate with Aboriginal communities to respect and protect Aboriginal culture and heritage 	<ul style="list-style-type: none"> • Expand tourism and visitor opportunities • Strengthen community resilience 	<ul style="list-style-type: none"> • Expand emerging industries through freight and logistics connectivity
Goondiwindi Regional Council Drought Resilience Plan ^{lxiii}			<ul style="list-style-type: none"> • Support local health services and support service providers to deliver mental health and community drought support programs • Support local events that promote community connectedness – arts & culture funding, event funding, venue hire 	<ul style="list-style-type: none"> • Water use efficiency by Council and by community • Increased water storage and improved management of allocation
Report prepared for the Queensland Government in	<ul style="list-style-type: none"> • Enhancing economic resilience through industry diversification, 		<ul style="list-style-type: none"> • Supporting a resilient society through community networks and an inherent 	<ul style="list-style-type: none"> • Enhancing infrastructure through pathways for

Report	Grow self-reliance and performance of the agricultural sector	Improve natural capital of agricultural landscapes for better environmental outcomes	Strengthen the wellbeing and social capital of rural, regional and remote communities	Other (includes infrastructure)
2020 - Central West Regional Resilience Strategy ^{lxiv}	leveraging cascading economic opportunity, encouraging business diversity, focusing on collaboration and partnerships across public and private sectors		ability to adapt to changing circumstances <ul style="list-style-type: none"> • Supporting community-led recovery opportunities and operations following [disaster] events • Improve funding certainty through proactive planning, prioritisation and coordination for collective benefit 	improved communications and transport linkages for societal and economic benefit
NSW Government: Upper North West Regional Economic Development Strategy 2018-2022 ^{lxv}	<ul style="list-style-type: none"> • Encourage investment, increased productivity and value adding 		<ul style="list-style-type: none"> • Invest in people, skills, community and lifestyle to address the region's skill gaps 	<ul style="list-style-type: none"> • Improve freight efficiency • Diversify the economy through emerging industry sectors (tourism, renewable energy, coal seam gas)
NSW Government's Future Ready	<ul style="list-style-type: none"> • Stronger primary industries prepared for drought through five 	<ul style="list-style-type: none"> • Sustainable, secure and healthy water resources through six 	<ul style="list-style-type: none"> • Stronger communities and diverse regional economies through three actions 	

Report	Grow self-reliance and performance of the agricultural sector	Improve natural capital of agricultural landscapes for better environmental outcomes	Strengthen the wellbeing and social capital of rural, regional and remote communities	Other (includes infrastructure)
Regions Strategy ^{lxvi}	actions for accelerated innovation, information systems and diversification	actions for more efficient and coordinated water resources which support the NSW Water Strategy	supporting community resilience, which includes developing the Regional Drought Resilience Plans	
NSW Government February 2021: A 20-Year Economic Vision for Regional NSW ^{lxvii}		<ul style="list-style-type: none"> • Manage vital energy and water resources sustainably to ensure supply will be meet long-term regional needs 	<ul style="list-style-type: none"> • \$410 million for inland economies • Education & skills: provide clear skills pathways and connectivity for jobs in regions • Develop areas with tourism potential to attract domestic and international tourists • Special activation precincts to create more jobs 	<ul style="list-style-type: none"> • Common user infrastructure • Digital connectivity • Renewable energy zones • Fixing country roads and rail • Investing in the built environment • Fast track critical town water supply projects
Australian Government Drought Response,	<ul style="list-style-type: none"> • Long-term resilience and preparedness – building resilience and the ability to withstand 		<ul style="list-style-type: none"> • Immediate action for those in drought – focussed on measures to support farmers and communities 	

Report	Grow self-reliance and performance of the agricultural sector	Improve natural capital of agricultural landscapes for better environmental outcomes	Strengthen the wellbeing and social capital of rural, regional and remote communities	Other (includes infrastructure)
Resilience and Preparedness Plan ^{lxviii}	droughts in the long term		<p>facing prolonged drought conditions to keep them going until drought breaks</p> <ul style="list-style-type: none"> • Support for wider communities affected by drought – rural and regional communities depend on our farmers and are at the heart of Australia 	
Australian Government National Climate Resilience and Adaptation Strategy 2021-2025 ^{lxix}	<ul style="list-style-type: none"> • Improve climate information and services • Deliver enhanced information and services to more users • Continue to deliver world class science that informs successful adaptation 		<ul style="list-style-type: none"> • Drive investment and action through collaboration • Provide enhanced national leadership & coordination • Partner with governments, businesses & communities to act and invest • Assess progress to improve over time 	
Report prepared for the National Farmers Federation 2020 Future-Proofing	<ul style="list-style-type: none"> • Make existing datasets accessible in a more user-friendly manner and deliver new, higher quality, 		<ul style="list-style-type: none"> • Improve the overall impact and cost effectiveness of financial support provided to the agricultural sector, whilst encouraging farmers 	

Report	Grow self-reliance and performance of the agricultural sector	Improve natural capital of agricultural landscapes for better environmental outcomes	Strengthen the wellbeing and social capital of rural, regional and remote communities	Other (includes infrastructure)
<p>Farming Collaborating to manage risk and build resilience^{lxx}</p>	<p>more granular datasets to support the agricultural and insurance industries</p> <ul style="list-style-type: none"> • Foster information sharing and collaboration on a national basis, drawing together resources from private and public sectors, including from education providers, relevant government agencies, industry associations, R&D corporations, and commercial enterprises • Enhance the awareness and understanding of financial literacy and financial risk management tools across the 		<p>and other participants in the agricultural value chain to invest in alternative pathways to manage inherent risks</p>	

Report	Grow self-reliance and performance of the agricultural sector	Improve natural capital of agricultural landscapes for better environmental outcomes	Strengthen the wellbeing and social capital of rural, regional and remote communities	Other (includes infrastructure)
	[agricultural] industry, and to improve agricultural and financial risk management product-specific knowledge and awareness of farm advisors, so that their service adds greater value			
Report for Regional Australia Institute - Building Resilience in Rural Communities: Toolkit ^{lxxi}		<ul style="list-style-type: none"> • Environment and lifestyle • Beliefs 	<ul style="list-style-type: none"> • Social networks and support • Positive outlook • Learning • Early experiences • Sense of purpose • Embracing differences • Beliefs • Leadership 	<ul style="list-style-type: none"> • Infrastructure and support services • Diverse and innovative economy

What models are there to guide responses to events such as drought?

CSIRO purports that traditional approaches such as strategic planning, risk assessment and stakeholder engagement processes were not designed to cope with the unprecedented rapid rate of change, particularly climate change and its ramifications, we are now experiencing. Consequently, CSIRO has built upon prior research to develop a guide to designing, implementing and assessing interventions for sustainable futures – this guide is called Resilience Adaptation Pathways and Transformation Approach – RAPTA^{lxxii}. The three processes that are integral to RAPTA are to:

- Identify stakeholders, their roles and connections, and bring people together to set goals, imagine future change and participate in other RAPTA components
- Describe and analyse the system, recognise values and perspectives of diverse stakeholders, explore future scenarios, and identify uncertainties, stresses and shocks to assess resilience, adaptation and transformation and key points of intervention
- Identify intervention options and arrange them into a provisional order for implementation pathways. Estimate their qualitative and quantitative benefits and costs, assemble them into an implementation plan with triggers and alternative pathways, and take action.

Figure A19 shows the interconnectedness of these relationships in the RAPTA model. The concepts in the RAPTA have been generally applied in this project and report.

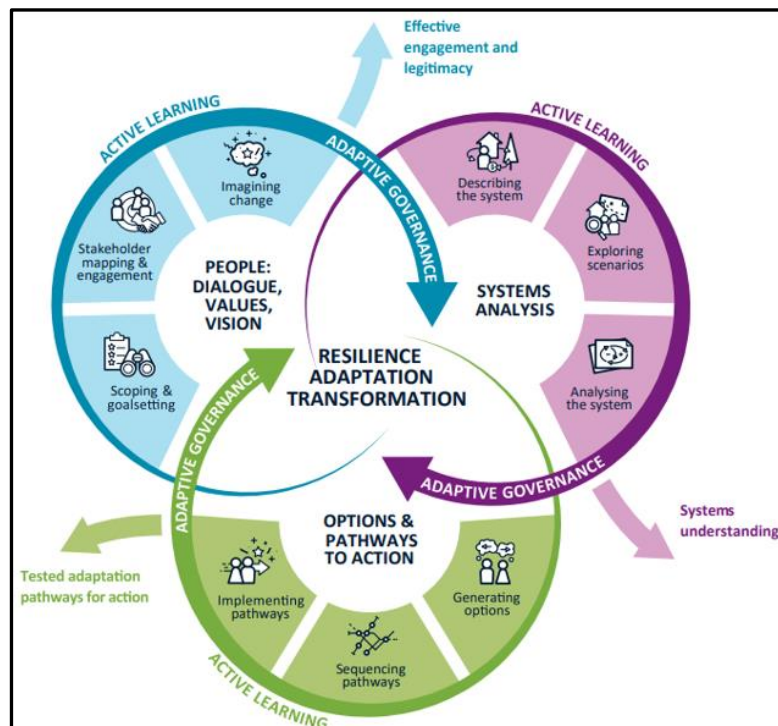


Figure A19. RAPTA processes and modules

Source: Reproduced from the RDRP Report Template - CSIRO 2019 https://acfid.asn.au/sites/site.acfid/files/19-00418_LW_REPORT_RAPTAGuide_WEB_190829.pdf Accessed July 2022.

Role of governments in strengthening resilience

What role can local government have in strengthening resilience?

Of the three tiers of government, local government has the greatest on-ground understanding of what their communities need and has an influential and self-serving role in sustaining them during prolonged drought. Local government also has an important role as a significant employer and partnering with state governments and the Australian Government to secure town water, provide local leadership, build social capital, maintain employment to support the local economy and advocate for the needs of the community. Local government works in context with global market forces, which are particularly apparent in regional and rural areas of Australia.

In reality, regional and rural councils in NSW have just sufficient resources to carry out business-as-usual activities providing services for the community and must rely on external income for significant strategic projects^{lxxiii}. This means that the Councils may not have the freedom to direct the grant funds as it sees necessary and councils with smaller populations may also be excluded from some state support programs.

How land in NSW is developed and managed, including the process for making environmental plans, is set out in the NSW Environmental and Assessment Act 1979. Councils have specific developmental control plans. Given their level of resourcing in relation to legislative and regulatory compliance requirements, Councils may not be able to deftly approve initiatives that would have community benefits in strengthening resilience.

Further challenges for local government in building resilience to drought is the nature of some rural communities - community dynamics - a difficult cultural issue to change. This is a quote from the Regional Institute:

"Many towns face barriers such as that between people with imagination who strike obstacles in developing their ideas due to the lack of management skills, finance, risk taking or knowledge about the greater environment in which they are operating. People outside towns who do possess the management skills, finance and understanding of the greater environment encounter difficulties because they lack an understanding of the smaller towns, their obstacles and opportunities^{lxxiv}."

Globally there is an increasing demand from the public and private sectors to reduce risk associated with disasters and climate change. Funding for disaster risk reduction, climate adaptation, and building resilience cannot be met by governments alone. Increasingly there will be expectations for private sector investment into infrastructure and other major projects that deliver both a financial return to investors and create community and economic resilience^{lxxv}.

To build the capabilities that enable governments, business, and the community to better understand and prioritise investments in resilience, disaster risk reduction, and adaptation, the current situation facing regional communities needs to be better understood. As chronic, periodic and acute stressors increase, accumulate and compound, exceeding the capacity of the system to cope, catastrophic disaster becomes more likely.

What has been the State and Federal Governments' response to drought?

Government intervention can encourage and support effective risk management.

The schema below (Figure A20) illustrates the policy approach taken by the Australian Government Department of Agriculture Water and Environment to drought. This Drought Resilience Plan for Gwydir and Inverell is primarily focussed on the segment 'Long-term resilience and preparedness'.

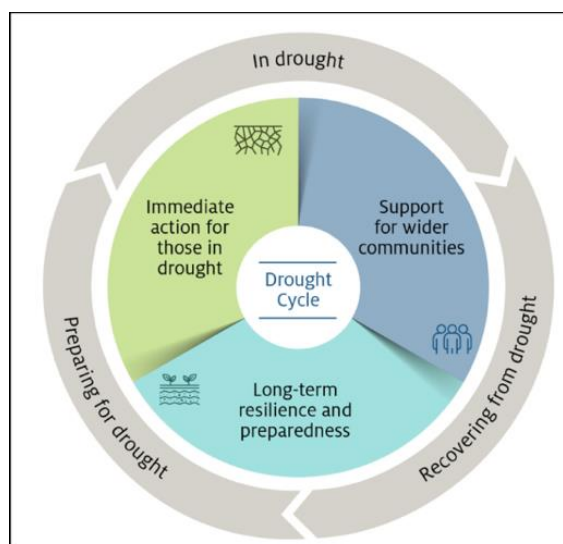


Figure A20. Australian Government Department of Agriculture Water and Environment policy approach to drought. **Source:** [Drought policy - DAWE](#) Accessed July 2022.

The Australian Government Drought Response, Resilience and Preparedness Plan^{lxxvi} lists Australian Government measures and programs that support resilience and preparedness. In 2019, there were the following number of programs in place:

- Immediate action for those in drought – 22 programs
- Support for the wider communities affected by drought - 8 programs
- Long-term resilience and preparedness – 9 programs including the Future Drought Fund.

Many of these programs including the Rural Financial Counselling Service, Farm Household Allowance and Drought Communities Programme Extension have been formally reviewed. A common theme in these programs was that they did not promote behavioural change, which requires greater focus on capacity building in terms of knowledge and skills, using evidence to support decisions and collaborating.

The Future Drought Fund (FDF) programs (18 have funding allocated to them as of July 2022^{lxxvii}) are focussed on capacity building. FDF strategic priorities are to:

- Grow self-reliance and performance of the agricultural sector
- Improve the natural capital of agricultural landscapes for better environmental outcomes
- Strengthen the wellbeing and social capital of rural, regional and remote communities.

Non-agricultural government portfolios also have programs supporting drought affected communities. One such program is the 'Drought Communities One Stop Shop'. This is

organised and funded by the Federal Government's National Recovery and Resilience Agency in partnership with Rotary Australia. The program aims to provide communities with appropriate information, advice and options to prepare and recover from drought, flood and bushfire. As part of the program, Rotary distributes \$500 vouchers to drought-affected households and conducts community well-being activities. It is unclear how welfare payments deliver on the FDF strategic priorities, particularly growing self-reliance.

The NSW government provides a publicly available drought monitoring tool that monitors seasonal conditions across NSW. It is called the Enhanced Drought Information System (EDIS). It is used across government and farming stakeholders to build drought risk awareness, emphasise drought preparedness and improve confidence in drought monitoring and early warning. A key feature of EDIS is the development of the NSW DPI Combined Drought Indicator (CDI).

The CDI integrates a range of data and model outputs in a framework that is useful for decision makers. It combines meteorological, hydrological and agronomic definitions of drought (above) using indexes for rainfall, soil and water and plant growth. From these, a fourth index, drought direction (DDI), is developed. EDIS is undergoing redevelopment under the Future Ready Region strategy to provide farmers with world-leading weather and climate data to enable better business decisions^{lxxviii}. Maybe ultimately climate forecasts rather than hindcasts are the gold standard for future decision-making for example tools such as Ag360^{lxxix}.

The NSW government also provides business support for a wide range of industries including performance data and insights as well as budget and cost tools. State-based grants include Emergency Water Infrastructure Rebate Scheme, Disaster Recovery Grants and Community Grants Future Drought Fund. NSW Government provides financial relief and support services for eligible local councils, primary producers, small businesses, sport and recreational clubs, not-for-profit organisations, individuals, families and households^{lxxx}. *DroughtHub*, an online drought assistance and information portal for NSW primary producers, is a further support mechanism resourced by the NSW Government. A further support program called *AdaptNSW* has a broader target audience that includes communities, businesses, households and government itself.

The Australian Government and NSW Government co-fund the Farm Business Resilience Program^{lxxxi}. This program provides coaching for farmers, farm managers, and their employees, who are looking to upskill and learn about risk management, how to adapt to a changing climate, and improve the economic, environmental, and social resilience of their business.

The relationship between the Australian Government Future Drought Fund and the NSW Government drought action is provided in Figure A21. This Plan is one of three programs forming drought actions.



Figure A21. Alignment of drought-related strategies and actions. **Source:** Reproduced from the RDRP Project Management Guide.

While government and industry policy has espoused the need for farmers to take the primary role of managing risks, the 'Future-Proofing Farming' report prepared by Pottinger for the National Farmers Federation sees a key role for government to ensure all available risk management tools are readily available to farmers to manage volatile conditions^{lxxxii}. It identifies the need for governments to have a role in:

- A national data initiative to inform farmers on their decision-making; increase the availability
- Ensuring granularity and comparability of data to foster the adoption of financial risk management products
- Improving the development and pricing of new risk products
- Elevating the risk management advice provided to farmers through a national curriculum on farm financial risk management, and an accreditation program for farm advisors
- Improving price discovery and transparency, particularly in developing markets for futures contracts across all relevant commodities.

Appendix 1 to Attachment A. Terms of Reference from Gwydir & Inverell Shire Councils to UNE

Scope: The project will be undertaken in three phases outlined below.

1. Desktop review and preliminary resilience assessment

Key deliverables

1. Preliminary desktop review and initial resilience assessment of the region

The successful consultant will first undertake a desktop review and preliminary resilience assessment of the LGAs. Consultants are required to use a structured resilience assessment process (be outlined in the response to this Tender) which is appropriate for the achieving the program's objectives. Key components of the resilience assessment in the desktop review phase will include:

- Key characteristics of the local community and economy (e.g. demographics, key economic drivers, resource base and geography)
- Summary of relevant strategic visions and plans (e.g. 20-Year Economic Vision for Regional NSW, Regional Economic Development Strategies i.e. REDS, Community Strategic Plans, etc.)
- Assessment of the impact of previous droughts on the local community and economy, including Government sponsored drought response measures.

Councils / The Department of Regional NSW/ NSW Department of Planning and Environment/ NSW Department of Primary Industries and Resilience NSW and Department of Agriculture, Water and Environment will provide further documentation as necessary to assist with this process. The desktop review will be used to inform and design consultation and co-design with the local community, including an assessment of constraints and opportunities of local government as drought resilience actors (Phase 2).

2. Consultation, co-design and updated resilience assessment

Key deliverables

2. Stakeholder and Community Engagement Plan

3. Preparation and facilitation of resilience assessment workshops.

4. Finalisation of resilience assessment

5. Identification of 4-6 drought resilience projects across economic, social and environmental pillars.

The consultant will:

- Work with the PCG to Create a Stakeholder and Community Engagement Plan which identifies and engages private and public sector stakeholders which are interested in or impacted by drought.
- Work with local stakeholders to refine and complete resilience assessments. Resilience assessments will then be used to inform an Investment Logic Map process (or similar) to identify and describe 4-6 drought resilience projects across economic, social and environmental resilience pillars. Examples of projects which may be identified through the co-design process include:

- i. Opportunities for inter-industry and intra-industry diversification
- ii. Improving efficiency of water and energy, particularly where this is related to amenity or service provision by local government
- iii. Indigenous land management knowledge sharing and development; or
- iv. Developing and expanding local programs to build leadership and social capital
- v. Opportunities for local government to run work programs countercyclically to the economic impact of drought.

Consultants should plan on holding multiple workshops as part of the resilience assessment and Investment Logic Map process. Where possible under to COVID-19 restrictions it would be preferable for as many of these to be conducted in-person as possible. A detailed stakeholder list will be developed in consultation with the PCG and will likely contain:

- Industry and community groups (CWA, farmers, producer groups etc)
- Regional and rural community leaders
- Regional employers and business owners
- Local council staff members
- Joint Organisations of Councils (JOs)
- Local Aboriginal Land Councils (LALC)
- Business Chambers
- Various NSW Government agencies (e.g. DRNSW, DPIE, DPI & Resilience NSW).

3. Detailing Drought Resilience Projects and Final Drought Resilience Plan

Key deliverables

6. Drought Resilience Plan

The consultant will prepare a Drought Resilience Plan (document form) which projects a clear vision and acts as a reference point for councils to improve and manage drought resilience over the next 20 years. The Drought Resilience Plan (not exceeding 60 pages in length) will contain.

- A summary of conclusions from the desktop review, community consultation, resilience assessment and Investment Logic Map
- A description of 4-6 drought resilience projects identified during the community consultation and co-design phase. Projects should be focused solely on improving drought resilience outcomes and not necessarily be constrained by current / temporal availability of funds
- The output from a robust evaluation and prioritisation framework (including rapid Benefit-Cost Ratio appropriate) of identified priority projects
- The production of. The purpose of this is to highlight the key outcomes of the study in a manner which is easily accessible to council staff, councillors and the local community

- Identification and scoping of further detailed technical studies to be undertaken within the remaining budget and either:
 - a) Represent the implementation of identified projects (e.g. water demand assessment to allow for better forecasting and management of water supplies); or
 - b) Can be leveraged by council to support applications for implementation funding to state and federal programs (e.g. technical study into upgrading the efficiency of council owned water infrastructure)
- The consultant, in consultation with the PCG and local council will make a recommendation on projects which could be implemented within a budget envelope in the order of \$100,000-\$300,000.

To increase the accessibility of the plan to the local community and support the development of future plans in other regions, the consultant will also produce:

- A succinct booklet (max. 5 pages) summarising resilience assessment outcomes and prioritised projects
- A succinct summary (max. 4 pages) of key lessons in the project.

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Attachment B – Phase 2 Consultation, codesign and ranking of community ideas

This attachment outlines:

- Section A: the structure, process and stakeholder mapping for conducting the community consultation. It should be noted that the names and contact details in the stakeholder mapping section were generously provided by the two Shires. They cannot be copied or supplied to any other third party without the permission of the Shires and the individuals identified in the stakeholder map.
- Section B: the format of the community consultation sessions. Where attendance was low an informal structure was introduced however the key areas of exploration were covered in all sessions.
- Section C: The initial ranking of community consultation ideas.

Section A: Stakeholder and Community Engagement Plan

This section outlines the approach of the stakeholder and community engagement plan used in the consultation phase of the project.

Purpose

The purpose of this plan was to describe the process, approach and delivery plan for the Gwydir and Inverell Stakeholder and Community Engagement Plan that would inform the Regional Drought Resilience Plan for these shires.

Principles

The following design and engagement principles were applied during the delivery of this Stakeholder and Community Engagement Plan:

- Place communities and stakeholders at the centre of our work
- Respect past experiences and impact (understand the context)
- Be outcome focussed and co-design in local partnership
- Be inclusive
- Listen actively.

Objectives

The objectives of this stakeholder and community engagement plan were:

- Provide clarity to participants on the purpose of this plan
- Provide clarity to participants on what resilience means
- Be specific about what, how, who, and when
- Encourage active participation
- Gather information and project ideas
- Prioritise these project ideas on the basis of an agreed framework
- Inform and manage expectations.

Roles and Responsibilities

The following are the roles and responsibilities of the organisations involved in the design and delivery of this stakeholder and community engagement plan:

Activity	Lead
Prepare stakeholder and community invitation list	Councils
Organise logistics such as room bookings, access information, etc	Councils
Extend invitations	Councils
Complete letterbox drop	Councils
Prepare and release media release	Council - Council point of contact for media interviews
Provide a registration mechanism (by phone and registration portal). Maintain RSVP database and liaise with consultants to ensure efficient and effective sessions	Councils
Room setup, any materials, coffee/tea, etc	Consultant
Facilitation of sessions	Consultant
Record keeping and note taking	Consultant
Analysis/ prioritisation of project ideas	Consultant
Post session feedback	Council

Activity	Lead
Preparation of stories	Regional NSW
Preparation of a survey (if required)	Consultant
Distribution of survey (electronic)	Council
Gathering and analysis of survey results	Consultant

Engagement Design and Approach

The following four stages in engagement and consultation were applied based on codesign principles:

- Engage - we will be empathetic, inclusive, enthusiastic, respectful and recognise and encourage diverse and representative views, interests and ideas
- Listen - we will listen carefully, share past experiences, hear all voices, empower participants
- Inform - we will be open, transparent and supportive
- Discover - we will collaborate and be future focused.

Stakeholder Map

The following table outlines the key stakeholder groups the plan sought to consult. Every endeavour was made to meet or interview those listed below, time and resources permitting.

It should be noted that the names and contact details in this stakeholder mapping section were generously provided by the two Shires. They cannot be copied or supplied to any other third party without the permission of the Shires and the individuals identified in the stakeholder map.

Stakeholder mapping	Group
Community, Businesses and organisations	North Star, Croppa Creek, Gravesend, Upper Horton, Bingara, Inverell, Yetman, Ashford, Delungra, Tingha, Coolatai, Warialda
Government	Gwydir Council
Government	Inverell Council

Stakeholder mapping	Group
Indigenous groups	Local Aboriginal Land Councils <ul style="list-style-type: none"> • Ashford • Anaiwan • Moombahlene
Key interest groups	Drought Resilience Leaders Group for NW NSW
Key interest groups	NSW Farmers
Key interest groups	CWA
Key interest groups	NRM and Landcare Groups
Key Interest groups	Family and Youth Support
Government	NSW DPI
Business groups	Business chambers
Business	Bindaree Beef/ Myola Feedlot
Business	Boss Engineering, Warialda
Local Government	Inverell Shire
Inverell Business /Farmers contacts	
Emergency and health organisations	Rural Fire Service/SES
Emergency and health organisations	Rural Adversity Mental Health Program Coordinator (NSW Health)

Stakeholder mapping	Group
Key interest groups	Local Land Services
Key interest groups	Rural Aid
Key interest groups	Gwydir Valley Irrigators Association
Josh MacGregor	CEO Macgregor Gourlay
Sandy McNaughton	Recovery Support Officer Inverell, Gwydir, et al
Jackie Todd	Principal Gravesend School
Katie and Colin Dight	Deputy Mayor - Inverell and farmer
Simon Doolan	The Vicarage Cafe North Star - co-owner and farmer
James Harcastle	The Vicarage Cafe North Star - co-owner and farmer
Glenrac	
Phil Donnan	St Vincent de Paul Society,

Engagement Delivery & Sequence

Engagement and consultation was a mix of face to face, virtual group sessions and some one on one interviews (likely to be virtual in most cases). A survey was considered if it was identified that further feedback was necessary.

Engagement sessions were a mix of:

- Small workshops
- Group discussions
- Targeted Q&A sessions

- Interviews
- Unstructured discussions and conversations.

The following table summarises the general approach that was taken with participants in the engagement and consultation phase of this project:

Session	Outcome
Welcome & Introductions	Gather background of participants
Context and Session Outline	<ul style="list-style-type: none"> • Outline the bigger picture • Discussion about what resilience means • Describe session process
Lived experience	Share experiences
The next 3-5 years	<ul style="list-style-type: none"> • Shared understanding of future drought and climate risk predictions • Create a resilience mindset
Identify potential initiatives, ideas - reflect and refine	Build an initial list of project ideas
Present back ideas	Share ideas and refine list
Rank ideas	Rank list based on participants feedback
Discuss outcomes of rankings	Capture further feedback on the rankings
Discussion/Feedback	Any additional considerations/inputs/feedback on the process of applying the resilience framework
What happens from here	Share and ensure an understanding of our limitations, clarity of steps and timelines

Consultation schedule

The following was the planned schedule of face to face consultation and engagement.

Shire specific consultation to be conducted with Inverell and Gwydir Shires on 8 June:

- 9.30-11.30 - Committee Room, Inverell Shire Council Administration Centre, 144 Otho Street, Inverell
- 1.30-3.30 - Roxy Conference Room Bingara.

Community, business and key stakeholder sessions were planned to be held at the following locations and times:

- North Star, Vicarage Café, 9-11 Edward Street, North Star, Tuesday 14 June 9-11am
- Yetman, Yetman Hall, 82-84 Warialda Street, Yetman, Tuesday 14 June 1.30-3.30pm
- Croppa Creek, Croppa Creek Bowling Club, 26 Aspley Drive, Croppa Creek, Wednesday 15 June 9-11am
- Gravesend, Gravesend Club, 59 Railway Parade, Gravesend, Wednesday 15 June 1.30-3.30pm
- Warialda, Warialda Soldiers Memorial Hall, 72 Hope Street Warialda, Thursday 16 June 9-11am
- Coolatai, Wallaroo Hotel, 15 Yetman Rd, Coolatai, Thursday 16 June 1.30-3.30pm
- Bingara, The Living Classroom 1A Killarney Gap Rd, Bingara, Friday 17th June 9-11am
- Upper Horton, , The Upper Horton Sports Club, 22 Cobbadah St, Upper Horton, Friday 17th June 1.30-3.30pm
- Tingha , Tingha Town Hall, 16 Ruby Street, Tingha, Monday 20th June 9-11am
- Ashford, Ashford Bowling Club, 29 Bala Street, Ashford, Monday 20th June 1.30-3.30pm
- Delungra , Delungra Multi Purpose Hall, 19 Railway Street, Delungra, Tuesday 21st June 9-11am
- Inverell, Inverell Town Hall Annexe, Corner Evans & Otho Street, Inverell, Tuesday 21st June 1.30-3.30pm

A web based questionnaire was in place for any participants who could not attend a session.

Open questions were used to elicit the widest possible feedback:

1. In the past what has worked well in preparing for and responding to drought (projects, practices, initiatives, ideas) and are there activities or projects that did not work as well (and why)
2. What could you suggest that could be changed or added in the future to improve preparation for and response to drought and to increase drought resilience (projects, ideas, practices, initiatives)?
3. Any other feedback on drought preparation or recovery in your region.

Risk plan

The following risks were identified with mitigation actions.

Risk	Risk level	Mitigation action
Attendance at community sessions is poor leading to insufficient information being gathered	Medium	<ul style="list-style-type: none">• Letterbox drop to all residents• Social media promotion• Press release and engaging with journalists• Targeted interviews to engage key groups or representatives
Covid impacts on ability to meet stakeholders or communities	Low	<ul style="list-style-type: none">• Covid safe practices in place• Shift to virtual and one on one phone interviews

Section B: Community Consultation Process

The following table is the agenda and process used during the consultation phase of the project.

Mornings: 9.30-11.30am

Afternoons: 1.30-3.30pm

Time	Topic	Activity	Target Outcome
15 mins before	Cuppa & registration	Informal mingle	<ul style="list-style-type: none"> ● Ice breaker ● List of attendees and their contact details ● Covid safety ● Set up butchers paper ● Get people to fill out registration
00:00 (5 mins)	Welcome & Introductions & Acknowledgement of Country Session outline	<ul style="list-style-type: none"> ● Round the room ● Explain why we're here ● Walk through session process and anticipated outcomes 	
00:10 (20 mins)	Lived experience	<ul style="list-style-type: none"> ● Personal experience in the last drought ● What things went well in response to prepare for the drought? ● Were there things you wished you'd done to be better prepared? 	<ul style="list-style-type: none"> ● Share experiences ● Talk from their seats ● If large groups, breakouts and reporting back

Time	Topic	Activity	Target Outcome
00:30 (15 mins)	Identify potential initiatives, ideas	<ul style="list-style-type: none"> • Write ideas/projects under headings 	Build a long list of ideas under headings
00:45 (10 mins)	Cuppa/break	<ul style="list-style-type: none"> • Break & chat 	
00:55 (15 mins)	Add or change any potential initiatives, ideas	<ul style="list-style-type: none"> • Revisit pre cuppa list • Anything more? • Anything different? 	Refined ideas list
01:10 (15 mins)	Present/discuss ideas	<ul style="list-style-type: none"> • Spokesperson or as a group 	<ul style="list-style-type: none"> • Share ideas • Identify any duplication and if any tidy/shorten list to remove duplication
01:25 (10 mins)	Rank ideas	<ul style="list-style-type: none"> • Using a voting system • Each participant gets 10 coloured dots, they vote, they can put all 10 against one or allocate as they desire 	<ul style="list-style-type: none"> • Long list with rankings • The key to this is they must prioritise • Depending on number of ideas we may change the number of dots they have
01:35 (15 mins)	Discuss outcomes of rankings	<p>Open forum</p> <p>Having contributed to session any other thoughts/feedback we should capture</p>	<ul style="list-style-type: none"> • Capture qualitative feedback on the rankings

Time	Topic	Activity	Target Outcome
01:50	What happens from here and close	Revisit our process, timelines, limitations	Understanding of our role, clarity on steps and timelines

The Council Drought Resilience Workshop followed a similar format.

Section 3: Community ideas and initial ranking

Table 1 details the impact assessment criteria for ranking the community ideas.

Table 1: Impact assessment criteria

Impact criteria	Description (Number represents weighting)
A	<p>Impact/Value</p> <p>Will have a beneficial impact (employment, water security, food security, infrastructure, community morale, environment) for a large proportion of the community, business and region. Likely to attract broad support. Can be applied in a range of regional droughts settings</p> <p>(1)</p> <p>Will have some beneficial (employment, water security, food security, infrastructure, community morale, environment) impact to a smaller proportion of the community, business and region. Likely to receive mixed support. Possible to be applied in a range of regional droughts settings but may need more work in other settings</p> <p>(3)</p> <p>Will have some or minor beneficial (employment, water security, food security, infrastructure, community morale, environment) impact to a small proportion of the community, business and region. May face criticism or limited support. Less likely to be applied in a range of regional droughts settings</p> <p>(5)</p>
B	<p>Time to implement</p> <ul style="list-style-type: none"> • < 3 years (1) • >3 years (5) <p>Note: This criterion, while relevant to project management delivery, was given a zero weighting as</p>

Impact criteria	Description (Number represents weighting)
	it was not regarded as directly related to drought resilience impact.
C	<p>Cost to implement</p> <ul style="list-style-type: none"> • < \$300k (1) • > \$300k (5) <p>Note: These criterion, while relevant to project management delivery, was given a zero weighting as it was not regarded as direct ley related to drought resilience impact.</p>
D	<p>Complexity to implement</p> <ul style="list-style-type: none"> • Implementation complexity • Technical complexity • Project complexity • Stakeholder complexity <p>Less complex, quick to commence and only require weeks of planning and preparation before commencing (1)</p> <p>Moderately complex, will take some months of planning and preparation before commencing (3)</p> <p>Very complex, will take many months of planning and preparation before commencing (5)</p>

Impact criteria	Description (Number represents weighting)
E	<p>Forward Looking & Future Shock Resilience</p> <p>Forward looking - innovative and sustainable problem solving</p> <p>Future shocks - intensity and pattern of weather events, economic/political disruption, global supply chains reliability,</p> <p>Highly innovative, sustainable/enduring, place based, highly responsive to future shocks (transformative)</p> <p>(1)</p> <p>Some innovation, sustainable/enduring, place based, moderately responsive to future shocks (adaptive)</p> <p>(3)</p> <p>Low innovation, narrow or short term application, generic and not place based, limited benefit or vulnerable to future shocks (absorptive)</p> <p>(5)</p>

Output: Short list of ideas (initial ranking).

Outcome: Gwydir and Inverell shire councils were delivered transparent and structured resilience assessment process.

The top 10 ranked ideas were developed into themes and projects (Phase 3 of the methodology).

Table 2 lists the ideas generated by the community ranked according to the impact assessment criteria described above. The top 10 ranked ideas are developed into themes and projects (Phase 3 of the methodology).

Table 2: Ranked community ideas

Ranking	Idea
1	Develop and deliver business planning and financial strategy linked to education and adopting improved farm practices (farm decision points that align to financial plan/budget) (may involve rural financial counsellors)
2	Collaborate/partner with Bindaree Beef to develop and conduct engagement and training to their farmer supplier network (4,000 farms) to deliver 'a drought plan on every dinner table'
3	Coordinate the establishment of a network of 'local leaders' to enable them to initiate drought projects and activities, minimise red tape and bureaucracy, as a cohort that shares and problem solves. This would include a coordination role (part time)
4	Stockpile fodder in good times and build more sheds
5	Establish a coordination function in each Council for access to all relevant grants, information, advice for all phases of drought
6	Establish regular events and hubs to develop community connections combined with access to professional services and education (build this momentum and culture prior to the next drought).
7	Establish/appoint more Rural Financial Counsellors available in good times so farmers can build a relationship with them and prepare for drought
8	Engage local radio to strengthen this as a key information channel
9	Develop a water mapping resource to improve predictability and success of drilling (bores) for water

Ranking	Idea
10	Include farm practices in science curriculum for senior (secondary) students
11	Find an expert with waste recycling to speak with likely investors (Business Chambers could organise attendance) about the possibilities for Inverell and linkage with MacIntyre High School (work experience).
12	Engage with Federal parliamentarians to lobby for ATO tax averaging changes
13	Encourage cash donations that are coordinated through Council or charity organisations to encourage buy local when distributing goods and services (care/food packages)
14	Spoke about opportunities through REZ and transmission lines but this appeared to not yet be well formed for Inverell Shire
15	Engage with Resource Consulting Services to review and reflect feedback on understanding an adoption of their farm management practices
16	Commission a project to identify relevant drought data sources and develop a data management and sharing system. This should include a clear definition of what decisions are made and need to be made to enable evidence based decisions. Key aid and charity organisations (such as Rural Aid, Rotary, CWA, RAA) should be involved so that the data gathered informs improved services
17	Develop an incentive (share funding) scheme to encourage tank installations prior to drought
18	Enhance or install more weather stations to improve local forecasts and engage BoM to develop education on working with and interpreting forecasts
19	Complete feasibility study (only) for third stage of Pindari Dam

Ranking	Idea
20	Set up a Council fast track approval process for drought projects and initiatives
21	Encourage Councils to sponsor resilient garden demo sites
22	Host a regular (annual) conference with resilience representatives/leaders to share lessons, information, ideas and collaboration opportunities, reduce duplication, build and strengthen networks
23	Council to reserve some infrastructure projects to be completed during times of drought to offer displaced workers jobs
24	Engage with water regulators to ensure best practice water storage guidelines are responsive to drought
25	Engage Federal Government to review structure, eligibility and possible expansion of scheme to non-agricultural (but regional and related) businesses
26	Amend grant parameters to include mutual obligations
27	Develop training and awareness packages that combine case studies and farmer led experiences to improve farmers skills
28	Host a planning/coordination session with relevant health services providers to identify and improve coordination of support services for all phases of drought
29	Engaging kids to move beyond Mustering Growth
30	Encourage employment opportunities that are independent of drought impacts such as call centres and distribution centres
31	During drought employ more support staff at Council

Ranking	Idea
32	Farming practices are European based - need to re-think for Australian conditions
33	We talked about the possibility of Boss employing farmers during times of drought, but this did not seem to work as they would probably slow down to 80% of capacity and look after their core workers first. Strategy is to build up stock during drought when sales might be reduced.
34	Develop a business case (at regional system level?) to examine the benefit case/feasibility of adopting a system approach to drought resilience
35	Engage UNE to explore ways to upskill graduates' communication and people management skills
36	Build incentives and discipline to ensure course and training are completed and include mutual obligations to undertake training to develop skills
37	Funding for local hall (North Star) as a wellbeing hub (better amenity)
38	Develop a cost/benefit tool that can be used to engage individual farmers to adopt regenerative drought resilient agriculture practices
39	Use water from Copeton Dam for aquaculture/prawns
40	Living Classroom and Heavy Vehicle Training and Catering facility owned by council - Could be better utilised
41	Council needs to ensure that Inverell is an attractive place to live so that businesses like Boss and Bindaree can attract workers. Improvements to attract more tourism
42	Any manufacturing that has grain as a major input will work, Grain storage and processing. Grain storage and processing Any agricultural aligned service business. Any value adding to the beef industry

Ranking	Idea
43	A business currently looking for more tradespeople across Asia to grow their business - job share/part time work possibilities (Not specific to drought)
44	Develop an awareness pack that educates grant designers about the on ground realities and implications of grant conditions/requirements (i.e. planting trees while still in drought)
45	Instal more water stand pipes in towns/locations
46	Branch line to extend rail from Moree to Inverell and on to Byron Bay to enable easy tourism and freight
47	Council coordination of drought angels that can farm sit and allow people to get away for a break e.g.
48	Locals need to keep control of the town bore supply, don't want council to take over control
49	Power outlets for campers and grey nomads at Coolatai
50	A pool at Yetman
51	Set up school student swaps with schools/families outside drought impacted areas
52	Could they purchase old motels and convert into worker accommodation? (note: not specific to drought - this is about general housing shortage)

Monitoring progress and evaluating outcomes

The Regional Drought Resilience Plan for the Inverell and Gwydir Shire Regions acts as an important first step in building regional drought resilience.

The following table is based on the relevant Future Drought Fund (FDF) Monitoring Evaluation and Learning Framework indicators and the actions developed in this Regional Drought Resilience Plan.

The Plan includes a number of indicators against identified actions.

<u>FDF Standard Indicators</u>	<u>Specific Regional Indicators</u>	<u>Evaluation Approach</u>
FDF Impacts - 4+ years		
<ul style="list-style-type: none"> • Agricultural landscapes are functional and sustainable, with healthy natural capital (environmental resilience) • Agricultural businesses are self-reliant, productive, and profitable (economic resilience) • Agricultural communities are resourceful, adaptable, and thriving (social resilience) 	<p>Work with farm and non-farm businesses to increase skills and capability to develop climate resilient enterprises and processes. Making better use of data, economic and climate forecasts and financial planning skills, to ensure suitable infrastructure, enterprise balance and adaptive/transformational capacity. (PL 1)</p> <ul style="list-style-type: none"> • Farming businesses are prepared for drought, updating their drought plans regularly (PL 1) • Non-farming businesses are healthy and are prepared for drought, updating their drought plans regularly (PL 1) • Infrastructure connecting individuals, families, businesses and communities is resilient to 	<p>These longer-term impacts will be captured at a national level by the federal Government through ABARES surveys and other national statistics based on a benchmark and taking into account climate, market and other influences impacting on this outcome. The Gwydir-Inverell region will use the statistics within this report to evaluate how their region is tracking in comparison to the benchmark.</p> <p>Critical to regional-level monitoring of, and improvement to, the Plan will be an on-going regional oversight group (ROG) comprising of the Plan 'owner(s) and key stakeholder representatives. This group would have the role of initiating actions in line with the plan, reviewing progress against the plan objectives and making changes to the Plan as needed to maintain its relevance and usefulness.</p> <p>State Government reports such as the New England North West Regional Plan 2036 and Local Government reports such as the Gwydir Shire Council community Strategic Plan 2017 – 2027 and the Inverell Shire Local Strategic Planning Statement 2036 will</p>

	<p>drought and can be maintained during drought (PL 1)</p> <ul style="list-style-type: none">• The conversations within communities about preparing for drought and responding to drought are frequent, open and embraced (PL 1)	<p>be used to evaluate economic and population growth of the regions.</p>
<p>FDL Long-term Outcomes - 4+ years</p>		

<ul style="list-style-type: none"> • Stronger connectedness and greater social capital within communities, contributing to wellbeing and security • Communities implement transformative activities that improve their resilience to drought • More primary producers preserve natural capital while also improving productivity and profitability 	<p>As a predominantly agricultural regional community, people living in the Gwydir and Inverell Shires respond to drought cohesively and effectively, drawing in social capital, collective preparedness and inclusive networks (PL 2)</p> <ul style="list-style-type: none"> • People actively work across the region to build relationships that are relied upon in times of need (PL 2) • Natural leaders who recognise a ‘burning platform’ can leverage capacity of other leaders in the region (PL 2) • The region has a suit of people that recognise themselves as leaders with capabilities to positively contribute towards strengthening resilience (PL 2) 	<p>Critical to regional-level monitoring of, and improvement to, the Plan will be an on-going regional oversight group (ROG) comprising of the Plan ‘owner(s) and key stakeholder representatives. This group would have the role of initiating actions in line with the plan, reviewing progress against the plan objectives and making changes to the Plan as needed to maintain its relevance and usefulness.</p> <ul style="list-style-type: none"> • Monitoring and reporting of regional level indicators that are captured as part of Local Government surveillance, surveys and annual reporting, such as the Gwydir Shire Council community Strategic Plan 2017 – 2027 and the Inverell Shire Local Strategic Planning Statement 2036. • Monitoring and reporting of regional level indicators that are captured as part of State Government surveillance, surveys and annual reporting, such as the New England North West Regional Plan 2036, and the NSW Government Upper North West Regional Economic Development Strategy 2018-2022 • Liaising with the regional Drought and Innovation Hub to ensure that key indicators for the region are captured and provided over time. • Recording case studies of changes made and benefits evident as a result of actions taken from the implementation of the Plan.
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Success measures and intermediate outcomes – 2-4 years

There's an increase in the number of agricultural regions that have drought resilience plans

- Regional representatives have considered and planned incremental, transitional and transformational opportunities to strengthen resilience
- Regional leaders are in a stronger position to implement strategic actions, adapt to change and take advantage of opportunities to build economic resilience as they arise
- Actions, pathways and opportunities (including innovative and transformative) to improve regional drought resilience, mitigate risks and adapt to change are identified

The Gwydir-Inverell community have multiple organisations, families and individuals that have aligned values, trusting relationships and they frequently work together to problem solve (PL 3)

- People actively work across the region to build relationships that are relied upon in times of need (PL 3)
- Trusting relationships built in good times serve the community well in times of drought (PL 3)
- Data and qualitative feedback from the community demonstrates improvement in the wellbeing and mental health of the community (PL 3)

- Recording of steps taken, actions initiated, and resources gained that have been triggered by the Plan framework, strategies and planned actions.

- Annual reporting and review of plan implementation, engagement, participation, actions, barriers and opportunities to regional stakeholder organisations and government – and changes to the Plan made as needed to best meet regional needs.

Should external evaluation be undertaken, as well as taking the national data, above information and annual review into account (against planned actions), a range of regional stakeholders should be interviewed / surveyed to gauge their understanding, engagement and actions they have taken as a result of Plan guidance and initiatives.

<p>Plans have buy-in from key stakeholders in the region</p> <ul style="list-style-type: none"> • Partnerships, networks and engagement are built between stakeholders managing natural resources • The number of, and participation in, local networks and programs to enhance drought resilience increases • Increased community understanding of the region’s current and future drought resilience, considering the region’s unique economic, environmental and social characteristics • Communities share knowledge, collaborate and partner with government more often to build drought resilience 	<p>Individuals, families, and businesses in the Gwydir-Inverell Shire are well-supported through communications occurring via multiple channels that effectively raise awareness and assists with desired behaviour change (PL 4)</p> <ul style="list-style-type: none"> • Information providers understand the communities’ learning preferences, attitudes to information channels and how they are challenged by change (PL 4) • Demonstrations are used regularly to extend new knowledge and how it can be integrated (PL 4) • People feel less frustrated when navigating pathways to find support (PL 4) • People are confident in trusted relationships that can be relied upon in times of need (PL 4) 	<ul style="list-style-type: none"> • Recording of steps taken, actions initiated, and resources gained that have been triggered by the Plan framework, strategies and planned actions. • Annual reporting and review of plan implementation, engagement, participation, actions, barriers and opportunities to regional stakeholder organisations and government – and changes to the Plan made as needed to best meet regional needs. <p>Should external evaluation be undertaken, as well as taking the national data, above information and annual review into account (against planned actions), a range of regional stakeholders should be interviewed / surveyed to gauge their understanding, engagement and actions they have taken as a result of Plan guidance and initiatives.</p>
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<p>Plans are informed by relevant data, co-design and best practice approaches to resilience planning</p> <ul style="list-style-type: none"> • Communities use relevant data and information to better understand their resilience to drought and plan for resilience to drought • Greater sharing of learnings related to drought resilience between communities 	<p>Providers of information invest in understanding their audiences preferred learning styles and channels (PL 4) People gather their information from reputable providers (PL 4) Business share information to enable performance benchmarking (PL 4) People know where and who to approach for support (PL 4) People willingly share information and experiences with other community members (PL 4)</p>	<ul style="list-style-type: none"> • Recording of steps taken, actions initiated, and resources gained that have been triggered by the Plan framework, strategies and planned actions. • Annual reporting and review of plan implementation, engagement, participation, actions, barriers and opportunities to regional stakeholder organisations and government – and changes to the Plan made as needed to best meet regional needs. <p>Should external evaluation be undertaken, as well as taking the national data, above information and annual review into account (against planned actions), a range of regional stakeholders should be interviewed / surveyed to gauge their understanding, engagement and actions they have taken as a result of Plan guidance and initiatives.</p>
<p>Plans are implemented</p> <ul style="list-style-type: none"> • The majority of plans have had elements implemented • Primary producers and businesses supported to improve their sustainability and resilience • Natural resource management capability is improved across region 	<p>Refer to Project Outputs Schedule in Gwydir and Inverell Shire’s Regional Drought Resilience Plan</p>	<ul style="list-style-type: none"> • Recording of steps taken, actions initiated, and resources gained that have been triggered by the Plan framework, strategies and planned actions. • Annual reporting and review of plan implementation, engagement, participation, actions, barriers and opportunities to regional stakeholder organisations and government – and changes to the Plan made as needed to best meet regional needs. <p>Should external evaluation be undertaken, as well as taking the national data, above information and annual review into account (against planned actions), a range of regional stakeholders should be interviewed / surveyed to gauge their understanding, engagement and actions they have taken as a result of Plan guidance and initiatives.</p>
<p>Short-term outcomes - 1– 2 Years</p>		

<ul style="list-style-type: none"> • Regions have a plan against which to monitor their drought resilience status • Regions have identified and planned for the impacts of drought on their region • Communities empowered to identify the impacts of drought • Communities given the opportunity to communicate regional drought resilience needs and priorities which may inform future investment • Regional level drought resilience planning leverages and aligns with planning at other scales • Drought resilience planning draws on a wide range of inputs, informed by effective partnerships within the region • Communities use relevant data and information to better understand their resilience to drought and make decisions • Communities share their learnings about drought resilience with other regions 	<ul style="list-style-type: none"> • Those responsible for managing land know what is important to sustain their business and natural resource base (PL 1) • Those responsible for directing and managing businesses know what is important to sustain their business (PL 1) • Drought critical infrastructure is prioritised as being necessary to maintain in all phases of drought (PL 1) • Multiple individual community members recognise the benefits of formal networking (PL 2) • Multiple individual community members recognise the benefits of informal networking (PL 2) • Community increasingly looks to themselves to lead and make the change (PL 2) • Capacity is built through community members participating in formal leadership programs (PL 2) #changed# • Gwydir-Inverell communities recognise their strength in community capital (PL 3) • Individuals and families 'socialise' regularly with professional service providers, and professional providers support 	<p>Critical to regional-level monitoring of, and improvement to, the Plan will be an on-going regional oversight group (ROG) comprising of the Plan 'owner(s) and key stakeholder representatives. This group would have the role of initiating actions in line with the plan, reviewing progress against the plan objectives and making changes to the Plan as needed to maintain its relevance and usefulness.</p>
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	<p>their personnel to participate in these informal events (PL 3)</p> <ul style="list-style-type: none">• Formal institutions and informal organisations and associations invest to build working relationships with each other (PL 3)• Community has the knowledge and connections to self-organise (PL 3)	
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