Regional Drought Resilience Plan

Coolamon and Junee

June 2024

Australian Government
Department of Agriculture, Fisheries and Forestry

Future Drought Fund

Supported by NSW GOVERNMENT

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Coolamon shire council

Abbreviations

ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
ABS	Australian Bureau of Statistics
BoM	Bureau of Meteorology
CDI	Combined Drought Indicator
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFF	Commonwealth Department of Agriculture, Fisheries and Forestry
DCCEEW (NSW)	Department of Climate Change, the Environment, Energy & Water New South Wales; formerly Department of Planning and Environment
DPIRD	Department of Primary Industries and Regional Development (formerly known as Department of Regional NSW and Department of Primary Industries)
EDIS	Enhanced Drought Information System
FDF	Future Drought Fund
FRRR	Foundation for Rural and Regional Renewal
GRDC	Grains Research and Development Corporation
IPCC	Intergovernmental Panel on Climate Change
LLS	Local Land Services (now incorporated into DPIRD)
LGA	Local Government Area
PCG	Project Control Group
REROC	Riverina Eastern Regional Organisation of Councils
RDA	Regional Development Australia
RDC	Rural Research and Development Corporations
RFCS	Rural Financial Counselling Service
RDRP	Regional Drought Resilience Plan
RCP	Representative Concentration Pathway
SPI	Standardised Precipitation Index
SRG	Stakeholder Reference Group
SSMI	Standardised Soil Moisture Index

Key Terms

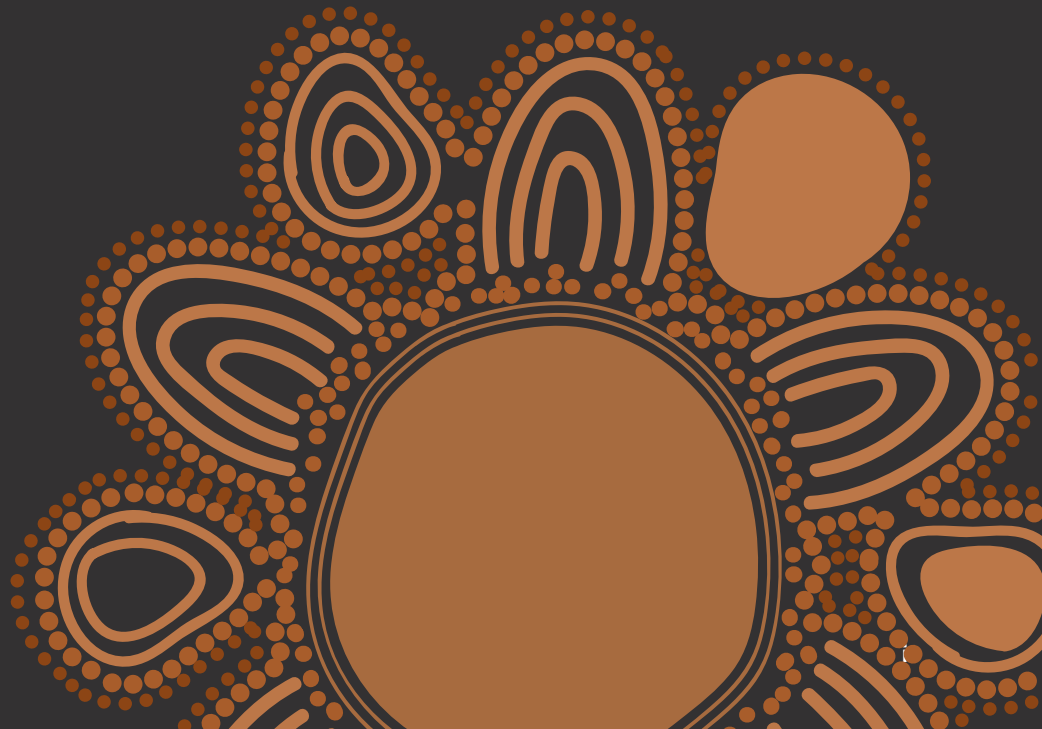
Absorptive capacity	The ability of individuals and groups to continue without adapting or changing their behaviour in response to environmental and socioeconomic changes (Béné et. al., 2012).
Adaptation	Adjustment or modification in natural and/or human systems in response to actual or expected shocks and stresses to moderate harm, reduce vulnerability and/or exploit beneficial opportunities.
Adaptive capacity	The ability of individuals and groups to adjust and respond to environmental and socioeconomic changes.
Adaptive governance	Co-ordinating iterative, flexible and responsive interactions between systems when designing interventions and for their implementation and evaluation.
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.
Climate Change	Global, long-term shifts in average weather conditions, such as becoming warmer, wetter, or drier over several decades or longer.
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, 2024).
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 (absorb) a diverse range of shocks and stressors while maintaining natural processes and ecosystem services. Adaptation and transformational change can be slow-moving in natural systems.
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.
Intervention options	Alternative or complementary actions, projects, programs, policies, initiatives and investments that are planned to bring about change in the system (Maru et. al., 2018).

Local knowledge	Local knowledge and First Nations knowledge incorporates 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.
Preparation	Action taken to reduce the impact of an event that occurs and accelerate the recovery period.
Recovery	A return to longer term viability. Recovery may be a return to Business As Usual or require transformational change.
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). Also see general resilience, specified resilience, economic resilience, environmental resilience and social resilience.
Risk	The potential for adverse consequences for human or ecological systems, recognising the diversity of values and objectives associated with such systems (Reisinger et. al, 2020). Drought risk refers to the difference in farm outcomes (e.g., profits) between 'normal' and 'drought' conditions.
Shock	Sudden, short-term events that threaten a city (or region). Examples include: major storms, floods, bush fires, heatwaves, disease outbreaks, terrorism and cyber-attacks' (City of Sydney, 2018).
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. Regarding climate change, social resilience may only be possible after adaptive or transformational change.
Stressor	An event that occurs gradually over a timeframe that causes an adverse effect, e.g. drought, climate change.
Systems	The interaction of processes, networks and inter-dependencies across a complex 'whole'.

Theory of change	Refers to theories, causal mechanisms and assumptions that explain how and why outcomes and impacts will be achieved through use, implementation and production of proposed inputs, activities and outputs (Maru et. al., 2018).
Trends	A trend is a general direction or movement towards change or a new development. It refers to a prevailing tendency or pattern that is emerging or becoming more popular over time.
Threshold	The point at which a change in a level or amount a controlling variable causes a system to shift to a qualitatively different regime. Also referred to as a tipping point (Folke et. al., 2010).
Transform	The process of radically changing or building a new system with different structure, functions, feedbacks and identity (Folke et al., 2010).
Trigger point	A pre-agreed situation or event, that when met, activates a management intervention. Trigger points are usually defined in the planning phase (Wise et. al., 2014).

Acknowledgements and Appreciations

Our Consortium representing Coolamon and Junee Shires acknowledges the traditional owners of the land where we live, work and meet – the Wiradjuri. We pay our respect to Wiradjuri Elders both past and present and extend that respect to all Aboriginal and Torres Strait Islander people who are part of Coolamon and Junee Shires



A note from the Mayors

We are excited to present the Regional Drought Resilience Plan for the Coolamon and Junee Shire Consortium Group 10. Droughts and floods are part of our Australian way of life. The damage that they can cause to our environment, communities and economy are extensive and we need to plan for how to manage our responses to these devastating natural events.

This report focuses on drought and how our communities can be aware of and prepare for the impacts that droughts have, in the hope of building resilience in our communities. We look forward to working in partnership with our residents, community groups, local businesses, and other levels of government and their agencies, to deliver this project. We know that by working together we can achieve great outcomes for our communities and encourage every member of the Coolamon and Junee Shires to read this Plan and to identify how you can be involved to support this important initiative.

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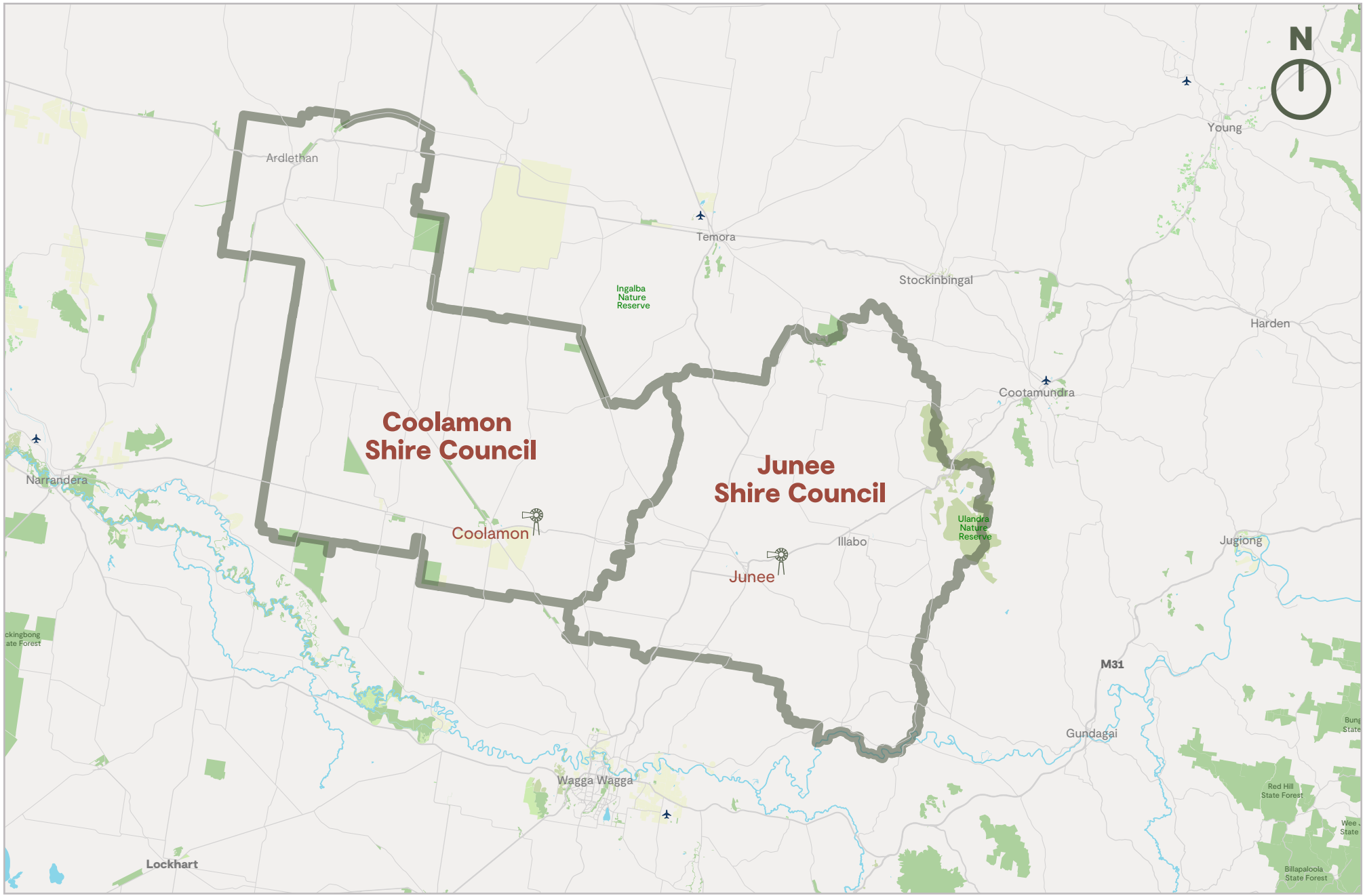
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M31
Gundagai
Wagga Wagga
Lockhart
Red Hill
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Billapaloola
State Forest

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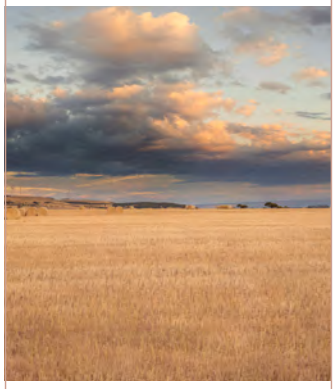
History of drought impacts



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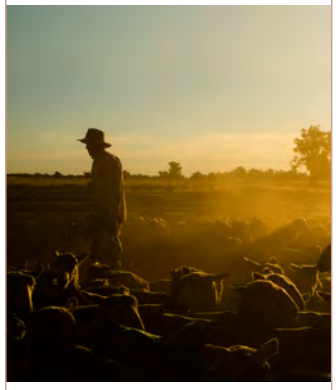
Resilience in the local region



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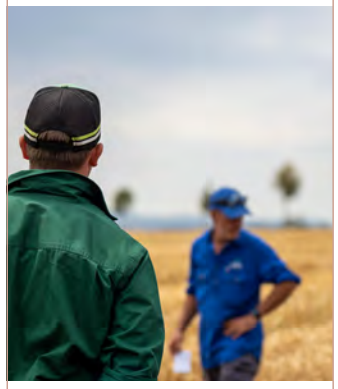

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1. Coolamon and Junee Regional Drought Resilience Plan

1.1. Vision for the region

Coolamon and Junee's vision is for a robust and diverse economy, a progressive and productive agricultural sector, with opportunities for youth and considered forward planning that bolsters the region. The community aspires to be acknowledged for its adaptability, resourcefulness and perseverance.

1.2. Background

Drought has an effect on all aspects of the community, resulting in major social, economic and environmental impacts (Abunyewah et al., 2023). The Regional Drought Resilience Planning (RDRP) Program is part of the Future Drought Fund (FDF) and is co-funded by the Commonwealth Department of Agriculture, Fisheries and Forestry (DAFF) and the NSW Department of Primary Industries and Regional Development (DPIRD), supporting local governments to work together to proactively plan for drought resilience (DAFF and ABARES, 2023).

The RDRP's aim to:

- Identify ways for Councils to support their region's resilience to future droughts.
- Devise actions communities can undertake to build their drought resilience across regions.

Our regional Councils recognise the importance of preparing for and developing a robust community in good times to lessen the impact of drought and accelerate the recovery period. This Plan looks at how the whole of the community can benefit from working together to strengthen resilience. Resilience is important in rural and regional communities. It reinforces the connectedness of its members, their ability to manage through seasonal conditions (that create uncertainty and present a challenge to their businesses and way of life).

This Plan provides an opportunity to identify actions that will directly assist the region to strengthen social, economic and environmental resilience, supporting communities in future droughts. It builds on the wealth of effort, research and planning, that has been, and continues to be delivered in drought.

The FDF seeks to enhance the public good by building drought resilience in Australia's agricultural sector, the agricultural landscape and communities. The intent of its eight interrelated foundational programs is to have an innovative and profitable farming sector, a sustainable natural environment and adaptable rural, regional and remote communities, all with increased resilience to the impacts of drought and climate change (DAFF, 2024a). The eight programs include Climate Services for Agriculture Platform, Drought Resilience Self-Assessment Tool, Farm Business Resilience, Regional Drought Resilience Planning, Drought Resilience Innovation and Adoption Hubs, four grant programs, Drought Resilience Leaders and Networks to Build Drought Resilience.

The FDF is intended to deliver against three inter-connected strategic priorities:

- economic resilience for an innovative and profitable agricultural sector
- environmental resilience for sustainable and improved functioning of farming landscapes
- social resilience for resourceful and adaptable communities.

This Plan focuses on the community as a system where economic, environmental and social capacity to endure, respond and evolve through drought are enhanced. Implementation funding will be available for approved plans under the Australian Government's FDF.

1.3. Purpose of this Plan

The Coolamon and Junee RDRP provides support to help our region better plan for and become more resilient to the impacts of drought over time. It has been developed in a collaborative, partnership approach, drawing on locally-led inputs from those who live and work in the region.

The purpose of this Plan is:

- creating stronger connectedness and greater social capital within the communities of Coolamon and Junee, contributing to wellbeing and security.
- increase self-reliance and improve risk mitigation by building on the local and regional resilience initiative already been undertaken.
- supporting leadership and community networks to thrive.
- improve timely and evidence-based decision making that meets the needs of Coolamon and Junee.
- empowering communities to implement transformative activities that improve their resilience to drought.
- supporting more primary producers to adopt whole-of-system approaches to Natural Resource Management to improve the natural resource base, for long-term productivity and landscape health.

This Plan has been developed between the two Councils and their respective communities in a collaborative approach that has drawn on the experience and input of those who live and work in our region.

1.4. Key inputs to the Plan

The following documents were considered through the development of this Plan:

- Murray Darling Basin Authority Plan and related documents
- Other regional documents including:
  - Coolamon Shire Council Local Strategic Planning Statement
  - Junee Shire's Community Strategic Plan 'Making Tracks' 2035
  - Local economic development strategies – Junee Shire Economic Development Plan 'Doing Business in Junee'
  - Eastern Riverina Regional Economic Development Strategy 2023 Update
  - Riverina Murray Regional Plan 2041
  - NSW Water Strategy
  - Draft NSW Regional Water Strategies (Murray, Murrumbidgee)
  - Riverina and Murray Joint Organisation (RAMJO) Water Position Paper
- Resilience Principles: Infrastructure Australia's approach to resilience
- QLD Government: Investment Logic Mapping Guide
- CSU Southern Innovation Hub - Baselining Drought - Developing a baseline understanding of farmer and community perceptions of drought
- Drought Resilience, Adaptation and Management Policy (DRAMP) Framework 2018
- CSIRO Drought Resilience mission (2022)
- Economic Development Study – Murray Region (2018)
- Government and organisations publications including:
  - Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)
  - Commonwealth Scientific and Industrial Research Organisation (CSIRO)
  - Rural Research and Development Corporation (RDC)
  - Grains Research and Development Corporation (GRDC)
- The Regional NSW Investment Attraction Strategy 2022 - 2027 (DRNSW, 2022) that sets out the NSW Government's priorities and plans to achieve long-term social and economic success for regional communities across the state.

Additionally, contributions from a broad range of community and stakeholders - including community organisations, businesses, service industries, primary producers and, volunteers - were instrumental in the co-design of this Pwlan.

It is intended for this Plan to be a living document and to be considered and factored into a range of other plans and strategies delivered by local government, state government, non-government organisations, not-for-profits organisations, and others.

1.5. A Plan for drought resilience

Of all climate and weather-related conditions affecting Australia, drought is often the most challenging. Periods of persistent drought with downward trends in rainfall and streamflow are well documented. Coolamon and Junee Shire's contribute significantly to the nation's grain, wool, and livestock production. As such, it is important that these communities are well-prepared and resilient in the face of climate change and drought.

Drought is a defining feature of the climatic cycle of the Australian landscape (Department of Agriculture, 2019). In a large part this owes to our geography. Our continent spans the latitudes of the subtropical high-pressure belt. This is an area of sinking, dry, stable air and usually clear skies (BoM, 2024). The far north and south of the country come under the influence of reasonably regular rain-bearing systems for at least part of the year.

The east coast is normally well watered by moisture from weather driven by the Tasman and Coral Seas. However, over most of the country rainfall is low and erratic. Even in the wetter areas, very dry years can disrupt normal activities and lead to water shortages (BoM, 2024).

As such, droughts will come again, and they are anticipated to get worse in parts of the country as a result of a changing climate. Droughts are challenging times, not just for each farm, but beyond the farm gate for entire communities and regions.

The costs of drought are spread across economic, social and environmental factors. The toll taken on regions and their communities has been enormous and the impacts often linger for decades (Southern NSW Innovation Hub, 2022).

The most effective response to rising uncertainty is to plan for greater drought resilience. This can be achieved by building sustainable and diverse regional economies, reducing the vulnerability of communities to changing economic conditions and accelerating recovery, as well as enhancing thriving natural environments.

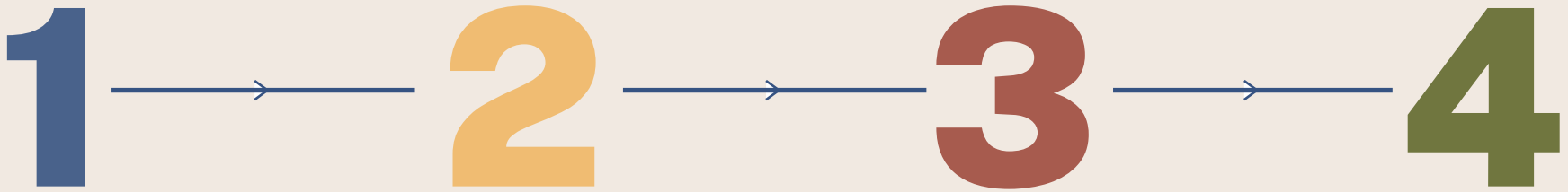
1.6. Drought Resilience at a glance

When it comes to drought, “our best defence against the shocks of drought is to prepare. Planning for greater drought resilience across all aspects of regional and remote communities, not just for primary producers, will have the greatest impact. Resilience can be achieved by building sustainable and diverse regional economies, reducing the vulnerability of communities to changing economic conditions, accelerating recovery, and enhancing the natural environment” (DRNSW, 2022). It is also important to consider and understand when adaptation or transformational change is required to build resilience.

The impact of multiple events such as the Black Summer bushfires, floods of 2021 and 2022, mice plagues, and COVID-19 related supply chain and labour force disruptions, are likely to compound any near-future drought recovery in the short term (DRNSW, 2022). Drought resilience goes beyond water management; it's a holistic approach aimed at safeguarding the fabric of our communities. The lasting effects of past droughts, including the Millennium Drought, serve as reminders for the need of forward-thinking and strategic planning.

The impacts of drought are also dependent on the timing, duration and the area over which the drought occurs. These factors can affect how the community is able to respond. No two droughts are the same and this in itself presents a challenge to communities.

The journey for developing this Plan for Coolamon Junee is illustrated in Figure 1. The process recognises communities in the region have been consulted about drought previously, with this Plan aiming to build on this work. Figure 2 provides a graphical representation of the insights previously gathered on the topics of drought and enhancing resilience in the region. It captures the voices, ideas, and aspirations expressed by the residents and stakeholders who live, work, and form these communities.



Project Inception

- Project Control Group
- Engage stakeholders

Literature Review and data collection

- Demographics
- Historical droughts
- Weather patterns
- Future droughts
- Climate change

Community and Stakeholder engagement

- Survey
- In person
- Interviews
- Stakeholder reference group

Reporting

- Action Plan
- Regional Drought Resilience Plan

Figure 1 Regional Drought Resilience Plan journey

What we heard

Secure water supply

- Water management and infrastructure
- Water efficiency - water restrictions
- Priority of drinking water versus other uses

Governance

- Clear leadership e.g. understanding drought response and being prepared
- Clear messaging around drought signal e.g. translating climate change/weather
- Tracking of effectiveness of drought measures

Agriculture

- Resilient farm and agriculture businesses i.e. production flexibility
- Mental resilience to stressors of drought e.g. decision making, deteriorating landscape
- Are financial drought measures and grants effect? i.e. farm household allowance

Prosperous economy

- Diversity of income outside of agriculture
- Industry within LGA that is less reliant on agriculture e.g. manufacturing
- Maintaining diverse skills within the community

Connected and resilient community

- Communities that pull together in times of hardship e.g. festivalsa
- Fatigue from living through disasters e.g. bush fires to drought to flood

Reliable assets and infrastructure

- Reliable and available facilities when required e.g. emergency water supplies
- Assets are fit for purpose when they're needed
- Maintenance of roads from increased traffic (stock, fodder, water, freight)

Figure 2 Previous engagement outcomes

1.7. Plan development

The development of this Plan has been guided by a Project Control Group (PCG) comprising representatives from Coolamon Shire Council, Junee Council, NSW Department of Primary Industries and Regional Development and GHD through a three phased approach. The three phased approach focussed on community-led development of themes, vision, and actions.

Phase 1: Understanding the community profile, what is known about drought in the region, the lessons learnt and the region's greatest risks

Phase 1 involved the formation of a PCG which consisted of members of the two Councils, NSW Department of Primary Industries and Regional Development, and consultants. The PCG provided inputs and guided the development of the Plan. They also assisted with arrangements for community and stakeholder engagement activities. This phase of the project also included a review of literature to better understand the community profile, what we currently know about drought in the region, the lessons learnt from previous droughts and where the greatest risks lie. Some of the sources utilised are outlined in Section 1.4. The literature review informed future phases of the project including identification of Plan themes and ensures the Plan is built on past work and programs. This also included looking at resilience frameworks. A Project Plan and Community and Stakeholder Engagement Plan were developed to help guide the project and to identify key groups to attempt to engage with. This included some stakeholder mapping and started conversations between the Councils and the consultants to identify key stakeholders within the community who should be involved in workshops and/or one-on-one interviews.

Phase 2: Community and stakeholder engagement to identify, test and understand the regional opportunities

Phase 2 comprised the delivery of the engagement approach. A review of documentation from the consortia of Councils resulted in the development of five initial common key themes. The initial themes were tested and refined through the stakeholder reference groups (SRGs) to make sure they were a sound representation of the region's key areas of focus. The PCG also provided input on the themes and the Plan's vision statement. These themes were then used for categorising and analysing the community feedback, providing a summary of the region's strengths and needs. The themes are shown in Figure 3 below.

The outputs from Phase 1 and the seven in-person community engagement sessions were utilised to conduct a series of resilience workshops SRG meetings with identified regional stakeholders to test these findings and identify strategic opportunities. These workshops were held online. A range of community members were invited to participate. These included but are not limited to:

- Local businesses
- Retailers
- Manufacturers
- Service providers
- Primary producers, agribusinesses and agricultural suppliers
- Community committees and associations (355 committees, Landcare, NSW Farmers Federation, Junee Business and Trades, Junee Community Centre, Old Junee Hall Society)
- Aboriginal Stakeholders (LALCs)
- Educational providers (schools)
- Health providers (Hospital)
- Tourism transport operators
- Volunteer groups (Country Womens' Association, RSL, Mens Sheds, etc)
- Emergency Services
- Councillors and State Government representatives
- NSW Government Agencies (Department of Regional NSW, Local Land Services).

The engagement activities were designed to encourage meaningful conversations and insights from a broad range of community. The levels of participation in SRGs was identified as an issue during the project, as the timing clashed with harvest as well as other end of year activities. This meant stakeholder engagement was lower than expected and led to the decision to hold a fourth SRG meeting at a later time to ensure a greater level of input was captured . The compressed timeframes of the project meant some groups were unable to be engaged as part of the SRG or interview process.

Figure 3 Five key themes of the Plan

Key drought related impacts (Section 3.6) were discussed at the SRGs and identified for each of the themes, with major impacts rated as low, medium or high. Initial ideas for actions were encouraged from the stakeholders and developed through discussion within the group.

Engagement allowed people to express information in their own words so that local voices and needs were highlighted. The engagement combined the use of in-person and digital methods, ensuring inclusivity and transparency throughout the process. An online survey provided an alternative way for community to participate and provide inputs to the plan's development. An overview of the engagement activities is provided in Figure 4.

Community Engagement Sessions

Consulted over 60 community members at seven in-person drop-in sessions between Saturday 14 October 2023 and Wednesday 18 October 2023, at different locations. Factsheets informing community about the program and the Plan were also posted in multiple locations in both the Coolamon and Junee LGAs to promote the engagement sessions and survey. Through undertaking relaxed and informal drop-in style information sessions, attendees were asked a series of questions which were developed through integrating the key themes of this project.

Stakeholder Reference Group (SRG) meetings

Four SRG sessions were held between Thursday 23 November 2023 and Thursday 1 February 2024. They comprised of representatives from the local government areas, community subject matter experts, project team members, and other stakeholders. Over 80 stakeholders were invited to participate in the SRG's. Twenty-nine members were invited to provide ideas, insights and feedback.

Targeted interviews with stakeholders

Targeted interviews with seven industry and community members to obtain more detailed input on the drought work already undertaken in the region.

Online survey

Using digital tools and publishing a survey enabled engagement of a broader audience and made participation more convenient for community members. Eleven survey responses were received and formed part of the feedback that informed the recommendations included within this Plan

Online meetings and phone calls

Phone calls and hosting online meetings provided the opportunity to bridge geographical gaps, ensuring a wider array of stakeholders could provide insights without the constraints of location. This method enabled in-depth discussions, capturing the communities' perspectives, and concerns. A total of 7 PCG meetings were held

Email communication

Employing email outreach provided an additional channel for engaging with stakeholders. It enabled targeted stakeholders, in remote areas, to share their insights in a convenient manner. This approach not only facilitated the collection of valuable data but also allowed for a thoughtful, well-documented exchange of ideas and feedback.

Figure 4 Summary of engagement activities

Phase 3: Prioritise and develop the Plan

Phase 3 consisted of prioritising the opportunities (through the SRG and PCG) and documenting each in this Plan. The investment logic framework (Section 4.2) was applied to the long list of actions to better identify priority actions. These opportunities are organised using the thematic framework shown in Figure 5. The themes highlight the public sentiment that improving drought resilience in the broader community and region, along with diversifying and value adding to the agricultural industry will benefit the region's response to drought. The Plan identifies actions that can be progressed now that align with the consortia of Councils' ability to influence and will improve outcomes for the community.

The communities of Coolamon Junee have initiated several actions within their communities developed through successive droughts. Those actions have been built on in this Plan in an effort to improve the region's drought resilience. These actions include improving the health and well-being of the community, improving the region's wastewater infrastructure, diversifying the region's economy through business attraction and promotion and protecting landscape health and natural resource management. The PCG provided final review of the Plan before it was sent to CSIRO for review. The PCG was also involved in the final updates before the Plan was published and publicly available.

Key Themes of the Plan

A sustainable region and a healthy and protected environment that efficiently utilises its natural resources

In creating a sustainable region and a healthy environment, this Plan seeks to ensure that local resources are used efficiently, climate change impacts are understood, and adaptations put in place. Planning and management practices assist in reducing community impact on the natural environment and protect biodiversity.

A resilient and innovative agricultural sector

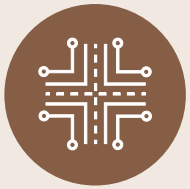
A resilient and innovative agricultural sector that is supported by a skilled workforce.

Diverse and prosperous economy

A robust local industry that is supported, heritage assets that are protected, and tourism that is promoted, to encourage local employment opportunities.

A strong and collaborative community

Services and housing support a healthy, active, inclusive and liveable community with good governance and strong sense of shared responsibility.



Strong infrastructure and transport networks

Infrastructure and transport that supports and links the region, and provides connectivity.

Figure 5 Detailed five key themes of the Plan

1.8. Drought resilience framework

Defining resilience

Resilience is a broad concept that encompasses a range of interconnected factors and conditions. For a system to be resilient it must have the ability to absorb a disturbance (sometimes referred to as shocks and stresses) and reorganise to maintain the existing functions structure and feedbacks (Walker et al., 2004). Resilience is developed across the system by developing components across three broad dimensions: economic resilience, environmental resilience, and social resilience. Each of these dimensions is relevant in its own way and they are all strongly interconnected, reflecting the capacity of individuals, organisations, and systems to withstand and recover from shocks.

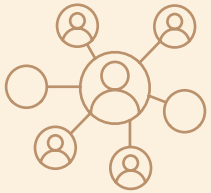
Shocks and stresses

Shocks and stresses in the context of this Plan refers to the following:

- Episodic shocks are sudden, large-scale disasters that disrupt and threaten communities. In the context of drought, some significant shocks may include:
  - Sudden water shortages.
  - Extreme weather events (storms, bushfires, landslides, earthquakes, heatwaves).
  - Infrastructure failure.
- Chronic stressors can be thought of as slow-moving disasters that affect the community. In the context of drought, stressors may include:
  - Food and water shortages.
  - Climate change.
  - Aging infrastructure.

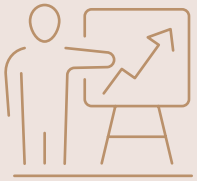
Dimensions of resilience

To establish a holistic approach towards resilience, a broad range of systems must be considered, including social resilience, economic resilience and environmental resilience.



Social

Social – the ability of individuals and communities to withstand the psychological and social impacts of drought. It involves fostering strong social networks, community cohesion, and mental health support systems to help people cope with the stress and challenges associated with water scarcity.



Economic

Economic – focuses on the ability of local economies to adapt to and recover from the economic shocks caused by drought. This may include diversifying the local economy, supporting businesses that are drought-resistant, and providing financial resources to mitigate economic losses during drought events (DPIE, 2021).

Environment

Environment – centres on the capacity of natural ecosystems and water resources to endure and recover from the ecological impacts of drought. This may involve protecting and restoring habitats, improving water conservation practices, and preserving biodiversity to maintain ecosystem services during and after drought.

Resilience capacity

Absorptive capacity is often described in traditional resilience terms as the ability to absorb shocks or to 'bounce-back' (Haider and Cleaver, 2023). Adaptive capacity is often the next step on the resilience journey and entails having the necessary resources to learn and adapt the system (Haider and Cleaver, 2023). However, it is increasingly being recognised that adaptation is insufficient to deal with large-scale environmental issues like climate change. Transformation, which is the shift to a new system including change in priorities and leading to changes across multiple scales, is sometimes the best way to deal with large scale issues. However, transformation is not always needed or 'good' and in certain circumstances adaptation is the best course of action (Haider and Cleaver, 2023).

Resilience thinking

Resilience thinking incorporates the notions of absorption, adaptation, and transformation into a unified approach, as shown in Figure 6. It offers a structured framework for developing strategies aimed at enhancing resilience (Folke et. al., 2010). These different capacities are vital components of building resilience, and this holistic perspective acknowledges resilience is not a one-size-fits-all concept and tailored approaches are necessary to address the diverse and dynamic challenges communities, ecosystems, and organisations/businesses face.

Resilience framework

A resilient region is one where our people, communities, and systems are able to withstand and bounce back from drought but also prosper afterwards. Resilient communities have the ability to resist, absorb, accommodate, recover, transform and thrive in a timely, effective manner in response to the effects of shocks and stresses to enable positive economic, social, environmental and governance outcomes (Infrastructure Australia, 2022).

Understanding how to improve the resilience of a system requires an appreciation of the characteristics that make a system resilient. The following 11 principles (detailed in Figure 7) form the framework to measure how this Plans' actions improve resilience. These resilience principles have been adapted from those identified by Infrastructure Australia and the Stockholm Resilience Centre (Simonsen et al., n.d.). To provide a framework of 11 principles to by which to measure resilience.

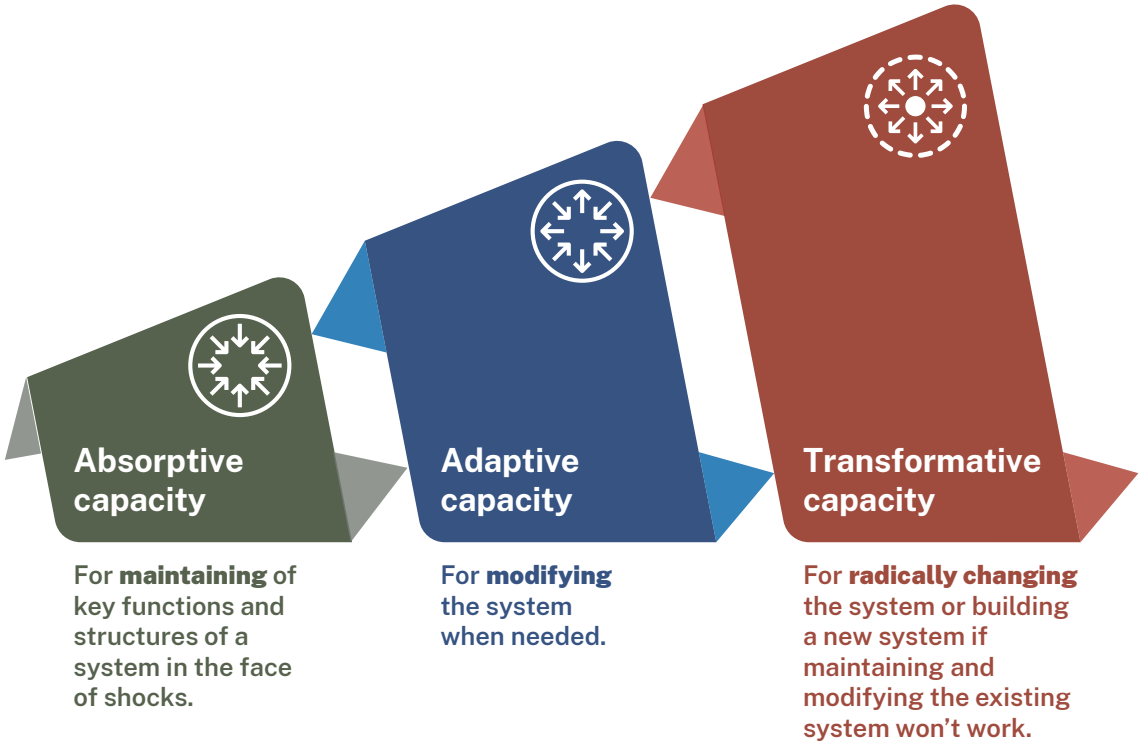


Figure 6 The Resilience Framework applied in this document

The Resilience Framework

Absorptive

Participation: Inclusivity and connectivity

Resilient systems prioritise broad and well-functioning participation, including vulnerable and marginalised groups. This fosters a sense of shared ownership, vision, and enables high levels of connectivity between different social groups. This can increase information sharing and help build trust and reciprocity. This can enable a region to overcome and recover from disturbances more quickly

Resist: Identify supports and actions to withstand the effects of drought

Systems that withstand or endure shocks and stresses to prevent an impact on infrastructure services, assets, networks, injury and loss of life. Failure should not be disproportionate to the cause. Systems should be safe-to-fail, anticipate failures and designed strategically to ensure failure is contained and minimised

Ensure our communities are prepared for drought and ready to respond

Well-constructed and well-managed systems that lessen the impact of all hazards on communities and infrastructure services. Systems should:

- anticipate and proactively plan for future shocks and stresses (this may include trigger points for activation of resources), and provide services and infrastructure tailored to community needs and preferences, at reasonable cost.
- identify low regrets pathways that consider long-term planning horizons and multiple scenarios.

Recover: be equipped to respond to drought and its impacts

A resilient system can actively recover from harm after an adverse event is over. A region's ability to recover can determine its ability to evolve and or adapt to avoid or minimise future occurrences.

Accommodate: ensure projects and responses meet the needs of our community

Systems with the capacity to deal with disruption, pressure and surges in demand. A core trait is the redundancy of a system, which is the ability to maintain operations without significant deterioration in quality or value through additional capacity or substitution.

Thrive: grow integrated, flexible, innovative and inclusive communities

Where possible, systems that allow communities to meet their needs and maintain their livelihoods before, during and after a shock or stress by safeguarding and minimising impact to economic, social, environmental and governance outcomes.

Adaptive

Investment: Diversity and redundancy

More diverse communities, ecosystems, economies, and systems are better able to respond to interruptions or change, making them inherently more resilient. Redundancy provides assurance within a system by allowing certain components to compensate for the loss or failure of others.

Investment in diversity and redundancy can enhance the resilience of people's livelihoods because it enables people to adjust in response to changes in the market or the environment.

Management: Learning and adapting

Resilient systems adapt to uncertainty and a changing environment by embracing learning. They continually assess management plans and standards against emerging types and sources of knowledge. This allows learning from previous mistakes to be captured and inform future decision making

Effective: ensure place-based planning and development (Absorptive to Adaptive)

Systems are managed and perform as intended. Systems that achieve productivity, in line with community expectations and willingness to pay. Effective engagement promotes transparency, inclusivity and place-based approaches.

Timely: responses to drought are well considered, consistent, accountable, transparent and prompt (Absorptive to Adaptive)

Decisions about the system are prompt, transparent and made in a reasonable timeframe, using various communication channels, data platforms and engagement techniques.

Transformative

Transform: accept and adapt to changing climatic conditions

Systems that change, evolve, adapt and learn in response to current and future trends and uncertainty. The ability to continually assess, build knowledge, learn and improve to inform future decisions. Returning to normal does not strengthen resilience but consolidates it. Transformation involves community behavioural change and an understanding of how to act before, during and after a disaster.

Figure 7 11 Principles in the expanded Resilience Framework

1.8.1. Resilience assessment

The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) developed a national index to rank rural or regional communities by their potential to be adversely affected by drought (ABARES, 2022). As shown in Figure 8 , this index combines drought exposure and drought sensitivity (at the farm enterprise level), and data representing community sensitivity (agricultural dependence of a community), to initially produce an index of 'Potential drought impact' (PDI). This PDI index can be applied consistently across LGAs. Whether the PDI will cause lasting loss or harm depends on the community's adaptive capacity (ABARES, 2022). The project is ongoing and the next step is to include indicators of potential adaptive capacity of communities, to better understand the likely resilience of a community to drought (ABARES, 2022). Consequently, the output of the framework would be a measure of drought vulnerability and resilience, describing the degree to which Australian agriculturally dependent communities are likely to be adversely affected by a drought and their ability to withstand those impacts.

Within the Farm Sensitivity measure there is drought exposure and drought sensitivity. Drought exposure represents the amount of external stress farm enterprises experience due to the climate variability they are exposed to at their location (ABARES, 2022). Drought sensitivity represents the effects that climate variability has on farm outcomes, reflecting the responsiveness of farm production systems to short-term climate variability and short-term management responses (ABARES, 2022). Currently, only broadacre farms are represented by this indicator.

The community sensitivity measure represents the reliance of a LGA on employment in agricultural production industries (broadacre and irrigated) and related downstream food and beverage manufacturing (for example, meat processing, dairy product manufacturing and fruit and vegetable processing) (ABARES, 2022).

Community sensitivity is measured as the proportion of people employed in those agri-industries compared to total employment in the LGA. The PDI index highlights the need for drought resilience plans to consider the risk and exposure of a region to drought (such as considering the PDI ranking) and how that can be minimised, as well as how a community can build in adaptive capacity to manage the impact of droughts (overall drought vulnerability and resilience).

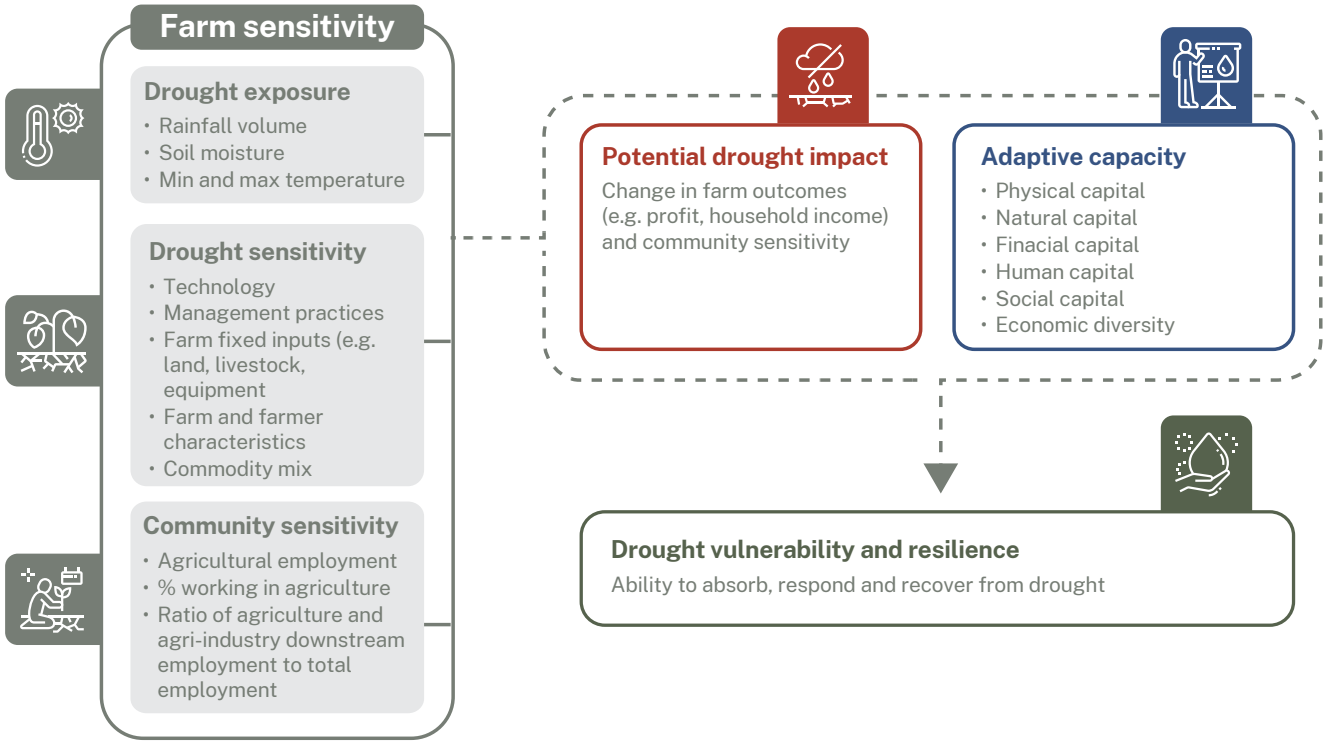


Figure 8 National Index (adapted from ABARES, 2022)

While the adaptive capacity measure is yet to be fully developed, the economic diversity index (EDI) has been calculated for all LGAs. The EDI reflects the composition of the local economy across all industry of employment sectors compared to the Australian economy with a low score representing a less diverse economy (ABARES, 2022). This index also correlates with population density and access to services, as communities that exhibit the highest levels of economic diversity are usually the larger population centres (ABARES, 2022).

The ABARES technical report (2022) lists five forms of capital, or resources, which are positively related to the communities ability to manage or cope with impacts. These are:

- human capital—labour and influences on the productivity of labour, including education, skills and health
- social capital—claims on others by virtue of social relationship
- natural capital—land, water, and biological resources
- physical capital—produced by economic activity, including infrastructure, equipment and technology
- financial capital— savings and credit

A Tableau© dashboard generates an ordinal (0 to 1) PDI ranking of agriculturally dependent communities based on their potential to be impacted by drought. The most sensitive LGAs (with both high farm sensitivity and high agricultural dependence/ community sensitivity) receive a ranking near one (1) and the least (with both low farm drought risk and low agricultural dependence) receive a rating near zero (0) (ABARES, 2022). Table 1 provides the data contained in the Tableau© dashboard as well as including the Index of Socio-Economic Advantage and Disadvantage (IRSAD). The IRSAD is one of the socio-economic indexes for Australia (SEIFA). The IRSAD summarises information about the economic and social conditions of people and households. SEIFA indexes orders areas from lowest to highest, with decile 1 representing the most disadvantaged areas relative to other areas, and 10 representing the most advantaged areas.

Table 1 highlights Coolamon LGA as the more vulnerable of the LGAs for all indicators including the SEIFA indicator. Coolamon has slightly lower economic diversity than Junee and a high PDI indicating a high potential for drought impact due to high farm drought risk. Given the lack of farm sensitivity rating for Junee, it could reasonably be expected that the PDI's would be more aligned than presented. Coolamon has an IRSAD score of 5, indicating a relative average level of advantage/disadvantage. Junee has a lower score of 2, indicating a relatively greater level of disadvantage.

Table 1 Drought indicator framework outputs and SEIFA decile by LGA (Data source: ABS, 2021; ABARES 2022)

	Economic Diversity	Farm Sensitivity (FS)	Community Sensitivity (CS)	Potential Drought Impact (FS+CS)	Socio-economic advantage / disadvantage (SEIFA decile)
Coolamon	0.42	0.84	0.33	0.78	5
Junee	0.49	-	0.32	0.21	3

02

Coolamon and Junee Region and communities

2. Region and Communities

2.1. Introduction to the region

The Coolamon Shire covers an area of approximately 2,494 square kilometres and has a population of 4,385 (ABS, 2022a), comprising the three larger towns of Coolamon, Ganmain and Ardlethan and the smaller villages of Marrar, Matong and Beckom. The Coolamon Shire is known for its tourist attractions including The Coolamon Cheese Company, the Fire Museum and the home of the Kelpie at Ardlethan. The Up-To-Date Store Cultural Precinct serves as a reminder of the historical community; at one time you could purchase grocery, ironmongery, crockery, drapery, mercery, millinery, haberdashery, clothing and footwear (Visit Coolamon Shire, n.d.). There are many heritage buildings and items which are protected and being maintained under Council's Local Environmental Plan. Chief amongst these is the Up-to-Date Store – incorporating the Mavis Furner Collection and Garth Jones Agricultural Collection- which are of State Heritage value. The Art festival on Ford is another attraction held at Ganmain.

The Junee and Coolamon Shires are surrounded by Bland, Narrandera, and Temora Shires, Cootamundra-Gundagai Regional council and the City of Wagga Wagga.

The Junee LGA covers 2,030 square kilometres and has a population of 6,415 (ABS, 2022a). This includes the villages of Illabo, Bethungra, Old Junee and Wantabadgery.

Junee is known for its agricultural sector, rail history, government services, and tourism (Junee Shire Council, 2017). Some of the main attractions in the Shire include the region's premier tourist attraction the Junee Licorice and Chocolate Factory (>120,000 visitors per year), the Junee Roundhouse Railway Museum (12,000 visitors per year) which houses a variety of railway memorabilia, the Victorian-era Monte Cristo Homestead which is said to be Australia's most haunted house (Visit NSW, n.d.) and Athenium Theatre which has been magnificently restored and boast State Heritage status. The Illabo vintage speedway also meets several times a year attracts race enthusiasts from all across the country.

Founded in the glory days of the New South Wales Government Railways in the 1880's and now home to some of the states most fitting tributes to those grand old locos, Junee Shire happily combines old world charm with its modern lifestyle and culture (Junee Shire Council, 2021a). The Junee township is centrally located within the Shire making it relatively accessible to the surrounding four village communities of Old Junee, Illabo, Bethungra and Wantabadgery. While each village has its own identity, what is common to each is the sense of community pride and support they extend to their surrounding rural residences that has made a lasting contribution to the Shire's growth and prosperity. This has facilitated significant investment to community facilities over the past two decades such as: the Junee Junction Recreation and Aquatic Centre, Athenium Theatre, Library, Parks, Garden and sporting amenities that all residents can access and enjoy (Junee Shire Council, 2021b; Cooke, 2022). Each village has an improvement plan that focuses on its unique character and circumstance that intends to build upon the natural and built assets in each community.

Accessibility and mobility are a high priority for the community and is ably supported by a volunteer driver community transport program. Each year it provides one-way trips to support young and old alike who may lack access to personal or public transport. The quality of this service enables members of our community to enjoy access to health, community and social services.

The Coolamon and Junee Shires are some of the richest agricultural and pastoral districts in the Riverina. They are surrounded by Bland, Narrandera, and Temora Shires and the City of Wagga Wagga. The district is renowned for its production of wheat, canola, barley, oats and other cereal crops, as well as hay and chaff. Wool, lamb and beef are also important products from the area (ABS, 2022c). Being located within easy driving distance from Wagga Wagga which provides greater employment opportunities, many residents choose to live here as a lifestyle choice, and many retiring into Coolamon and Junee from the farm. The main industries of employment include agriculture, health, aged care, education and public administration including Local Government (ABS, 2022a). Coolamon and Junee Shire's proximity to Wagga Wagga and advances in information technology, broadband and satellite communication systems have established positive opportunities for home-based business, business support and consultancies. Coolamon and Junee provide most of the essential services of a regional city with greater housing affordability, especially for first home buyers. Table 2 provides a summary of the socio-economic information for the two LGA's which are statistically similar in a number of areas.

Table 2 Socio-economic summary (ABS, 2022a; Australian Government, 2023)

	Coolamon	Junee
Total population	4,385	6,415
Population change (2016-2021)	1.6%	1.9%
Indigenous population	244 (5.6%)	587 (9.2%)
Median age	44	41
Median household income (per week)	$1,310	$1,398
Top industries of employment	Agriculture, Forestry and Fishing (19.4%)	Agriculture, Forestry and Fishing (16.1%)
	Health Care and Social Assistance (11.2%)	Health Care and Social Assistance (12.6%)
	Education and Training (10.4%)	Public Administration and Safety (11.0%)
Labour force participation	58.4%	49.0%
Unemployment (March 2023)	1.6%	2.6%

2.2. First nations people

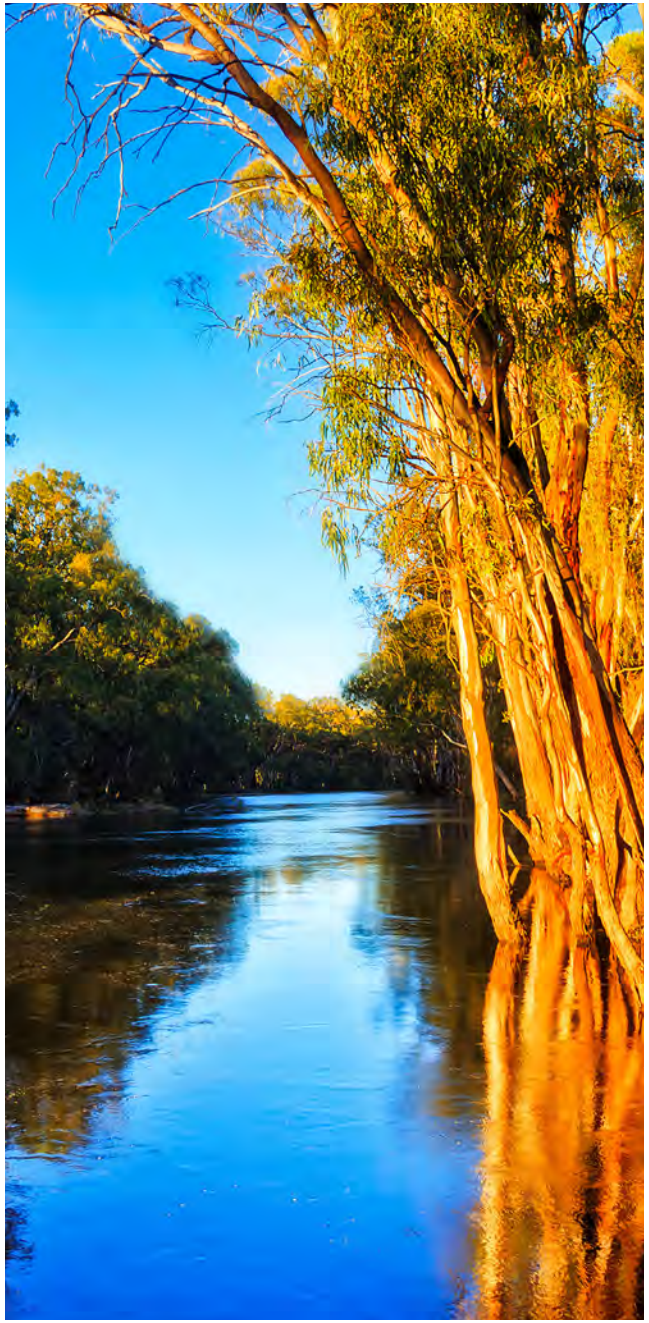
The Coolamon and Junee Shire LGA's are steeped in the history of the Wiradjuri people, who are the Traditional Custodians of this land, water and sky. Spanning from the Kalare (the Lachlan River) to the Dhungala (Murray River) and from Burbong (Goulburn) to Melnunni (Hillston), Wiradjuri Country holds stories and connections that transcend time (Coolamon Shire Council, n.d.a).

Wiradjuri people continue to care for Country in this area, now known as Coolamon Shire and Junee Shire. Wiradjuri culture continues to thrive in this region. The resilience of these First Nations peoples is evident in their ongoing connection to the lands, waters, and sky. Over the years, much knowledge about Wiradjuri heritage has been passed down, researched, and recorded, providing a glimpse into their enduring culture.

Today, several places around Wagga Wagga, such as the Bundyi Aboriginal Cultural and Knowledge, Brucedale Cultural Centre and Wiradjuri Reserve along the Murrumbidgee River, offer insights into Wiradjuri heritage, culture, and Country (Coolamon Shire Council, n.d.a). These spaces serve as windows into the deep-rooted history and cultural significance of the Wiradjuri people, embodying their continued presence and contributions to the region.

"Coolamon" is an Aboriginal name meaning "dish or vessel for holding food or water". A plan showing the northern boundary of Coolemon (Coolamon) Holes Run in 1870 shows a cluster of numerous water holes which he referred to as Coolamon Holes. This was the Indigenous name given to the holes and the origin of the name as applied today (Coolamon Shire Council, n.d.a).

Junee started as a pastoral lease called the ‘Jewnee Run’. The name originates from the Aboriginal word meaning ‘speak to me’ (Junee Shire Council, 2017).



2.3. Land use

Coolamon and Junee are both predominantly agricultural areas with the majority of land in the LGAs utilised for agricultural purposes (93%) (ABS, 2022b). The land use is reflective of dryland agriculture, which in the 2020-21 census was a relatively even split between cropping and grazing. Grazing consisted of 140,000 hectares of improved pastures and 85,000 hectares of other grazing, reflecting the strong production potential of the area's soils. The majority of cropping was split across wheat (93,000 hectares), Canola (55,000 hectares) and barley (37,000 hectares) (ABS, 2022b). The increase of larger corporate farms in the region has reduced diversity as many of these businesses are solely focused on cropping. Non-agricultural land use takes up a minimal 7% of overall land use (ABS, 2022b).

The Kindra State Forest in Coolamon is a 52-hectare area of remnant bushland. The forest contains a range of leisurely bike and walking trails that will lead you on a journey of discovery, taking in the flora and fauna of the forest, seating, viewing areas and picnic spots (NSW Government, n.d.a). Other such native areas within the region include Ganmain's Murumbang Interpretive Walk and Lester State a 2,000 acre area of native forest located some 8 kilometres from Coolamon. In Junee there is the 4,000 hectares Ulandra Nature Reserve consisting of a preserved creek catchment which is home to a range of flora and fauna and the Bethungra Dam and Reserve, which has become home to many species of water and migratory birds (Junee Shire Council, 2017).

Junee Shire boasts two recreation reserves with contemporary amenities for locals and visitors offering free caravan and camping (Canola Trail, 2021). Sandy Beach is located along the bank of the Murrumbidgee River near Wantabadgery. Bethungra Dam Reserve was built in the 1890's as a potable water source for residents of Junee and to support steam locomotives (Junee Shire Council, 2021b). The Bethungra Dam is supported by a native fish restocking program and walking trails that lead to fine examples of industrial heritage (Jacka, 2023; Canola Trail, 2021).

2.4. Agriculture

Coolamon and Junee are located in the Murrumbidgee catchment and are situated in a moderate to low rainfall area with Junee experiencing an average annual rainfall of 527mm and Coolamon expecting 573mm (BoM, 2023). The two Shires are mapped in moderately high soil fertility areas and have a diverse soil profile which is favourable to agricultural production. Cereal crops including barley, wheat and canola are the dominant crops produced in the region followed by other grazing crops for cattle and sheep. The combined gross value of agricultural production for Coolamon and Junee is over $327 million (see Figure 9) (ABS, 2022c).

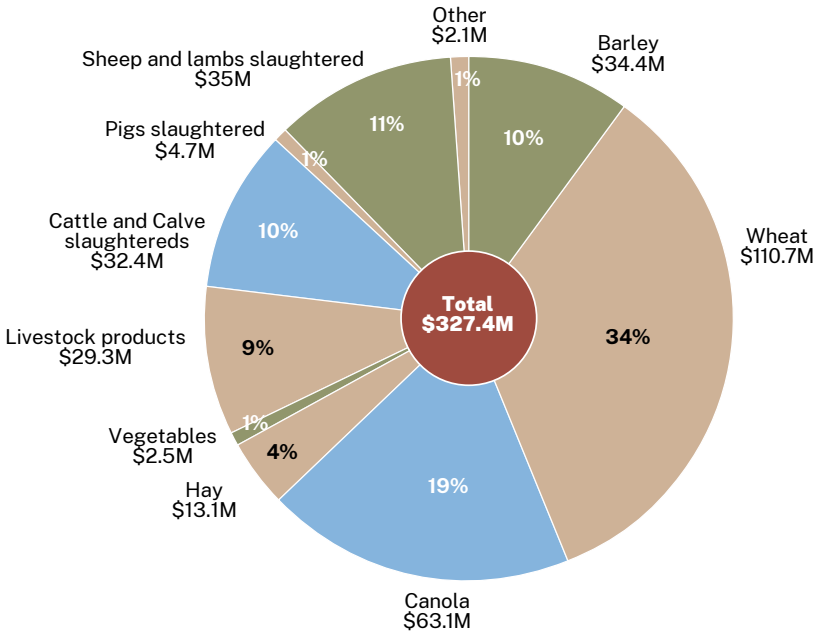


Figure 9 Coolamon and Junee combined Agricultural Production Gross Value (ABS, 2022c)

Coolamon and Junee are predominantly dryland farming and livestock production. Water use in the region, for livestock production, is from rainfall collected in farm dams supplemented by Goldenfields pipeline network and some on-farm groundwater. Rainfall is needed across the two LGAs for grazing pastures, livestock production, fodder conservation and the growing of ceral crops.

Table 3 shows the variability of the value of agriculture in the region due to differing climatic and market conditions. The period between 2017-2023 demonstrates the change in overall agricultural value for the Junee LGA throughout the last drought (2019-20) before returning to above average seasonal conditions.

Table 3 Output by Agriculture sector 2017-2023 in Junee (source: id Community, n.d.)

Year	Value of Agriculture ($m)	Variance to previous year
2017-18	165.3	
2018-19	145.8	-12%
2019-20	139.2	-5%
2020-21	170.5	22%
2021-22	190.0	11%
2022-23	**180.5**	**-5%**

*Economic output data was not available for Coolamon Local Government Area at the time of writing this.

Table 4 demonstrates the gross value production for the various agricultural types in Coolamon and Junee. As can be seen, broadacre crops contribute the most to local economy, followed by cattle, and then sheep.

Table 4 Agricultural Gross Value of Production for Junee and Coolamon (Source: DPI, n.d.a)

	Junee GVP $122.3m* 12.7% ER**	**Coolamon GVP $105.9m* 11% ER****
Broadacre crops	**$82.17m**	**$69.51m**
Cattle (Beef)	**$13.54m**	**$13.04m**
Sheep (Wool)	**$11.27m**	**$9.66m**

* Gross Value of Production ** % ER is the % share of Eastern Riverina Region Agriculture GVP

2.5 Water resources

2.5.1 Goldenfields Water

Both Coolamon and Junee LGAs have their water supplied by Goldenfields Water (who supplies other LGA's in the region as well). Goldenfields Water owns and operates five water treatment systems, 34 water pumping stations, 115 reservoirs, eight (8) bores, six re-chlorination stations, and 2,100kilometres of water mains (Goldenfields Water, n.d.a). Figure 10 shows Goldenfields Water's network and infrastructure in Coolamon and Junee. In 2022/23, residential water consumption provided by Goldenfields Water averaged 223 kilolitres per residence, and 680 kilolitres for non-residential users. Goldenfields Water supplied rural customers an average of 962 kilolitres (Goldenfields Water, n.d.b). Stage 2 upgrade works for Oura Water Treatment Plan commenced in September 2023 and is set for completion by the end of 2024 (Goldenfields Water, 2024). The upgrade works include the addition of two reservoirs, transfer pipeline, multi-tray aeration unit and structural tower, as well as associated civil and electrical infrastructure which will ensure the region's growing population has access to clean water (Goldenfields Water, 2024).

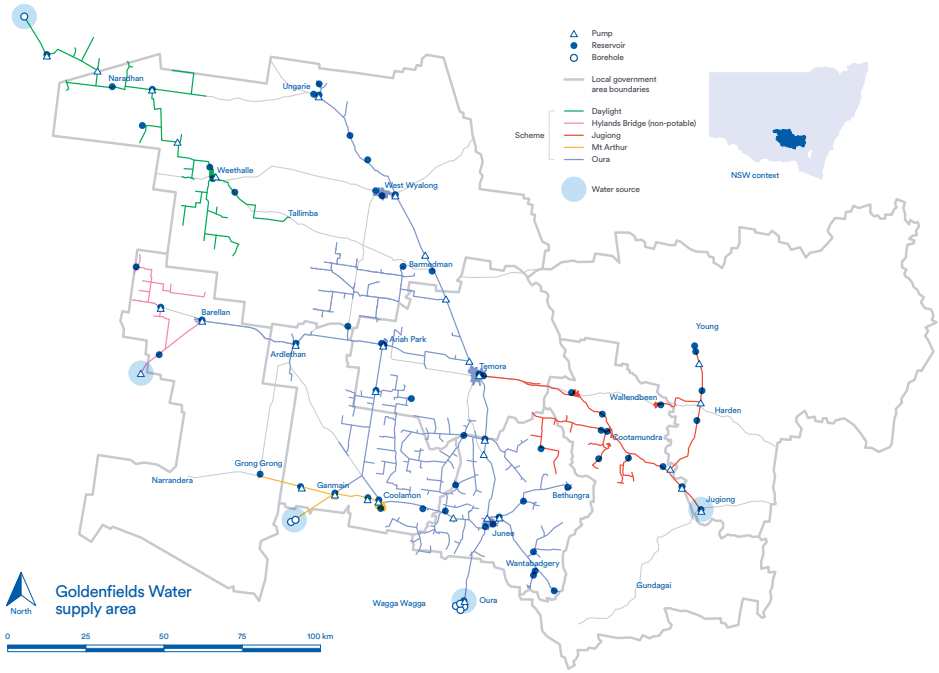


Figure 10 Goldenfields Water Network (Source: Goldenfields Water, n.d.b)

Coolamon Shire Council has been recycling water since the mid-1960's and uses the effluent from the Sewerage Treatment Plant on local sporting fields (Coolamon Shire Council, n.d.b). To reduce its use of water, Coolamon Shire Council is increasing the use of synthetic turf in parks, installing centralised watering systems, and replacing sprinklers with low water use pop-up Watermark approved systems, to attempt to save 3.17 million litres of water each year (Coolamon Shire Council, n.d.b).

The Junee Shire has significant challenges with regard to salinity, which can alter the natural water cycle, inhibit drainage and impede ground water flow (Junee Shire Council, 2024). Surrounding land use and geology can also add to the complex array of local or site specific issues as these factors also influence recharge rates, water movement and ground water discharge. Increased salinity can accelerate the deterioration of infrastructure including roads, buildings, sewerage and stormwater systems as well as making it difficult to maintain parks and gardens under high rates of salinity (Junee Shire Council, 2024).

2.5.2 Murrumbidgee Regional Water Strategy

Regional Water Strategies are being developed across NSW and provide a plan to manage the regions water needs for the next 20-40 years. They set out a roadmap of actions to deliver five objectives:

- Delivering and managing water for local communities
- Enabling economic prosperity
- Recognising and protecting Aboriginal water rights, interests, and access to water
- Protecting and enhancing the natural environment
- Affordability.

The Murrumbidgee Regional Water Strategy (the Strategy), which includes Coolamon and Junee LGAs (Figure 11), is currently under public exhibition (DCCEEW, 2024). Its aim is to ensure the Region has access to safe, reliable, and resilient water sources for both current and future populations. The Strategy takes into consideration the uncertainty associated with the impacts of a changing climate on water supply and demand (DCCEEW, 2024).

The Murrumbidgee region has Australia's third longest river system running through it and is linked hydrologically with the Murray River (DCCEEW, 2024). The region has access to surface water and groundwater for consumption, recreational uses, cultural, environmental needs, as well as industrial use. The Region is anticipated to experience higher temperatures with more hot days in conjunction with less cold nights which may result in more severe fire conditions (DCCEEW, 2024). The higher temperatures could also increase the evapotranspiration rates by 4% across the year. In addition, current models predict that there will be seasonal shifts in rainfall patterns with a potential decrease in total winter rainfall in the upper catchment by 20%, by 11% in autumn rainfall (DCCEEW, 2024). The result of higher temperatures, increased evapotranspiration, reduced rainfall could result in reduced water volume flowing under both the regulated and unregulated rivers.

To address the current and predicted water-related challenges for the region, the following focus areas have been identified (DCCEEW, 2024):

- Balancing competing interests in water
- Improving the health and resilience of ecosystems
- Addressing barriers to Aboriginal people's water rights
- Supporting existing and emerging industries and livelihoods

Underpinning these focus areas are the priorities to ensure continued improvement of water management methods, improved river and catchment health, supporting sustainable economics and communities, and sustainable water management in the upper Murrumbidgee catchment. The draft Strategy has also identified a suite of actions under each of these priority areas in order to improve the Regions resilience and adaptability to a changing climate (DCCEEW, 2024).

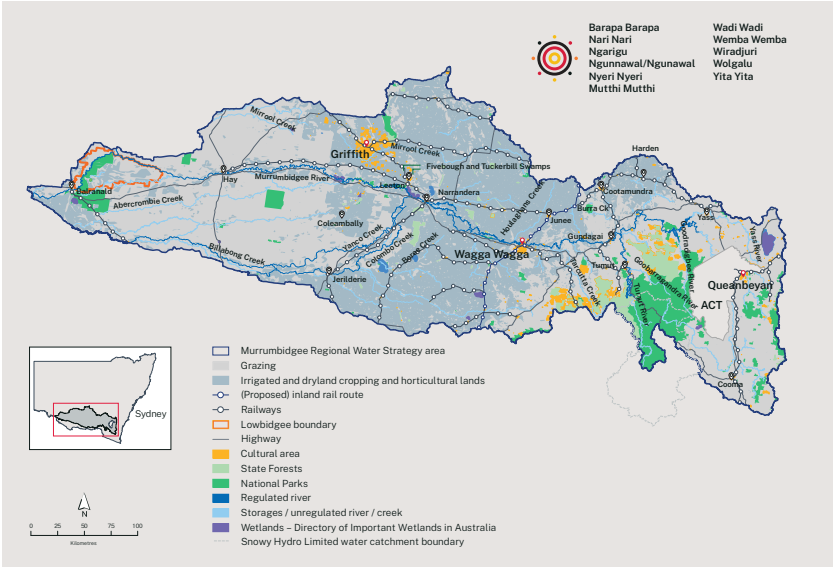


Figure 11 Murrumbidgee Region (Source: DCCEEW, 2024).

2.6 The regions industry

Across Junee, the agriculture, forestry and fishing industry is the largest output generating sector with an estimated total annual output of $210.3 million in 2021/22 representing approximately 33.2% of the regions total economic output (Table 5).

Table 5 Output by industry sector 2022/23* (Source: id Community, n.d.)

	Junee	
	$m	%
Agriculture, Forestry and Fishing	**199.8**	**31**
Manufacturing	**106.9**	**16**
Transport, Postal and Warehousing	**113.3**	**17**
Total industries	**652.6**	-

* Economic output data from this source was not available for Coolamon Local Government Area at the time of writing.

Other industries within the Junee region include grain storage, logistics and export, and rail. Large employers include Junee Correctional Facility (which employs approximately 350 staff and has benefitted from a $200 million expansion since 2018), Junee Prime Lamb (which employs approximately 300 staff), ARTC and Qube logistics (DRNSW, 2023).

Coolamon Shire industry is predominantly agricultural services businesses such as Delta Ag, Graincorp, Emerald Grain, and Logan and Hitchens. Coolamon Steelworks manufacture and design chaser bins which are sold in both the domestic and international markets (Coolamon, n.d.).

In 2023 Coolamon's business park was opened. The park includes 22 lots and promises to bring business expansion and employment growth to the region and has been strategically positioned for both established businesses and start-ups (Coolamon Shire Council, 2023). The project was originally approved in 2019 under the Drought Stimulus Package.

Coolamon Shire's agricultural sector contributed an estimated $173 million to the region's gross regional product in 2021-2022 (ABS, 2022c).

2.7 The regions services

2.7.1 Education

Education services are offered within the region. Across the Junee and Coolamon LGAs, there are approximately 15 primary and high schools, including Eurongilly Public School, Illabo Public School, Junee North Public School, St Joseph's School, Junee High School, Junee Public School, Marrar Public School, Coolamon Central School, St Michaels' Primary School (Coolamon), Ganmain Public School, Yanco Agricultural High School, Rosewood Public School, Matong Public School, Ardlethan Central School, and Beckom Public School (Australian Schools Directory, 2024).

There are no NSW TAFE or university campuses in the LGAs of Coolamon and Junee. However, the region benefits from these services in neighbouring LGAs and towns. There are NSW TAFE campuses in the towns of Cootamundra, Temora, Narrandera, Leeton, and Wagga Wagga (TAFE NSW, n.d.). There is Charles Sturt University in Wagga Wagga, and Latrobe University in Wodonga and Shepparton.

The Eastern Riverina Regional Economic Development Strategy (DRNSW, 2023) estimated that the education and training sector contributed $414 million of output for the Junee, Coolamon, Wagga Wagga, and Lockhart LGAs, and grew by 3.2% between 2011 and 2020. The Development Strategy also notes that the region is seeking to upskill its workforce and develop clearer career pathways and local employment opportunities. This is particularly important as Coolamon and Junee have a lower number of people aged 0-19 years old (24.3% and 21% respectively) compared to the NSW average of 27.4%, highlighting the importance of retaining youth in the local workforce through education opportunities (ABS, 2022a; DRNSW, 2023).

2.7.2 Health and aged care

The Coolamon-Junee region has two public hospitals: the Junee Multi Purpose Service (Junee District Hospital) and the Coolamon-Ganmain Multi Purpose Service (AIHW, 2024). Outside of the two LGAs, there are public hospitals in Cootamundra, Temora, Gundagai, Narrandera, and Wagga Wagga (AIHW, 2024). There is one private hospital in Wagga Wagga, Calvary Health Care Riverina (AIHW, 2024).

Recent investments to increase and improve the health services within the region include the Coolamon ambulance station which was completed (2017-2018) under the NSW Government's $132 million Rural Ambulance Infrastructure Reconfiguration (RAIR) program (NSW Government, n.d.b). The Wagga Wagga Health Services Hub upgrades and improvements has an estimated total project value of $431 million and will service the surrounding areas including Junee and Coolamon (DRNSW, 2023). Junee and Coolamon also have Cooinda Court and Allawah Lodge as aged care within the region.

2.7.3 Housing

Housing availability and affordability is another factor than can indicate a community's resilience to drought. The region is argued to have affordable housing (cost advantage) compared to NSW (DRNSW, 2023). Table 6 depicts indicators of mortgage and rent affordability across the two LGAs (ABS, 2022a). Compared to NSW, Coolamon and Junee have a lower percentage of households with mortgage repayments more than 30% of household income, and a lower percentage of households with rent payments more than 30% of household income (Table 7). Furthermore, Coolamon and Junee exhibit higher rates of dwellings that are owned outright (45.2% and 39.2% respectively) compared to only 32% in NSW. This may indicate that the region experiences better housing affordability compared to broader NSW.

Table 6 Mortgage and rent affordability indicators for occupied private dwellings (2021 Census) (ABS, 2022a).

	Coolamon	Junee	NSW
Mortgage repayments more than or 30% of imputed household income (%)	9.2%	7.5%	17.3%
Rent payment more than 30% of imputed household income (%)	22.2%	28.4%	35.5%

Table 7 Total number and tenure type (owned outright, owned with a mortgage, and rented) of occupied private dwellings 2021 (ABS. 2022a)

	Coolamon	Junee	NSW
Total occupied private dwellings (2021)	1,649	2,103	2,900,468
Dwellings owned outright	745	824	914,537
	(28.4%)	(39.2%)	(32%)
Dwellings owned with a mortgage	544	654	942,804
	(33%)	(31.1%)	(33%)
Dwelling rented	266	525	944,585
	(16.1%)	(25%)	(33%)

Despite this observed cost advantage, housing availability within the region has decreased (DRNSW, 2023). Increased migration coupled with housing supply not keeping pace is a key factor contributing to the decreased housing availability (DRNSW, 2023). Table 8 displays the number of buildings approved and their value, with Junee experiencing higher building approvals than Coolamon (ABS, 2022a). Housing availability is also predicted to worsen as workers move to the region to deliver major projects including solar farm developments, Inland Rail, and the EnergyConnect transmission project (DRNSW, 2023).

Table 8 Building approvals and values (year ended 30 June 2022) (ABS, 2022a)

	Coolamon	Junee	NSW
Total dwelling units (no.)	22	56	54,636
Total value of private sector dwelling units ($m)	$10	$21	24,521

The decreased housing availability has reduced housing affordability (DRNSW, 2023). Median house prices have increased between 30% and 41% between June 2018 and June 2022 for the LGAs of Junee, Coolamon, Wagga Wagga, and Lockhart (DRNSW, 2023). In June 2022, the median house price was $349,000 in Junee and $335,000 in Coolamon (DRNSW, 2023). A high price income ratio within the region suggests that if housing availability can be improved, improved housing affordability can also be achieved (DRNSW, 2023).

2.8 The regions infrastructure

2.8.1 Road, air, and rail

Infrastructure including road, rail, air, and telecommunications can influence a community's ability to thrive through the cyclical challenges of drought. Within the Coolamon and Junee region, rail infrastructure is of particular importance to the region, supporting the movement of freight and passengers. The Main Southern Railway (Sydney to Melbourne) passes through Junee with a branch line to Griffith which services Coolamon. Bethungra, Illabo, Harefield, Old Junee, Ganmain and Ardlethan (Cootamundra-Griffith Line) previously had operational railway stations, but today they are no longer in use (NationalMap, n.d.).

Road infrastructure also plays an important role for the region's accessibility. The Olympic Highway serves as a key road in and out of the region. It connects Junee to the north with Cootamundra via Bethungra, and Wagga Wagga to the south. The Gundagai Road and Nangus Road connects Junee to Gundagai (NSW Government, n.d.c). Canola Way Road links Junee and Coolamon, before becoming the Newell Highway in Grong Grong, and continuing west to Narrandera and connecting to the Sturt Highway (NSW Government, n.d.c). Coolamon is connected to Wagga Wagga via the Coolamon Road and is linked to Ardlethan via Ardlethan Road (NSW Government, n.d.c).

The road network serves as critical infrastructure for people commuting to work. For example, in Junee, out of 2,514 employed persons aged 15 years and over, only 14 used at least one form of public transport to commute to work, versus 1,808 who travelled by car (ABS, 2022a). The road network also enables the movement of freight. While Junee and Coolamon lie outside what is considered the key road fright route, its location is still highly accessible to strategic transport routes including markets in Wagga Wagga, Sydney, Melbourne, and Adelaide (NationalMap, n.d.; DRNSW, 2023).

The Eastern Riverina Regional Economic Development Strategy – 2023 Update includes the Coolamon Shire Council, the Junee Shire Council, Wagga Wagga City Council, and Lockhart Shire Council (DRNSW, 2023). The document outlines a number of investments in infrastructure since 2018, estimating that $11.7 million has been spent on the Coolamon rail passing loop extension, $60.4 million on the Junee to Griffith rail upgrades, and investment into the Inland Rail – Albury to Illabo and Illabo to Stockinbingal section (DRNSW, 2023). Other significant investments in the region since 2018 to improve service provision include the Athenium Theatre Junee upgrades with an estimated total project value of >$2.5 million, the Coolamon showground multi-purpose exhibition and adaptive space ($0.56 million), and the Coolamon Business Park ($2.9 million) (DRNSW, 2023).

2.8.2 Telecommunications

Digital connectivity and mobile coverage within the two LGAs rely on telecommunications infrastructure. Geographic features such as hills or mountains can also affect coverage (Telstra, n.d.a). In recognition of the importance of digital connectivity, the Federal Government's Mobile Black Spot Program was launched in 2015 (Telstra, n.d.b). The Program's goal was to expand mobile coverage in regional and remote Australia. Across the two LGAs, one Black Spot Program (through Round 3) was completed in February 2019 in Wantabadgery (NationalMap, n.d.). The region has benefitted from other projects in neighbouring LGAs, with three projects completed in Temora, one in Narrandera, and one in Wagga Wagga (NationalMap, n.d.).

Telstra is the main mobile network service provider across the region, with Figure 12 displaying the predicted likely areas of outdoor 4G coverage (Telstra, n.d.a). Figure 12 shows that Telstra's 4G mobile network covers a significant portion of the Junee-Coolamon region, however, some gaps still exist. Telstra's newest mobile network technology '5G' covers the towns of Junee, Coolamon, and Ganmain, and their older mobile network technology '3G' is set to be discontinued mid-2024 (Telstra, n.d.a).

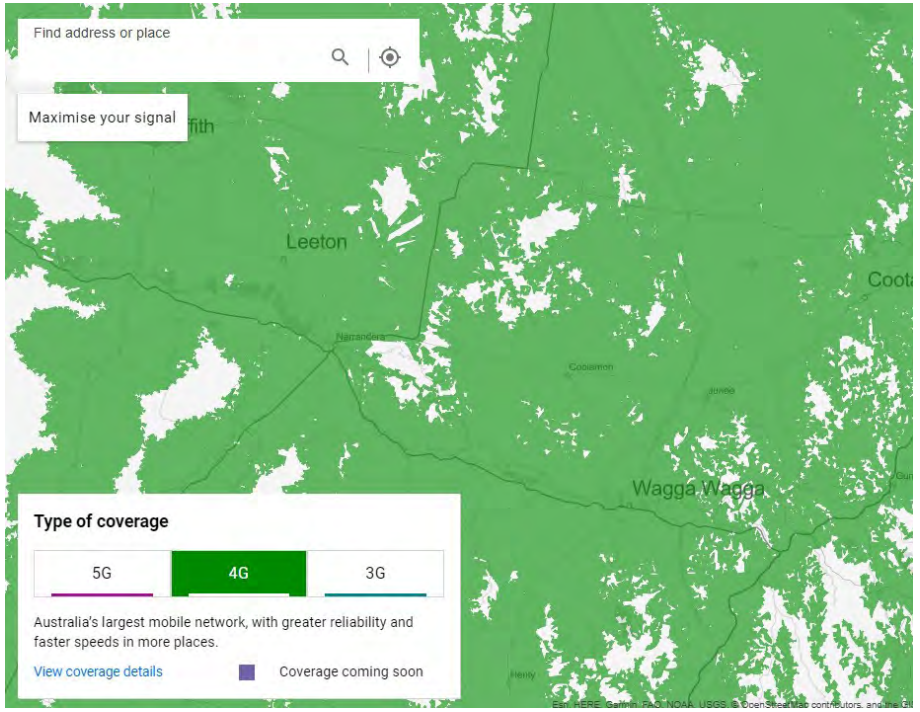


Figure 12 Junee-Coolanom Telstra 4G mobile network coverage (Source: Telstra, n.d.a)

03
History of Drought Impacts

3. Drought, climate and impacts

Australia is the driest inhabited continent on Earth with one of the world's most variable rainfall climates (Adapt NSW, n.d.; BoM, 2024). This makes drought a defining feature of our history, with Australia experiencing severe drought on average once every 18 years (NSW Government, 2023). Drought is set to have an increasing effect on the country as a result of climate change, with the frequency, intensity and duration of severe droughts expected to increase, particularly in inland areas of NSW.

3.1 What is drought

Drought is defined as "a prolonged, abnormally dry period when the amount of available water is insufficient to meet our normal use" (BoM, 2024). It is difficult to determine a start and end, or identify when the landscape has recovered. Droughts are difficult to predict or compare as they differ in the seasonality, location, geographic extent, and duration of the associated rainfall deficiencies. Both the Bureau of Meteorology and Kirono et al. (2020) define four types of drought: meteorological, agricultural, hydrological, or socioeconomic, as shown in Figure 13 below.

1. **Meteorological drought:** a period of months to years of low rainfall
2. **Agricultural drought:** short-term dryness in the surface soil layers (root-zone) at a critical time in the growing season
3. **Hydrological drought:** prolonged moisture deficits that affect surface or subsurface water supply, reducing streamflow, groundwater, dam and lake levels
4. **Socio-economic drought**: the effect of elements of the above droughts on the supply and demand of economic goods and human well-being

Figure 13 Types of drought (BoM, 2024; Kirono et al., 2020)

Drought affects all parts of the community; from agricultural producers and suppliers, to industry, First Nations people, and the broader community. Droughts are challenging times, with water intensive industries affected by a reduction in output and increased costs. The economic, social, and environmental impacts are not limited to these industries but extend to entire communities and regions. Local loss of production has flow on effects to the regional economy. Drought can also impact human and environmental health including impacts on nutrition, exacerbation of mental health issues, and ecological decline for flora and fauna (Steffen, 2015).

3.1.1. Drought monitoring in NSW

Drought monitoring over the years has become increasingly complex. The most common means of currently monitoring drought is through the Enhanced Drought Information System (EDIS) which is a publicly available drought monitoring tool that monitors seasonal conditions across NSW. The EDIS, shown in Figure 14 below, was launched in March 2018 with the second version launched in October 2022, and is used across government and farming stakeholders to build drought risk awareness, emphasise drought preparedness and improve confidence in drought monitoring and early warning (DPI, n.d.b).

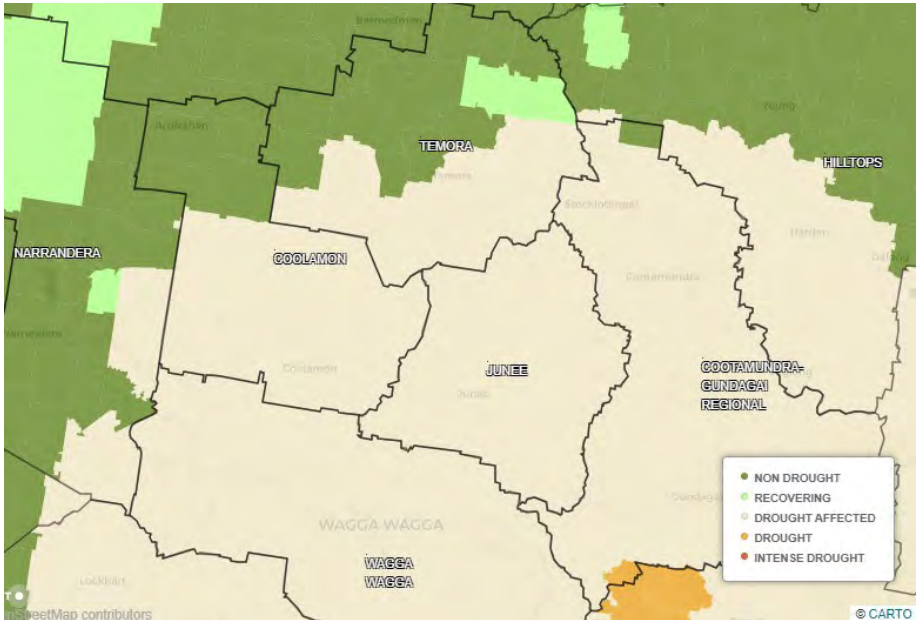


Figure 14 The Combined Drought Indicator (CDI) for Coolamon and Junee LGAs in May 2024 (DPI, n.d.b)

A key feature of EDIS is the development of DPIRD's Combined Drought Indicator (CDI) (DPI, n.d.b). The CDI combines meteorological, hydrological and agronomic definitions of drought (above) using indexes for rainfall, soil water, and plant growth (DPI, n.d.b.). From these, a fourth index, drought direction (DDI), is developed. EDIS is undergoing redevelopment to provide farmers with world-leading weather and climate data to enable better business decisions. It is important to recognise the CDI provides an aggregated view of NSW, and that on-ground conditions can be different to those displayed in the maps. They provide an 'on average' view of a particular region only.

Figure 11 shows the boundary of Junee and Coolamon LGAs and the various stages of drought that the region is currently in. As can be seen in the figure, the entirety of Junee and the southern half of Coolamon are classified as being drought affected, however, it is unclear as to whether it is in the weaking or intensifying phase. The northern half of Coolamon is classified as non-drought.

3.1.2. Stages of drought

Used together, the indexes of the EDIS indicate the stage of drought (DPI, n.d.b.). The five stages progress from a non-drought category where all indicators suggest good conditions for production to recovery, through to a Drought Affected (weakening or intensifying) category, a Drought category and into Intense Drought. The five stages are shown in Figure 15 below.

Figure 15 Stage of Drought in NSW (adapted from DPI, n.d.b.)

3.2 Historical drought in Coolamon and Junee

Climate anomalies, such as drought, are regularly observed occurrences in southern and inland Australia and Coolamon and Junee are no exception. NSW naturally goes through cycles of wet and dry conditions, however, over the past 40 years, average annual rainfall in NSW has decreased, leading to widespread droughts. This is due to climate change increasing temperatures and affecting rainfall and climate systems in NSW (AdaptNSW, n.d.; AdaptNSW, 2024). Throughout the years, Australia has experienced a range of droughts with differing durations and intensities, as outlined in Table 9.

Table 9 Historical droughts which effected Coolamon and Junee (BoM, 2024)

Drought Period	Duration	Characteristics
The Federation Drought	1895-1902	One of Australia's worst droughts. It had far-reaching implications for agriculture, water availability, and the economy.
World War I Drought	1914-1915	Although relatively short, it had a significant impact because the severe drought conditions were occurring simultaneously in both southeastern and southwestern Australia.
World War II Drought	1937-1945	Occurred frequently over eastern Australia, characterised by intense dry spells and breaks, similar to the Federation drought, but with more intermittent dryness. Major driver of the Black Friday bushfires in January 1939.
1965-1968 Drought	1965-1968	Generally dry conditions for Australia, especially severe in NSW.
1982-1983 Drought	1982-1983	One of Australia's most severe droughts in the 20th century, associated with a strong El Nino event.
The Millennium Drought	1997-2009	The region experienced a prolonged dry period which led to water scarcity and agricultural challenges in the Murray-Darling Basin. This drought event was particularly significant because of the contrast with a wet period in northern Australia and its absence of major wet episodes. Figure 16 displays this contrast. This may have been the first major Australian drought that was impacted by the changing climate, with temperatures higher than ever seen before. The Millennium drought ended with two of the wettest years on record for Australia in 2010–11 (Beard et al., 2011; National Climate Centre and BoM, 2012).
The 2017-2020 Drought	2017-2020	Following a wet period in 2016, this drought impacted the Murray-Darling Basin, with substantially below-average rainfall in 2017, 2018, and 2019. Soil moisture levels in different regions hit unprecedented lows during this time. It saw the lowest rainfall on record in the Murray-Darling Basin, reduced agricultural output, led to increased food prices, and created tinder dry conditions before the Black Summer fires.

Since the mid-1990s, southeast Australia has experienced a 15% decline in late autumn and early winter rainfall and a 25% decline in average rainfall in April and May (Whetton et al., 2015). The region has also experienced significant warming during the last 50 years (Timbal et al. 2015). This has led to the area experiencing a range of droughts throughout years, with differing durations and intensities. The last two droughts have had a significant impact to Coolamon and Junee LGAs due to both the duration of the Millennium Drought and the significant period of below average rainfall to the area in the 2017-2020 drought (shown in Figure 17) which placed the region in the very much below average rainfall range.

The “Millennium Drought” period between 2001-2009 was the worst drought on record for southeast Australia (van Dijk et al., 2013). The region experienced a prolonged dry period which led to water scarcity and agricultural challenges in the Murray Darling Basin. This drought event was particularly significant because of the contrast with a wet period in northern Australia and its absence of major wet episodes. The regional GDP of the southern Murray-Darling Basin fell 5.7% between 2007-2008 following drought, with an expected 6,000 job losses (van Dijk et al., 2013; Adapt NSW, n.d.; Wittwer and Griffith, 2012). In southern NSW, job losses in irrigated agriculture varied between 22% and 84% (DELWP, 2018). Tourism to the Murray River region dropped severely. This caused an estimated $70 million loss to the region’s tourism industry (Adapt NSW, n.d). The expected recovery in jobs after the Millenium Drought did not occur, with job losses continuing to occur in many areas according to MDBA analysis.

Drought also affects the mental health of people in drought-affected regions. It is linked to increased suicide rates across rural Australia. As drought becomes more severe, the risk of suicide can increase by up to 15% for rural males aged 30 to 49 years (Adapt NSW, n.d.)

The lasting effects of past droughts, including the Millennium Drought, serve as reminders for the need of forward-thinking and strategic planning. Coolamon and Junee hold a pivotal position in Australia's agricultural landscape, contributing significantly to the nation's grain, and livestock production (, 2018). As such, it is important that these communities are well-prepared and resilient in the face of climate change and drought.

Figure 16 and Figure 17 illustrate the rainfall received during both the millennium drought and the most recent 2017-2020 drought. For Coolamon and Junee, this placed their LGAs very much below average rainfall and in some parts the lowest on record. Some of the initiatives and tools the region has been able to build and utilise in response to these past drought events and to help adapt and build resilience to future drought events are outlined in the case studies in Section 4.

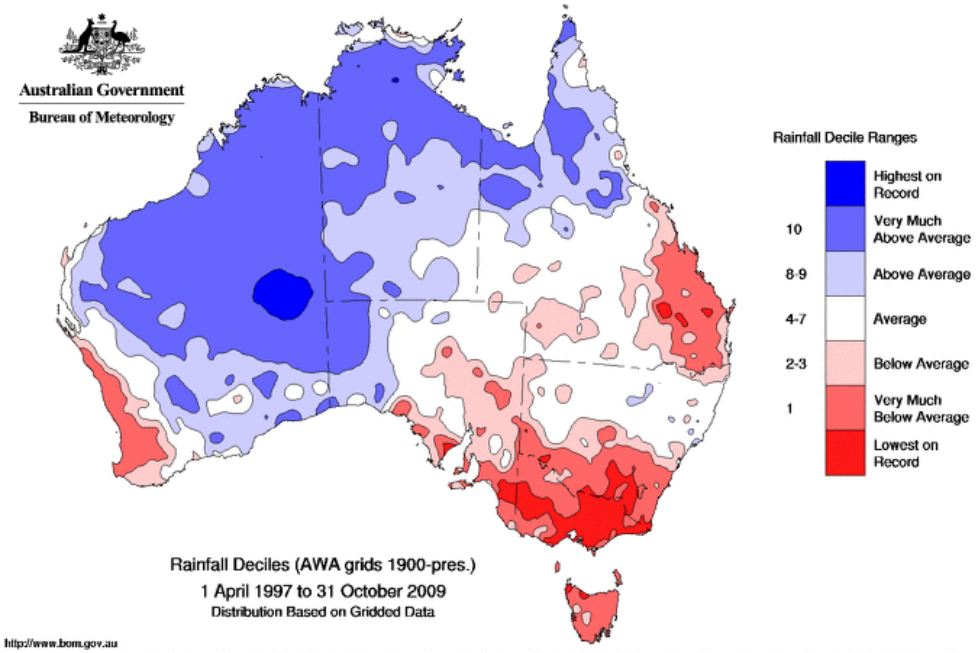


Figure 16 Rainfall deciles in Australia during the Millennium Drought (1997 – 2009) (Source: BoM, 2024)

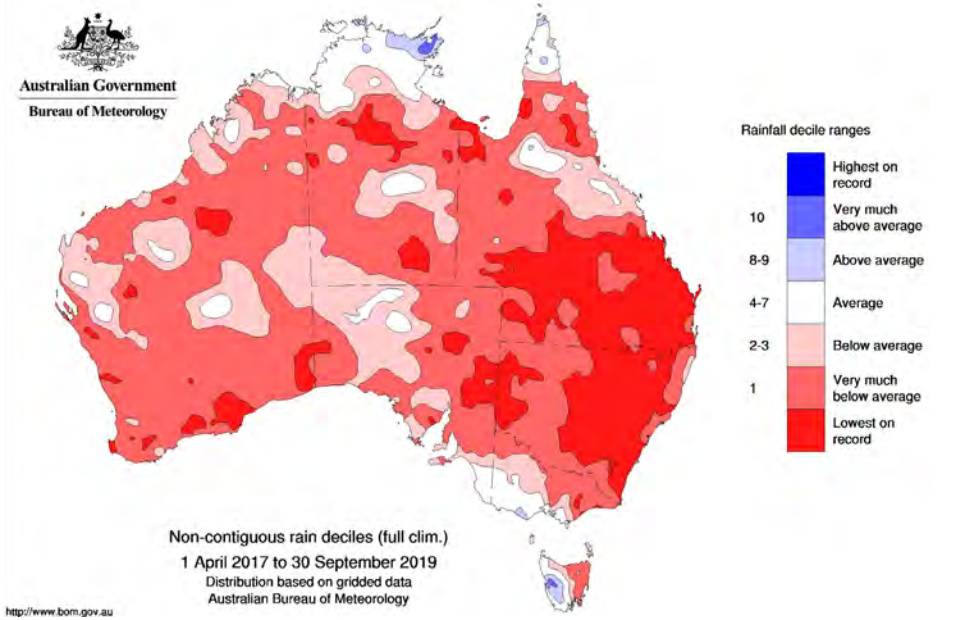


Figure 17 Rainfall deciles in Australia during drought (2017 - 2019) (Source: BoM, 2024)

3.3 Regional weather and climate

Australia's natural climate is highly variable and experiences lower average rainfall and higher rainfall variability than most other nations (ABARES, n.d.). Climate change refers to global, long-term shifts in average weather conditions, such as becoming warmer, wetter, or drier over several decades or longer. There is a growing body of evidence that shows Australia's climate has changed and continues to change significantly, particularly driven by the work of the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Bureau of Meteorology (BoM), and Department of Climate Change, the Environment, Energy & Water New South Wales (DCCEEW); formerly Department of Planning and Environment (DPE). Temperatures in Australia have risen by about 1.47 degrees (+ or - 0.24) since national records began in 1910 and there is a high level of scientific confidence that anthropogenic greenhouse gas emissions are a major driver of this increase in temperature (CSIRO and BoM 2022).

The Coolamon and Junee LGAs are characterised as a region of "grassland warm" climate. This classification speaks to the prevailing conditions of consistent warmth and aridity. The distribution of rainfall throughout the year is relatively consistent. The lowest temperatures are experienced in July with an average minimum temperature of 3°C. The highest temperatures are experienced in January with an average maximum temperature of 32°C.

As discussed in Section 3.1.1, DPIRD have established the CDI to aid in defining the various stages of drought. However, there are two key meteorological trends that can be observed which indicate the presence of drought. Lower than average rainfall couples with higher than average maximum temperatures often over a prolonged period of time can result in drought. Figure 18 demonstrates this trend for some of the historical droughts that have occurred in the Riverine Region. The figure has been prepared using data from Wagga Wagga weather station as it has the most comprehensive of meteorological data available near to Coolamon and Junee. Wagga Wagga is relatively close in proximity for the purpose of extrapolating drought trends in the Riverina Region of NSW.

The Coolamon and Junee Shires are inherently highly sensitive to the impacts of a changing climate. Climate change and drought are predicted to have the greatest effect due to the region's agricultural dependence. Figure 19 illustrates the drying trend over 22 years in Southern Australia during April to October.

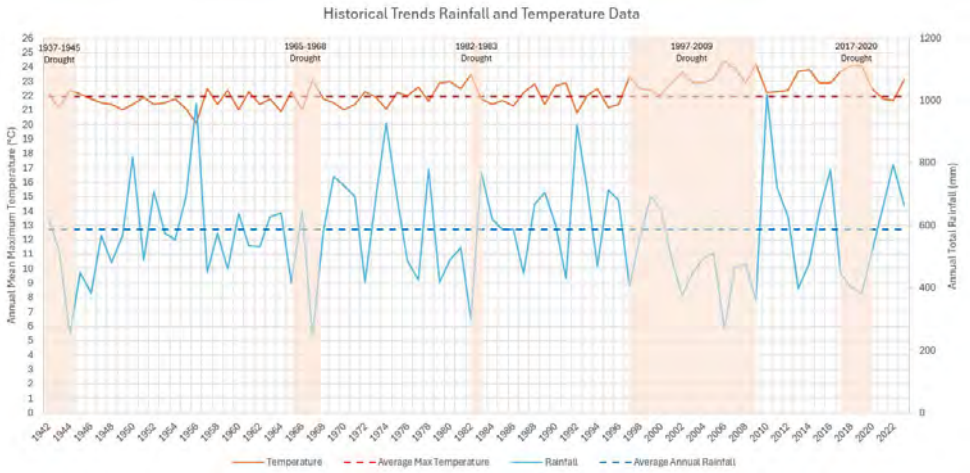


Figure 18 Historical trends in rainfall and temperature data from 1942 to 2023 for Wagga Wagga. (Source: BoM, n.d.)

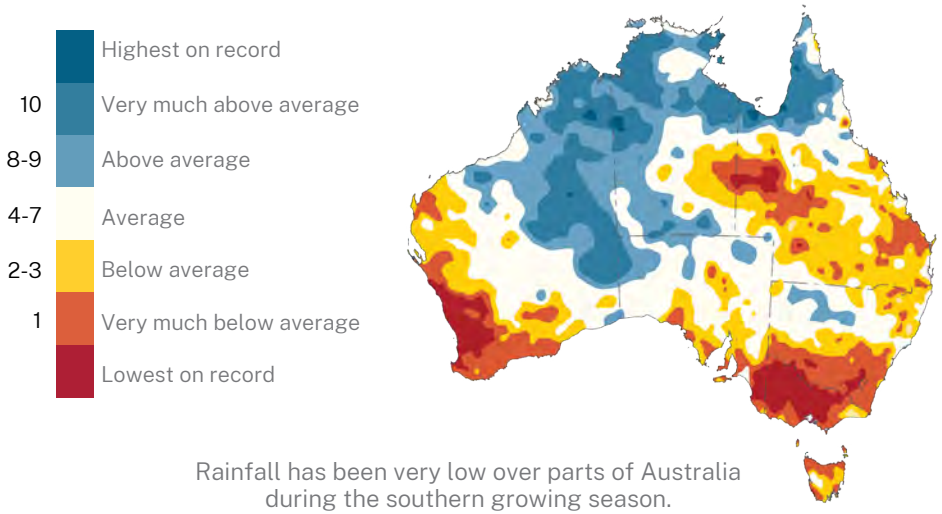


Figure 19 Southern Australia has experienced a drying trend during the growing season from 1996-2015 (Source: Steffen et al., 2018)

3.4 Future drought projections

Climate change is making drought conditions in southwest and southeast Australia worse. Climate change has contributed to a southward shift in weather systems that typically bring cool season rainfall to southern Australia. In addition to decreasing rainfall, climate change is driving an increase in the average temperature and in the intensity and frequency of hot days and heatwaves, leading to increased water losses and thus exacerbating drought conditions (Whetton et al., 2015). Climate variability effects the Australian agricultural industries through variations in commodity prices, with trends of lower rainfall and drought related to lower farm profits (Hughes et al., 2019).

Given the direct influence of drought on cropping activities and crop productivity many farms are financially impacted. Figure 20 shows farm profitability for the Riverina Region from 1990 to the present. As can be seen the compounding impact of drought results in the greatest reduction in profitability towards the tail end of the drought period. There was negative growth following the 1997 to 2009 drought as compared to the spike in growth observed following the 2017 to 2020 drought. The slower rate of growth following 2009 may have been due to the Global Financial Crisis (GFC) in 2008. Given the regions strong agricultural industry it will be critical to continue monitoring the trends in farm profitability and the changing climate such that existing systems and services, including individual farmers, are financially prepared for future droughts.

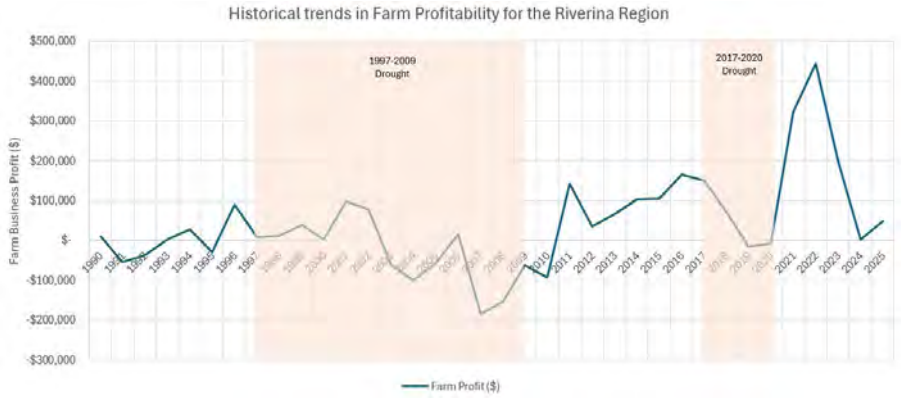


Figure 20 Historical trends in farm profitability for the Riverina Region. (Source: ABARES, n.d.)

There is high confidence that global temperatures will continue to rise for many decades, mainly due to greenhouse gases produced by human activities (NASA, 2024). This will exacerbate climate extremes already experienced and worsen the duration and effects of drought in Australia. A reduction in winter rainfall leads to a proportionately greater (1.5 to 4 times) reduction in surface water runoff and groundwater recharge (Walker et al., 2021).

As part of the Climate Services for Agriculture FDF program, the CSIRO and BoM have developed My Climate View, a digital product designed to help Australian farmers understand what the future climate might mean for their location. My Climate View provides primary producers and their advisers with past climate data, seasonal forecasts and future climate projections, tailored to various agricultural commodities, from meat to grains to horticulture and many more (DAFF, 2024b). Primary producers can therefore more easily assess how climate factors that matter to their business could change into the future. For example, a wheat producer can see how the timing and intensity of seasonal rainfall in their region might change over time and how that might impact the way they farm (DAFF, 2024b).

The CSIRO's My Climate View tool was used to analyse the impact of worsening climate change on temperature and rainfall for the Coolamon and Junee region. Through this tool, we can see how the region's climate is predicted to evolve over time using the Intergovernmental Panel on Climate Change (IPCC) representative concentration pathway (RCP) 8.5. Under this climate change scenario, Coolamon and Junee Shire Councils LGA is predicted to have, on average, a 31% increase in the number of heat damage days above 35°C by 2030 and 70% increase by 2050 illustrated in Figure 21 and Figure 22 (My Climate View, 2023). These figures also present two historical 30-year periods (in purple) to allow comparison across time.

Warmer temperatures are contributing to longer droughts and harsher fire weather. This can make land unsuitable for agriculture, lead to crop stress and attract new pests (that thrive in warmer temperatures) which can impact the yield and quality of key agricultural commodities grown in the region, such as barley and grain. In addition to impacting grain yield, it adversely affects physical grain quality (weight and plumpness) and market value. The incidence of heat stress during grain filling is rising with global warming (Shirdelmoghanloo et al. 2022). Warmer temperatures and drought are also contributing to animal stress, decreasing production and increasing animal welfare issues. A reduction in winter rainfall leads to a proportionately greater (1.5 to 4 times) reduction in surface water runoff and groundwater recharge (Walker et al., 2021).

Time spent in drought is projected to increase in the future across southern Australia. An analysis of future temperature and rainfall Future climate change projections suggest that the Coolamon and Junee region will experience more time in drought, longer duration of drought and more intense drought (Kirono et al 2020). There is high confidence in decreasing soil moisture in the southern regions (particularly in winter and spring) driven by the projected decrease in rainfall and higher evaporative demand (Timbal et al. 2015). Additionally, the projected increase in Standardised Soil Moisture Index (SSMI) drought metrics is consistent with these projected decreases in seasonal mean of soil moisture, across the region.

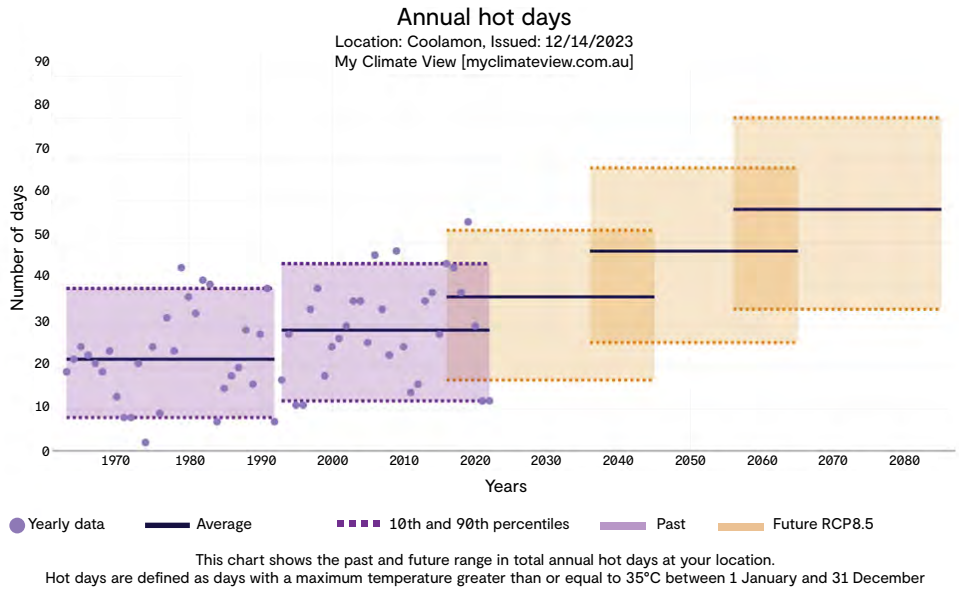


Figure 21 Change in number of hot days across the Junee Shire (Source: My Climate View, 2023)

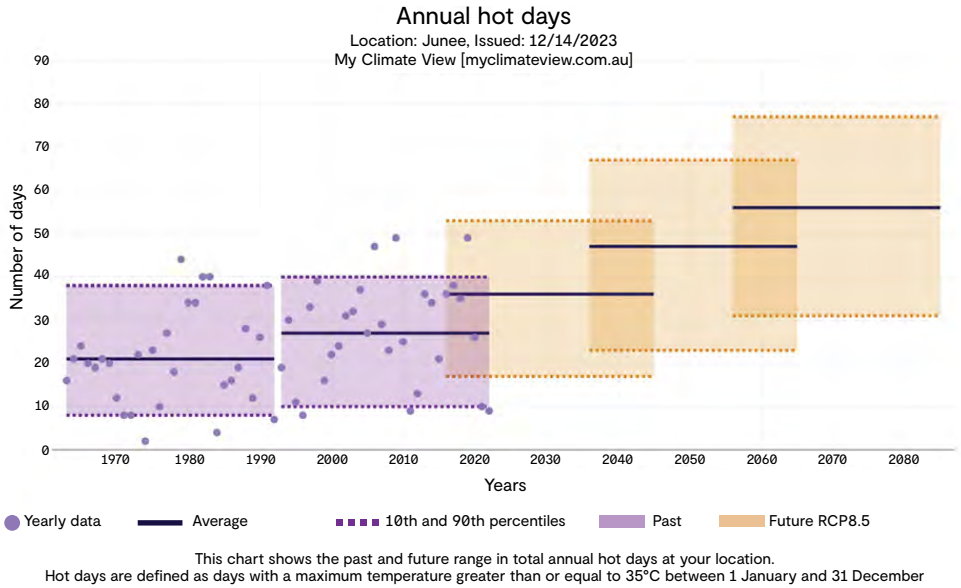


Figure 22 Change in number of hot days across the Coolamon Shire (Source: My Climate View, 2023)

Recent decades have seen trends towards lower average winter season rainfall in the southwest and southeast of Australia (Hughes et al., 2019). This reduced rainfall in the winter will have a direct impact on winter variety crop yields including Coolamon and Junee's wheat, barley and canola crops which form the three largest gross value commodity products.

Utilising projections from the Murray Basin Cluster report (Whetton et al., 2015), the My Climate View Tool (My Climate View, 2023) and Kirono et. al., 2020, the following findings relating to critical drought indices are presented (Table 10).

Table 10 Climate projections for critical variables

Critical variables	Details
Average temperature	Average temperatures will continue to increase in all seasons (very high confidence) By late in the century (2090), for a high emission scenario (RCP8.5) the projected range of warming is 2.7 to 4.5 °C.
Extreme temperature	More hot days and warm spells are projected with very high confidence. Frost risk days (minimum temperatures under 2 °C) are projected to decrease across the cluster (high confidence), and could halve by late in the century.
Average rainfall	Less rainfall is projected during the cool season, with high confidence in 2090. There is medium confidence that rainfall will remain unchanged in the warm season. For the near future natural variability is projected to dominate any projected changes. The magnitude of projected changes for late in the century (2090) span approximately -40 to +5 percent in winter and -15 to +25 percent in summer for a high emissions case (RCP8.5).
Intense rainfall events	High confidence that the intensity of heavy rainfall events will increase
Evapotranspiration	Projections for potential evapotranspiration indicate increases in all seasons, with largest absolute rates projected with high confidence in summer by 2090.
Standardised Soil Moisture Index (SSMI)	There is high confidence in decreasing soil moisture in the southern regions (particularly in winter and spring) driven by the projected decrease in rainfall and higher evaporative demand (tech report). Changes are larger in 2090, with simulated decreases of up to 15 % in winter in Southern Australia.
Percent time spent in drought and extreme drought (Standardised Precipitation Index (SPI) is less than -1) (calculated as the fraction of the time in drought over a given period)	There is medium confidence that the time spent in meteorological drought will increase.
Drought and extreme drought duration **(defined as the number of events in a given period)**	For drought duration, little change is projected in moderate and severe drought but an increase for duration in extreme drought.
Drought and extreme drought frequency (measures the average length (in months) of drought events in a given period)	There is medium confidence that the frequency of extreme drought, will increase over the course of century under RCP8.5.
Drought and extreme drought intensity (reflects the average of cumulative SPI or SSMI from all events. The more negative the value the more intense the event.)	The multi-model median indicated that under climate change, Australia will spend more intense drought, particularly across southern and eastern Australia.

3.5 Future climate scenarios

The previous sections have highlighted the main factors that may affect the region, in terms of a changing climate, in the coming years, and some of the impacts of these challenges. To enable a more focussed approach to drought resilience planning, a summary of the predictions and the impacts these may have are provided below:

An increase in minimum and maximum temperatures as well as an increase in frequency of hot days and heatwaves, leading to increased water losses and thus exacerbating drought and fire conditions (DCCEW, 2024). Warmer temperatures also contribute to longer droughts and harsher fire weather as well as increase animal stress. This can make land unsuitable for agriculture, lead to crop stress and attract new pests.

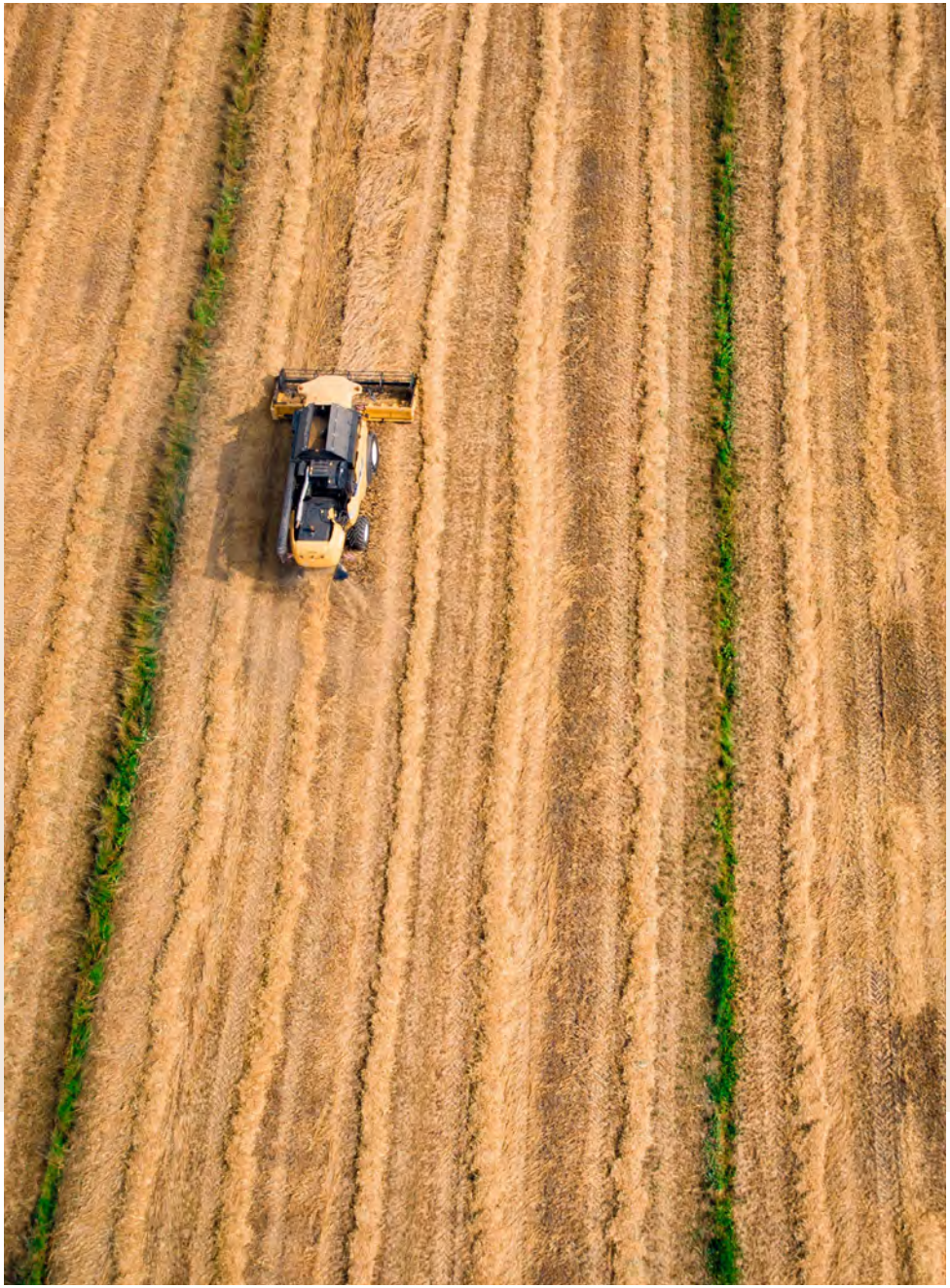
Changing seasonal rainfall patterns; it is anticipated that there will be a decrease in total annual rainfall. By 2079, the average winter and autumn rainfall in the Murrumbidgee catchment is anticipated to reduce by 20% and 11% respectively. However, in the regulated Murrumbidgee, the average winter and spring rainfall could drop by 17-18% by 2079 with late summer rainfall anticipated to increase by over 30% (DCCEW, 2024).

Increased rate, length, and severity of droughts; there is increased potential for droughts to be more frequent as a result of the increased frequency and intensity of higher temperatures and reduced annual rainfall (DCCEW, 2024). Primary producers are usually able to weather a drought for 2-3 years, however long-term droughts and increased frequency will likely push more primary producers off the land.

Higher evapotranspiration, an increase of around 4% evapotranspiration across the year is anticipated (DCCEW, 2024). This has impacts on soil moisture, water availability and therefore crop growth.

Decrease in water inflows; In the region, the total volume of water flow could reduce in both the regulated and unregulated rivers which could have significant impacts on water security for the region (DCCEW, 2024).

This information is combined with the resilience framework and helps to inform the actions included in this Plan, to ensure they are building resilience in the region.



3.6 Summary of drought related impacts

Drought impacts were identified through the drought literature reviewed as part of the Plan development. A key document for gaining an understanding of drought impacts in the region and generally was the 2022 Southern NSW Innovation Hub 'Baselining Drought' report. This long list of drought impacts was then tested with members of the stakeholder reference group who were asked to rate each of the impacts in relation to the effect on their community. This produced a priority ranking for each impact.

This provided a customised view of the impacts that most greatly affect the communities within which the Plan operates. These impacts were then categorised into three components of social, economic and environmental. When considered together, these components form the foundations of drought resilience. It is important when considering impacts to note that droughts are difficult to predict in their duration and severity and due to these differences, impacts differ between drought events. Figure 23 details the impacts that have been felt most acutely in the Shires of Coolamon and Junee.

Social

- Impacts on children's mental health from observing the impact of drought on their families, declining animal welfare and reduced educational opportunities.
- Access to suitable mental health services and education to support the community.
- Reduced attendance at at school.
- Impacts to the social fabric of the community
- The proximity of Coolamon and Junee to larger regional centres can impact the strength of community bonds.
- Reductions in volunteering numbers and fatigue amongst those volunteers over time.

Economic

- Increased pressure on the local economy from reduced cashflow from the agricultural sector.
- Reductions in discretionary spending on non-essential services.
- Loss of workers and families from the community from prolonged drought.
- Reductions in tourism to retail and food businesses and smaller centres that don't have large tourist attractions.
- Reduction in business and investor confidence.
- Financial stress on agricultural and regional businesses through increasing debt levels and reduced incomes.
- Reduced business confidence for investors.

Environment

- Impact to groundcover, pasture and topsoil which has been managed to maintain positive soil characteristics.
- Greater habitation of some animals into regional centres e.g. kangaroos.
- Reduced water availability to both agriculture and the community. Especially those businesses without a permanent water supply.
- Concerns with the ability to gain access to water (equity).
- Water quality issues e.g. salinity.
- Threat of other natural disasters such as bushfire.
- Reduced access to water for the environment.
- Impacts to culturally significant sites for First Nations Peoples.

Figure 23 Summary of the key social, economic and environmental impacts experienced in the Coolamon and Junee region during the past drought

04

Resilience in the local region

4. Local stories of resilience

The communities of Coolamon and Junee have forged their own pathways to improve resilience. The following case studies have been developed to showcase the activities and initiatives across the LGAs.

Case Study – Active Farmers

Source: Goulburn Post, 2020

Active farmers are a not-for-profit that deploy a personal training network across rural Australia to involve farmers and other rural residents in fitness programs. The vision of the organisation is to 'build stronger and more resilient farming communities,' through captivating attendees with a 'team sport effect.' Illabo, Eurongilly and Ganmain all have recurring active farmers classes.

The fitness sessions have been running in the region for over five years showing it to be sustainably successful. Both farmers and other community members attend the sessions although it varies across the year, reflecting different seasonal requirements for farming.

The provision of this non-for-profit service was possible through the support of sponsors and grants, along with fees for classes by participants. The classes have received feedback from the Coolamon and Junee region that they provide a fantastic opportunity to interact with others and overcome the isolation that becomes prevalent in rural communities in times of hardship. A notable example of building resilience through increased community interaction.

The programs operating in the Coolamon and Junee region aim to create greater awareness to reach more parts of the community in coming years.

Case Study – Blokes in the Kitchen (Ganmain)

The Ganmain local community took initiative-taking measures to launch the **'Blokes in the Kitchen'** initiative. With the support of a $3,000 grant, the community orchestrated an 8-week program to address both social isolation and nutritional challenges faced by farmers, particularly during peak agricultural working seasons where farmers are time-poor.

Sessions were facilitated by guest nutritionists and chefs, aiming to address nutritional concerns and also foster culinary skills and an awareness of eating fresh produce.

Upon the conclusion of the grant, participants expressed a collective commitment to sustaining the momentum. Monthly gatherings continued, and a collaborative effort emerged, with individuals contributing to shared meals. Additionally, the decision by the Advance Ganmain Committee to waive access fees to the hall provided a supportive environment for the initiative's longevity.

The enduring success of **'Blokes in the Kitchen'** serves as a testament to the impact of modest initial funding and the intrinsic leadership within the community. This initiative not only alleviated immediate challenges but also cultivated a sense of collective responsibility, showing the powerful role of grassroots efforts in addressing the multifaceted needs of rural communities.

Case study – Junee Business and Trades

Source: Southern Cross newspaper, 2019

In Junee Shire, partnerships are regarded as a key to future prosperity. These can take the shape of long-term partnerships such as working with Junee Business and Trades across areas of promotion, project specific, strengthening business to business relationships or advocating for work experience and educational opportunities made available.

Junee Business and Trade initiated networks opportunities in the form of Tradie's Breakfasts when large scale construction projects and planned within the Shire. One such example involved 55 local business and tradespeople taking up the opportunity to meet the principal contractor of the Junee Correction Centre expansion project ($150M) to gain first-hand understanding of how local business could engage with project.

Case study – Junee Volunteer Summit

Source: stephcooke.com.au, 2021

Prior to the COVID pandemic, Junee's Community Development Team hosted some 100 local and regional volunteers to the Junee Volunteer Summit. This was a full day of conferencing, workshops and expert speakers on the issues, barriers and benefits that volunteers and volunteer organisations face. Feedback from the day praised the organiser,

"It was wonderful to see so many local faces young and old."

This summit provides opportunities for community capacity building and highlights how regular attention to volunteer networks is necessary.

The pandemic dramatically effected community volunteers and sporting groups. However, one initiative initiated during the pandemic was regular round table meets online to provide support and assistance. This initiative continued after the pandemic to provide ongoing support for respective members.

In addition, during the pandemic free online fitness classes were organised and offered by staff at the Junee Recreation and Aquatic Centre.

4.1 What we heard

Consultation was undertaken in the LGA's of Coolamon and Junee which provided clear insights into how previous droughts have impacted the community and the issues faced. Some key themes emerged; these are presented below with an overview of the main comments heard.

Key themes	Responses
A sustainable region and a healthy and protected environment that efficiently utilises its natural resources 	– **Promote natural assets:** The regions natural assets should be promoted to help enhance tourism prospects and attract people to live and stay. These assets need to be maintained and protected. – **Resource efficiency:** continued education on water efficiency measures and sustainable resource use is required to ensure the heath of the environment. – **Governance systems:** Sustainability thinking to be embedded in all actions to help improve health and wellbeing of the community and the environment.
A resilient and innovative agricultural sector 	– **Secure Agricultural Water:** Having guaranteed access to water and maintaining water security and quality during times of drought is a critical concern and is essential for continued agricultural and industry success. – **Streamlined Funding and Forward Planning:** The Coolamon and Junee Communities expressed a strong need for local and State Governments to provide clear funding processes and long-term planning assistance/ guidance and see this as critical for ensuring the longevity of agriculture in the area. State Government relief mechanisms such as tax relief, low-interest loans for infrastructure, and containment areas were seen as important supports.

Key themes	Responses
Diverse and prosperous economy 	– **Economic Diversification:** Investment in industries and businesses beyond agriculture that support the local community is a priority. This will assist with building resilience into the local economy. – **Supporting local:** Community festivals, agricultural shows and markets are seen as pivotal in bolstering resilience beyond the farm gate and into the community. – **Collaborative Efforts:** Partnerships which encourage businesses from within the region to share, learn and mentor and provides a network to discuss common challenges.
A strong and collaborative community 	– **Community Clubs and Social Projects:** Local clubs and social initiatives play a pivotal role in fostering community wellbeing and cultural cohesion. Maintaining sporting areas is vitally important as these places provide reprieve from drought and bring youth and other groups within the community together. – **Mental Health Services:** Accessible mental health services are seen as a high priority. However, mental health advice is not always given from professionals and therefore more mental first aid training is needed for adjacent industries. As noted in the case studies, a number of initiatives have been founded with the aim of improving community cohesion and mental health overall.

Strong infrastructure and transport networks

- **Rail and transport networks:** The desire to maximise the use of the regions rail networks and roads to benefit the economy and provide suitable transport solutions that meet the community needs.
- **Business Estate:** Attracting new businesses to the recently built Coolamon Business Park will create employment opportunities and encourage new families to live and work in the region.
- **Water Infrastructure:** Enhancements to water capture and storage were advocated for. Some improvements to the distribution system were noted as required. Use of wastewater water has extended the longevity of sporting precincts and parks.

Based on the valuable insights gathered from extensive community engagement, it is evident that the communities' future vision revolves around effective water management, fostering a diversified and resilient economy, and strengthening community bonds and overall wellbeing. The expressed concerns about water allocation and security emphasise the importance of this resource for a prosperous agricultural industry in this region.

Diversification strategies were emphasised as essential for economic resilience during drought. To achieve these goals, simplifying funding application processes, boosting educational initiatives, and promoting cross-community collaboration are crucial steps. By addressing these key areas, the region can work toward securing its agricultural prosperity, nurturing community wellbeing, and fostering economic resilience, ultimately creating a more sustainable and vibrant future for all residents.

4.2 Initiatives refinement

Following community consultation, the ideas and initiatives from both the regional literature and consultation were collated.

The investment logic from the QLD Business Case Development Framework was used as a means to refine the options for inclusion and prioritisation in the Plan.

This process included:

1. Problem Statement
2. Key Questions
3. Assessment
4. Validation

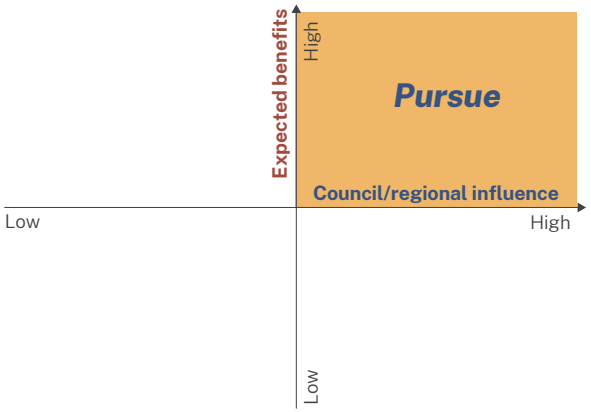


Figure 24 Assessment matrix

1. Problem Statement

Coolamon and Junee's economies will continue to be impacted by droughts, which are predicted to become more frequent and severe into the future. Drought Resilience Plans are required to identify the steps which communities should take to mitigate these impacts. The Councils should work together to develop the Plan and ensure it is actionable and relevant to individual communities.

2. Key Questions

- **Impact:** How are Coolamon and Junee impacted by Drought? Which impacts are most acute?
- **Actions:** What actions or initiatives could be taken to build the region's drought resilience?
- **Concept:** What is the anticipated scope of the identified action?
- **Benefit:** How will the action benefit the region?
- **Prioritise:** How feasible is the action and is there a level of shovel-readiness? Do Councils' have the capacity and influence to undertake or support the action?

3. Assessment

Through the SRG, the top impacts under each theme were confirmed and rated as low, medium, or high impact to their respective LGAs. Each idea and initiative (potential actions) were coded with this information. A score relating to the relative level of Council influence and the feasibility of implementation (how shovel-ready the idea was) was given. In this way, each initiative had a score which enabled the prioritisation of ideas.

Initiatives were considered best suited to the Plan where the benefit of the action was high and Councils have the greatest level of influence (Figure 24).

4. Validation

Following initial assessment, several questions were considered to further refine the initiatives and prioritise them.

- Does the identified action/initiative align with Councils' general strategic direction?
- Does the action align with the resilience pillars and framework and promote resilience pathways that exceed support through drought?
- Beneficiaries - what are and who receives the expected benefits of the action?
- Ease of implementation - is there a need for significant regulatory, political or legal changes?
- Timeliness - How long will the action take to complete?
- Financial - Is there funding available and what is the cost? What is the source of funding and who will pay?

The SRG was involved in validating the assessment and prioritised actions.

Case Study – Drought funding uplifts community (Junee)

In 2020, Junee Council received $1 million from the Federal Drought Communities Program, an initiative aimed at alleviating economic strain in drought-affected regions. Allocated to stimulate local spending, the funds provided extensive public benefit. With 74% of the allocation spent within a 50 kilometre radius, there is a clear commitment to local resources. Engaging local contractors and suppliers not only boosted the economy but also uplifted the agricultural community's spirits, previously burdened by prolonged drought conditions.

To ensure rural communities reaped the benefits of completed projects, respective locations spread across the rural areas of the Junee Local Government Area. With key successes including establishing all-ability access in various villages, reflecting a commitment to inclusivity. In this respective project forty individuals were employed by contractors, providing a substantial economic stimulus.

Case Study – Agricultural diversification (Ardlethan)

Source: www.weedsmart.org.au, 2017

Lou and Charlie Clemson are 6th generation farmers who run mixed farming enterprises with two of their properties located in Ardlethan in the Coolamon Shire. They have seen it through tough years in their last 30 years of farming. It was in the 2013 droughts, which saw the Clemson's adopt more effective methods in the use their property.

By using government drought assistance and their own resources the Clemson's sought to create a laneway through the middle of their 200 hectare property. This laneway allows the movement of their stock through the cropping area and allowed the Clemson's to better sell their cropping country. Thus, creating confinement areas with troughed water and feeders to aid the breeding of cattle.

Teaming up with Coolamon butcher, Wag Snag sausages are made free from antibiotics and pesticides. This new channel of Clemson's farming enterprise, stemming from the struggles of the 2013 droughts has added profitable value to the business.

05
Drought Resilience Actions

5. Drought Resilience Actions

The themes, actions and initiatives detailed in this Plan have been captured from conversations with the community, local knowledge of the region and policy, planning documents and programs that have been developed through various organisations at a Commonwealth, State and local level.

5.1 What has already been done to build drought resilience

Throughout the years extreme weather events, including droughts, have driven the communities of Coolamon and Junee to take action to improve their resilience to these events. The actions implemented within the community have supported improvements in social, economic, and environmental resilience to drought.

Some of the initiatives led by the community include:

- Active Farmers in Ganmain and Illabo, which has been established with the aim of "building stronger and more resilient farming communities" through regular fitness classes that are run in a fun and interactive manner and create a sense of community and belonging. See the case study in Section 4.2 for more details of the Illabo active farmers group.
- Junee Shire Council's construction of concrete 'v' drains in the Junee urban area has improved water quality by 12% since their installation by eliminating the ability of the high salinity runoff/stormwater to infiltrate the groundwater.
- Coolamon Shire Council increased their wastewater storage facilities through an upgrade to the Kindra Park Sporting Complex and an additional storage at the Showground which has saved 34ML of water per year.
- Agricultural enterprises have adopted innovative production techniques within their cropping and livestock businesses to great effect in terms of weed management and reducing reliance on herbicides.

Throughout the development of this Plan, resilience building actions and initiatives the community have identified as positive are listed below. These are a mix of absorptive, adaptive, and transformational resilience actions:

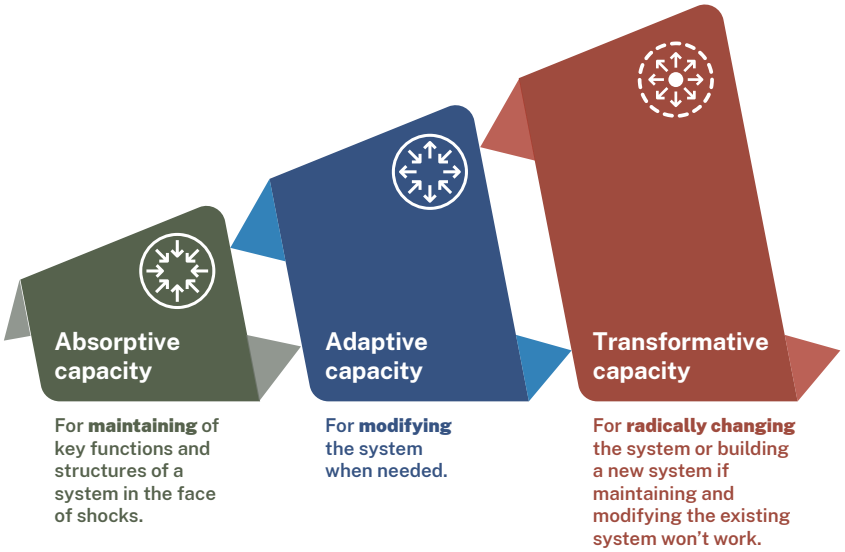
- Illabo Showground Combined User Group were able to develop a strategy for the future sustainability of the grounds.
- Junee Business and Trades were able to employ a part-time Grant Officer to provide support to increase the ability and success of local organisations in applying for funding for local community activities.
- Junee Community Centre were able to continue to support the community by subsidising the centre manager role to support organisational governance, partnerships, and strategy development.
- Junee Business and Trades have been building community resilience and supporting the development of local community networks by conducting a series of workshops and presentations in the Junee Shire, and employing a part-time Community Liaison Officer.
- Coolamon Shire Council provided a series of Big Dreams, Small Business training for local community members to discover new sources of income through the facilitation of free micro-business and events management workshops.
- It was noted that tax relief, farm management deposits/ water and freight subsidies for agricultural businesses are helpful however effectiveness is dependent on the timeliness and accessibility and these measures are absorptive.
- Use of agricultural by-products for sustainable housing . e.g Biomass residues like hemp, straw, coconut, wood, flax for thermal insulation.
- Upgrade of road networks to support high-capacity vehicles. This will support product distribution (economic resilience).

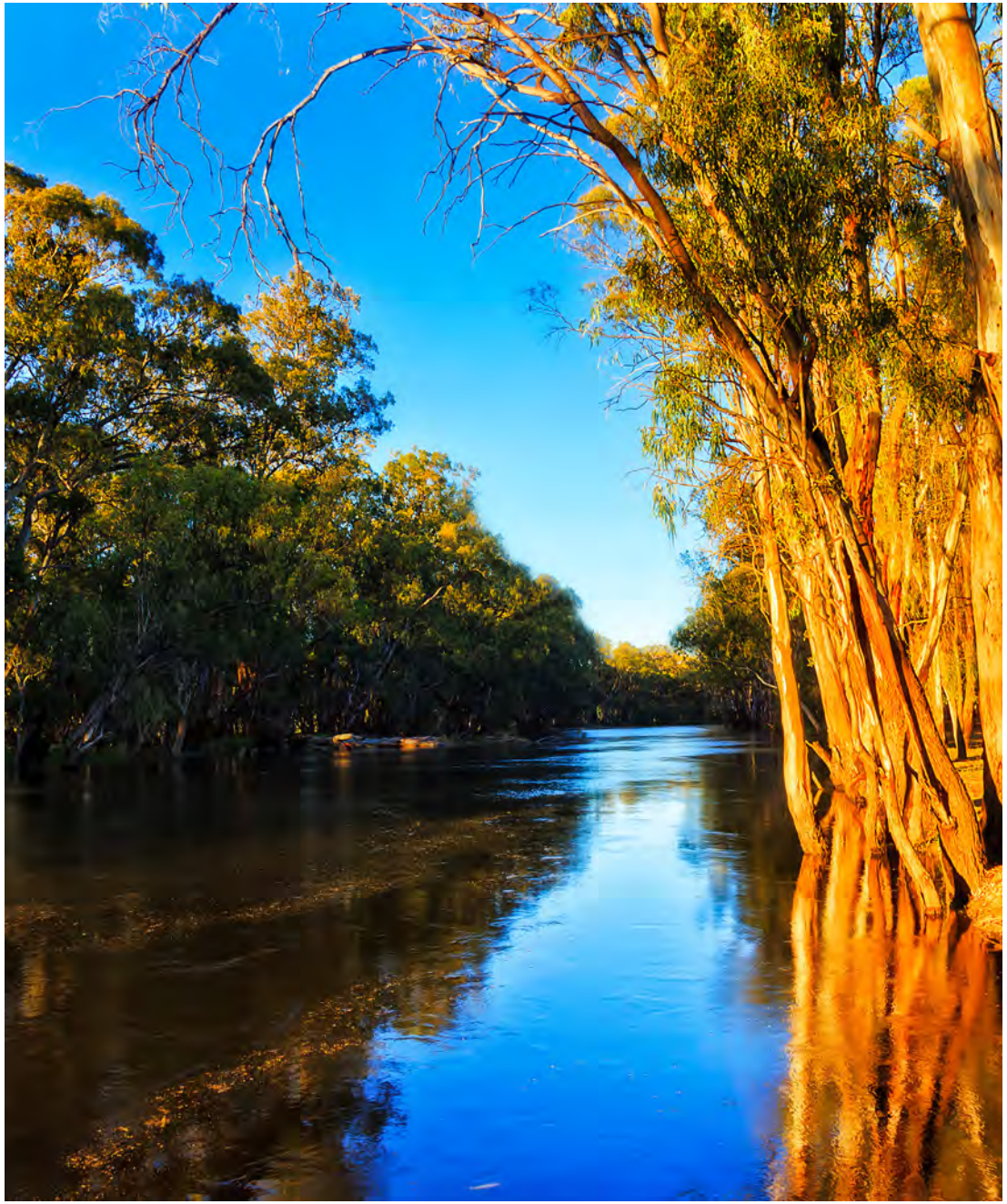
The actions to be progressed from this Plan can be found in the following sections.

5.2 Resilience Actions

To meet the objectives of the Plan, a number of actions have been developed under the five themes (with accompanying sub-themes) identified throughout this Plan. The need, the action and the expected outcomes are provided, along with how these contribute to building resilience, the Framework is shown in Figure 25 below, and the responsible parties involved. Additional details regarding assumptions and metrics to measure progress towards these actions are provided in Section 5.3.

Figure 25 Resilience actions





Theme 1

A sustainable region and a healthy and protected environment

In creating a sustainable region and a healthy environment, this Plan seeks to ensure that local resources are used efficiently, climate change impacts are understood, and adaptations put in place. Planning and management practices assist in reducing community impact on the natural environment and protect biodiversity.

Sub-theme: Water

The importance of maintaining a healthy and protected environment was identified throughout the consultation, especially when it relates to the protection of the natural environment. This includes:

- addressing water issues, especially around water security and equity.
- promoting sustainable use of water within the community.
- maintaining and protecting the region's groundcover.
- promoting biodiversity and focusing on targeted and consistent pest management.

The Need: *There is a need to balance the competing uses of the region's environmental resources. These range from agriculture, tourism, recreation, and cultural activities, all of which encompass a great range of stakeholders with varying needs and priorities and are greatly impacted by drought. Utilising alternative water sources to reduce the demand on potable supplies and extending education to reduce water usage, will assist in ensuring water supply is extended and the multiple users are able to access a suitable water supply.*

Actions

- Increase the use of wastewater and recycled water to maintain greenspaces such as parks, gardens and recreational areas.
- Develop a water education and awareness plan that includes the promotion and awareness of water efficiency measures e.g most efficient means of watering lawns and gardens, drought management plans. Educating the community on the various levels of water restrictions and when are they applied. Partnering with other agencies provide education on water sharing plans and water use compliance.
- Increase water education within the community including showcasing some of the local businesses such as the Junee Prime Lamb Abattoirs which have adopted water efficiency measures.

Key outcomes

- The use of wastewater reduces the reliance on potable water, extending potable water supplies during drought periods.
- Increased community awareness of the efficient use of water can lead to adaptive and/or transformative change.
- Education to the region's industries to plan and adapt their businesses for reduced water availability will assist with long term viability.

Pillars of Resilience

Social

Provides sustainable spaces for the community to gather, encouraging social cohesiveness and increases education and knowledge of efficient water use.

Economic

Use of wastewater reduces Council and community costs.

Environmental

Allows green spaces to be maintained without increasing pressure on natural waterways or reducing availability for other services and industries.

Absorptive
Adaptive
Transformative

Resilience Framework

The Resilience Framework principles that are relevant to this theme and the actions are outlined below:

Resist	Community, business, industry and natural environment is better able to withstand drought conditions.
Transform	Encourages the community to adapt their behaviour following greater awareness of water use. Some users will transform their systems to be more water efficient when shown new ways.
Adapt	Greater education and awareness of water restrictions and the triggers associated with these restrictions can help community, businesses and industry within the region better plan and adapt their systems for reductions in water availability.
Absorb	Increased knowledge provides greater opportunities to anticipate and plan for decreased water availability.

Implementation

1. The Shires of Coolamon and Junee should collaborate with Goldenfields Water to promote and expand the existing water saving and efficiency education.
2. A Water Education and Awareness Plan should be developed to expand the promotion and awareness of the existing water efficiency messaging for the community including education on drought management plans.
3. The Water Education and Awareness Plan should consist of community, school and business information sessions. The aim would be to demonstrate water efficiency, improved use of greywater and deliver an understanding of the triggers in Goldenfields Water Drought Management Plan and how this practically aligns with potential water restrictions for businesses in times of drought. Promotional information can be developed to support schools to deliver the messaging on a class-by-class or more personalised level.

   This education can be extended to include increased information on water sharing plans, compliance requirements and water entitlement and allocation to support those with licensed water entitlements.

   As a part of these information sessions for the community and business, DPIRD, DCCEEW and Local Land Services (LLS) could attend to provide information on opportunities for the regions industry to improve water security through infrastructure upgrades e.g. National Water Grid.

Delivery

Suggested Lead Agency	Potential Partners
Coolamon and Junee Shire Councils with Goldenfields Water	Department of Climate Change, Energy, the Environment and Water (DCCEEW NSW); Local Land Services; DPIRD; WaterNSW; Natural Resource Access Regulator; Education providers in the communities; Local business community and the regions industry e.g. Junee Correctional Facility; water licence holders.

Finance	Supported by existing Council and Goldenfields Water staff to develop a Water Education and Awareness Plan (WEAP). This should be able to be completed through existing resources.
Timeframe	In the short-term the WEAP can be developed and implemented along with educational material that supports the delivery of the water messaging. The information sessions could be run annually to bi-annually to encourage behaviour change and continued awareness of the messaging.
Measure of Success	Declining instances of non-compliance with water licences as reported by the Natural Resources Access Regulator. Green spaces maintained year-round (report on number of complaints). Water use per person remains constant or reduces.

Sub-theme: The Environment

The Need: *Maintaining a well-protected environment has many benefits for the community. It helps to maintain biodiversity and attract wildlife, along with maintaining groundcover and reducing erosion. The region hosts several Landcare groups who work to improve the environment for their communities. The Kindra State Forest is a key environmental attraction in the region and protection of the environment is a priority for both Councils.*

Actions

- Investigate the formation of a Landcare network that brings together the smaller Landcare groups in the region and provides an opportunity to learn from, work together, and progress common challenges. This creates an opportunity to collaborate on projects that focus on improving the local environment (such as restoring wetlands) that create a sense of place and attract local and regional visitors, that will build economic diversity.
- Collaborate with local environmental groups such as Landcare, DPIRD and LLS to promote the natural environment, biodiversity and flora and fauna in with region to boost nature-based tourism and diversify the economy. This needs to be balanced with protection of the natural environment.
- Increase biodiversity by focusing on targeted and consistent pest management and considering non-traditional methods e.g. bio-control. This will assist in providing a more sustainable means of protecting the environment.
- Consider options to incorporate more drought tolerant parks and gardens in future Council planning.

Absorptive
Adaptive
Transformative

Key outcomes

- Bring together a collective of like-minded people to deliver enhancements to the natural environment that support the needs of the Coolamon and Junee communities and build social cohesion and environmental sustainability.
- Develop regional capacity to be able to deliver projects of mutual benefit, help build skills and share knowledge and encourage people to stay in the area.
- Improve the region's biodiversity and environmental resilience so that the natural environment better absorb shocks and stresses of natural disasters.

Pillars of Resilience

Social

Building community and regional connection through sharing of environmental knowledge and working together.

Economic

An enhanced natural environment contributes to the attractiveness of the region as a tourist destination.

Environmental

Increased capacity of local Landcare to support regional environmental initiatives.

Resilience Framework

The Resilience Framework principles that are relevant to this theme and the actions are outlined below:

Learning and adapting	Allows sharing of knowledge and experience across communities and builds linkages between LGAs. Focussing on adaptation measures will assist Councils in preparing for drought.
Diversity	Provides for a variety of differing experience and skills to solve mutual problems.
Inclusivity	Creates shared ownership, vision, and enables high levels of connectivity between different communities.
Effective	Effective engagement across communities that promotes transparency, inclusivity and place-based approaches.

Implementation

1. Coolamon Landcare supported by Local Land Services and the National Landcare Network is to approach the other regional Landcare organisations (including Junee) to gauge interest in regional networking and collaboration on joint opportunities and projects.
2. Upon obtaining consensus, LLS is to facilitate a workshop to assist the group in identifying joint priorities and a schedule of opportunities.
3. To progress joint actions, the newly formed group should look to collaborate with LLS and the National Landcare Network to support project planning and identifying funding opportunities.
4. This newly formed group should connect with local Councils and the business community on grant writing assistance and opportunities.

Delivery

Suggested Lead Agencies	Potential Partners
Coolamon Landcare Group; Local Land Services; National Landcare Network Australia	Junee Regenerative Landcare Inc; Junee Area Landcare Group; Mid-Billabong Landcare Group; Ganmain Urban Landcare Group; Local Landcare Services along with other associated groups in the broader region, Coolamon and Junee Shire Councils.

Finance 	NSW Landcare Enabling Program 2023-2027, NSW Government has committed $59 million to Landcare and Landcare activities in NSW.
Timeframe 	Short-term to make an approach across the five local Landcare networks. Medium term to deliver projects and collaborations that improve environmental outcomes for the region.
Measure of Success 	Deliver one collaboration between the newly formed Landcare network that demonstrates benefit from an agreed Monitoring Evaluation and Reporting Framework perspective.

Theme 2

Agriculture

The Need: A resilient and innovative agricultural sector that is supported by a skilled and connected workforce that shares expertise.

For many years, primary producers have sought to prepare and adapt to the varying climatic conditions faced within their business. Agricultural businesses are largely self-empowered to find ways in which to improve their own circumstances and build their resilience. This has occurred through a range of activities mostly focused on innovative changes to agricultural production systems and has been driven by a focus on research, development and extension activities.

Adoption of new practices is a key challenge and is limited by a range of factors including finances, risk perceptions and understanding what options are available for producers to consider. Greater knowledge sharing and connection between the innovative resilience work being conducted by research organisations and farming communities would assist in improving resilience in the sector. Many of the primary producers in the Coolamon and Junee Shire's are mixed farmers, which is a natural way to diversify and therefore improves overall resilience to shocks and stresses.

Actions

- Support and promote innovation and research, development and extension activities that are being conducted that improve drought resilience/ understanding and provide practical production solutions to adopt new agricultural technology and modernise farming systems e.g. drought tolerant crop varieties and more efficient animal husbandry practices. Working with regional agricultural service providers to translate agricultural information and knowledge that addresses local needs. Better sharing of information between primary producers regarding management practices e.g. weed and soil management.
- Investigate opportunities for local agricultural enterprises to collaborate with industry to develop more relevant region-specific research and development.
  - Collaborating with the GRDC to bring more regional-specific research and development projects to the region.
- Early and improved messaging around drought that monitors early drought indicators (work being done by University of Canberra) and that translate information into plain English that can be understood by the broader community.
- Create opportunities for primary producers within the region to form networks to discuss common challenges. This also includes supporting youth in agriculture and providing leadership and networking opportunities.
  - Referral to external resources such as DPIRD Young Farmer Program, Local Land Services Drought Adoption Officers, Rural Financial Counselling Service.
- Building local food networks between producers and local consumers that focus on fair pricing, value-adding, and further opportunities to sell direct to the consumer
- Support local agricultural businesses to discuss options with the regional water supply authority to improve water equity and quality.
- Investigate alternate workforce models for sharing of labour amongst farm businesses.
- Continue to build quality fodder reserves to support livestock businesses within the region that support pre-planning and increased storage capacity.
- Consider options to support early adopters of new technologies and innovations e.g. new/ emerging crops that require separate or new storage.
- Promote the success stories of resilient agricultural practices within the region to increase investor confidence.

Key outcomes

- Brings together like-minded people to solve similar challenges and builds leadership in young farmers building social resilience.
- Increased uptake of innovative and new agricultural practices helps to deliver better outcomes for the environment.
- Increases overall business resilience by planning and adapting to climatic conditions.

Absorptive
Adaptive
Transformative

Pillars of Resilience

Social

Improved networking fosters social connection and brings together likeminded people to problem solve

Economic

Improves business continuity through pre-planning and adoption of innovative practices.

Environmental

Reduces the impact on the environment, through maintaining groundcover, improving soils and improved pest management, and at times enhancing biodiversity.

Resilience Framework

The Resilience Framework principles that are relevant to this theme and the actions are outlined below:

Learning	Creates opportunitiwa to share knowledge and build networks to tackle problems together.
Resist	Changing systems as a result of better knowledge allows agricultural businesses to better withstand drought.
Recover	Farming systems that adapt and continually improve (based on research outcomes) will be able to recover from drought more quickly.
Transform	Many of these options seek to transform the way primary production occurs through adopting drought tolerant varieties and making on-farm improvements.

Implementation

To be determined by lead agency and partners.

Delivery

Suggested Lead Agencies	Potential Partners
Local Land Services	NSW Department of Primary Industries and Regional Development, Grains and Research Development Corporation and other research agencies; NSW Farmers Federation; Local Agricultural Service Providers; Goldenfields Water; Southern Innovation Hub.

Theme 3

Diverse and prosperous economy

The Need: *A robust local industry that is supported, heritage assets that are protected, and tourism that is promoted, to encourage local employment opportunities.*

Sub-theme: Business attraction

The communities of Coolamon and Junee are predominantly agricultural-based centres but they also rely on agricultural service suppliers, tourism, logistics and export, rail, and public administration and safety.

The recent development of the Coolamon Business Park is one step taken to attract new business to the community and diversify the regions industry and economic base.

Community engagement highlighted the importance of supporting both agriculture and industry within the region. It was also noted that at times the proximity to a larger regional centre (Wagga Wagga) can serve to be a detriment to smaller communities and make it more difficult to attract opportunities.

Action

- Develop a business plan to attract the desired businesses and industry to the Coolamon and Junee Shires. This Plan should consider the industries and services required in each LGA and opportunities to attract these businesses to the region. This will create a greater diversity in the community's industries and services.

Key outcomes

- Builds diversity in the community and local economy by attracting new industries and businesses. Helps to transform the local economy and community and build greater resilience to drought.

Pillars of Resilience

Social	Economic	Environmental
Enhances the relationship between community and local government and increases diversity within local communities; helps to attract new members to the community.	Provides stimulation for the local economy, supports tourism and attracts new forms of income to the region.	N/A

Resilience Framework

The Resilience Framework principles that are relevant to this theme and the actions are outlined below:

Diversity	Attracting new businesses and industry to the region provides more diverse communities and economies that are then more likely to be able to respond to changing circumstances and provide a buffer against agricultural downturn.
Resist	A more diverse economic base provides greater resilience and ability to withstand shocks and stressors.
Thrive	Broadening the industry within the region will allow the community to maintain their livelihoods during drought periods.
Effective	Providing a bespoke plan to meet the community need and help develop the region.

Absorptive
Adaptive
Transformative

Implementation

1. The Councils, with the assistance of their Economic Development Officers or a consultant, should consider designing and documenting a Business Attraction Plan to attract new businesses to the Coolamon Business Park and to the Junee Shire. This Plan will focus on industry that creates diversity within the community along with meeting the needs of the community. The Plan will build on the existing work that has been completed via the Regional Economic Development Strategies however bringing a greater level of focus to the communities of Coolamon and Junee
2. The Councils should engage with DPIRD to understand what opportunities are available to them given their proximity to the Wagga Wagga Special Activation Precinct and how DPIRD might be able to use this Plan to support attracting industry to the region.
3. Additional marketing information that showcases the housing and education facilities available should be created to assist in attracting new investors to the region. This component of the plan could be supported by local real estate agents who will be able to articulate the buying power associated with Coolamon and Junee versus other locations.

Delivery

Suggested Lead Agency	Potential Partners
Coolamon and Junee Shire Councils	DPIRD; Local Real Estate Agents; Destination NSW; Regional Development Australia (RDA) Riverina; Local industry and businesses, REROC

Finance	$50K - $150K to develop the Business Attraction Plan The Business Plan could be funded from FDF, however implementation of the plan including development and marketing costs would need to be met by Council funds or other investment.
Timeframe	Short-term to develop the Business Attraction Plan. Medium to long-term to transition new businesses to build and establish in Coolamon and Junee.
Measure of Success	Conversion of sales from the business attraction plan to new businesses to the community.

Sub-theme: Business Economy and Networks

The Need: *The communities of Coolamon and Junee have identified the need to build, maintain and expand their business and industry networks within each community as well as collaborate with and learn from each other. This is important to retain and attract people to the region.*

Actions

- Formation and expansion of business networks:
  - Form a business network for the Coolamon Shire that creates opportunities for local businesses to meet and learn from each other along with a forum to share and connect with other like-minded business owners to develop networks and support the establishment and growth of their enterprise.
  - Coolamon Shire should seek to collaborate with Junee Business and Trades so they can learn from their experience as an established business network.
  - Support the expansion of the Junee business community (via Junee Business and Trades) to help diversify the local economy.
- Investigate opportunities to enhance grant writing assistance in both Coolamon and Junee Shires. In Junee Shire this would consist of additional support to Junee Business and Trades. In Coolamon, this may be targeted to Council grant writing workshops (prior to formalisation of a Coolamon business network).

Key outcomes

- To improve business relationships and foster a sense of belonging amongst the business community, helping retain businesses and build social cohesion.
- Provide opportunities to problem solve and build the business community's capacity.
- The strengthening of business networks in both Shires will allow for renewed focus on supporting the business and tourism sectors within the region, helping diversify the economy.
- Provides education and upskilling opportunities, helping retain skilled workers in the regions.

Pillars of Resilience

Social

Brings together like-minded people to solve business problems and increase leadership skills.

Economic

Community leaders and businesspeople seeking to improve their own businesses and build income that helps build the local economy.

Environmental

Resilience Framework

The Resilience Framework principles that are relevant to this theme and the actions are outlined below:

Inclusivity	Includes community, businesses and leaders across all sectors and age groups and enables sharing of information.
Learning	Creates a forum for people to learn from each other to improve their resilience to drought.
Transform	Provides an opportunity to build knowledge, learn and improve to inform future business decisions. This also enables systems transformation.
Thrive	Allows communities to meet their needs and maintain their livelihood throughout challenging periods.

Implementation

1. Identify people within the community who are interested to forming a business network or Chamber of Commerce.
2. If sufficient resources can be found to support the creation of the business network, then it should proceed. Where this does not occur, opportunities to host informal meetings should be investigated to create opportunities for individuals to connect or access the Junee business community.
3. The nominated representatives will be responsible for recruitment, establishment operating procedures and organisation of events.
4. Business Network/ Chamber of Commerce will be focused on:

- Provide opportunities for individuals within the region to mentor/ learn and connect with other businesspeople.
- Holding community forums to discuss challenges and share knowledge on running a business.
- Encouraging businesses to cross-promote each other and collaborate to maximise tourism opportunities.
- Collaboration with other local business chambers to learn from their experience.

Delivery

Suggested Lead Agency	Potential partners
Local business owners in the region with Coolamon and Junee Shire Councils.	Junee Business and Trades; Business Chamber of Commerce; Local businesses within the region including agricultural services; REROC; RDA Riverina, Service NSW, Business Connect, Business NSW.

Finance 	Strengthening Rural Communities program through FRRR and implementation funding from FDF could be utilitsated to support these actions.
Timeframe 	Short-term to initiate the formation of a business network between the two regions. Medium-term to establish an on-going collaboration.
Measure of Success 	Attracting sufficient members to the group/ network to be self-sustaining. Identification of agreed number of events each year.

Sub-theme: Tourism

The Need: *Tourism is an important contributor to the local economy and provides diverse opportunities for employment. Expanding and improving tourism will assist with buffering against economic downturns associated with drought periods.*

Tourism is a key attractor of visitors to the region. In Junee, the Licorice and Chocolate Factory, Roundhouse Railway Museum, Monte Cristo Homestead, Athenium Theatre, and Broadway Museum, as well as the Junee Urban Wetland are all places to see. In Coolamon, the Coolamon Cheese, Fire Museum and Up-To-Date Store, as well as the Kindra State Forest are local attractions. The smaller towns in both Shires also offer both historical and natural attractions.

Actions

- Promotion of the region's tourism attractions:
  - Support and promote buy and shop local programs.
  - Ensure local events are supported by local producers.
  - Create a calendar of community events that promotes the regions sport, shopping, arts, cultural and historical events e.g. Barellan draught horse festival (which brings 7,000 visitors).
  - Investigate opportunities for Coolamon and Junee to work together to promote their Shires as a destination to visit. This provides opportunities to align tourism events.
  - Create a fund that can provide financial assistance for community led events.
  - Investigate grant opportunities through the Junee Business and Trades and Coolamon business networks to support regional events.
- Provide greater diversity within tourism in the region through adding complementary events such as farm and produce tours that support existing tourism attractions such as the Canola Trail.

Key outcomes

- Build a sense of belonging and increase connections amongst the community.
- Expand and increase the region's economic base.

Pillars of Resilience

Social

Improved social connection by bringing the community together in good times and in bad.

Economic

Provides stimulation to the local economy and attracts visitors to the region.

Environmental

Promotes the region's natural areas which increases stewardship.

Resilience Framework

The key Resilience Framework principles that are relevant to this theme and the actions are outlined below:

Diversity	A diverse local economy helps provide resilience. Diversity in the tourist attractions helps to draw a wider variety of visitors.
Inclusivity	The action supports a sense of shared ownership, vision, and enables high levels of connectivity between different social groups.
Thrive	A diverse tourism base within the region will allow the community to maintain their livelihoods during drought periods.
Resist	The community will be better able to absorb the shocks and stresses of drought due to a more resilient and diverse economy.

Implementation

1. Utilising existing service providers such as Junee Business and Trades and the Tilma Group, build a calendar of events that are published and promoted within the community and on the Council's websites.
2. A call out should be made to the community to notify the service provider of their proposed events.
3. In parallel, a promotion of buy and shop local and the regions tourism attractions should also be identified and promoted.
4. A series of Council organised social events should occur during drought.
5. Opportunities to engage local producers and suppliers should be identified, where businesses can work together to ensure that they are able to service the tourism demands.
6. Prior to the annual update of the events calendar, both Councils should assess what opportunities exist for the alignment of tourist events for the region.

Delivery

Suggested Lead Agency	Potential Partners
Junee Business and Trades; Coolamon Business Community	Coolamon and Junee Shire Councils, Destination NSW, DPIRD, not for profit organisations e.g Junee Community Centre, Lions Club
Finance 	FDF / FRRR Funding
Timeframe 	In the short term develop a calendar of events. This calendar of events will need to be updated on an on-going basis.
Measure of Success 	Measuring attendance at community hosted events. Reporting on visits to the Council's web pages to access event information. Tourist numbers and profitability of tourist attractions.

Theme 4

A strong and collaborative community

Sub-theme: Mental health

The Need: *Coolamon and Junee seek access to services and housing to support a healthy, active, inclusive and liveable community with good governance and a strong sense of shared responsibility.*

Well supported community members are better placed to endure the shocks of drought. By supporting mental health services and volunteers to reduce burnout and fatigue, the community will be better placed to endure adverse events and recover from hardship. Focussing on inclusivity and providing a voice for youth, women and First Nations People in the region are also important facets of building community strength.

Actions

- Develop a mental health services plan that reflects the community need. This should be completed in partnership, through the formation of a collective of health care providers in the region and that builds on existing services.
  - Advocate for mental health services that meet the needs of the community and are accessible in a range of mediums and formats (delivered both formally and informally).
  - Provide specific mental health training for those community members and service providers who are connected to agriculture or are likely to be involved with various sections of the community e.g. volunteers, service industries to agriculture.
  - Develop partnerships with program providers such as headspace to bring leadership and mental health skills to schools.
- Support for community events and local gathering points e.g. She/Mens Sheds, soup kitchen, local shows and races. Extend the events page to include community group events e.g. "Welcoming Australia" 'making yourself @ home' in the community for new people to town, Gallery in Ganmain hosting nights for women to gather, talk and paint.
- Specific drought events supported by local community groups such as Country Women's Association, Rotary, Junee Community Centre that encourage people to come together and connect.

Key outcomes

- Builds capacity within the region to be prepared, deal with, manage and recover from the mental health impacts of drought.
- A mental health service that meets the community need and helps build resilience before an event occurs.
- Encourages and promotes a localised level of support that is accessible and adaptable to meet the needs of the community.

Pillars of Resilience

Social	Economic	Environmental
Improves health and well-being for the community as a whole. A strong and healthy community will be more resilient to shocks and stresses.	Reduces loss of productivity through lower days of absence.	N/A

Absorptive
Adaptive
Transformative

Resilience Framework

The key Resilience Framework principles that are relevant to this theme and the actions are outlined below:

Inclusive	Provides a tailored service for all community members.
Resist	Ensures that community members are prepared and ready to respond and cope with adverse events.
Absorb	A robust system that assists to lessen the impact of adverse events on communities.
Accommodate	System has the capacity to deal with disruption, pressure and surges in demand.
Transform	Allows for the development of services that recognise the changing needs and service requirements of the community.
Thrive	Mental health services meet the needs of the communities allowing them to maintain their livelihoods before, during and after drought events.

Implementation

1. Create an expression of interest to local and state health providers to form a collective to discuss mental health services for the region.
2. Use a facilitator to conduct a series of workshops to discuss the regions requirements amongst these providers.
3. Develop a plan that defines the mental services required for the region.
4. Investigate options to deliver these services and any funding options to assist with the implementation of the plan.

Delivery

Suggested Lead Agency	Partners
Local Health District and Primary Health Network	Junee Community Centre; Local health providers e.g. Coolamon Regional Medical Centre; Program providers e.g. headspace etc; CSU Southern Innovation Hub, Coolamon and Junee Shire Councils.

Finance	FDF implementation funding. Additional funding required for delivery/implementation of the plan. This may be from State Government programs such as the rural adversity mental health program.
Timeframe	Short to Medium term to develop and agree the plan.
Measure of Success	Report on: • The numbers of people accessing existing mental health services. • The number of new services brought to the region. • The number of people accessing these new services. • Reduction in number of complaints regarding access to mental health services.

Sub-theme: Youth, Volunteers and a skilled workforce

The Need: *Engagement with the communities of Coolamon and Junee highlighted the importance of focusing resilience efforts on supporting youth to stay, study and/or return to the region. Youth help to keep communities alive and engaged and attract education, health and business opportunities.*

Creating opportunities and fostering partnerships that provide leadership and support skills to volunteers are vital. Encouraging a broader subset of the community to volunteer helps with community cohesiveness and reduces volunteer burnout. The volunteers in the region are drawn on more so during drought and there is a need to provide greater support for these people.

Attracting people to the region enhances diversity in the community. This growth in population which often includes families, increases participation at schools, sports and other community activities.

The community identified frustration with red tape, especially in regard to bureaucratic processes that hinder development, create inflexible rules around transport, and immigration challenges. It was noted that it is exceptionally difficult to navigate these systems and encourage new residents to move to the region.

Actions

- Increase and formalise partnerships with local and state providers regarding opportunities for building leadership skills within local schools, apprenticeships, work experience and unpaid support roles. Examples would be; expansion of Junee Youth Employment partnership program, use of the Regional Youth and Community Development Network (YouthROC via REROC) to support local youth issues, Support for youth in the region to attend Take Charge Riverina Youth Leadership Forum (REROC Initiative) to build leadership skills.
- Investigate and create opportunities for youth to gain skills and education. Encourage youth to stay and study in the region via the education hub being established in nearby Wagga Wagga.
- Promote the benefits of living in a smaller regional community and working with local providers such as RDA Riverina to encourage and assist the overseas community in Wagga Wagga to move to the Shires of Coolamon and Junee.
- Explore alternate labour sharing options between businesses and industry to retain skilled workers in the region.
- Increasing community cohesion:
  - Investigate repurposing of council areas for shared community facilities e.g. community garden hub.
  - Establish connections between smaller villages and larger towns through a buddy system.
  - Community hubs for people to share knowledge and solve problems.
- Increase the frequency of the Junee Volunteers Summit to provide support and capacity building for volunteers within the community. The Summit should incorporate a focus on how to encourage more volunteers and those across different demographics, especially youth, to become volunteers. Coolamon Shire should collaborate with Junee Shire as to how to develop its own summit.

Key outcomes

- Provides support and skills to the region's volunteers to alleviate the strain of fatigue felt amongst this group. This increases social connections which are important to lean on in challenging times.
- Increased opportunities for youth to stay, obtain an education and contribute to the local community and economy. Retention of youth leads to a boost in the economy and increased job demand.
- Encourages people of more diverse backgrounds and skills to relocate to the region which builds the community and provides more diversity in the local economy.

Pillars of Resilience

Social

Improves social cohesiveness and diversity within the community. Supports youth to stay in the region to take advantage of opportunities and contribute to their community. Provides support to volunteers and community leaders. Building social connections increases social resilience.

Economic

Attracting additional skilled workers and retaining those already in the region stimulates economic growth and business expansion.

Environmental

N/A

Resilience Framework

The key Resilience Framework principles that are relevant to this theme and the actions are outlined below:

Diversity	The actions create diversity in the economy and community as they support new residents moving to the community who bring new skills.
Inclusivity and connectivity	Community events and volunteering help bridge cultural divides and connect people from different social circles.
Absorb	Provides skills and support to volunteers to enable them to be better prepared to respond to the demands of drought a more diverse workforce and economy is better able to absorb shock and stresses.

Implementation

1. Engage with the community to understand what additional community facilities are required.
2. Identify suitable facilities and sites available for potential repurposing.
3. Support formation/ expansion of community networks.
4. Identify and obtain funding required for development of facility/ area.

Delivery

Suggested Lead Agency	Potential Partners
Coolamon and Junee Shire Councils with REROC	RDA Riverina; community groups; business communities; community centres; recruitment agencies; educational facilities, registered training organisations e.g. local high schools; NSW Department of Education (Training Services NSW).

Finance	FDF implementation funding. Alternate funding sources would need to be secured for ongoing support.
Timeframe	Medium term.
Measure of Success	Report on: • Involvement in REROC programs. • Number of apprenticeships in the region. • Skilled worker population. • Attendance at Volunteer Summits (and number of summits).

Sub-theme: Drought

The Need: *Throughout the community engagement and SRGs, several key areas relating to drought were identified that could be improved to provide better outcomes for the region. Many respondents were aware that there is a lot of drought work being undertaken across a range of organisations. However, there is still uncertainty as to where to go to find out more information and to connect with the individuals and organisations involved in this work; the information was not always tailored to the region and it was not always available in a timely manner.*

Actions

- Grow the region's capacity to build resilience through improved co-ordination of drought actions and responses e.g. through the assistance of a Resilience Officer. This role would assist with coordination and knowledge sharing regarding other natural disasters as well. This role would build on the existing LLS Drought Adoption Officer role and be considered to provide information that relates not just to agriculture but the wider community needs for drought.
- Build awareness of drought preparedness within the community through the Resilience Officer so that the community as a collective is better prepared for future droughts and is better connected to available resources. The future Disaster Adaption Plans, required to be developed by the NSW Reconstruction Authority, provide an opportunity for each Council area and the region to identify if any additional resources are needed for coordination or information sharing and distribution during challenging times.
- Advocate for improved timeliness and accuracy of drought declarations. Ensure the messaging around drought is available to all sections of the community and trigger points for decision making are clearly understood.
- Identify and develop leaders within the community who can help co-ordinate networks to solve local challenges and transmit information including broader disaster messaging across the community.
- Improve connections and assistance:
  - Connecting primary producers with farm advisors who can assist with production and financial advice outside of drought times (preparedness)
  - Improved connection of drought resources and funding with the community. This could be through a dedicated resource that facilitates this connection and provides grant assistance/info.
  - Connecting small business with Rural Financial Counselling Service and other resources that can provide support.

Key outcomes

- Improve local capacity, both in the community and primary producers, to respond to drought.
- A better informed community is able to make timely decisions that reduce the impacts of drought.
- Increased coordination of drought resilience activities and responses improve social resilience.

Pillars of Resilience

Social

Grows the community knowledge and ability to respond to drought.

Economic

Provides timely connection to information and financial resources that can support the region's agriculture and industry, reducing the economic value of drought.

Environmental

Improved access and understanding of resilience research has the potential to deliver improved environmental outcomes.

Resilience Framework

The key Resilience Framework principles that are relevant to this theme and the actions are outlined below:

Inclusivity and connectivity	Provides better connectivity and provides more opportunities for knowledge sharing across the region regarding resilience actions that can be taken.
Consideration / learning / adapting	Multiple avenues for learning through connecting community and primary producers with new research and allowing them to better prepare and adapt practices.
Transform	Increased knowledge enables community behavioural change and an understanding of how to act before, during and after drought. Industry and business can transform their systems to better cope with shocks and stresses.
Effective	Providing a local resource allows for a place-based approach to resilience that meets the community need.

Timely	Having access to drought information and resources prior to, or in a timely manner, provides greater opportunity to plan and respond to drought.
Recover	Improved understanding of the drought interventions that are able to be accessed and when may reduce time taken to recover.

Implementation

1. The Shires of Coolamon and Junee should seek to engage a Resilience Officer to co-ordinate resilience activities and responses within the region that benefit the community. The Resilience Officer working across local Councils would:
   - Act as coordinator to lead the resilience actions for both Councils. This resource could support the response to other natural disasters.
   - Promote the formation of business networks and coordinate local leaders so that they can help disseminate information.
   - Promote the inclusion of resilience messaging across the Councils website that helps refer and inform the community of resources and information available e.g. drought indicators and messaging, water restrictions.
   - Form connections with LLS and DPIRD to support access to the Drought Hub and Drought Adoption Officers for the community.
   - Making connections between community and other Commonwealth, State and local agencies e.g. Rural Financial Counselling Service (RFCS) for small business.
   - Connect the community to opportunities within the Southern Innovation Hub.

Delivery

Suggested Lead Agency	Potential Partners
Coolamon and Junee Shire Councils	LLS; DPIRD; RFCS; CSU Southern Innovation Hub; Local industry and business

Finance	• FDF Implementation funding could be allocated to support the initial 1st year funding. • Council's currently do not have funding for such a position and would need to advocate for its necessity. There are opportunities under the FDF Helping Regional Communities Prepare for Drought Initiative that would support some of the actions of the Resilience Officer. • $60K - $130K depending on status of part-time to full-time employee. • Extension of the role would need funding from other state and Commonwealth sources including the larger FDF.
Timeframe	Short-term to identify and engage a suitable local resource with clear role expectations. Over the mid-term the Resilience Officer is to be actively engaging with resilience partners and coordinating the region's resilience response.
Measure of Success	Metrics can be incorporated into the position description to measure the roles effectiveness.

Theme 5

Strong infrastructure and transport services

Sub-theme: Infrastructure

The Need: *Infrastructure and transport that supports and links the region and provides connectivity to encourage business and industry and attract new residents.*

Rail brings vital infrastructure, opportunities and tourism to the region. The need for appropriate infrastructure to support the regions has been highlighted across both LGAs. These infrastructure needs are being supplied by Council and advocated for through REROC and RDA Riverina. Councils have a vital role in ensuring the supporting services and infrastructure such as water, housing, waste and transport support town growth. The infrastructure identified as being most important for the Coolamon and Junee Shires was roads, rail and water.

Actions

- Investigate options on how to maximise the benefit of the existing wastewater facilities that either allows for surplus water to be sold to a suitable buyer or to expand wastewater facilities to incorporate additional storage and networks to increase use capacity.
- Investigate options in partnership with Goldenfields Water and DCCEEW on replacement and upgrade options for the water and wastewater infrastructure to provide greater security through enhanced storage capability and distribution systems.
- Enhance existing regional assets (e.g. improve facilities) such as Bethungra Dam and Rocky Hill to make them more attractive for tourists and better utilised by the local community.
- Connecting local businesses, individuals and primary producers with grants and funding to upgrade their own water infrastructure. This will increase their adaptive capacity and increase the ability to withstand drought conditions.
- Council continues to advocate for better telecommunication infrastructure to improve phone and internet service for the region.

Key outcomes

- Provides more robust infrastructure for the benefit of the community, enhancing their resilience to drought and helping attract new residents.
- Enhances environmental resilience for community assets and/or reduces the pressure on natural resources.

Pillars of Resilience

Social

Maintenance of green spaces throughout drought periods improves mental health and provides locations for the community to gather in times of drought.

Economic

Commercialisation of wastewater has the potential to reduce the cost of other associated water projects.

Enhanced use of wastewater will also reduce the cost associated with watering community assets.

Environmental

Increased water security as the region increases water reuse and relies less on potable water to meet some of its needs. This also reduces pressure on natural resources.

Resilience Framework

The key Resilience Framework principles that are relevant to this theme and the actions are outlined below:

Diversity	Increasing the potential sources of water to support the community need.
Absorb	Extends water security to the community, proactively planning for future drought stress.
Transform	Increasing use of wastewater and extending the use of the regions water supply supports adaptation to climatic conditions.

Absorptive
Adaptive
Transformative

Implementation

1. In the short-term, Councils may seek to run an expression of interest to understand potential industries which may be interested in entering into an agreement to purchase their surplus wastewater.

   If there is suitable interest Council can enter into individual agreements for industry to purchase the wastewater.
2. To renew and expand the existing wastewater networks, both Councils should work in collaboration with Goldenfields Water and DCCEEW (NSW) to investigate options to extend the wastewater distribution network, and potential funding options.
3. Further technical studies may be required to inform the options to extend and upgrade the wastewater network.

Delivery

Suggested Lead Agency	Potential Partners
Coolamon and Junee Shire Councils	Goldenfields Water; DCCEEW; industry; telecommunication providers.

Finance	• Australian Government's Off-farm Efficiency Program initiative to upgrade water infrastructure to reduce water losses. • Town Water Risk Reduction Scheme • National Water Grid Fund
Timeframe	Medium term to investigate options including conducting additional studies to inform the concept.
Measure of Success	Councils commercialise any surplus wastewater for sale to suitable industries. Councils are able to agree a pathway forward to renew and extend their existing wastewater services without significant financial impost to the community.

5.3 Monitoring, Evaluation and Learning

To drive improved drought resilience in the region, this plan has identified the steps required for change to meet the needs of the region. These include the identified priority and related actions to be implemented; the outcomes that could be achieved as a result and specifically how each would relate to building resilience. The plan also includes steps required to implement the change and identifies a delivery model to do so.

To ensure this Plan delivers on the actions identified, a Monitoring, Evaluation Learning (MEL) Framework should be adopted to ensure transparency, adaptive management, and long-term implementation. The FDF MEL Framework will be used to assess the effectiveness of implementing this Plan (DAWE, 2020).

The MEL framework outline in Figure 26 links to four major activities of impact, rationale, outputs and outcomes.

Theory of change

For the next update of the Plan a more explicit theory of change can be presented that will demonstrate the link between each step in the process, refer Figure 27.

1. The Plan's vision "for Coolamon and Junee to be a robust and diverse economy, a progressive and productive agricultural sector, with opportunities for youth and considered forward planning that bolsters the region. The community aspires to be acknowledged for its adaptability, resourcefulness, sustainability, and perseverance" and defines the current state of the Region's resilience and what needs to change?
2. Who needs to change and what mechanism are in place or need to be in place to support this change?
3. What are the risks and benefits of changing and other impacts that could result.
4. Implementation tasks and what is required to make this change e.g partners, resources.
5. Review and learn and then adapt the process.

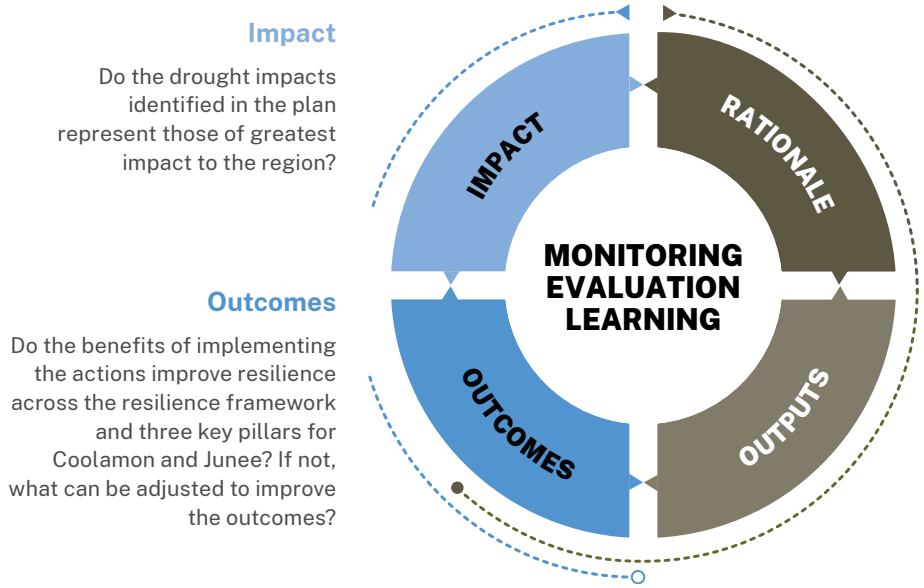


Figure 26 FDF Monitoring, Evaluation and Learning Framework

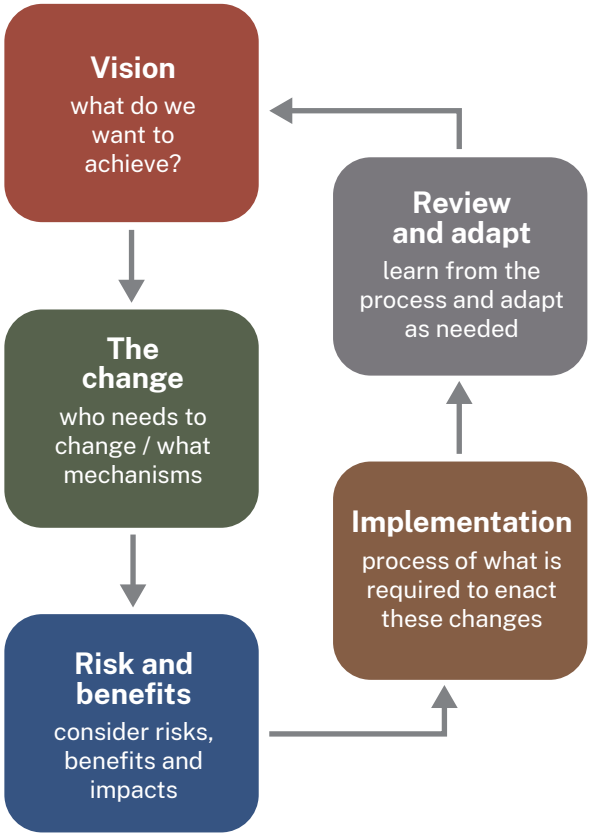


Figure 27 Proposed Theory of change

The two Councils working together with delivery partners including NSW State Government, not-for profit organisations, industry and community organisations will need to collaborate on the implementation of this Plan.

The Councils have been nominated as the lead agency for the delivery of actions within this Plan. This is due to both the allocation of implementation funding via the FDF and the ability of Councils to lead and advocate for the resilience needs of their communities. However, it is expected that many of the initiatives will be delivered as a collaborative effort.

Initial Plan measures of success have been identified for the first year of the Plan (Section 5). This establishes a starting point to measure the effectiveness and progress of each of the actions.

When identifying the measures of success for each of the actions, the metrics should where possible have quantifiable terms to enable data to be gathered to support a clear monitoring and review process. Ideally, they should follow the SMART criteria: Specific, Measurable, Achievable, Relevant and Time-bound.

Where possible, metrics have been adopted from existing data and systems such as the Australian Bureau of Statistics, census data and existing reporting that could be obtained through Council. The metrics would need to be monitored and reported to establish a baseline level with future years measures of success and metrics to be identified.

Critical to regional-level monitoring of, and improvement to, the Plan will be an on-going project control group comprising of the four Councils with external stakeholders as needed. This group would have the role of initiating actions in line with the Plan, reviewing progress against the Plan objectives.

The Plan is a snapshot in time and requires regular update to ensure the overall actions still align with the region's requirements. A short progress review should be published annually as part of the individual Councils Annual Report (as part of their Integrated Planning and Reporting processes), highlighting any issues in implementation, and reporting using the metrics described. A review and update of Plan should be scheduled every 4 years. This should include community consultation to ensure the needs, actions and outcomes are still relevant and to ensure local ownership of the Plan. The consortia of Councils will continue to meet bi-annually to assess Plan progress. This may include inviting other stakeholders and delivery partners to provide progress updates. Aside from this, the consortia of Councils would be involved in other implementation groups for specific actions.

Some of the key parameters assumed in the implementation of the Plan include:

- Effective cooperation between delivery partners.
- Capacity of consortia of local Councils to lead and coordinate other stakeholders.
- Capacity and engagement of other stakeholders to lead and coordinate actions where required.
- Capacity of other stakeholders and the community to participate and actively engage in implementation activities.
- The ability to record and share plan outcomes.
- The integration of the Plan with other local planning activities.
- Stakeholders' willingness to share knowledge and work with each other.
- On-going funding to support implementation of Plan actions.
- The remit of delivery partners/stakeholders will not fundamentally change.
- Implementation targets past the short-term can be defined and agreed.
- That the region is not moving directly into another drought and has some lead time to commence plan activities.
- Other agencies continue to deliver drought work that is being leveraged as a part of this Plan.

Some of the longer-term factors that may impact plan outcomes include:

- Ability to effect meaningful and longer-term behaviour change.
- Legislative and regulatory change required to implement the actions.
- Regular review and update of the Plan.

Monitoring progress and Plan outcomes

Table 12 contains FDF MEL Framework indicators. Additional details regarding lead agency, partners and measures of success can be found in Section 5. This table highlights the indicators and metrics to be used in the short-term. Further expansion of the metrics and indicators for medium to long-term actions will need to be addressed in Plan evaluations and revisions.

Table 12 Initial MEL Framework

Theme	Outcome / priority	Year one metric	Timing
Theme 1 – A sustainable region and a healthy and protected environment **Sub-theme: Water**	(S2) Communities implement transformative activities that improve their resilience to drought. More innovative approaches and technologies for drought resilience are being developed and adopted. Communities better understand their resilience to drought. Communities proactively plan/prepare for drought, using collaboration and innovation.	Educational materials developed. Initial investigations for extending use of wastewater/ recycled commenced.	Short term to develop materials however ongoing to deliver. Increasing use of wastewater and recycled water would be short-medium term.
Theme 1 – A sustainable region and a healthy and protected environment **Sub-theme: The Environment**	(EN1) More primary producers preserve natural capital while also improving productivity and profitability. (EN2) More primary producers adopt whole-of-system approaches to NRM to improve the natural resource base, for long-term productivity and landscape health. More primary producers are aware of and experimenting with transformative NRM practices to manage drought. (S1) Stronger connectedness and greater social capital within communities, contributing to wellbeing and security. Communities learn from and share innovative ways to build drought resilience. Communities build their local leadership, networks and social support. Communities proactively plan/prepare for drought, using collaboration and innovation	Regional Landcare network established. Initial investigations into more drought tolerant plants commenced. One workshop on alternative pest management techniques held.	Short-term to make an approach across the five local Landcare networks. Medium term to deliver projects and collaborations that improve environmental outcomes for the region, including changing to more drought tolerant plantings.

Theme	Outcome / priority	Year one metric	Timing
Theme 2- Agriculture	(EC1) More primary producers adopt transformative strategies and technologies to reduce financial exposure to drought. (EC2) More primary producers adopt risk management practices to improve their sustainability and resilience. More innovative approaches and technologies for drought resilience are being developed and adopted. Relevant and reliable climate data are available and used for decision-making. Primary producers and businesses better understand their resilience to drought. (EN1) More primary producers preserve natural capital while also improving productivity and profitability. (EN2) More primary producers adopt whole-of-system approaches to NRM to improve the natural resource base, for long-term productivity and landscape health. More primary producers have the skills, data and support to apply better NRM practices. Improved collaboration between NRM bodies, governments, communities and primary producers. Better use of research and co-design processes to develop NRM activities that directly address regional priorities. (S1) Stronger connectedness and greater social capital within communities, contributing to wellbeing and security. (S2) Communities implement transformative activities that improve their resilience to drought. Communities better understand their resilience to drought. Communities build their local leadership, networks and social support. Communities proactively plan/prepare for drought, using collaboration and innovation.	Engagement with GRDC and monitoring levels of adoption and extension activities. One youth in agriculture event held.	Some short term actions in terms of building connections, medium-long term/ ongoing delivery of actions.
Theme 3 – A Diverse and prosperous economy **Sub-theme: Business attraction**	More innovative approaches and technologies for drought resilience are being developed, and adopted. Communities proactively plan/prepare for drought, using collaboration and innovation.	Completion of the Business Attraction Plan.	Short-term to develop the Business Attraction Plan. Medium to long-term to transition new businesses to build and establish in Coolamon and Junee.

Theme	Outcome / priority	Year one metric	Timing
Theme 3 – A Diverse and prosperous economy **Sub-theme: Business Economy and Networks**	(S1) Stronger connectedness and greater social capital within communities, contributing to wellbeing and security. (S2) Communities implement transformative activities that improve their resilience to drought. Communities better understand their resilience to drought. Communities learn from and share innovative ways to build drought resilience. Communities build their local leadership, networks and social support. Communities proactively plan/prepare for drought, using collaboration and innovation. Businesses have built skills in business planning, financial and risk management.	Formation of a network. One event held. One grant writing workshop held.	Short-term to initiate the formation of a business network between the two regions. Medium-term to establish an on-going collaboration
Theme 3 – A Diverse and prosperous economy **Sub-theme: Tourism**	(S1) Stronger connectedness and greater social capital within communities, contributing to well-being and security. (S2) Communities implement transformative activities that improve their resilience to drought. Communities and businesses better understand their resilience to drought. Communities proactively plan/prepare for drought, using collaboration and innovation.	Calendar of events hosted on both Council's websites.	Short term to develop a calendar of events. This calendar of events will need to be updated on an on-going basis.
Theme 4 – A strong and collaborative community **Sub-theme: Mental Health**	(S1) Stronger connectedness and greater social capital within communities, contributing to wellbeing and security. (S2) Communities implement transformative activities that improve their resilience to drought. Communities and businesses better understand their resilience to drought. Communities learn from and share innovative ways to build drought resilience. Communities build their local leadership, networks and social support. Communities proactively plan/prepare for drought, using collaboration and innovation	Collaborators identified and workshop held	Short - medium term to develop and agree the Plan.

Theme	Outcome / priority	Year one metric	Timing
Theme 4 – A strong and collaborative community **Sub-theme: Youth, Volunteers and a skilled workforce**	(S1) Stronger connectedness and greater social capital within communities, contributing to wellbeing and security. (S2) Communities implement transformative activities that improve their resilience to drought. Communities better understand their resilience to drought. Communities learn from and share innovative ways to build drought resilience. Communities build their local leadership, networks and social support. Communities proactively plan/prepare for drought, using collaboration and innovation. More innovative approaches and technologies for drought resilience are being developed and adopted.	List of potential re-purposing areas identified The next Volunteer Summit planned.	Medium term/ ongoing for delivery.
Theme 4 – A strong and collaborative community **Sub-theme: Drought**	(S1) Stronger connectedness and greater social capital within communities, contributing to wellbeing and security. (S2) Communities implement transformative activities that improve their resilience to drought. Communities and businesses better understand their resilience to drought. Communities learn from and share innovative ways to build drought resilience. Communities build their local leadership, networks and social support. Communities proactively plan/prepare for drought, using collaboration and innovation. (EC1) More primary producers adopt transformative strategies and technologies to reduce financial exposure to drought. Primary producers and businesses have built skills in business planning, financial and risk management. Relevant and reliable climate data are available, and used for decision-making.	Engagement of a suitable resource to support the requirements of the role.	Short-term to identify and engage a suitable local resource with clear role expectations. Over the mid-term the Resilience Officer is to be actively engaging with resilience partners and coordinating the region's resilience response.

Theme	Outcome / priority	Year one metric	Timing
Theme 5 – Strong infrastructure and transport services	(EC1) More primary producers adopt transformative strategies and technologies to reduce financial exposure to drought. (EC2) More primary producers adopt risk management practices to improve their sustainability and resilience. More innovative approaches and technologies for drought resilience are being developed and adopted. (EN1) More primary producers preserve natural capital while also improving productivity and profitability. Improved collaboration between NRM bodies, governments, communities and primary producers. (S1) Stronger connectedness and greater social capital within communities, contributing to wellbeing and security. (S2) Communities implement transformative activities that improve their resilience to drought. Communities better understand their resilience to drought. Communities learn from and share innovative ways to build drought resilience. Communities build their local leadership, networks and social support. Communities proactively plan and prepare for drought, using collaboration and innovation.	Initial discussions commenced on the identified infrastructure options . (Tourist) Facilities requiring upgrade identified.	Short- medium term to investigate options. Medium- long term for delivery.

5.4 Future updates

CSIRO reviewed this initial plan. There were a number of suggestions for updates for future Plan revision. To ensure these are considered in the next revision, a summary is listed below.

- Future Plan updates could report on how partners view the quality of the collaborations and partnerships involved in its development and implementation (e.g. enquiring about how well the process worked, which aspects were valued most, and which aspects could be improved). In addition, more information could be provided about each collaboration and partnership in the form of a table summarising the main purpose of each collaboration or partnership, its joint activities, and some measures of its quality. This could be incorporated into the Plan as a monitoring, evaluation and learning (MEL) activity. Doing so would be a means for identifying ways to enhance existing relationships among groups and for determining where new collaborations and partnerships are potentially required. Future Plan updates could explicitly and clearly articulate the structured processes to support active learning and ongoing adaptation of the Plan and its actions
- Future updates (and any new plans) would benefit from a more nuanced interpretation and use of adaptive governance principles, which would be advantageous for building additional spare capacities, flexibility in decision-making to build the resilience of the region to drought and related stresses and shocks. In addition, more clearly articulate how structured MEL processes across the various plan components can further support adaptive governance of its implementation.
- Future Plan updates would benefit from using quantitative and empirical evidence in key economic and social variables over time to identify demographic shifts in the diversity of businesses, and livelihoods and employment opportunities for different community segments, in emergent versus declining types of industries, and in labour mobility among different industry and sectors. Graphically depicting and analysing such trends can reveal important insights into the vulnerability of different groups to drought and support more detailed economic baselines, which may also be used to make comparisons across regions.
- Future Plan updates could refer to a greater diversity of plans and policies (from across government, research sectors, and local community organisations) to provide perspectives on the region's existing priorities in relation to future climate change impacts and associated adaptation strategies. Drawing from this broader array of past work will improve the plan's foundational basis, and inform its further development by identifying useful knowledge and lessons learned. Articulating how these other plans and policies inform the plan's choice of goals, priorities, actions and/or initiatives would also be beneficial and further support its evidence base.
- Future Plan updates could better reflect diverse experiences of drought and related stresses and shocks in the region. Assessing the impacts of droughts on economic activities within and beyond agriculture would be advantageous, as would developing a more rigorous understanding of the relationships between the regional economy and water availability, supply and demand.
- Future Plan updates could further develop the current limited resilience assessment to expand the evidence base on the current state and trajectory of the region to drought and related stresses and shocks. It could also extend the current summary of drought impacts by explicitly considering anticipatory, absorptive, adaptive and transformative capacities of the different sectors and segments of the regional community to drought and related stresses and shocks. Such a resilience assessment could also provide quantitative and empirical evidence in key economic and social variables over time. It could show demographic changes in the diversity of businesses, livelihoods and employment opportunities for different community segments; emergent versus declining types of industries; and labour mobility among different industry and sectors. Together, this evidence will better inform the analysis of socioeconomic resilience of the region to drought.
- Future Plan updates would benefit from developing a suite of plausible future scenarios through a participatory process with a diverse range of stakeholders. The development of scenarios could consider a mix of livelihoods and sectors, including those that rely less on agriculture and water. This scenario-building exercise would benefit from consultations with stakeholders about their perceptions of the likely future effects of drought, as well as other trends and drivers.
- Future Plan updates could more clearly outline how the intervention options proposed increase reserves, spare capacity and response options. Ideally, this should be informed by a resilience assessment of the current state of reserves, spare capacity and economic diversification. This would provide better insights on how effective the proposed actions are likely to be in building drought resilience in the region.
- Future Plan updates could introduce the concept of adaptation pathways that create options for future drought preparedness, response and recovery. Such pathways should also contain triggers and decision criteria to help navigate uncertainties in choosing which options to implement and when.
- Future Plan updates could assess the type and nature of change needed to the region's sectors, value chains and subsystems for building resilience to drought and related stresses and shocks. Based on this assessment, the proposed intervention options may be classified according to whether they contribute to maintaining, modifying or transforming different aspects of the region. These exercises may also help with identifying additional and innovative initiatives associated with aspects of

the region that need to be modified or transformed to build resilience.

- Future Plan updates could ensure that proposed actions are accompanied by some criteria and means for assessing their contribution to resilience-building goals (e.g. as part of a MEL framework). In doing so, the degree to which the proposed actions form an adaptive strategy (e.g. adaptation pathways) could be thoroughly assessed.
- Future Plan updates could have a well-developed theory of change that explains the assumed mechanisms by which the proposed actions are intended to bring about the desired outcomes and impacts. This will involve working backwards from the vision and measures of success to identify the changes required and the causal mechanisms, as well as the outcomes, outputs and activities needed to achieve the desired changes. A more robust theory of change can also guide the development of the plan's MEL framework.
- Future Plan updates could better articulate interactions and linkages with respect to the following key cross-cutting components: stakeholder engagement and partnerships; active learning and adaptive governance; evidence base and alignment with current relevant work; theory of change; and MEL. Doing so would demonstrate how components of the plan work effectively together in realising the stated goals.

06
Conclusion

6. Conclusion

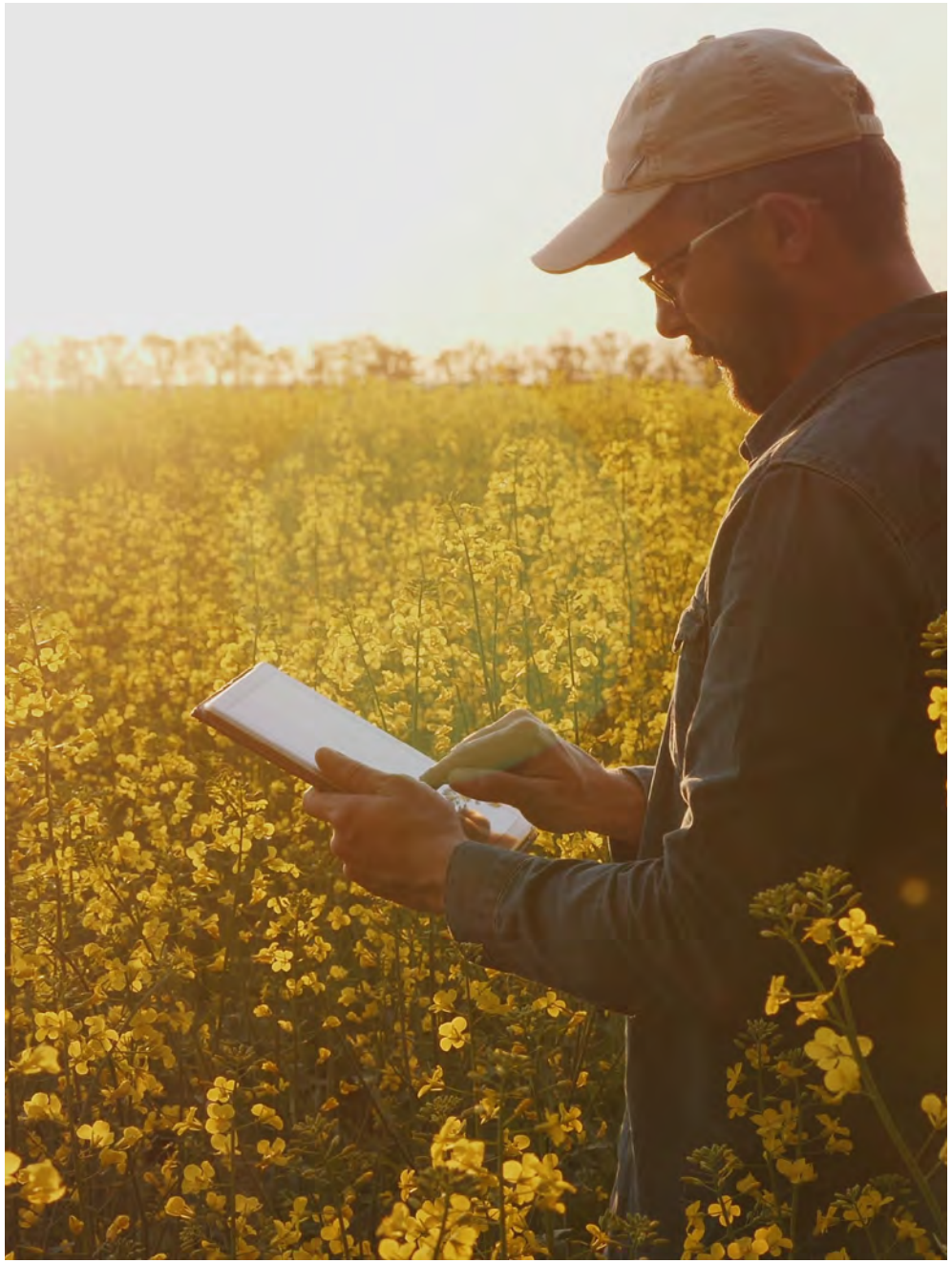
This Plan has been developed by and for the communities of Coolamon and Junee. The Plan is an important step in voicing the areas of focus and the actions the community seeks to undertake in order to move them towards improved drought resilience.

This Plan is a snapshot in time and reflects the key areas of importance to the community. These areas of focus are not static and will require regular review and update.

The Plan contains a series of actions, some of which can be funded through the FDF implementation funding and some that will require alternate funding channels to be identified and obtained.

To implement the Plan, Coolamon and Junee Shires will require both a collaborative effort with all levels of government, the regions industry, not-for-profit organisations, and the community, to be partners in the delivery of the actions.

The Coolamon and Junee RDRP provides a pathway to develop and build drought resilience into regional NSW.



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Note: all case studies were developed in conjunction with information provided by members of Coolamon and June Shire's and some publicly available information.

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Regional Drought Resilience Planning

The Regional Drought Resilience Planning Program is being delivered with joint funding from the Australian Government's Future Drought Fund and the NSW Government.

The Regional Drought Resilience Planning Program provides support to identified Local Government Areas in NSW to develop drought resilience plans that can be implemented by councils and their communities.

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