Hay and Carrathool Regional Drought Resilience Plan

October 2024

Acknowledgement of Country

In the spirit of reconciliation the Hay and Carrathool Shire Councils acknowledge the Wiradjuri, Nari Nari, Yitha Yitha and Ngiyampaa Wangaaypuwan people, Traditional Custodians of the lands on which we live, meet and work.

We recognise our communities are made up of many Aboriginal and Torres Strait Islander peoples descended from additional mobs and clans who call the Hay Plains and Riverina region their home. We wish to pay our respects to Elders past and present, and recognise the continuation of cultural, spiritual and educational practices of Aboriginal and Torres Strait Islander peoples in our region and across Australia.

Aboriginal and Torres Strait Islanders peoples flourished sustainably on this continent for over 60,000 years, skilfully and sustainably managing the landscape and protecting Country for future generations. We recognise the enduring leadership and role Aboriginal and Torres Strait Islander peoples have in contemporary land management and caring for country, and acknowledge the work of Elders in challenging all of us about what good development looks like.

Wiradjuri
Wiradjuri lands extend over a large part of central NSW. Known as the land of three rivers, the territory covers hills in the east, river floodplains, grasslands and mallee country in the west.

Nari Nari
Nari Nari lands are situated across parts of the Riverina and lower Murrumbidgee regions. Nari Nari territory extends from the junction of the Murumbidgee and Lachlan rivers to where the Hay township now rests, south across the lower Bidgee area near Booroorban. Home to one of Australia's most unique wetlands, Nari Nari country includes former pasture lands, wetlands, waterways and floodplains.

Yitha Yitha
Yitha Yitha country is located in an area north east of Balranald and south of Ivanhoe, incorporating the Lachlan and Murrumbidgee rivers.

Ngiyampaa Wangaaypuwan
Ngiyampaa Wangaaypuwan country extends north from around the Lachlan River to the Darling Rivers, east to the country between Nyngan on Bogan River, Tigers Camp and Boggy Cowal creeks, and west to the Darling near Ivanhoe.

Important links (non exhaustive)
• Nari Nari Tribal Council, **www.narinari.org**
• Hay Aboriginal Community Corporation Working Party, **www.facebook.com/haccwp**
• Hay Aboriginal Medical Service, **www.griffithams.org.au/hay**
• Griffith Aboriginal Medical Service, **www.griffithams.org.au**
• Winangakirri Aboriginal Corporation, **www.winangakirri.org.au**
• Wangaaypuwan Local Aboriginal Land Council, **www.alc.org.au/land_council/wangaaypuwan**
• Hay Local Aboriginal Land Council, **www.alc.org.au/land_council/hay**
• Griffith Local Aboriginal Land Council, **www.alc.org.au/land_council/griffith**
• Riverina Murray Regional Alliance, **www.rmra.com.au**
• Australian Institute of Aboriginal and Torres Strait Islander Studies, Map of Indigenous Australia, **www.aiatsis.gov.au/explore/map-indigenous-australia**

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Sheep Yards (Claire Stribbles Photography, Hay Shire Council)

Executive Summary

Communities across the Hay and Carrathool region have a long, proud history in agriculture - and the opportunities our industries and natural environment affords us.

Home to more than 5,700 people, the communities are situated in the Riverina region, NSW's agriculture and primary production heartland generating $1.12 billion annually and employing over 1000 people. The area's unique biodiversity and landscapes, from the Hay Plains to the Conapaira Ranges, further enhance its liveability and tourism appeal.

From rising living costs to a changing climate to the decarbonisation of global supply chains, our region is navigating growing challenges and disruptions. Many of these will have long-term impacts on our region, including the compounding impacts of more frequent and severe extreme weather events like floods, heatwaves and prolonged droughts we are already facing. Additionally, new policies and industries such as Australia's Agriculture and Land Sector Plan and the South-West Renewable Energy Zone, will play a role in shaping the future of our region. Strategic planning and coordination is essential to navigate these challenges, identify opportunities, build resilience, and take effective action.

" In 2035, our communities, including our local governments, institutions, businesses, industries and households, will have greater capacity to adapt to climate, environmental, social, and economic challenges and opportunites while remaining healthy and vibrant, with safe places to live, work, and raise future generations. "

We have a significant opportunity to keep our communities and economies strong, now and into the future. With key stakeholders, councils in Hay and Carrathool have been exploring how to diversify our region's economies, regenerate local ecosystems and strengthen our capacity to adapt to change. For example, with fertile soils, diverse ecosystems and a prime location, our region is well-positioned to explore existing and emerging opportunities in agriculture, energy, transport, sustainable industries and decarbonisation. Diversifying our economies will ensure our communities are more adaptable, able to withstand industry shocks and attract new investment.

The Hay and Carrathool Regional Drought Resilience Plan ('The Plan') is our region's collective vision for the future and a strategic framework to guide efforts over the next decade. Every day, our councils, industries, businesses, and communities work on initiatives shaping our region's future and creating a positive legacy for generations to come. The Plan, developed with more than 300 stakeholders throughout 2024, reflects the lived experiences and wisdom of those who live and work in our region. The Plan is, and will remain, adaptive and community driven - implemented through strong partnerships across sectors and stakeholders.

The Plan outlines 26 Priority Actions for change to support climate adaptation and regional resilience for our complex regional system. The actions sit under five key Regional Strategies for Resilience identified as priority impact areas over the next decade. Designed for implementation from local village to regional scales, the actions were developed with potential stakeholder leads in mind.

To achieve the vision and aspirations set out in the Plan, we require collective effort and collaboration across local, regional, state, and national levels. We thank the state and federal governments, regional partners and communities for their support and leadership to date. The Plan has already mobilised many stakeholders into action - demonstrating significant value. The commitment of Hay and Carrathool residents has been, and remains, key in advancing this work to build more resilient, diverse, and vibrant communities, ecosystems and economies for future generations.

Regional Strategies for Resilience

- Inclusive and Empowered Communities
- Future Ready Businesses
- Reimagined Care Economy
- Placemaking with Purpose
- Coordinated Action for Climate Resilient Economic Development

Cockatoo taking flight. (The Next Economy)

Section 1: Introduction

The Hay and Carrathool Regional Drought Resilience Plan

Communities across the Hay and Carrathool region have a long, proud history in agriculture – and the economic and lifestyle opportunities that primary production and the natural environment affords them.

Right now, on top of rising cost of living pressures, the region is facing a range of growing challenges to local industries, economies and community wellbeing. The region is already facing the compounding impacts of more frequent and severe weather events, including floods and prolonged droughts. It is yet to experience what the decarbonisation of global supply chains means for the regional economy and primary production industries. Shifting dynamics like these have long term implications for the future of the Hay and Carrathool region and must be addressed to keep the region, and local economy, strong.

Strategic planning and coordination is needed at local, regional and federal levels to holistically understand the nature of the challenges the region faces, identify opportunities to build resilience and take effective and sustained action.

It is in this context the Hay Shire Council and Carrathool Shire Council joined forces in 2024 to proactively:

- understand and explore how changes occurring across the region may impact local communities, economies and ecosystems;

- identify opportunities to strengthen the capacity of residents, communities, institutions, businesses and systems to be better prepared for disruptions and changes in the future;

- help councils, communities and partners implement strategic actions and take advantage of opportunities as they arise.

The culmination of these efforts has resulted in the development of the Hay and Carrathool Regional Drought Resilience Plan (the Plan).

About the Plan

The Hay and Carrathool Regional Drought Resilience Plan outlines key goals, strategies, and actions for councils, businesses, industries, and communities to build economic, social, cultural, and environmental resilience at regional and local/place-based levels.

The Plan was developed in collaboration with more than 300 community, industry and government members through an iterative and participatory place-based process that centred the lived experience and wisdom of people who live and work in the region.

The stakeholder engagement approach was shaped by the concepts and methodologies of resilience planning, systems thinking, community development practice and participatory action research. The timing, duration, format, and location of engagement activities were guided by core engagement principles to ensure the process 'met people where they are at' encouraged broad and deep engagement and provided value to participants.

While development was convened by Councils, the Plan is and will continue to be an adaptive and community-driven plan implemented and stewarded through partnerships between councils,communities, industry and other relevant stakeholders over the next decade.
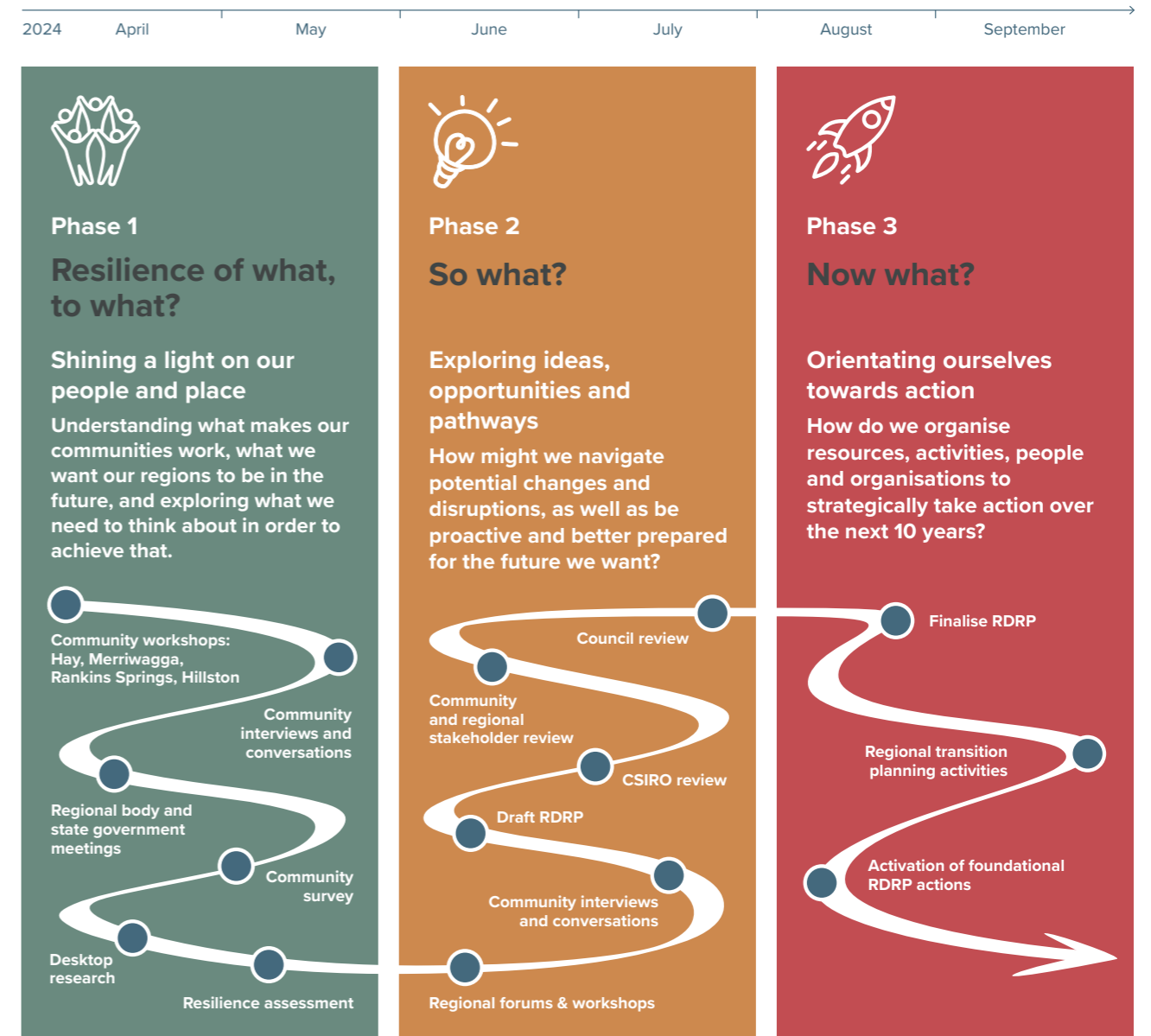
How was the plan developed

Figure 1. The development journey of the Hay and Carrathool Regional Plan.

Who the plan was developed with

Participants from across a range of different sectors, geographies, demographics, interests, backgrounds and experiences engaged in development of the Plan. All had different but equally important roles to play in informing the direction, strategies and actions. Many community members participated in multiple engagement activities, provided feedback on the synthesis insights, and were able to go deeper and further into opportunities and ways forward by building on the work completed in previous engagement activities.

More than 300 participants
More than 650 hours of work by the Community
More than $30,000 in-kind contribution in community time

In-person and online workshops	Online survey	Community Conversations	Regional stakeholder meetings
17 workshops 180 participants Locations: Hay, Rankins Springs, Hillston and online	145 participants	40 participants	30 participants

Hay and Carrathool Shire residents including:

- Primary producers
- Landholders
- First Nations people and organisations including:
  - Wangaaypuwan Local Aboriginal Land Council
  - Nari Nari Tribal Council
  - Hay Aboriginal Corporation Community Working Party
  - Hay Aboriginal Medical Centre
- Agronomists
- Aged care service providers
- Children's services providers
- Community health providers
- Community emergency services groups

- Self-Employed residents
- Small business owners
- Childcare workers
- Rural financial counselling services
- Recreational and sporting clubs and societies
- Primary and Secondary schools
- Youth organisations
- News outlets and media organisations
- Agricultural products and rural service providers
- Motelier
- Retail workers
- Councillors and Council Staff

Community members and volunteers from organisations such as the Lions Club, Country Women's Association, Agricultural Show Societies, Creative/arts organisations, Rainbows on the Plains, Hay Inc Rural Education Program, Hay Services Club, Isolated Children's Parents' Association, Hay Plains Landcare Group and The Room, Goolgowi.

- Western Local Land Services
- Riverina Local Land Services
- NSW Farmers
- Australian Rural Leadership Foundation
- Southern NSW Drought Innovation Hub
- Department of Education
- Regional Development Australia (Riverina)
- NSW Department of Agriculture, Fisheries and Forestry
- EnergyCo
- National Parks and Wildlife
- Riverina and Murray Joint Organisation
- NSW Office of Environment and Heritage
- NSW Department of Primary Industries and Regional Development
- Destination Riverina Murray
- NBN Co
- TAFE NSW

Project Control Group

A Project Control Group provided iterative governance support to ensure the Plan addressed and managed the requirements and aspirations of the funding partner, council partners, regional stakeholders and broader community.

The Project Control Group consisted of representatives from Hay and Carrathool shire councils, The Department of Primary Industries and Regional Development and The Next Economy.

The Plan focuses on the region and Local Government Areas as socio-ecological systems. That is, they are complex systems of human, economic, institutional, infrastructure and natural resource elements that interact, co-evolve and adapt over time to generate a range of benefits and outputs at multiple scales. Understanding socio-ecological systems, how they function and how they may change in response to disturbances such as drought and other natural disasters, or other disruptions such as commodity price fluctuations, policy decisions, technological and infrastructure changes or demographic changes requires a holistic approach. In these complex adaptive systems, no disruption operates in isolation from the other connected elements of the systems.

Hay and Carrathool shire councils have drawn from the world's best practice social-ecological resilience assessment approaches to understanding these complex interactions (Enfors-Kautsky et al., 2021). The process helps to identify where and how our communities can best focus resources to respond to external threats such as drought while maximising opportunities to strengthen social, economic and ecological resilience to other future disruptions and opportunities.

We are creating the conditions for communities across the Hay and Carrathool region to thrive in the face of a future with known and unknown challenges. We do this by 'mapping' our social-ecological systems and their dynamics, identifying pathways for managing those dynamics towards community defined aspirations, and strategically building capacity at multiple scales – from the individual property or business to the community scale.

A word about the word 'community'

The word 'community' is a catch-all for many different things and contexts. Broadly it means a group of people who share common characteristics or interests. A community is most commonly thought of as people living within close proximity to one another, such as those living within a village, locality, town or suburb within a city. A community can also be defined by other characteristics other than a place of residence. Most people live in and will identify with multiple communities based on individual attributes including place, sport, interests, beliefs, employment and heritage. Communities are organised in different ways and can form (and be formed by) formal institutions such as schools, community centres and libraries as well as informal institutions such as garden clubs, book clubs and recreational groups. The assortment of communities that exist in a place or region are determined by people's needs and desires for a sense of trust, belonging, safety and caring for each other. (Tamarack Institute, 2022)

For the purposes of the Plan - the word 'community' and 'communities' is used in its broadest sense to encompass all of the communities of place, interest, belief, culture, identity etc that are located within the Hay and Carrathool region. Where relevant, a community type or group will be specifically referenced.

Hay Shire Council

Population (no.)
2882

Population change (2006-2021)
-14.8%

Population density (person /km²)
0.3

Median age
48

Indigenous population (%)
8.3%

Hillston

Population (no.)
1149

Population change (2006-2021)
9.0%

Goolgowi

Population (no.)
334

Population change (2006-2021)
16.4%

Rankins Springs

Population (no.)
208

Population change (2006-2021)
-9.6%

Maude

Population (no.)
110

Booligal

Population (no.)
98

Hay

Population (no.)
2300

Population change (2006-2021)
-12.7%

Carrathool

Population (no.)
200

Population change (2006-2021)
-38.5%

Scale: 20km

Carrathool LGA

Hay LGA

Riverina

SYDNEY

CANBERRA

Figure 2. A snapshot of the region. Inset image: the location of Hay and Carrathool shire councils within NSW.

The Future Drought Fund

The Plan was developed as part of the Regional Drought Resilience Planning (RDRP) program, one of five focus areas of the Australian Government's Future Drought Fund (FDF). The New South Wales RDRP program (NSW RDRP) is jointly funded by the FDF and NSW Government, supporting local governments to provide proactive, pragmatic and coordinated support for communities as they prepare for and respond to drought.

The NSW RDRP model involves neighbouring councils working together to develop regional drought resilience plans. Consistent with the strategic priorities and objectives of the FDF, the objectives of the RDRP process are to:

• grow the self-reliance and performance of the agricultural sector,

• improve the natural capital of agricultural landscapes for better environmental outcomes, and

• strengthen the wellbeing and social capital of rural, regional and remote communities.

The vision of the Future Drought Fund (FDF) is "an innovative and profitable agriculture sector, a sustainable natural environment, and adaptable rural, regional, and remote communities— all with increased resilience to the impacts of drought and climate change." (Australian Government, 2024).

The FDF seeks to enhance the public good by building drought resilience in Australia's agricultural sector, the agricultural landscape and communities. The FDF is intended to deliver against three interconnected strategic priorities:

• economic resilience for an innovative and profitable agricultural sector,

• environmental resilience for sustainable and improved functioning of farming landscapes, and

• social resilience for resourceful and adaptable communities.

Resilience of economic, environmental and social systems in rural and regional Australia is at the heart of the FDF's vision and strategic priorities, which are targeted through four investment themes shown in Figure 3.

Better climate information

Enabling farmers, businesses, and communities to better understand the climate risks they face and their resilience to those risks

Better planning

Helping farmers and regions to proactively plan for drought

Better practices

Developing and adopting farming and land management practices and technologies that improve resilience to droughts

Better prepared communities

Building and supporting the community leaders, networks and organisations that underpin community resilience

Future Drought Fund

Figure 3. Future Drought Fund Investment Themes

In addition to the RDRP, a wide range of programs, grants and initiatives are supported by the FDF. For example, there are grants to strengthen regional community networks and capabilities, as well as mentoring and networks to support learning, leadership capacity, and information exchanges (DAFF, 2024a). Eight Drought Resilience Adoption and Innovation Hubs have been established and resourced to expand their scope (DAFF, 2024b), and there is funding to support the development of this and other community-owned Regional Drought Resilience Plans (DAFF, 2024c).

Refer to Section 6 - Strategic Alignment for further information about how the Plan builds on and aligns with the FDF's strategic priorities.

Hay workshop, April 2024 (The Next Economy)

Section 2: An integrated approach to enhancing (drought) resilience

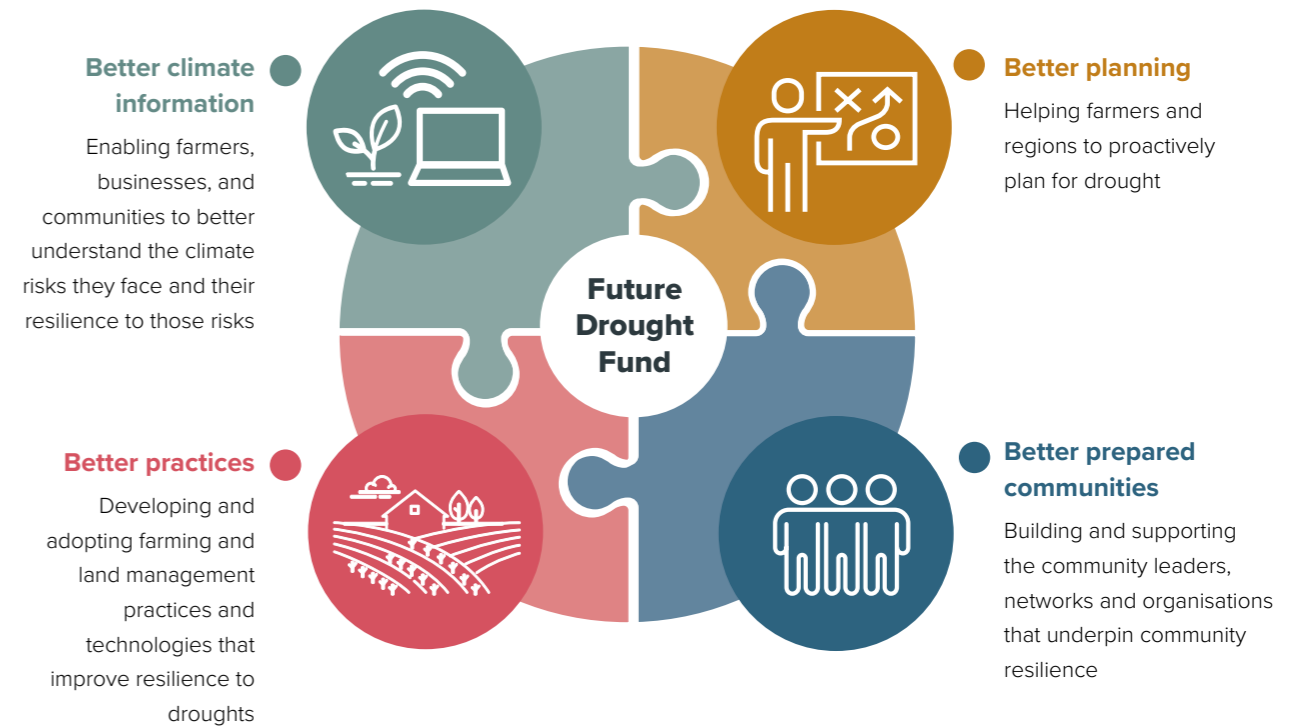## A new understanding of drought

Drought is a natural hazard, characterised by a sustained period of below average rainfall that directly leads to reduced soil moisture, plant growth and reduced inflows to waterways and storages.

Rural development and agricultural practices across the region have modified natural ecosystems, reducing their resilience and capacity to support or shield agricultural activities from periods of low rainfall or drought. Dust, bare ground, dry pastures, diminished livestock health and failing crops are visible impacts of drought on the rural landscape. These impacts have significant consequences for agricultural communities whose livelihoods are often intrinsically linked with regular and reliable rainfall, and can negatively affect the social and economic resilience of a region. The viability and vibrancy of businesses and communities, the long-term sustainability of production systems and ecosystems and the psychological health and wellbeing of people, families and communities can all come under severe stress during periods of drought.

Long-term drying and warming trends are projected for the Hay and Carrathool region, particularly in the cool season - the main growing season (BoM & CSIRO, 2022). As the likelihood of more frequent and intense droughts increases (along with other extreme weather events and disruptions), so too does the need to reduce social, economic and environmental vulnerabilities to a future of reduced rainfall and limited access to valuable water resources. By planning for greater drought resilience across all sectors of regional and remote communities — not just focusing on primary producers — we can achieve the most substantial benefits and ensure rural people, businesses, industries, communities and towns can thrive in the long term.

This involves developing sustainable and diverse regional economies, reducing community vulnerability to economic shifts, building community capacity to adapt and recover quickly as well as enhancing the natural environment.

For further information on the history, trends and impact of drought in the region, refer to Appendix C - Regional drought risk and vulnerability.

Hillston workshop, June 2024 (The Next Economy)

Duration of drought
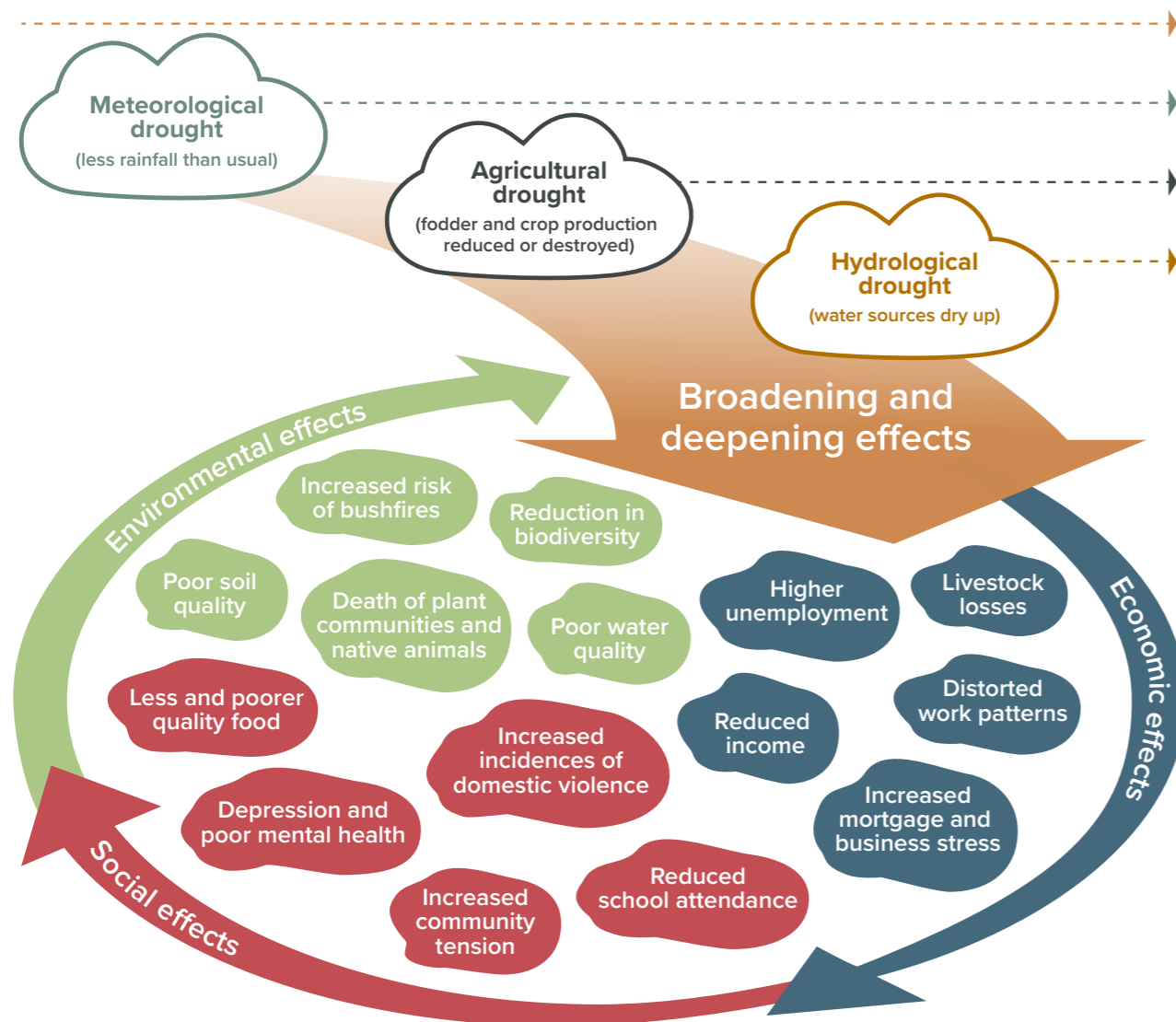
Figure 4. As a drought becomes prolonged, the social, economic and environmental effects become increasingly severe.

> **The initial focus of the Plan development process was on a problem: the impacts of drought on agriculture and primary producers. Now we know that building resilience in and around our agricultural sector and tackling the root causes of stress and adversity is the key to the health and vitality of our entire regional ecosystem.**

Local government staff member

A resilience-based approach

The Plan focuses on building resilience to events that impact communities across the Hay and Carrathool region. Resilience is not a new concept for our communities. Our people, communities and ecosystems have always been resilient, finding ways to cope and recover from many challenges.

Previous drought planning and recovery efforts however have focused largely on building economic resilience on farms and in the broader agricultural sector. While this is still a key focus, we know that drought is just one of the challenges our communities' face today. A resilience-based approach focuses on strengthening our capacity to cope with any and all future challenges in a holistic manner.

Figure 5. Regional resilience requires social, economic and environmental systems to be individually and collectively resilient, recognising the inherent interconnectedness of these systems.

Taking a more holistic view of resilience and disruptions help people understand, prepare for, cope with and recover from future challenges as well as set communities up to create and take new opportunities as they arise.

In taking a resilience-based approach, the Plan has a strong 'systems' framing: it focuses on how the social, economic and ecological parts of our region are connected, interact and depend on each other. Understanding these connections and dependencies means drought and other disruptions, as well as responses to them, can be seen and designed in an holistic way.

Building strategies around a 'systems resilience' framework helps to address underlying causes of challenges across our region. It can also support the creation of actions and opportunities that have the greatest multiple benefits to help the community prosper in ways that are sustainable and resilient in the face of any type of change.

Multi-level resilience

Resilience operates at multiple levels including: individuals and families, property, village/place, local government/region, state and national. The resilience at any one of these levels is influenced by the resilience of the levels above and below, highlighting the importance of taking a comprehensive 'multi-level systems' approach to resilience planning. Priority Actions identified through the Plan's development process have highlighted the importance of strengthening resilience at multiple levels.

> **Resilience is the capacity to plan for, respond to and recover from disruption in positive ways. It can apply to a person, a business, an organisation, to infrastructure, to an ecosystem, or any other type of structure.**

Resilience is built and maintained through a range of factors or attributes. These attributes contribute to the capacity of a person, business or ecosystem to prepare for, cope with, recover and learn from major change and disturbances. These include:

An important notion here is that being resilient is not about being tough and getting on with it. Our communities have coped with and recovered from many disruptions and set-backs in the past, and they will do so in the future. There are times when we have to Persist, but this persistence comes at a financial, psychological and social cost. Being resilient also means knowing when to be flexible and Adapt to changing circumstances, and, in the face of inevitable severe impacts to Transform and fundamentally change how we do things.

The Plan recognises that to be resilient, our people, businesses, industries, communities, infrastructure, services, and ecosystems need the capacity to persist, adapt and when necessary, transform to meet the challenges our region faces and take the opportunities presented to us.

Strengthen diversity

Build and manage connection

Foster flexibility and adaptiveness

Build responsiveness and renewal capacity

Learning and reflection

Inclusive and equitable

Figure 6. Common resilience attributes. (Source: Adapted from Biggs et al, 2012). Refer also Appendix A - Understanding the Priority Actions

Section 3: Resilience insights across our region

Section Three details factors that influence resilience across the Hay and Carrathool region. It provides a launching point to understand and explore how to address different challenges as well as to enhance the capacity of communities to thrive and innovate in the face of disruption, uncertainty and change.

A narrative approach to understanding resilience across the Hay and Carrathool region

A narrative approach has been used to profile and tell the story of the Hay and Carrathool region. Evidence-based narratives that use inclusive language, accessible frames and stories to connect events and effects help make sense of complex problems. When combined with tools and processes focused on driving action, narratives can be a powerful way to cut through sector-specific jargon, break down difficult theoretical concepts and inspire people to see new ways of thinking and doing.

This approach to profiling a region integrates a set of key concepts to provide an alternative way of thinking about and practising regional development. It involves constructing a conceptual model of a socio-ecological system that represents a place of interest, along with its associated resources, stakeholders, institutions, dynamics and issues in order to provide insight into factors that build or erode a system's resilience (Resilience Alliance, 2010). It should be revisited regularly as regional dynamics change and as the understanding of resilience and its influencing factors grow.

Merriwagga, April 2024 (The Next Economy)

Hay and Carrathool - a region on the edge

The Hay and Carrathool shires span a number of transition zones. These zones create the landscape, ecology, production systems and social diversity that define the region, and fall across a 'have more' to 'have less' spectrum. Remoteness, population, rainfall, water flows and infrastructure all change as you move across the region from the south east to the north west. Living in these transitional zones creates particular challenges for maintaining and improving aspects of human health, wellbeing and prosperity.

Legend:
- Subtropical
- Desert
- Grassland
- Temperate
- Carrathool LGA
- Hay LGA
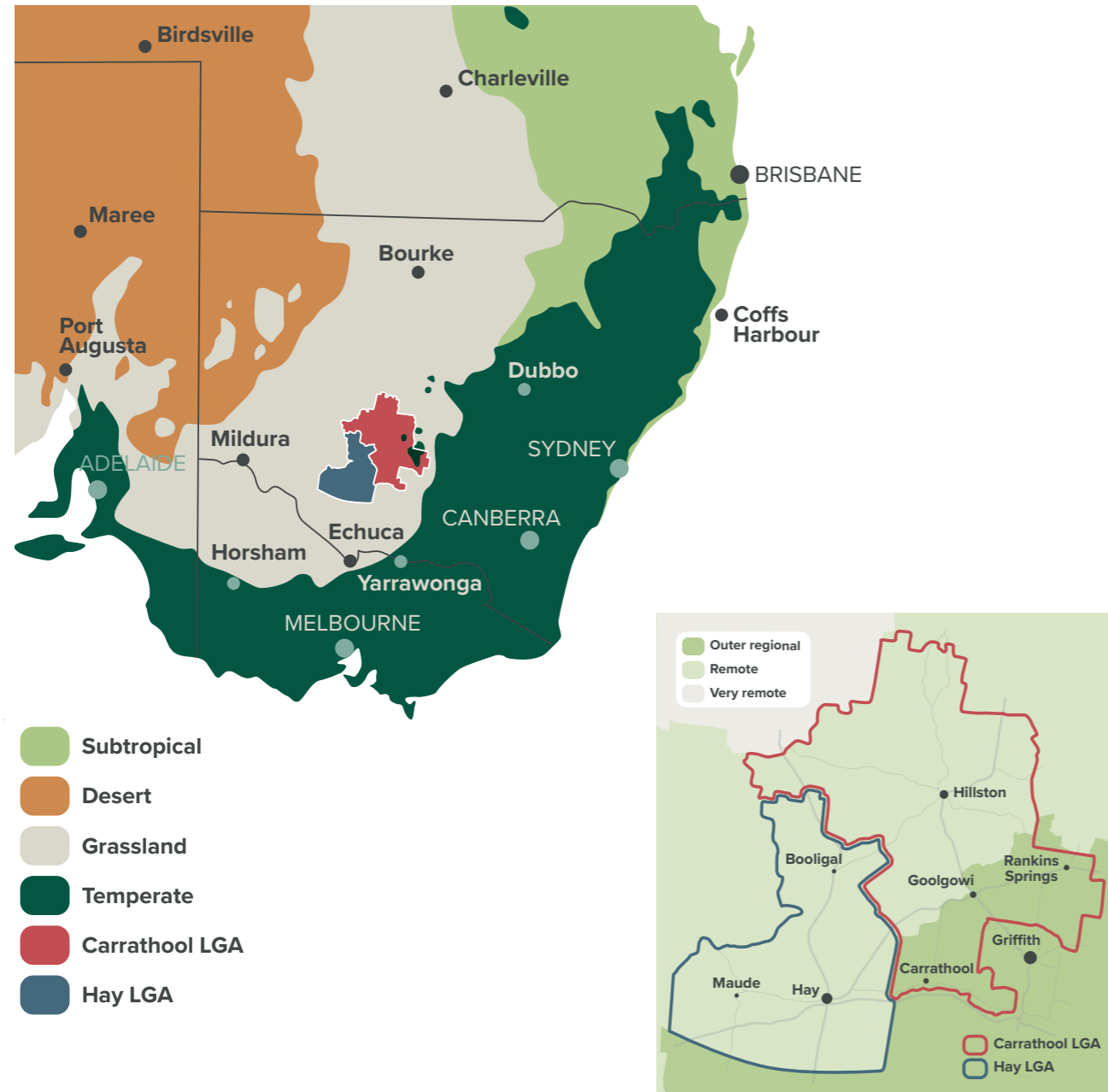
Figure 7. The Hay and Carrathool shires are in a transition zone between temperate climates to the south-east and desert climate to the north-west. Seasonal, annual and global climatic cycles means the region can be very wet or very dry.

Figure 8. Hay and Carrathool shires are located predominantly in what is considered remote Australia.

Adapting to change

The region's climate has always been variable. Ecosystem modification and climate change have already begun to amplify the variability in rainfall. Average temperatures are increasing: over the past 30 years, the region now experiences more hot days and changing winter rainfall patterns. Climate change over the next decade will see these trends continue with extreme weather events such as heatwaves, droughts and flooding intensifying (AdaptNSW, 2024). For more information on our changing regional climate, see Appendix C - Regional drought risk and vulnerability.

Drought is now widely seen as part of doing business for primary producers. Across the board, there have been adaptations and shifts in thinking and practices in response to the major drought in 2017-19 and earlier during the millennium drought in 2000. Dryland croppers and graziers continue to adopt new practices and technologies to improve efficiency, protect the natural resource base and utilise limited rainfall and soil moisture. The consequences of drought in the upper catchments well outside the Hay and Carrathool region, and the resulting low water allocations, volatile water markets and water policy reform, have specific impacts on irrigation businesses.

> During a workshop with local agronomists, one participant noted that while drought is just part of doing business, people do not have their heads around how quickly the climate will change and the intensity of future droughts. Another noted that, while people are more prepared, many may still hold some post-traumatic stress relating to drought as demonstrated by local responses to the El Niño forecasts last year.

Primary producers understand that the health of the region's agricultural sector is closely linked to the health of the region's waterways and natural ecosystems, driving a greater need to 'do more with less' to effectively manage our valuable water resources for production, social uses and the environment.

Many local residents, primary producers and town residents alike, have highlighted the pervasive economic, social, emotional and psychological impacts of drought on the community. Building individual and community psychological capacity to stay mentally healthy, socially connected, and make well-considered decisions has emerged as a key focus for drought resilience alongside strategies to stay financially viable. For First Nations communities, on-going priorities include improving connection to Country and access to culturally important areas, increasing opportunities for economic development and local employment, and ensuring culturally appropriate social support services are available.
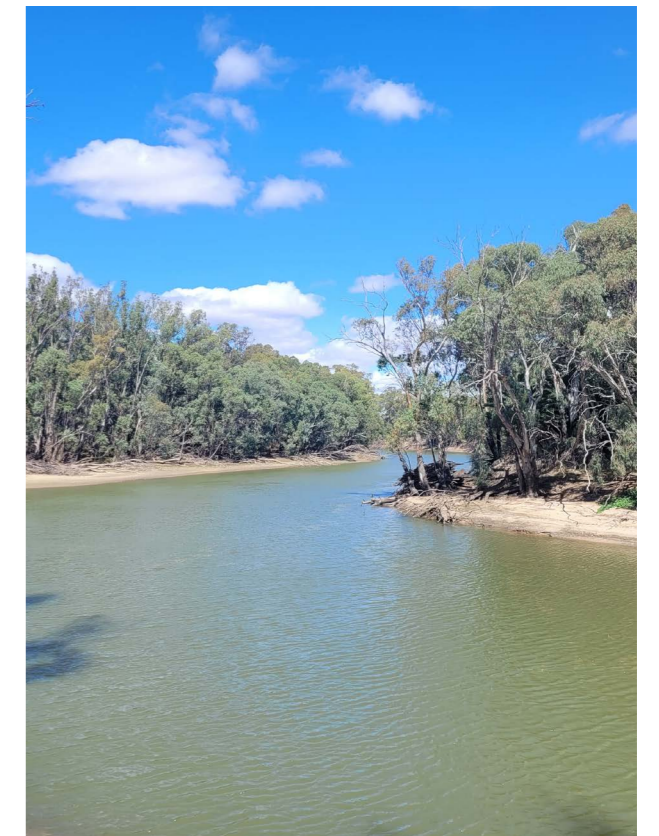
Murrumbidgee river in Hay, April 2024 (The Next Economy)

Remoteness – a coin with two sides

Remoteness is recognised by many people as both a strength and weakness for the region. On one side of the 'coin', the relative remoteness and isolation reinforce tight-knit local communities. Community spirit, family connections and supportive communities were identified as some of the most treasured aspects of the region. The richness of sporting and social clubs are visible expressions of community connection, and they are a well-recognised feature of the region. The relative isolation of Hay and Carrathool communities has contributed to building strong social networks.

Remoteness brings other advantages. The sense of space and safety, slower pace of life and access to natural places are seen as benefits of remote living. The recent increase in vandalism and crime in Hay has undermined this sense of place for some residents.

The other side of the remoteness coin

For all the benefits and strengths residents and primary producers have identified, remoteness and a low population spread across such a large region create a range of challenges. They include:

Provision and maintenance of roads and physical infrastructure

Considered the lifeline for town and rural households and farm businesses alike, road maintenance will continue to be a challenge across large geographic areas with a low population. More extreme climate events may provide additional costs to maintaining road access across the region. Similarly, limited mobile phone access impacts businesses and production, reduces social connection and impacts health and safety.

During the 2022 floods, approximately 70% of the Hay Shire Council road network was underwater for over six weeks, with some areas remaining inaccessible for even longer. Community members identified the flooding caused significant damage to roads across the region, which impacted agricultural production and hindered people's ability to travel for work and access essential services.

Rainfall and access to water

The region has relatively low rainfall (BoM, 2020a), which has been exacerbated by a decrease in average winter rainfall over the past 30 years (BoM & CSIRO, 2022; Steffen, 2015). This means properties need to be larger to be economically viable, resulting in a lower population density and total regional population. While irrigation offsets the low rainfall, constraints on water availability, topography and infrastructure limit the total area of irrigation and drought affects catchment yields as well. These broad geographical and contextual factors are unlikely to improve over the next 15 years, with a high chance these factors will worsen as weather patterns and competition for water increases

Rankins Springs workshop, June 2024 (The Next Economy)

- grazing native pastures
- grazing modified pastures
- cropping
- horticulture
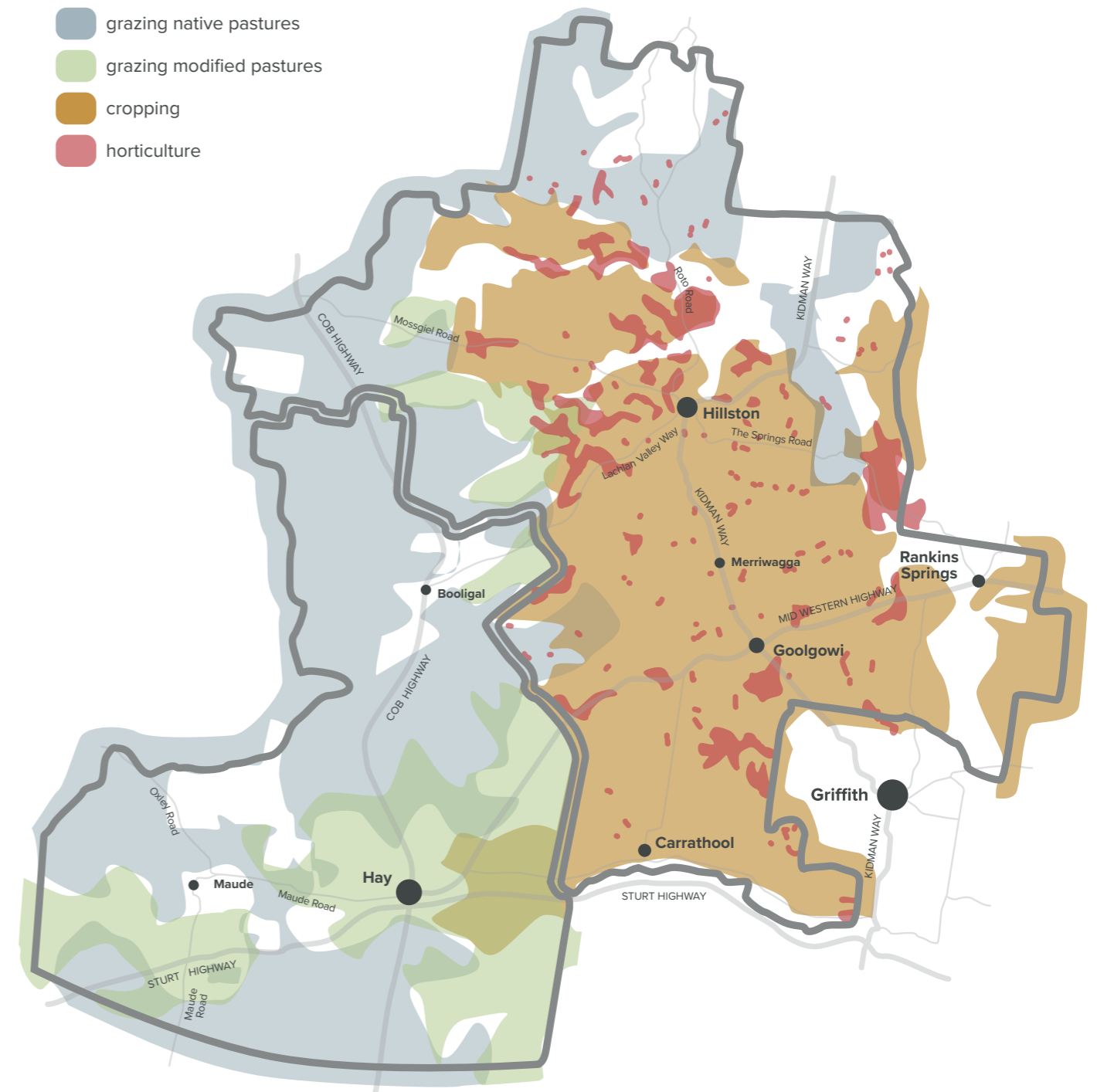
Figure 9. Soil quality, topography and water availability affect agriculture land-uses and property sizes across the region.

Access to housing

Community members, businesses and industry emphasised the limited access to housing across the region as a critical issue. In small, remote communities often there is no option or means to travel to and from the closest available housing. Recent increases in house prices and rents may further reduce access to housing for some people (Schade, 2024). Expected increases in demand for housing – for example, with construction in the South West Renewable Energy Zone – will create additional housing stress with flow on effects for low socio-economic groups and attracting and retaining staff for local businesses.

> During the community workshops, and in responses to an online survey, access to housing was continuously raised as an issue. In Hay, for example, several young adults noted the limited options for independent living and having their own space - highlighting how that influenced their interest in staying in the region to advance studies or enter the local workforce.

Land use planning

Community members living in some of the region's smaller villages emphasised major concerns with land regulations and identified the need for good land use and 'place making' planning to improve housing, development and attracting visitors. Basic services like water, energy and telecommunications were highlighted as issues that undermine quality of life and the potential for population growth.

> When asked about the state of the local economy in relation to housing costs and availability, 68% of survey respondents rated this as poor or extremely poor. For example, in Rankins Springs issues within land use planning and overlays are seen to limit the ability of an already small community to grow and evolve.

Access to services

Residents are acutely aware of poor access to GP and specialist health services, aged care, childcare, financial services and public transport. Maintaining and improving health, aged and childcare services are urgent priorities for the region.

Many workshop participants noted that the declining availability of services across the region reflected the reality that small remote and rural populations have less influence over government decision-making than larger urban centres, and the unlikelihood of major permanent population increases in rural areas even if populations increase temporarily for various reasons.

Hillston workshop, June 2024 (The Next Economy)
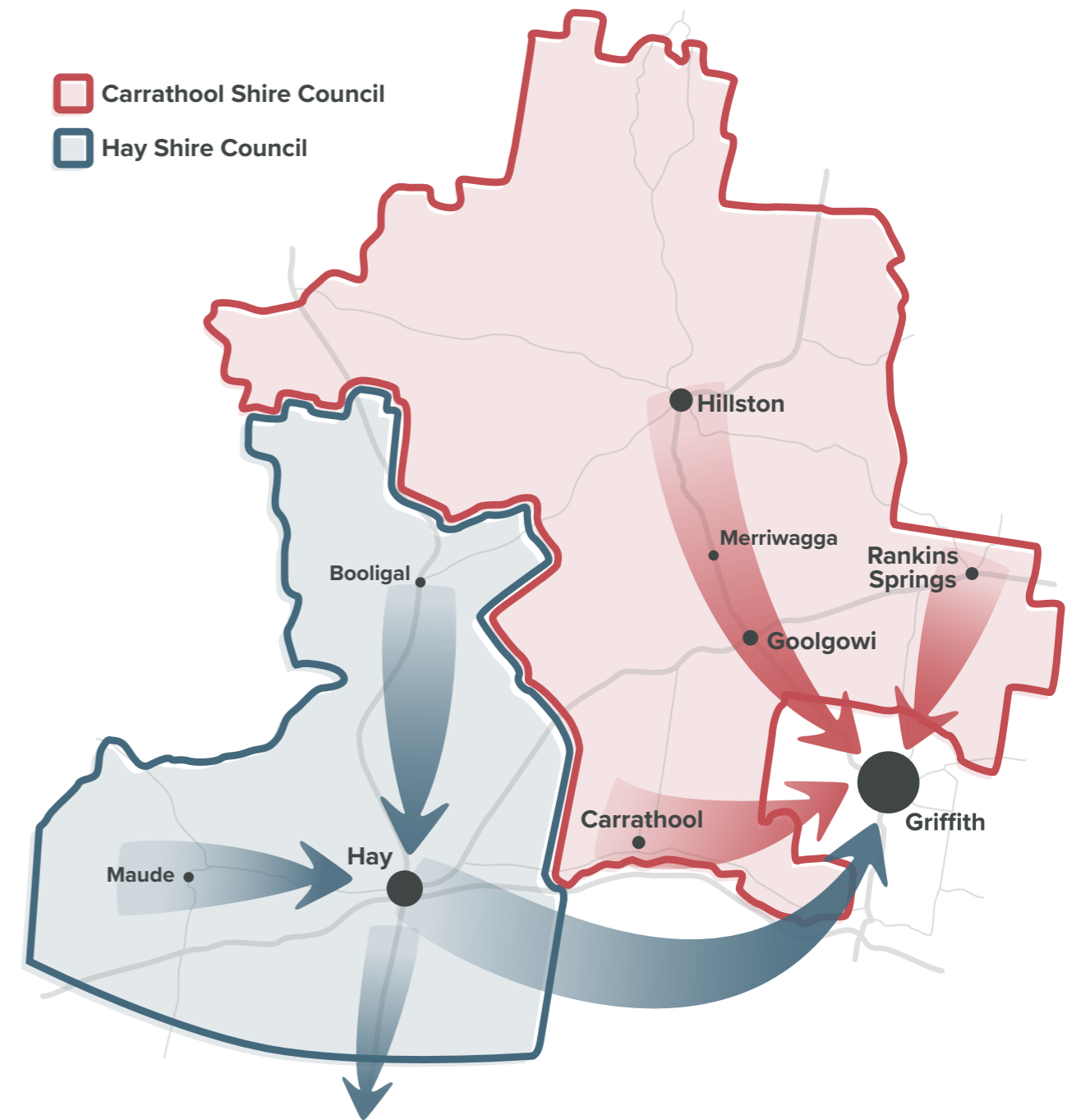
Figure 10. Residents seek and access services and community connections differently across the Hay and Carrathool region.

Pressures acting on our regional system

A range of changes are taking place in the region's communities, local economies, industries and landscapes. Some of these changes, such as shifts in the economic profile, labour force and demographic changes are part of the slower, longer term transition occurring right across regional Australia.

Alongside these slower 'background' changes, a number of faster changes have created more sudden visible challenges including housing shortages, cost of living pressures, post-Covid migration and the resulting shift to working online, and the shortage of childcare places across the region.

Individually each of these changes creates challenges and opportunities for communities. From a resilience perspective, it is the interactions between fast and slow changes that requires particular attention. Slow dynamics push parts of the regional systems to the edge of tipping points, faster changes push the system past those tipping points.

Tracking fast and slow changes, particularly their interaction are a focus of the adaptive monitoring, learning and responding framework detailed in Section 6.

Resilience to what?

Figure 11. A range of events, changes and stresses placing pressure on the Hay and Carrathool region emerged through stakeholder workshops, community survey and resilience assessment

A changing rural economy

The region's local economies continue to adapt and diversify. Agriculture and primary production will always be the mainstay of the regional economy, but tourism, home-based businesses, renewable energy, environmental markets and other emerging industries are creating new sources of wealth and income for the region that are not tied to seasonal conditions. These opportunities may never replace agriculture as the engine of the regional economy, but do provide potential ways to; diversify and broaden the regional economic base, create different forms of employment, drive innovative approaches to address local issues (such as housing, population and access to services) and in some cases support the region to be less dependent on seasonal conditions.

The region's agriculture sector continues to adapt to climate and market changes, becoming more efficient to meet new standards of productivity and viability. In the future, many of these adaptation and efficiency measures, and the realities of current labour shortages, may lead to further changes. These include property aggregation, increased mechanisation and automation, a decline in on-farm employment, and a growing demand for new skills and expertise both on-farm and off-farm to service the sector.

Maximising the economic and social opportunities from the range of 'green shoot' opportunities that emerge will be important. How those benefits are maximised while off-setting some of the longer-term trends and changes will fall heavily on the ability of the region's communities to develop shared visions and pathways to work together towards those opportunities.

Strengthening community resilience and the capacity to thrive

Basic ingredients required for rural communities to thrive include (Productivity Commission, 2017; Cahill, 2022; Bourne, 2019; Australian Government, 2024):

- a stable or growing demographically balanced population
- varied employment opportunities
- social networks and human skills
- access to resources, knowledge and expertise
- adequate and accessible housing
- support services to meet the needs of all different ages and sectors of the community
- adequate and evolving technology and infrastructure
- well managed natural resource base
- access to quality local education
- social cohesion, and cultural diversity and inclusion
- pportunities sport and recreational opportunities, cultural, artistic and spiritual expressions and nature.

All of these ingredients must be underpinned by functional governance, effective institutions and adaptive leadership to plan for the future, create and realise opportunities and navigate uncertain times and stresses. These combine to create a local identity and sense of place where people live and communities form and thrive.

It is easy to see how the above ingredients are interrelated and often interdependent. These 'systemic' relationships can create positive feedbacks where a positive action leads to other increases that in turn creates more positive actions.

For example, improving local education opportunities for high-tech agriculture services leads to local employment opportunities for young people, which in turn leads to increased adoption of high-tech agriculture. This creates more employment opportunities, which creates more demand for local education in high-tech ag services and so on. This positive feedback loop creates an 'upward' spiral. In contrast, loss of critical support services like aged care or childcare see families move away, further reducing population and demand for local services like in banking or health, setting in play a 'downward' spiral. These spirals can get 'locked in', pushing things in desirable or undesirable directions and sometimes in rapid and seemingly unnoticed ways.

Understanding interrelationships, the feedback spirals that spin off of them and the 'tipping points' beyond which there is a sudden positive or negative change are the hall-marks of a systemic approach to building resilience.

The Hay and Carrathool region has many of the elements required for communities to thrive. Recognising the strengths of our region and building upon these, while cognisant of disruptions, will allow us to successfully adapt and transform.

Resilience with what?
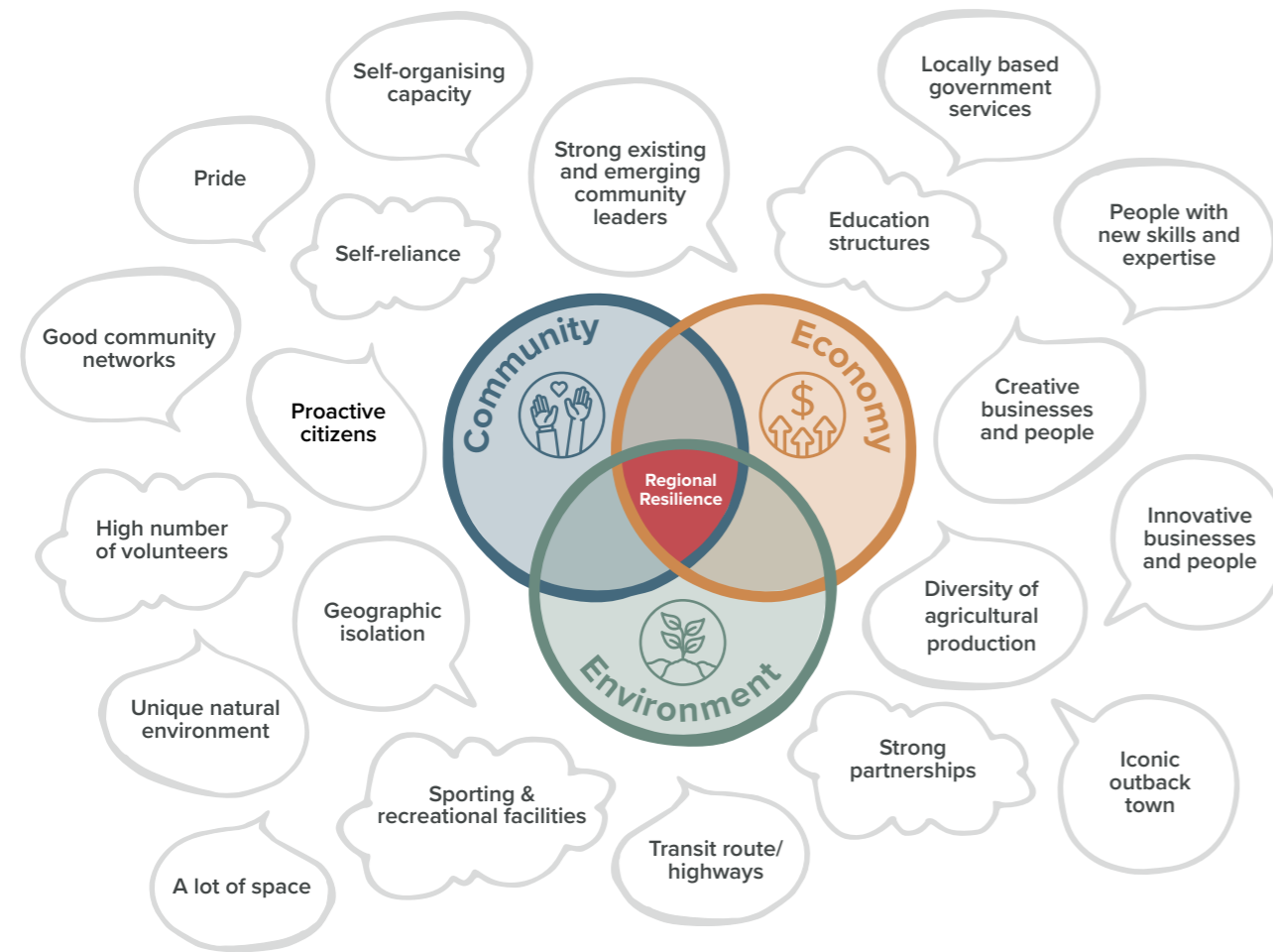
Figure 12. Community workshop participants and survey respondents identified key strengths and assets that exist across the region. All can be leveraged and built upon to enhance regional resilience.

Section 4: Directions for regional resilience

The Plan for everyone

Resilience building and climate adaptation is a shared responsibility that requires sustained and ongoing action (DAWE, 2021). Governments at all levels, businesses, communities and individuals all have important roles to play in addressing community needs and vulnerabilities as well as supporting them to achieve their aspirations.

The locally led planning approach has given community members across the region a real opportunity to say what's important to them, identify opportunities to build on what's 'good' and working, and highlight what needs to happen to make sure our region and communities are better places to live for everyone. The approach shifts power to local stakeholders and catalyses adaptation that is effective, equitable, transparent and grounded in the local context of the region.

Development of the Plan is just the start of an enduring process of collaboration between government, institutions, industry, businesses and the community working together to improve the quality of life and capacity to adapt across the region. This process provides an opportunity for everyone to see themselves in the Plan; and to feel supported and empowered to act.

> We know the best solutions will come from within our region. The Plan is an invitation for all to contribute to the delivery of actions and initiatives that will build the future we want for the region.

Interpreting the Plan

The Plan is a high-level strategic directions document that provides us with a framework to focus our attention and efforts as we move towards the future we want for our region. Operational documents and implementation plans will come out of the Plan as they are activated by our community and the appropriate partners over time.

> The vision, strategies and actions within the Plan are not fixed. They will continue to evolve and grow as we learn our way forward together.

More than 250 interventions and ideas were identified through discussions, workshops and meetings with community members, local businesses, primary producers and other stakeholders engaged in the development of the Plan.

Some ideas focused on broad regional scale interventions, while others had a hyperlocal focus; that is, ideas that responded to the unique context of the people/place system at a village or township level. The diversity of the actions identified throughout the development process demonstrates the systems mindset many community members adopted, their deep understanding about how change happens in the region, and where efforts are best placed to build resilience and strengthen the capacity to adapt. Synergies and consistent themes exist across the challenges, opportunities, strengths, aspirations and ideas identified in different discussions and workshops - together they paint a rich and nuanced picture of the 'past, now, future, how' for the region.

The 2035 Vision, Priority Actions and Strategies attempt to shine a light on key regional insights, while honouring the differences that make our villages and townships (communities of place) and our different stakeholder groups (communities of interest/culture/practice) unique. They are presented in a way that enables different people and organisations to act in different ways to realise different parts of the region's vision based on their individual histories, values, capacities, resources or beliefs.

What does resilience across the Hay and Carrathool region look like in 2035?

The Plan paints a collective vision for the future for everyone to orient themselves towards over the next 10 years. The Plan's Priority Actions create space for different people to take different approaches towards this collective vision, strengthening the region's social, environmental, and economic systems as we go.

Silo art in Hillston (The Next Economy)

Healthy and connected communities

Healthy and connected communities
From the health and wellbeing of our people, to well-functioning and collaborative groups, to more free time for people to do what they love, we will foster community spirit and strengthen family and community connections that bind people and place.

Prosperous regional economy

From a robust, adaptive and future ready workforce, to on farm technology utilised to support more sustainable farming practices and more free time for farmers, to thriving local businesses, we will drive a diverse and circular regional economy that is in service to our local communities and environment.

Our 2035 Vision

In 2035, our communities, including our local governments, institutions, businesses, industries and households, will have greater capacity to adapt to climate, environmental, social, and economic challenges and opportunities while remaining healthy and vibrant, with safe places to live, work, and raise future generations.

From our communities being aware and prepared for disruptions, to young people wanting to stay in the region, to affordable and secure places to live for everyone, we will plan and provide reliable 'lifelines' that support our community to live sustainably and with dignity.
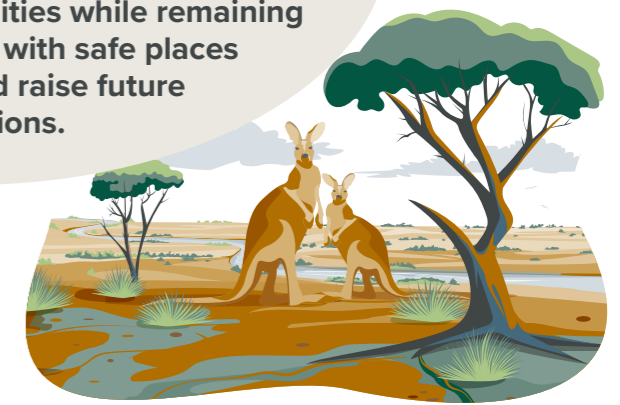
From landholders and managers working in strong collaboration and partnership with First Nations groups to communities celebrating and leveraging our abundance of sunshine, clean air, biodiversity and open space, we will conserve, regenerate and revitalise our natural ecosystems and landscapes.

Sustainable development
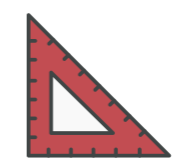
Thriving ecosystems

Figure 13. Shared aspirations emerging from the development journey.

Section 5: Priority Actions and Strategies to enhance regional resilience

Diversity of actions creates strength in systems

The Plan identifies 26 Priority Actions for change to support climate adaptation and strengthen regional resilience. Actions vary in size, scope and focus. Some are already underway or have been previously completed with a different focus or objective. In all cases, Priority Actions build on and leverage existing community strengths, capabilities and assets.

All Priority Actions are interconnected, working to address the impacts of climate risks and systemic issues that our current regional system is currently experiencing or is anticipated to face in the future. Some require significant time and resources, but have the potential to achieve deep systems change. Others are more easily actionable, and when implemented early may act as quick wins to build momentum and provide a positive feedback loop to support further efforts.

The 26 Priority Actions are by no means the only actions that our community and partners can take to strengthen resilience across the region. Every day, our communities are already working on initiatives, programs and activities to address regional issues and support community wellbeing. Different stakeholders may also identify other important areas of work within our region (based on their own unique experience, knowledge and expertise). This will all help us navigate towards our goals and vision for 2035.

The Priority Actions identified in the Plan can be organised in different ways to understand how they may meet different needs, apply to different stakeholders and address specific focus areas. Refer Appendix A - Understanding the Priority Actions for further detail.

Regional Strategies for Resilience

Our regional system is shaped and driven by a range of interrelated components — agency, relationships, structures, power, and processes. In areas where these components aren't functioning well, they hold things back. Dysfunctional relationships between these system components reduce the ability or capacity for the system to change, effectively creating a 'drag effect' that hinders any isolated efforts to address an issue within the problem area.

Systemic change leads to increased resilience and greater adaptation capacity. Systemic change is thus a key objective of the Plan.

Systemic change is achieved when multiple actions work together; when synergies and impacts across actions are connected; and when actions are sequenced appropriately, coordinated across scales and leveraging mutually reinforcing activities.

Through this lens, the 26 Priority Actions can be clustered and organised within five Regional Strategies for Resilience and are designed for implementation at one or more of the following levels; local village/township/bio-region (Places), Local Government Area (LGA), and across both Hay and Carrathool shire councils (Region). Each strategy targets an impact area that requires coordinated focus and energy over the next 10 years in order for our region to reach its full potential, and to meet our collective vision for 2035.

Details of the five Regional Strategies for Resilience are outlined below, outlining the impact of the focus area on the regional system; the outcomes to be achieved; the Priority Actions to achieve desired outcomes; any bright spots and strengths to work with; and who should be involved.

Figure 14. The Five Regional Strategies for Resilience target impact areas that require effort over the next 10 years for our region to drive systemic change and move towards our collective vision for 2035.

Strategy 1 - Inclusive and Empowered Communities

Our Goal: Our communities look out for each other. We celebrate our unique strengths and contributions, support each other through hard times, and welcome diverse perspectives and experiences.

Connectedness, inclusion and agency within the community is critical for building resilience across our region. Many community members share a sentiment that is well established in research literature: *"social cohesion—the strength of ties and bonds among community members—is an asset that increases resilience"* (Aldrich, 2017).

Strong family and community ties were identified as key for getting through hard times. The region is fairly isolated from major cities and vulnerable to further isolation when major roads and telecommunications are affected by natural disasters. In these cases, local volunteers, businesses and social networks rally to ensure everyone has what they need.

> " It isn't an organised or coordinated response, but I know I can reach out for emotional or financial support (e.g. time to pay invoices) when it is needed. That doesn't happen everywhere. We have a history of helping each other. "
>
> **Workshop participant**

The Wiradjuri, Nari Nari, Yitha Yitha and Ngiyampaa Wangaaypuwan people are the custodians of lands and waters across the Hay Plains and Riverina Region. Their ongoing connections to and stewardship of these lands and waters was identified as a significant asset for building regional resilience. First Nations custodians across the region hold valuable knowledge and practices, integral to strengthening our communities, ecosystems, and economies.

Many workshop participants emphasised the region's cultural diversity as a strong asset for building resilience. For example, several community members in Hillston felt the town's social fabric had been enriched by newer residents introducing their culture to the community. Local businesses emphasised the benefits of people with new and diverse skills and expertise in the region.

As noted in the narrative around remoteness in Section 3, connection between people and places is a defining characteristic of the Hay and Carrathool region. Connections between families, towns and villages, different cultures and First Nations peoples are recognised and celebrated; safeguarding and strengthening them a priority of many.

Potential Strategy Facilitator

Local Government with State Government support

Partners and Collaborators

- Local and regional health service organisations
- First Nations organisations and support services
- Cultural groups and organisations
- Youth organisations
- Volunteer and community organisations
- Faith based groups
- Health organisations
- Local and state social sector organisations
- Social enterprises
- Business community and local employers
- Local emergency service organisations
- Local governments

- Universities and research institutions
- Regional development organisations
- State Government
- Impact and private investors
- Philanthropic organisations

Key Outcomes

- The culture, stories and knowledge of First Nations people across the region are recognised, celebrated and incorporated along with other local knowledge
- Our community is working together with First Nations people to strengthen and build resilience for all residents
- Communities celebrate and embrace their cultural diversity
- Community voices are heard on issues that are important to them and they are supported and resourced to find a way forward
- Community members have more trust in formal and informal decision-making processes and are empowered to participate
- Local institutions, including schools and councils, are equipped to support greater understanding of different cultures and traditions within their communities
- Community groups and networks have access to the resources they need to continue supporting social events and cohesion
- Community organisations and local businesses have strong leaders, organising capacity, networks, resources and communication channels
- All community members have access to public spaces, events, information and networks that help them feel connected
- Newcomers to the region have access to the information and social networks they need to thrive
- Local people are supported to volunteer their time to community groups and events, including in times of disaster response and recovery

Priority Actions	Details	Scale	Potential Action Lead
Community Impact Fund	Community giving and finance model to directly resource and fund strategic initiatives and activities to address regional needs and priorities; and, support the capacity of communities to govern, lead and manage place-based change aligned with their aspirations.	LGA	Local government, local community groups
The Community Taskforce	A strategic working group of a diverse range of experienced local community representatives that are working with community organisations, local councils and other agencies to steward and support activation and implementation of the Plan.	LGA/ Place	A coalition of community groups and businesses, local government
Community Hubs	A neighbourhood / community centre offering affordable and accessible programs to reduce loneliness, increase social connection and improve health and wellbeing in communities. This includes supporting networking between community organisations to strengthen communication and information sharing about community events, processes, services and activities.	Place	Local government and/ or community organisation or co-op
Community Passenger Network	A network of providers, vehicles, and drivers offers diverse transport services to help people access care services, connect with training opportunities, and engage in social activities within the local community and region.	LGA/ Place	Transport companies, social businesses and community organisations
Inclusive Communities	Research and program of initiatives coordinated by a program officer to enhance cultural inclusion, connection, social cohesion and wellbeing across the region and within town/village- based communities.	LGA/ Place	Local government or community organisation
Community Welcome Committee	A community and economic development initiative to connect new residents to other members of the community as well as the information or resources they may need to thrive and feel supported.	Place	Community groups and volunteers

Strategy 2 - Future Ready Businesses

Our Goal: Our region's workforce development ecosystem, local businesses and workers are thriving before, during and after drought and other disruptions.

Our local businesses are an important part of our economy. From our large agricultural enterprises to our small and medium local businesses, all provide essential services, contribute to our identity and underpin our region's resilience capacity.

> **A climate-resilient business is less exposed to climate change impacts and can quickly recover and grow after extreme climate events.**
> **(AdaptNSW)**

Drought, floods, a changing climate, technology development and other socio-economic factors such as cost of living and housing shortages affect how business is done across the region. For example, worker shortages are a significant and ongoing challenge that the business community is grappling with. There is also an increasing need to manage climate risks such as declining worker health, reduced worker capacity (due to isolation in disasters or voluntary disaster response work), supply chain and market disruptions, increased maintenance costs and asset damage, more frequent occupational health and safety incidents and increased insurance costs.

If unaddressed, the impacts on local businesses in our region will flow into our broader community and customers. This will threaten water security, food safety, natural environments, animals, supply chain reliability, social cohesion, and institutional function, among other factors (Lawrence et al., 2022). Much attention has been given to drought and climate resilience of our agricultural sector. However some sectors and businesses who have otherwise thrived in our region previously may become more vulnerable to shocks and periods of stress unless proactive measures are taken to be future ready.

Workers and businesses need coordinated and long-term support to prepare for drought and adapt to other changes.

Local businesses in our region need to take proactive steps to gain the knowledge and resources they need to make confident decisions, take advantage of opportunities, ensure operational continuity and step outside of the 'business as usual' mindset. Community members and regional stakeholders emphasised that building future readiness requires actions to adapt to the already changing climate; reduce greenhouse gas emissions and limit the ecological impact of business activities. Strengthening pathways into employment and worker mobility across different sectors within the region is also a priority. Managing workforce and workers differently and establishing collaborations and partnerships to train and educate local people with future fit skills will help ensure our region's young people and existing workforce are prepared for future labour markets.

> **Build careers in the region – not just jobs!**
> **Workshop participant**

In the Hay region, for example, many local businesses are interested in participating in renewable energy development activities across the region including tendering for large scale renewable energy projects. However, many lack the capacity and resources to adapt. Several factors prevent businesses from scaling, investing in workforce development, or hiring. This includes insufficient existing workforce capacity, the cost to prepare businesses to be ready to tender for clean energy development contracts as well as uncertainty around work pipelines, contracts, timing, and qualifications. Early engagement and ongoing support are crucial for scaling regional workforce development. Accessible, up-to-date local data is needed to improve transparency, workforce planning, and equitable recruitment strategies.

Fostering collaboration between local schools, training centres, universities, businesses, and industries will build the capacity for innovation across the workforce development ecosystem; create better job pathways, help workers gain new skills, and support a sustainable lifestyle in the region.

Potential Strategy Facilitator

Local employers and the business community

Partners and Collaborators

- Local employers
- Local government
- Local high schools
- Local training providers
- TAFE NSW
- First Nations organisations and support services
- Youth organisations
- Community progress associations or task forces
- Renewable energy development stakeholders
- Work-integrated social enterprises
- Social sector organisations
- Regional development organisations
- State Government
- Federal Government

Key Outcomes

- Our region has a holistic and thriving local workforce development system that generates economic opportunities for businesses and provides supported pathways into employment for job seekers

- Local businesses and major employers in the region are working in collaboration to close the workforce gap

- Businesses are thinking about workforce development and procurement differently

- Employers have access to knowledge and information to make informed business decisions

- Businesses are addressing work arrangements and conditions to improve outcomes for vulnerable groups in our community

- Businesses are reaping the benefits of acting on climate related risks and other opportunities

- Local businesses feel connected, incentivised and rewarded to become future ready

- People working within our business and enterprise sector have an entrepreneurial mindset

- Our region is known for its innovative workforce development approach and attracts new workers, families and investment to the region

Priority Actions	Details	Scale	Potential Action Lead
Future Ready Businesses	Capacity development initiatives to support the capacity of the local business and not-for-profit ecosystem to be innovative and prepared for disruptions and change.	LGA	Local employers and businesses, local and state government
Workforce Development Ecosystem	A network of partnerships and initiatives working together to promote a thriving workforce development ecosystem that generates economic opportunities for businesses, helps existing workers build transferable skills and provides supported pathways into employment for job seekers and young people in our communities.	LGA	Local and state government, local businesses and training providers
Training and Employment Pathways Hub	Program, partnerships and service offering to leverage and create opportunities for education, training and employment.	LGA	Coalition of local and regional training and education providers, local businesses, industry groups, local and state government
Building Social Innovation Capacity	An incubator to support local community members, young people and businesses develop mindsets and capacities to design and activate innovative responses and alternative solutions to the provision of goods and services across the region.	LGA/ Region	Local business network or community progress association/ taskforce
Doing Business - Our Way	A B2B shared workforce group that supports local businesses and major employers to take a collective approach to closing the workforce gap through 'sharing employees'.	Place	Local employers and businesses

Strategy 3 - Reimagined Care Economy

Our Goal: Our region has a sustainable care economy that improves people's lives, strengthens community capacity to adapt to stresses and drives the region's economic growth.

A wealth of people and organisations provide healthcare, education and social services to community members in formal and informal settings across the Hay and Carrathool region. All of this work constitutes the region's care economy and is an integral yet often overlooked component of development and community resilience.

Our community identified a strong and accessible regional care economy as necessary for the physical, psychological and social wellbeing of all people including children, young people, First Nations people, the elderly, people with different abilities and other marginalised groups. A connected intergenerational care system meets the needs of (eS4W, 2024):

- children so they are cared for and educated
- everybody's physical and mental health that requires attention
- those that require good quality financial assistance or social support
- individuals who require assistance with the activities of daily living because of illness, age or disability.

In addition to health and wellbeing outcomes, community conversations highlighted a range of co-benefits from a sustainable care economy. These include:

- improved child development as a long-term investment in the economy (15-20 year rate of return)
- young people capable and equipped to constructively contribute to their local and wider communities and economies
- greater workforce participation for parents and carers (particularly mothers)
- increased local social participation, volunteerism and community resilience

- more resilient businesses and local economy stimulus
- attractive regional livability (Lehmann & How, 2019).

Our region understands the impact drought and other weather related events have on the mental health and wellbeing of individuals and communities not just within agriculture, but more broadly across the community and other industries. Childcare, aged care, social assistance and health services that provide both preventative measures (so people are equipped for climatic, financial and personal stresses) as well as responsive measures (to connect people with peers and professionals when needed) - provide a lifeline essential for individual wellbeing and broader community resilience.

" The care economy matters for gender equality, socio-economic equality, poverty reduction, inclusive growth and sustainable development. "
(DPMC, 2023)

Despite incremental efforts to improve services across the region, pockets of our care system are under stress making our community vulnerable to shocks and stresses. Exploring new practices and models of care is required to reshape and bolster our entire care economy, particularly in the childcare, aged care mental health and health outreach systems.

Many community members see the opportunity for new innovative regional level care models to be established alongside community-led approaches such as cooperative childcare facilities and community health service models. The region's businesses also have a responsibility to invest in local care provisions and initiatives to attract and retain people in work across the region. Cross sector collaboration and partnerships are vital to achieving this, with stakeholders who see 'care' not as welfare but as a priority for economic and community resilience into the future.

Note: This Regional Strategy for Resilience identifies Priority Actions that primarily address the provision of care for particular groups. Improving health, wellbeing and care services more broadly are also considered across other Strategies, particularly Strategy 1.

Potential Strategy Facilitator

Local and regional health service organisations and providers with State Government support

Partners and Collaborators

- Early childhood education and childcare providers
- Aged care service operators
- First Nations organisations, support services and community health organisations
- Cultural groups and organisations
- Businesses and local employers
- Volunteer and community groups
- Local high schools
- Local and state social sector organisations
- Social enterprises
- Industry partners and representative groups
- Regional development organisations
- Local governments
- State Government
- Federal Government
- Impact and private investors

Key Outcomes

- Our region's care system provides an integrated and comprehensive range of services to prevent and address priority care needs
- The region's care system has a strong network of collaborators and partnerships driving development and sustainability
- The work of the care system is visible, accessible and valued across the region
- Community-led service models are well-resourced and supported
- First Nations owned enterprises receive support and resourcing to extend their level of care and services
- Businesses are providing workplace packages that include care provisions
- Community members are able to access the services and support they need to live life with dignity
- The business sector is investing in new models of care
- Children have a positive start to life that sets them up well for school
- Families are connected with one another and the broader community
- Individuals have greater health and wellbeing, and capacity to respond and recover from stresses and shocks
- People can 'age in place' and stay connected to community and social support systems
- New families and people are attracted to live and work in the region

Priority Actions	Details	Scale	Potential Action Lead
The Care Economy - Strategy & Coordination	A regional taskforce and strategy to foster new collaborations to collectively develop and establish connected and alternative models of care across the region, drawing on evidence-based approaches.	LGA	Coalition of community organisations, local business, health services, care providers and social businesses
Growing Together - New Regional Childcare System	New 'childcare' initiatives to support more families return to work and increase early childhood outcomes through the delivery of innovative models for decentralised childcare services.	LGA/ Place	Health services, care providers and social businesses
Innovative Models of Care	Trialling new ways to provide intergenerational care across our region, through innovative partnerships and approaches (formal services and community-led initiatives)		

Road signage on the highway between Hay and Carrathool Shire councils, June 2024 (The Next Economy)

Strategy 4 - Placemaking with Purpose

Our Goal: Our communities have liveable, resilient, and lively public spaces that contribute to people's health, happiness and wellbeing.

Our connection to place is at the very heart of our resilience. When working well, our places and local environment are what sustains and provides for us economically, physically and emotionally. We value and take pride in our regional lifestyle, the wide-open spaces our region affords, and the connection to a unique landscape of waterways, vegetation and abundant wildlife. However, it is this relationship with the landscape, our remote context and the geographical spread of our townships and villages that also means our places and people are vulnerable to drought, heat, flood and economic disruptions.

Placemaking is an overarching and broad approach to recreating and activating local public and cultural spaces into inviting and vibrant areas to re-establish and foster connections between people, Country and their built environment.

Our local places can be leveraged to build resilience and address socio-economic issues. The open spaces in our villages and townships are where people form strong social bonds, build trust, share knowledge, and strengthen social cohesion and networks — essential resources that are relied on during droughts or times of community stress.

Whether it be developing shared energy sources, new neighbourhoods, localised food systems, cultural meeting places, or creating new events and activations in our shared public spaces - the value of our community developing placemaking ideas and implementing them is two-fold. That is, revitalising public and shared spaces will enable our businesses and communities to flourish, improve our physical and mental health, and strengthen our

region's social capital. At the same time, the process of implementing initiatives builds our capacity to organise and adapt.

Developing more green spaces can provide shade and cool places to shelter; water sensitive landscape design can capture, store and manage water use in public spaces; and regenerating landscapes can enhance and protect our wildlife and biodiversity. These types of activities support climate adaptation and are just as essential to the health and wellbeing of our people as they are to the health and resilience of our local ecosystems.

> **Placemaking is as much about the activities we host in our region and creative ways we use our public and shared spaces, as it is about investing in new infrastructure and projects.**
>
> **Community workshop participant**

Effective placemaking often requires capacity building support, technical expertise and core project funding. These resources come from within our local communities, but also need to be provided by local and state governments as well as other strategic partners.

Ideas to enhance local places and community life

Community members across the Hay and Carrathool region identified a range of opportunities to enhance our local places and strengthen community life. These ideas respond to the unique context, challenges and opportunities of each township or village. Inspiration can be drawn from them for activities and initiatives in other parts of the region.

- New birding opportunities and bushwalking tracks
- Establish meeting places and walks that provide information about local Indigenous culture
- Develop outdoor play spaces for children, young people and visitors
- Retain visible and healthy water bodies near public spaces
- Provide farm-tours and unique experiences (such as star gazing)
- Revegetate common property and local parks with native species
- Establish murals on rural building assets
- Free pool access
- Establish moderated community information boards
- Create a tiny home initiative
- Explore community energy options

Placemaking ideas generated through the Plan development process will be available as a separate online resource.

Potential Strategy Facilitators

Local community groups with support from local governments, philanthropic organisations and/or corporate partners

Partners and Collaborators

- First Nations organisations and support services
- Cultural groups and organisations
- Youth organisations
- Volunteer and community organisations
- Faith-based groups
- Local and regional arts councils/organisations
- Business community
- Industry partners
- Regional development organisations
- Destination Riverina Murray
- Local governments

- State Government
- Impact and private investors
- Philanthropic organisations
- Regional support NGOs
- Tourism groups and enterprises

Key Outcomes

• Community members are empowered and feel a sense of agency to shape the future of their place

• Residents and local businesses are actively participating in community activities

• Community members feel a greater sense of connection and social cohesion

• Community organisations and local businesses have strong leaders, organising capacity, networks, resources and communication channels

• Our region has assets, places and events that attract people to the region, develop markets and stimulate collaboration outside of the region

• Our natural environment and biodiversity is regenerating

• Our townships and villages have shared spaces that are inclusive, safe, welcoming and reflect our values and aspirations for the future

• Local people enjoy their local places, and are providing opportunities for visitors to also enjoy what the region has to offer

• Our region has an innovative, flexible and adaptable local housing system promoting livability and wellbeing in our communities

• People have access to alternative sources of reliable energy, water and other critical services and infrastructure

Priority Actions	Details	Scale	Potential Action Lead
Housing Our Future	A business case and investment prospectus to drive an innovative, flexible and adaptable local housing system for liveable, healthy and resilient communities.	Place/ LGA	Local government
Shaping Our Places	Community-led placemaking initiatives to create opportunities for local people to connect and enjoy local places while providing opportunities for visitors to enjoy what the region has to offer.	Place/ LGA	Community organisations, recreational groups, local businesses
Reimagining Our Visitor Economy	An Action Plan to enhance and invest in the natural, lifestyle and historical assets of the region to expand the local tourism economy.	LGA/ Place	Coalition of local government, local businesses and local and regional tourism operators
Enabling Community Placemaking	A participatory grant-making program for communities to develop and activate strategic placemaking initiatives that reimagine and revitalise our shared spaces in towns and villages for improved social, environmental and economic outcomes.	LGA/ Region	Local government and funding partner
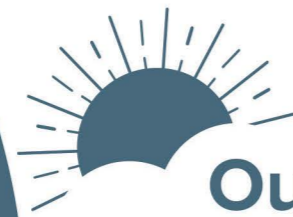
Road signage, Hay Shire Council

Theory of CHANGE

Hay Shire COUNCIL

CARRATHOOL SHIRE COUNCIL · KOOROODOOK · 1906

Our 2035 Vision

In 2035, our communities, including our local governments, institutions, businesses, industries and households, will have greater capacity to adapt to climate, environmental, social, and economic challenges and opportunities while remaining healthy and vibrant, with safe places to live, work, and raise future generations.

Aspirations

- Healthy and connected communities
- Prosperous regional economy
- Sustainable development
- Thriving ecosystems

Forces and Pressures Effecting Change

- Cost of living
- Changing climate
- Decarbonisation of global supply chains
- Drought
- Extreme weather events
- Flood
- Limited housing
- Limited education and employment options
- Policy and Regulation changes
- Increasing pressure on infrastructure
- Limited health, medical and care economy providers

Strategies & Actions

Inclusive and Empowered communities

Our communities look out for each other. We celebrate our unique strengths and contributions, support each other through hard times, and welcome diverse perspectives and experiences.

Actions:
- Community Impact Fund
- The Community Taskforce
- Community Hubs
- Community Passenger Network
- Inclusive Communities
- Community Welcome Committee

Future Ready Businesses

Our region's workforce development ecosystem, local businesses and workers are thriving before, during and after drought and other disruptions.

Actions:
- Future Ready Businesses
- Workforce Development Ecosystem
- Training and Employment Pathways Hub
- Building Social Innovation Capacity
- Doing Business – Our Way

Reimagined Care Economy

Our region has a sustainable care economy that improves people's lives, strengthens community capacity to adapt to stresses and drives the region's economic growth.

Actions:
- The Care Economy – Strategy & Coordination
- Growing Together – New Regional Childcare System
- Innovative Models of Care

Placemaking with purpose

Our communities have liveable, resilient, and lively public spaces that contribute to people's health, happiness and wellbeing.

Actions:
- Housing Our Future
- Shaping Our Places
- Reimagining Our Visitor Economy
- Enabling Community Placemaking

Coordinated Action for Climate Resilient Economic Development

Our region is an innovative economic hub looking at the whole picture: building resilience to the impacts of climate change whilst driving a rapid transition to net zero emissions for a sustainable regional economic system that works for the benefit of people, the planet and our local places.

Actions:
- Our Community Changemakers
- Climate Resilient Councils
- Primary Production Innovation Network
- Regional Economic Transition Roadmap
- Every Drop Counts
- Climate Resilient Lifelines
- Regional Environmental – Economic Account
- Promoting Net Zero Regional Transport

Our Strengths

- Human connections that bind people and place; our community spirit
- Regional economy driven by agricultural production and local businesses
- A foundation of services and infrastructure that allow us to innovate
- Rich natural landscapes and ecosystems

Resilience is the capacity to plan for, respond to and recover from disruption in positive ways

Strategy 5 - Coordinated Action for Climate Resilient Economic Development

Our Goal - Our region is an innovative economic hub looking at the whole picture: building resilience to the impacts of climate change while driving a rapid transition to net zero emissions for a sustainable regional economic system that works for the benefit of people, the planet and our local places.

Economic development and climate resilience are intrinsically linked. If climate risk and water variability aren't considered, planned for and managed at farm, local and region scales then drought and other extreme weather events, such as flooding and heatwaves, will increasingly:

- damage critical infrastructure
- disrupt business operations
- affect the delivery of essential services
- increase the cost of living
- devastate ecological systems.

Shifts to decarbonise global and national supply chains, sequester carbon to account for late-to-abate industries and achieve national biodiversity targets will also have a significant impact on the regional economy, natural environment and community livelihoods.

> 66 **Climate resilient development is a process of implementing greenhouse gas mitigation and adaptation options to support sustainable development for all.** 99
>
> **(IPCC, 2012)**

Climate resilient development can spur economic growth, viability and resilience across a region. Proactive efforts to build regional resilience within a broader agenda of decarbonisation and climate adaptation can minimise the costs and impacts of both climate and transition risk.

Incorporating clean energy generation, appropriate land-use planning, sustainable and accessible transport, appropriate housing, and accessible services were identified by many community members and regional stakeholders as crucial for supporting health and wellbeing, as well as the community's capacity to respond and recover from adversity. Similarly, access to water, energy and telecommunications were viewed as critical lifelines that keep communities going, making them less vulnerable to climate impacts and other disruptions. The establishment of new industries that utilise waste and by-products to create products for new markets and sectors was highlighted as one solution to address unsustainable land practices, biodiversity loss, and waste management. New collaborations, partnerships and business models are considered by many as important enablers to pilot, test and scale new technologies, access new markets and de-risk investment in new industries in the region.

All Priority Actions should be informed by climate risk and contribute to resilience in different ways. This Regional Strategy for Resilience brings together actions that directly sit at the nexus of economic development, climate adaptation and climate mitigation.

The Hay and Carrathool region has an abundance of space, networks and natural assets with opportunities for climate resilient economic development varying by location. The region's innovative and diverse agricultural sector is open to exploring new options for economic diversification and is interested in reimagining the region's economic system and supply chains. This includes examining how the local agricultural system can produce environmental and social co-benefits. There is significant capacity and willingness to explore and confront the complex synergies and trade-offs between different development pathways, as well as the options, contested values, and interests that underpin climate mitigation and adaptation choices.

The region has the right conditions in place to realise this Strategy and move towards a more sustainable regional economy that is working for the benefit of people, the planet and place.

Potential Strategy Facilitator

Local governments with State and Federal Government support

Partners and Collaborators

• Primary producers
• Local businesses and industry
• Community groups and residents
• Community leadership organisations
• Youth organisations
• Local land services
• Local Aboriginal land councils
• First Nations organisations
• Primary production industry groups
• Rural services businesses and agronomists
• Emerging industries
• Universities and research institutions
• Water catchment authorities
• Renewable energy development stakeholders
• Regional development organisations
• Impact and private investors
• Southern Innovation Drought Hub

Key Outcomes

• A strong economy that promotes the sustained provision of essential services, critical infrastructure, education and training

• A region wide 'sustainability' focus attracts new industries and investment into the region

• Landholders are participating in and benefiting from environmental markets

• Local businesses are identifying opportunities to build climate resilience while capitalising on expanding, evolving and emerging markets

• The region is powered by renewables and working to transition to net-zero emissions

• Landholders, councils, communities and businesses have access to information, resources and appropriate evidence to make informed decisions

• First Nations groups are participating in, leading and benefiting from development in the region

• Communities and families can continue to live and work in the region

• Nature-based solutions are being adopted to protect, restore and regenerate natural ecosystems

• New industries and economic activity minimise land degradation and land clearing activities

• Water is more effectively and efficiently captured, retained, used and re-used on farms, within industries and by the broader community

Priority Actions	Details	Scale	Potential Action Lead
Our Community Changemakers	An annual program to invest in local leadership capacity (young people and adults) to support, lead and manage positive change.	LGA/ Region	Local government and community groups
Climate Resilient Councils	A program to increase institutional capacity to plan for and respond to the challenges/opportunities of climate change including ongoing delivery of services.	LGA	Local government
Primary Production Innovation Network	A network for regional producers and industry innovation to support on-farm and regional adaptation/ transition efforts in agriculture and primary production.	LGA/ Place	Primary producers, landholders and local land services
Regional Economic Transition Roadmap	A roadmap to build the capacity for a coordinated and collaborative approach to economic development for a net zero, climate resilient future.	LGA	Local government, local industries and community
Every Drop Counts	Research, partnerships, place-based pilots and foresight papers to drive the adoption of more innovative and sustainable approaches to efficiently capture, manage and safeguard valuable water resources on farms and across local industries.	Place	Local primary producers, landholders, research institutions, First nations organisations, local land services
Climate Resilient Lifelines	Participatory climate adaptation planning to reduce the direct impact of disasters on the region's critical infrastructure and road networks, maintain the services they provide and ensure connectivity, productivity and safe mobility into the future.	LGA	Local and state government authorities and infrastructure developers
Regional Environmental - Economic Account	Initiative and cross-sector partnership to collect, track and integrate environmental and economic data for effective analysis, decision-making, investment, as well as facilitate access to emerging environment markets.	LGA/ Region	Local primary producers, natural resource management and environmental organisations
Promoting Net Zero Regional Transport	A region wide 'Net Zero' vehicle charging network to enable greater connectivity, reliability and range for transport and travel within and across the region that services local industries, freight, communities and visitors.	LGA/ Region/ Place	Local government, community groups and local businesses

Section 6: Implementation of the Plan

Building on existing work and other plans for the region

The overarching goals of the Hay and Carrathool Regional Drought Resilience Plan is for a climate-resilient region that supports healthy and connected communities, a prosperous regional economy, sustainable development and thriving ecosystems. A holistic understanding of regional resilience underpins the Plan, as we consider the relationships between our environmental, economic and social systems (see Sections 2, 3 and 4). The Priority Actions and Strategies contribute to connectedness and innovation between farms, communities, ecosystems. They support the development of diverse employment opportunities and new models for social services across our region, and recognise local leadership, planning and action as vital drivers of resilience (see Section 5).

The Plan's 2035 Vision and aspirations align with the strategic objectives of the FDF and a range of other local development plans, including the Riverina Murray Regional Plan 2041, Hay Shire Council's Community Strategic Plan 2022-2032, and Carrathool Shire Council's Community Strategic Plan 2032. The key objectives of these plans are outlined in Appendix D - Regional strategies and plans.

All of the Priority Actions and Strategies contribute to the FDF's strategic areas. For example, the objectives of the Priority Actions **Primary Production Innovation Network** and **Every Drop Counts**, are to connect our primary producers with the information, resources and networks they need to improve adaptation and resilience in our agricultural sector. Priority Actions in Strategy 1,3 and 4, such as; **Our Community Changemakers, Workforce Development Ecosystem, Growing Together - New**

regional childcare system and **Community Impact Fund** aim to specifically address outcomes that strengthen the social networks and support systems needed to weather future drought impacts and other disruptions.

The Priority Actions and Strategies also contribute to local and regional development priorities. For example, Priority Actions **Shaping Our Places, Inclusive Communities** and **Community Transport,** contribute to a more vibrant and connected regional community - while **Reimagining Our Visitor Economy,** the **Regional Environmental-Economic Account,** and **Future Ready Businesses** encourage greater investment in our local environments and economic diversity.

> The Hay and Carrathool Regional Drought Resilience Plan is a complementary, community-led asset to guide and galvanise our communities and partners to take action towards a climate-resilient future.

Working together to take action

Responsibility for local climate adaptation and resilience building lies with local, regional, state and national actors. All stakeholders must work in partnership with our region and support us to deliver our Priority Actions and Strategies, realise positive outcomes, and move steadily towards our vision of a resilient future.

> Working together, our vision is attainable and outcomes are sustainable.

Several conditions, capacities and skills need to be brought together in a structured way to implement and adapt the Plan as well as enable the collective and coordinated approach required to create positive change over time. These include:

Influential champions

Dynamic leaders who have participated in development of the Plan as well as other people from across the community and/or those who have valuable knowledge of the region such as its cultural, geographical or political dynamics. These people may provide custodianship of the Plan (see Adaptive Governance, below), lend support to moving specific Priority Actions and Strategies forward, and ultimately champion the work.

Backbone support

A backbone support infrastructure is needed to mobilise implementation of the Plan and foster the cross-sector and stakeholder communication, alignment, and collaboration required to realise the 2035 Vision and transformation at a regional scale. Backbone infrastructure can be structured in many different ways, often involving the participation of a supporting organisation with certain convening functions and resources. Hay and Carrathool shire councils have provided the backbone support infrastructure for the development phase of the Plan.

Resources

Implementation of the Plan requires financial and non-financial resources. The availability and willingness to contribute resources towards achieving the shared vision is crucial.

Continuous communication and engagement processes

Regular communication and informal and formal mechanisms for transparent dialogue about progress, key milestones and challenges are required to ensure diverse and broad engagement with the Plan. Processes need to reflect who is and who is not engaged in implementation of actions,

and what is and what is not working for different groups. Communication and engagement is critical for building trust between stakeholders, foundational for regional transformation and ongoing resilience.

Centering equity for First Nations people and diverse groups

Centre and sustain the perspectives and leadership of First Nations people and other diverse groups to enhance the region's system understanding, address and shift power in decision making, build the mindsets and capacity of communities and ultimately achieve better outcomes for all through our actions.

A common agenda

A shared vision and aspirations developed and agreed to by a range of stakeholders and community members provides a collective goal that everyone can work towards. It also provides a framework for people to question actions or initiatives that may impede the capacity of the region to achieve this goal. The Plan provides the common agenda through the key components; the Priority Actions, Strategies, and 2035 Vision. The key components, forming the common agenda, will likely need adjusting over time as the region's context and capacity changes.

Shared measurement

Processes and measures to collaboratively track progress toward the shared vision supports ongoing collective learning, adjustment, action and accountability. See the section below 'Learning our way forward' for further information.

Adaptive governance

Recognising and allowing for change in complex and dynamic systems supports effective management by emphasising flexibility, resilience, collaboration and learning. Utilising a set of key evaluation questions, in conjunction with monitoring activity outputs, ensures ongoing learning and supports adaptive governance.

Learning our way forward

To achieve our collective commitment and aspirations for 2035, we must continuously monitor our progress and integrate emerging knowledge into the Plan's key components: the Priority Actions, Strategies, and 2035 Vision. A set of key learning and evaluation questions can be used to explore the impact, appropriateness, effectiveness and efficiency of the Plan's key components and guide implementation, prioritisation and resourcing. These questions may include:

- How is the capacity to adapt to future climate, environmental, social, and economic challenges and opportunities changing within the region? (Impact)

- To what extent do the implemented actions support the strategic goal? (Appropriateness)

- To what extent does the strategic direction align with current community voices and aspirations? (Appropriateness)

- To what extent is the program achieving worthwhile results and/or meeting its intended outcomes? (Effectiveness)

- To what extent is the action/program/initiative achieving its purpose, worthwhile results and/or intended outcomes? (Effectiveness)

- Do the outcomes of the action/program/initiative represent efficient use of resources (such as time, money)? (Efficiency)

Implementation of the Plan is centred on 'triple loop' learning to support long-term transformation through a process of monitoring, learning and responding. A triple loop approach provides a clear and logical structure to test assumptions, track progress, capture lessons and adjust strategies in response to changing context in which it operates. Specific monitoring, evaluation and learning plans can be developed later by relevant action stakeholders. However, starting with a learning framework ensures the right questions are asked at the right level for the right reasons, rather than just creating sets of indicators and measures that may not drive real

learning and change (Chapin III et al., 2009). This approach to implementation and management of the Plan is centred around a continual and shared process of 'learning-by-doing', where actions are implemented in a way that helps all stakeholders test and refine the Plan's Priority Actions and Strategies to support long-term transformation and navigation towards the 2035 Vision.

The triple loop learning approach

The three 'loops' or levels of a triple loop approach refer to the depth of inquiry relating to the assumptions behind the Regional Strategies for Resilience, the outcomes of Priority Actions, the processes guiding the Plan and how it is responding to changing circumstances over time.

Loop 1. Learning from Actions (1-3 years) - as specific actions are undertaken, and results and outcomes from those actions are observed, that knowledge and experience can be used to adjust future actions.

Loop 2. Learning for Reframing (3-5) - as actions are taken over time, the context changes and progress is made towards the regional vision, it is important to ask deeper questions about the Strategic directions and priorities. Loop 2 creates space for reviewing and reevaluating these core elements of the plan.

Loop 3. Learning for Transformation (5-10 years) - in the longer term, as the broader social, economic and ecological context for the Plan changes, and progress towards the communities aspirations are achieved through various actions, deeper questions about the future direction, the aspirations and needs of the community can be asked. This deeper learning loop creates an opportunity to reflect on the process of planning, the inclusiveness of the process and how differing values and perspectives are brought together to build shared aspirations that benefit everyone in the community.
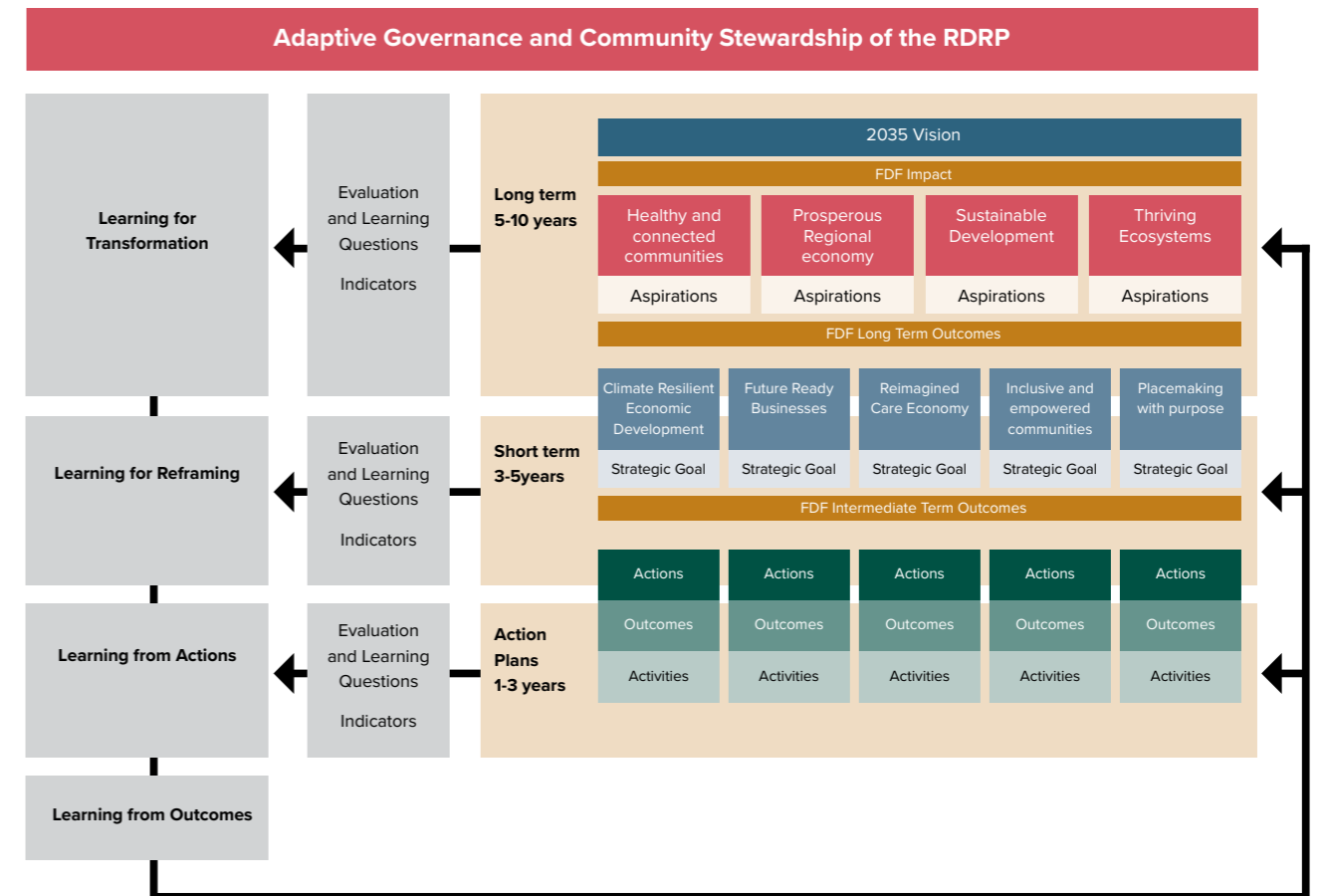
Figure 15. A triple loop learning approach for the Plan will support long-term transformation through a process of monitoring, learning and responding.

Hay workshop participants, June 2024 (The Next Economy)

The framework below outlines how the triple loop learning approach can be adopted to guide efforts to monitor, learn, respond and adjust the Plan and planning process over time.

Framework for Monitoring, Learning and Responding

Level / Timeframe	Examples of key evaluation and learning questions	Example of indicators
Learning from Actions (1-3 years)	*Action, Outputs and Accountability focus* To what extent is the action/program/initiative achieving its purpose, worthwhile results and/or meeting its intended outcomes? Do the outcomes of the action/program/initiative represent efficient use of resources (time, money)?	• Progress towards outcomes • Output metrics • Accountability metrics • Sustainable Development Goal (SDG) indicators • Early insights for More Resilient Communities (Southern NSW Innovation Hub)
Learning for Reframing (3-5 years)	*Adaptive focus* To what extent do the implemented actions support the strategic goal? How is the capacity to adapt to future climate, environmental, social, and economic challenges and opportunities changing within the region? What have we learned about the region's systems and resilience capacity by undertaking this action?	• Regional resilience capacity metrics • Regional vulnerability metrics • Changes in priorities and rationale • Socio-Economic Indexes for Areas (SEIFA) indexes • Population change
Learning for Transformation (5-10 years)	*Transformative focus* How is the capacity to adapt to future climate, environmental, social, and economic challenges and opportunities changing within the region? How have priorities changed over time? What community perspectives are and are not involved in identifying issues and setting priorities? To what extent does the strategic direction align with current community voices and aspirations?	• Community leadership and governance capacity metrics • Change in Gross Regional Product (GRP) by sector contribution

Glossary

The following table outlines key terms used in this Regional Drought Resilience Plan.

Term	Definition
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.
Climate adaptation	The process of adjustment to actual or expected climate and its effects.
Climate change	Long-term shifts in average climate conditions, like temperatures and weather patterns. These shifts can be driven by natural causes (e.g. volcanic or solar activity), but have been dominated since the 1800s by significant increases in the concentration of greenhouse gas (GHG) emissions in the atmosphere as a result of human industrial activity.
Climate risk	Potential for adverse consequences for human or ecological systems. Climate risks may be associated with potential changes in the climate system itself, as well as human responses to changes in the climate system.
Drought	A sustained period of below average rainfall leading to reduced soil moisture, reduced plant growth and reduced inflows to waterways and storages.
Economic resilience	The ability of the economy to absorb the economic impact of shocks and stressors without changing the economic status or outcomes.
Environmental resilience	The ability of the natural environment to cope with a diverse range of shocks and stressors while maintaining natural processes and ecosystem services.
Governance	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.
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.
Resilience	The ability of a system to absorb a disturbance and reorganise so as to maintain the existing functions, structure and feedback. Also see economic resilience, environmental resilience and social resilience.

Term	Definition
Resilience thinking	An approach that focuses on strengthening our capacity to plan for, respond to and recover well from future challenges. Holistic resilience thinking considers how social, economic and ecological systems are connected, interact and depend on each other.
Social resilience	The ability of human society to cope with a diverse range of shocks and stressors while maintaining existing social and community functions.
Systems thinking	An approach to analysis that considers both the individual parts and interconnected whole of a system, accounting for the complex and dynamic relationships between the different parts.
Transformation	A change that results in a fundamentally new structure, function, feedback loops and identity. Can apply to personal worldviews or mental models, and paradigms. There can be two types.

Active transformation: the deliberate initiation of a phased introduction of one or more new state variables (a new way of making a living) at lower scales, while maintaining the resilience of the system at higher scales as transformational change proceeds.

Forced transformation: an imposed transformation of a social-ecological system that is deliberately introduced by external actors. |
Transition	A transformation from one recognisable form or state to another, which takes place over a period of time by incremental steps.
Tipping point	The point at which change in a level or amount of a controlling variable causes a system to shift to a qualitatively different regime.
Vulnerability	Exposed to a possibility of being harmed.

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Appendix A: Understanding the Priority Actions

Community members, local businesses, primary producers and regional stakeholders across the region have identified 26 Priority Actions for the next decade to ensure our communities and economies are as resilient as they can be in the face of drought and other disruptions.

All Priority Actions will benefit adaptation and resilience in our region, even where they do not specifically focus on managing drought or other climate risks and impacts. All Priority Actions are interconnected, working to address systemic issues that our region is currently experiencing or anticipate to face in the future.

The Priority Actions build on existing community strengths, capabilities and assets. However, the responsibility to deliver actions does not rest solely on the shoulders of the local community, businesses or councils.

Responsibility for local climate adaptation and resilience building also lies with regional, state and national actors. These stakeholders must work in partnership with our region and support us to deliver our Priority Actions, realise positive outcomes, and move steadily towards our vision of a resilient future.

The following section organises the Priority Actions in different ways to illustrate how each 'does the work' of building capacity to adapt to drought and a changing climate and highlights entry points for different stakeholders to lead and take collective action.

The 26 Priority Actions

	Strategy 1: Inclusive & Empowered Communities
1	Community Impact Fund
2	The Community Taskforce
3	Community Hubs
4	Community Passenger Network
5	Inclusive Communities
6	Community Welcome Committee
	Strategy 2 - Future Ready Businesses
7	Future Ready Businesses
8	Workforce Development Ecosystem
9	Training and Employment Pathways Hub
10	Building Social Innovation Capacity
11	Doing Business - Our Way
	Strategy 3 - Reimagined Care Economy
12	The Care Economy - Strategy & Coordination
13	Growing Together - New Regional Childcare System
14	Innovative Models of Care
	Strategy 4 - Placemaking with Purpose
15	Housing Our Future
16	Shaping Our Places
17	Reimagining Our Visitor Economy
18	Enabling Community Placemaking
	Strategy 5 - Coordinated Action for Climate Resilient Economic Development
19	Our Community Changemakers
20	Climate Resilient Councils
21	Primary Production Innovation Network
22	Regional Economic Transition Roadmap
23	Every Drop Counts
24	Climate Resilient Lifelines
25	Regional Environmental - Economic Account
26	Promoting Net Zero Regional Transport

Contribution to System Outcomes

Drought has traditionally been viewed as an economic issue, primarily impacting farms and the agricultural sector. Drought support initiatives have typically focused on financial preparation and recovery, with limited focus on the wider impacts of drought on social and environmental resilience across rural communities and landscapes.

While the economic focus on the agricultural sector is still important, increasing awareness of the broader impacts of drought on individual and community health and wellbeing, as well as the impacts on natural landscape and biodiversity health, has fostered a more holistic view.

Mapping community-identified Priority Actions onto an integrated systems view illustrates the community's deep awareness and understanding of the relationship and overlap between the social, economic and environmental domains.

The diagram below indicates the core contribution of each Priority Action to system outcomes. For example, Priority Actions sitting across domains, such as those in the centre of the Venn diagram, provide social, economic and environmental benefits.

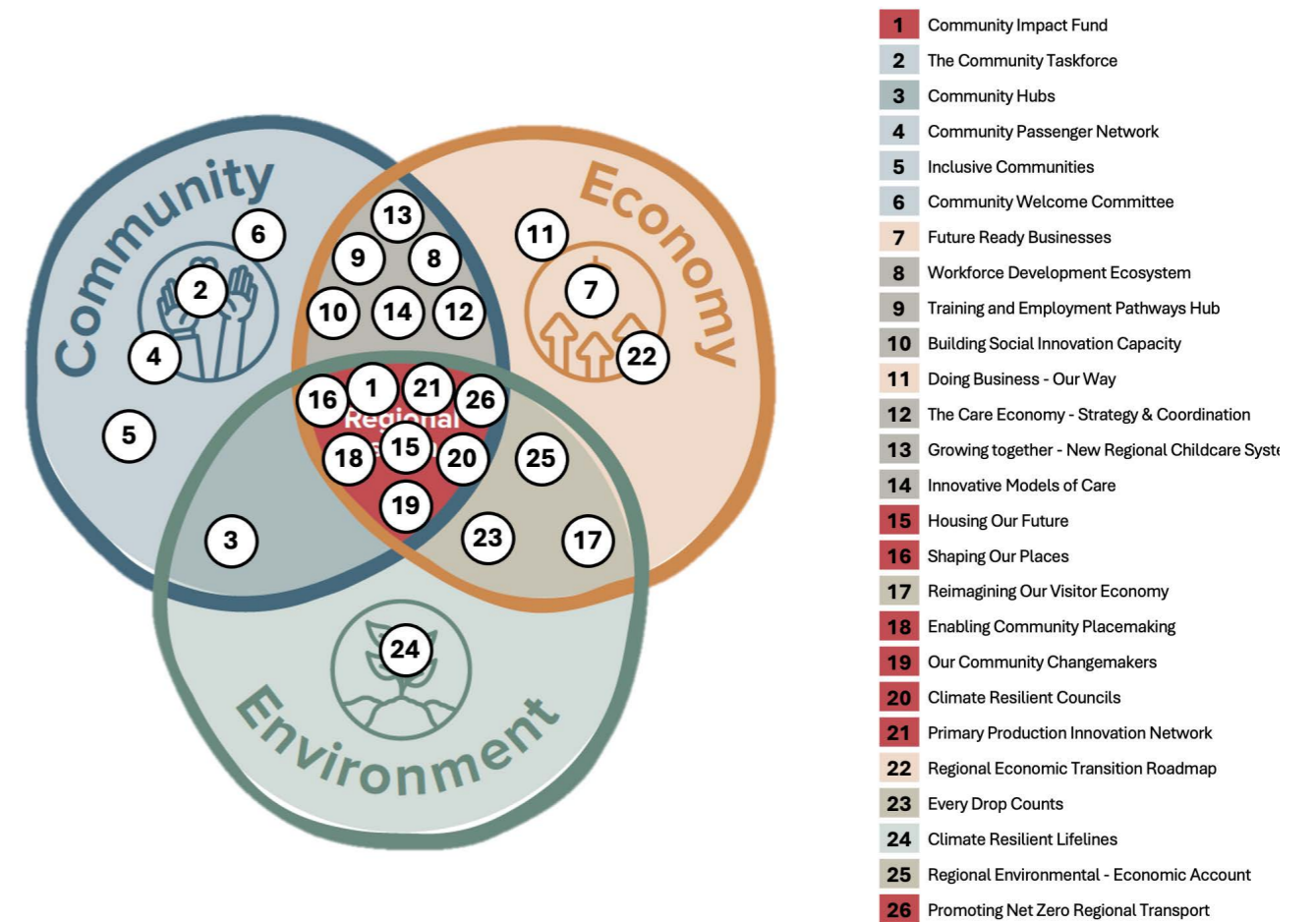|	
1	Community Impact Fund
2	The Community Taskforce
3	Community Hubs
4	Community Passenger Network
5	Inclusive Communities
6	Community Welcome Committee
7	Future Ready Businesses
8	Workforce Development Ecosystem
9	Training and Employment Pathways Hub
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22	Regional Economic Transition Roadmap
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25	Regional Environmental - Economic Account
26	Promoting Net Zero Regional Transport

Figure A1. This diagram indicates the contribution of each Priority Action to system outcomes - highlighting the relationships and interdependencies of the social, economic and natural systems that make up rural communities.

Contribution to Resilience Attributes

Resilient rural and regional people, businesses, communities and ecosystems are able to plan for, cope with, and recover from disruptions in positive ways. Resilience is built and maintained through a range of factors or attributes. The attributes contribute to the capacity of any system to prepare for, cope with, recover and learn from major change and disturbances.

The Priority Actions identified during the planning process contribute to these attributes to varying degrees. Priority Actions that contribute across a greater number of resilience attributes or provide a high contribution to particular attributes represent a good resilience investment. This is a subjective (low-high contribution) rating that accounts for the general size and scope of the action. It's important to acknowledge that there may be many other factors and reasons to proceed or not proceed with an action that have nothing to do with these specific resilience attributes.

A farm located along the Kidman Way between Merriwagga and Hillston, April 2024 (The Next Economy)

Strengthen diversity

Diversity provides a source of options and innovations when responding to change or dealing with uncertainty, and helps to spread risks during times of stress.

Build and manage connection

Connection allows the flow and spread of resources (such as information, innovations), species and people across geographical landscapes and communities. It helps to create new social networks and norms and can help facilitate recovery after a disturbance. Connection also needs to be managed to avoid the spread of negative or harmful flows such as negative ideas and practices (social perspective) or weeds and pathogens (environmental perspective).

Foster flexibility and adaptiveness

Having an adaptive mindset and building in flexibility into infrastructure, practices, organisations and institutions means it is possible to pivot, redirect or manage change and disruptions when needed.

Build responsiveness, recovery and renewal capacity

Having capacity to respond, recover and renew to the degree needed, when and where needed, during and after times of stress is fundamental to resilience.

Learning and reflection

Learning from past experiences, developing the ability to detect changes, and reflecting on how systems can be reorganised and renewed in ways that can improve how well they function and cope with future events is critical.

Inclusive and equitable

Inclusive participation through active engagement of all relevant stakeholders helps build the trust, shared understanding and relationships needed for collective action. Participation from a diversity of backgrounds and perspectives can uncover perspectives that may not be acquired through more traditional scientific processes, improving legitimacy of knowledge and empowering stakeholders in decision making that supports more equitable outcomes. More equal societies are less prone to instability and conflict.

Figure A2. Resilience attributes used to assess the contribution of Priority Actions towards resilience building and maintenance in the Hay and Carrathool region. (Adapted from Biggs et al., 2012)

	Strengthen diversity	Build and manage connection	Foster flexibility and adaptiveness	Build responsiveness and renewal capacity	Learning and reflection	Inclusive and equitable
Community Impact Fund	Medium	High	High	Medium	Medium	High
The Community Taskforce	Medium	High	Medium	Medium	Medium	High
Community Hubs	High	High	Medium	Medium	Medium	High
Community Passenger Network	Low	High	Medium	Low	Low	High
Inclusive Communities	High	High	Low	Medium	Low	High
Community Welcome Committee	Medium	High	Low	Medium	Low	High
Future Ready Businesses	Medium	Medium	High	High	Medium	Low
Workforce Development Ecosystem	Medium	Medium	Medium	Medium	Medium	Medium
Training and Employment Pathways Hub	Medium	Medium	Medium	Medium	Medium	Medium
Building Social Innovation Capacity	High	Medium	Medium	Medium	Medium	Medium
Doing Business - Our Way	High	High	High	High	Medium	Low
The Care Economy - Strategy & Coordination	Medium	Medium	High	Low	Low	Medium
Growing Together - New Regional Childcare System	High	Medium	High	Low	Low	High
Innovative Models of Care	High	Medium	High	Medium	Low	High
Housing Our Future	High	Medium	High	High	Medium	High
Shaping Our Places	Low	High	Medium	Low	Low	Medium
Reimagining Our Visitor Economy	High	Medium	Medium	Low	Low	Low
Enabling Community Placemaking	Medium	High	Medium	Medium	Medium	High
Our Community Changemakers	Low	Medium	High	Medium	High	High
Climate Resilient Councils	Low	Low	Medium	Medium	Low	Low
Primary Production Innovation Network	Medium	High	High	Low	High	Low
Regional Economic Transition Roadmap	High	Medium	High	Low	Low	Low
Every Drop Counts	High	Low	High	Medium	High	Low
Climate Resilient Lifelines	High	High	High	High	Medium	Medium
Regional Environmental - Economic Account	High	Low	High	Low	High	Low
Promoting Net Zero Regional Transport	Medium	High	Medium	Medium	Low	High

○ Low contribution ◉ Medium contribution ● High contribution

Figure A3. Priority Actions mapped to illustrate their contribution towards resilience building and maintenance in the Hay and Carrathool region.

Types of Priority Actions

There are many different types of activities, interventions and approaches that can be taken to strengthen community, economic and environmental resilience. Categorising the diversity of actions can make it easier to see what types of activities are proposed in the Plan and understand where attention might be required or best focused. This view supports informed decision making on where and how different stakeholders can practically take action.

Figure A4 summarises the different types of actions, ranging from those that build adaptive capacity (the capacity to respond effectively to change and disruptions), to the delivery of adaptation actions (practical activities that directly aim to reduce vulnerability to climate risks or exploit positive opportunities).

Building Adaptive Capacity					
Research and innovation	Changing or developing regulations, strategies, plans, programmes or services	Capacity development, training and knowledge transfer to empower good practices	Coordination, cooperation, networks and partnership	Awareness Raising, Communication and information	Financing and incentive actions

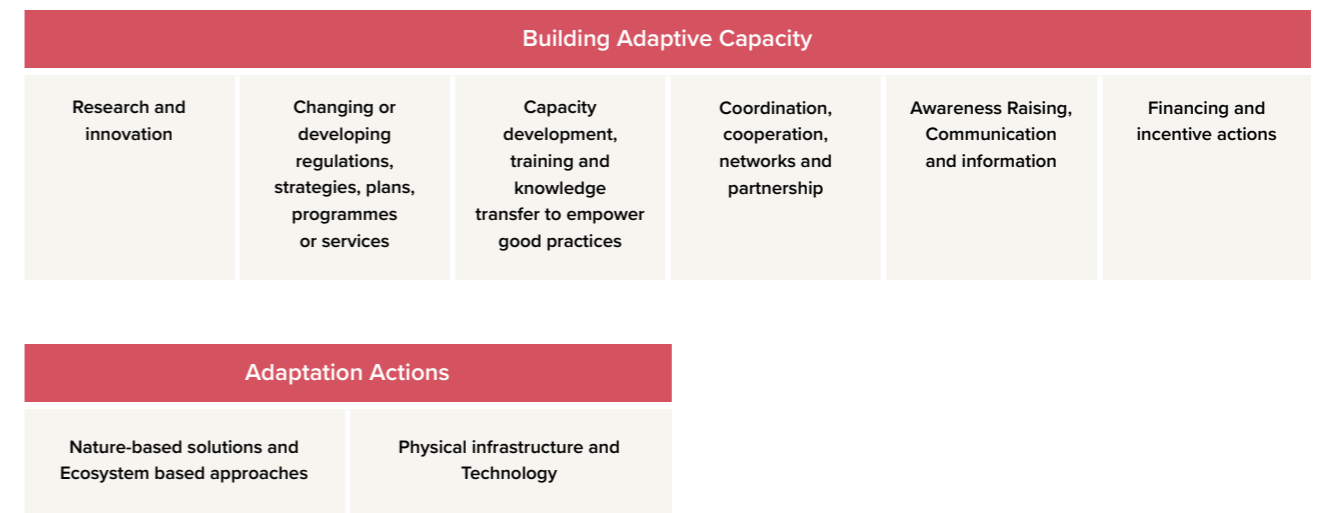| Adaptation Actions	
Nature-based solutions and Ecosystem based approaches	Physical infrastructure and Technology

Figure A4. Typology of climate adaptation and resilience building actions used to categorise the Priority Actions.

	Building Adaptive Capacity						Adaption Action	
	Research and innovation	Changing or developing regulations, strategies, plans, programmes or services	Capacity development, training and knowledge transfer to empower good practices	Coordination, cooperation, networks and partnership	Awareness raising, Communication and information	Financing and incentive actions	Nature-based solutions and Ecosystem based approaches	Physical infrastructure and Technology
Community Impact Fund		○	○			●		
The Community Taskforce			○	●	○			
Community Hubs			○					●
Community Passenger Networks		○		○				●
Inclusive Communities		○		●	○			
Community Welcome Committee				●	○			
Future Ready Businesses			●					
Workforce Development Ecosystem	○	○		●				
Training and Employment Pathways Hub		●		○				
Building Social Innovation Capacity		○	●					
Doing Business - Our Way			○	●				
The Care Economy - Strategy & Coordination		○		●				
Growing Together - New Regional Childcare System		●		○				
Innovative Models of Care		●		○				
Housing Our Future	○	●						○
Shaping Our Places			●				○	○
Reimagining our Visitor Economy		●						
Enabling Community Placemaking			○			●		
Our Community Changemakers			●	○				
Climate Resilient Councils		●	○					
Primary Production Innovation Network	○		●	○	○			
Regional Economic Transition Roadmap	○	●		○			○	○
Every Drop Counts	●						○	○
Climate Resilient Lifeliness	○	●						○
Regional Environmental - Economic Account		●				○	○	○
Promoting Net Zero Regional Transport		○		○				●

Figure A5. The primary typology of each Priority Action (dark green dot). Most types of actions are interrelated and an Action can also have components of several types at once (light green dots of varying sizes).

Scale of Implementation

Scale can be understood in several ways, such as the magnitude of an action (complexity, number of people and resources involved, reach and timeframe) or the geographic landscape. In this case, 'scale' is referred to as the level of the regional system that a Priority Action would be **most effective operating at to achieve resilience outcomes.** This could be local places (village/township/bio-region), Local Government Area (LGA), and region levels (across both LGAs).

Some Priority Actions 'do work' at a specific scale, while others could be implemented at various scales depending on the delivery model, scale of resources, capacity of partners, and other stakeholders involved.

Figure A6 places Priority Actions across these different scales, based on workshop discussions with stakeholders around the purpose of interventions and how they would be implemented.

It is important to note that Priority Actions placed at the LGA level do not indicate responsibility of local government. Instead, it highlights that it is logical for the Priority Action to be implemented and operated at this scale based on how it will interact with and affect elements such as existing social networks, resource flows, economic and business activities and ecological landscapes.
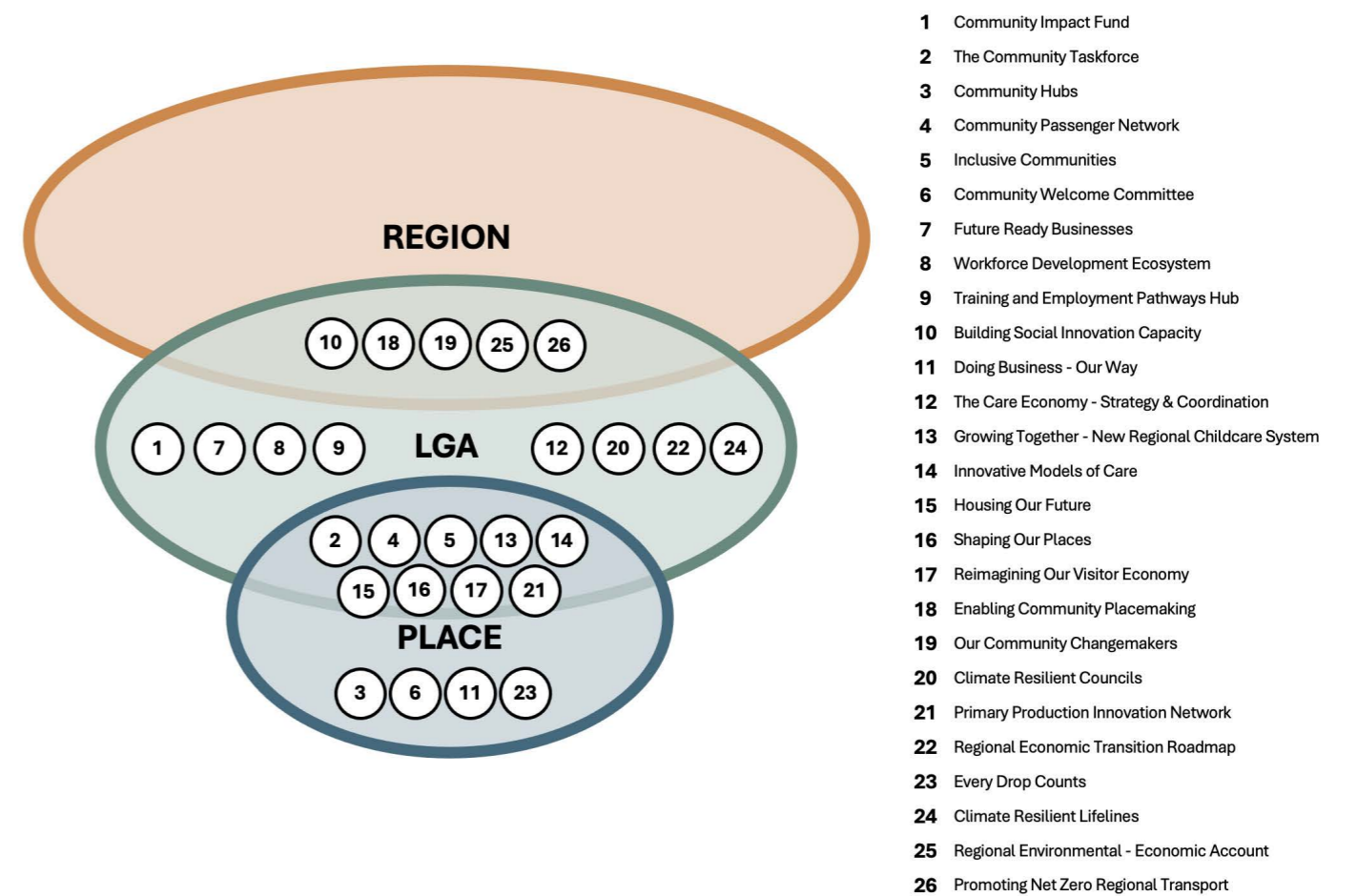

1	Community Impact Fund
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Figure A6. Priority Actions at the scale they would be most effective operating at to achieve resilience outcomes.

Appendix B: Priority Actions - Potential implementation phases and associated costs

The table below details the potential phases of implementation for each Priority Action, including indicative timeframes and associated cost scales for one or more phases. This information aims to illustrate the potential next steps for each Priority Action and the level of resourcing support that may be needed.

Please note:

- The information in the tables below is indicative only. It is provided as a requirement of the Regional Drought Resilience Planning program to demonstrate the potential next steps, activities and scale of investment required to mobilise and implement each Priority Action. The actual implementation activities and level of funding required will be unique to the context in which the action is being realised - the action leads, stakeholders involved, supporting partners, location, approach, extent and scope of initiative and timing.

- Cost implication / Phase represents the indicative amount of time, money and energy required to complete a Priority Action or a specific phase.

- See Section 5 for further information about the Priority Actions and Strategies.

Distance sign (Hay Shire Council)

Strategy 1 - Inclusive and Empowered Communities		
Priority Action	**Potential phases/activities**	**Cost Implication / Phase**
Community Impact Fund	**Establishment:** Explore feasibility of community finance models. Form partnerships and governance. Develop strategy and mandate. Establish an entity. Seek investment and establish funding/finance models. (6-12 months) **Implementation:** Carry out activities in alignment with strategy. (ongoing)	**High** Establishment

Strategy 1 - Inclusive and Empowered Communities (continued from previous page)		
Priority Action	**Potential phases/activities**	**Cost Implication / Phase**
The Community Taskforce	**Establishment:** Deliver a forum with community organisations to co-design the taskforce, strategy and governance structures. Conduct an EOI for taskforce membership. (4-6 months) **Implementation:** Host convenings to share community updates and activities. Support action across Regional Resilience Strategy areas. (ongoing)	**Low - Medium** Establishment and Implementation (Year 1)
Community Hubs	**Establishment:** Convene a codesign process for the community hub concept. Develop a business case. Identify partners. Develop governance structure. Seek funding to establish a pilot site, secure a coordinator and support core activities (6-12 months) **Implementation:** Establish a pilot 'hub' and pilot a program of activities. Review outcomes and develop proposal for ongoing operations (1-3 years)	**Medium - High** Establishment and Implementation (Year 1)
Community Passenger Network	**Establishment:** Explore alternative models for transport services. Develop local and regional partnerships. Develop a concept proposal and business case. Secure funding and delivery partners. (6-12 months) **Implementation:** Establish programs and deliver services across region. Review outcomes and adapt services. (1-3 years)	**Medium - High** Establishment and Implementation (Year 1)
Inclusive Communities	**Establishment:** Convene a working group or local network to develop a concept proposal and program of activities and initiatives. Secure funding for a program officer (6-12 months) **Implementation:** Deliver and pilot program model and activities with community (ongoing)	**Medium - High** Establishment and Implementation (Year 1)
Community Welcome Committee	**Establishment:** Establish a working group of diverse representatives. Develop a charter and program of activities. Seek funding - as required. (2-6 months) **Implementation:** Deliver events and activities in alignment with program plan. Review outcomes. (ongoing)	**Low - Medium** Establishment

Strategy 2 - Future Ready Businesses

Priority Action	Potential phases/activities	Cost Implication / Phase
Future Ready Businesses	**Establishment:** Develop and deliver several pilot business focused capacity building activities. Form a working group and partner network. Prioritise capacity development areas and program of activities with business community. (6-12 months) **Implementation:** Seek funding support and/or establish a business model to implement the program of activities (ongoing)	Medium Establishment
Workforce Development Ecosystem	**Establishment:** Host forum on workforce development in the region with relevant stakeholders. Activate early opportunities and initiatives. Form a taskforce and develop a strategy and plan. Formalise partnerships and develop proposals for investment into key initiatives. (6-12 months) **Implementation:** Establish a pilot 'hub' and pilot a program of activities. Review outcomes and develop proposal for ongoing operations (1-3 years)	Medium - High Establishment and Implementation
Training and Employment Pathways Hub	**Establishment:** Co-design and prepare a feasibility plan and business case for local training and industry partnerships hub. Secure funding, investment and partnerships (6-12 months) **Implementation:** Mobilise initiatives such as local education and training programs, scholarships, awards and on-the-job placements (ongoing)	Medium - High Establishment
Building Social Innovation Capacity	**Establishment:** Prepare program design. Seek and formalise partnerships and providers. Establish business/funding model. (3-6 months) **Implementation:** Deliver capacity building program. (1- 2 years)	Low - Medium Development
Doing Business - Our Way	**Establishment:** Form pilot employee group. Connect with industry partners and training organisations. Develop concept model and business case. Test the working model with employers and employees in the region. (3-12 months) **Implementation:** Extend the group membership and employee offering. Explore further shared work package options for the collective. (ongoing)	Medium Establishment and Implementation

Strategy 3: Reimagined Care Economy

Priority Action	Potential phases/activities	Cost Implication / Phase
The Care Economy - Strategy & Coordination	**Establishment:** Run a community awareness raising campaign. Establish a regional taskforce. Develop a regional strategy. (4 months) **Implementation:** Foster partnerships and implement coordination activities with partners and industry. (ongoing)	Low -Medium Establishment and Implementation
Growing together - New Regional ChildCare System Innovative Models of Care	**Scoping:** Explore feasibility of service model. Develop a business case. Seek investment and partnerships. (6-12 months) **Implementation:** Establish and test services/models. Mature service and business model (ongoing)	Medium - High Establishment and Implementation (Year 1-3)

Strategy 4: Placemaking with Purpose

Priority Action	Potential phases/activities	Cost Implication / Phase
Housing Our Future	**Establishment:** Work with regional and industry partners to develop a scope of works and formalise partnerships to support the process (3-6 months) **Development:** Carry out strategic planning assessment. Develop business models for new housing approaches and formalise an investment prospectus (6 months)	**Low - Medium** Establishment and Development
Shaping Our Places	**Establishment:** Review pre-existing ideas with community members. Co-design priority placemaking initiatives. Develop a concept proposal to seek funding. **Implementation:** Community members and relevant partners deliver the placemaking initiative/s (12 months +)	**Low-Medium** Establishment and Implementation
Reimagining Our Visitor Economy	**Establishment:** Develop a regional taskforce, tourism association or working group. Work collaboratively with community to inform updates to Local Governments Destination Management Plan. Develop an action plan for regional stakeholders (3-6 months) **Implementation:** Drive activities to bring in resources for campaigns, activities and initiatives (3 months +)	**Low** Establishment and Planning **Med- High** Establishment and Implementation
Enabling Community Placemaking	**Establishment:** Form partnerships and funding. Collaboratively design grant program and governance model for grant making program (6 months) **Implementation:** Support communities in place to co-design their priority placemaking initiatives and develop a concept proposal for funding. Award grants through participatory model (6-9 months)	**Low - Medium** Development

Strategy 5: Coordinated Action for Climate Resilient Economic Development

Priority Action	Potential phases/activities	Cost Implication / Phase
Our Community Changemakers	**Establishment:** Pilot various initiatives and codesign enduring program. (12 months) **Implementation:** Deliver annual program of leadership development activities and convening of alumni network. (ongoing)	**Low - Medium** Establishment
Climate Resilient Councils	**Establishment:** Staff training and capacity building. Service assessment and strategy development. (6-12 months) **Implementation:** Climate risk informed delivery of services. Yearly strategic reviews. (ongoing)	**Medium** Establishment
Primary Production Innovation Network	**Establishment:** Create network and industry partnerships. Seek seed funding for network development and pilot activities. Establish priority focus areas and pilot activities. (12 months) **Implementation:** Pilot initiatives and network activities. (ongoing)	**Medium** Establishment
Regional Economic Transition Roadmap	**Establishment:** Convene participatory process to develop roadmap and taskforce. (6 months) **Implementation:** Deliver roadmap strategies and pilot activities. Adaptive management by taskforce. (ongoing)	**Medium** Development
Every Drop Counts	**Establishment:** Form partnerships and collaborations to respond to existing opportunities and develop project proposals. Seek investment. (3-9 months) **Implementation:** Activate projects and initiatives. Communicate insights and resources with regional stakeholders and industry. (ongoing)	**Low** Establishment
Climate Resilient Lifelines	**Establishment:** Carry out climate risk assessment. (3 months) **Implementation:** Carry out development and upgrades to road network (and essential infrastructure). (ongoing)	**Low** Establishment

Strategy 5: Coordinated Action for Climate Resilient Economic Development (cont. from previous page)

Priority Action	Potential phases/activities	Cost Implication / Phase
Regional Environmental - Economic Account	**Establishment:** Develop strategy partnerships and agreements. Carry out baseline assessment. Collaboratively design and develop account and business case. (1-2 years) **Implementation:** Deliver activities and initiatives to progress account objectives and measure outcomes (ongoing)	Medium Establishment
Promoting Net Zero Regional Transport	**Establishment:** Develop prospectus, feasibility and business case. Form partnerships and collaborations. Seek funding. (6-12 months) **Implementation:** Establish test sites. Promote service network. Monitor use and performance. Extend network. Mature business model and partnerships. (ongoing)	Medium - High Establishment and Implementation (Year 1-3)

Hay Youth Taskforce workshop, August 2024 (The Next Economy)

Appendix C: Regional drought risk and vulnerability

Understanding drought

Drought is most simply understood as an acute water shortage (BoM 2024b). It is generally measured in Australia by assessing rainfall deficiencies over three or more months (meteorological drought), though low soil moisture (agricultural drought) and low streamflow (hydrological drought) are also important to understand the extent and impacts of drought (IPCC, 2012; BoM, 2024d).

Rainfall in Australia is highly variable and strongly influenced by three key drivers: the El Niño Southern Oscillation (ENSO) to the east, the Indian Ocean Dipole to the west, and the Southern Annular Mode (SAM). While Australia has historically experienced high rainfall variability, rising global temperatures have contributed to a long-term shift towards drier conditions, particularly across the south-west and south-east of the country (BoM & CSIRO, 2022).

Classifying drought in New South Wales

The New South Wales Government uses the Combine Drought Indicator (CDI) to classify drought in the state.

The CDI combines the definitions of meteorological, hydrological and agronomic drought using measures of indicators for rainfall (RI), soil water (SWI), and plant growth (PGI) to provide a comprehensive drought assessment over a preceding 12-month period (DPI, 2023).

As at 30 June 2024, the CDI showed that the Hay and Carrathool shire councils were not in drought, though 34% of the broader Riverina region was classified as Drought Affected (DPI, 2024).
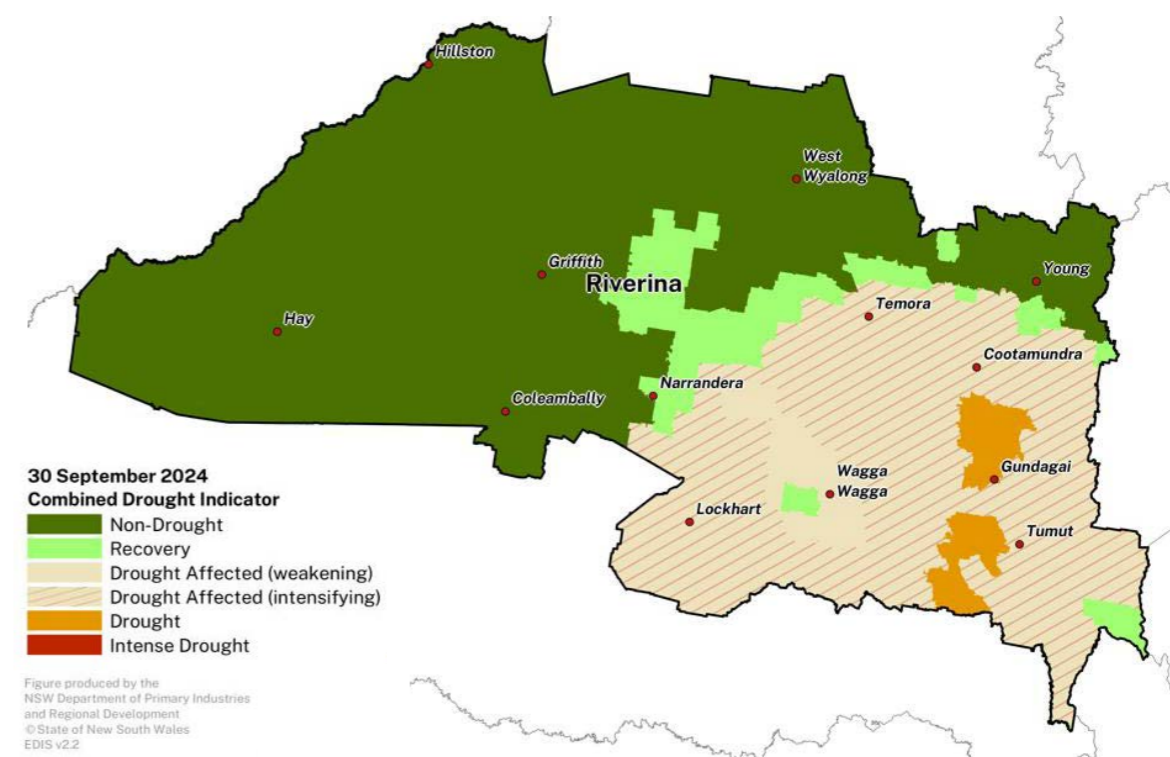

Figure C1. New South Wales CDI map, 2024 (Source: DPI, 2024).

Drought in the Hay and Carrathool shire councils

The Hay and Carrathool shire councils are located in the western Riverina region of New South Wales. This region is one of the most agriculturally diverse and productive regions of Australia, producing merino wool, beef cattle and poultry, and a range of irrigated and non-irrigated crops including cotton, wheat, maize, and rice (DPI, 2018). The region is also home to a diverse range of wetland ecosystems across the Murray-Murrumbidgee river system.
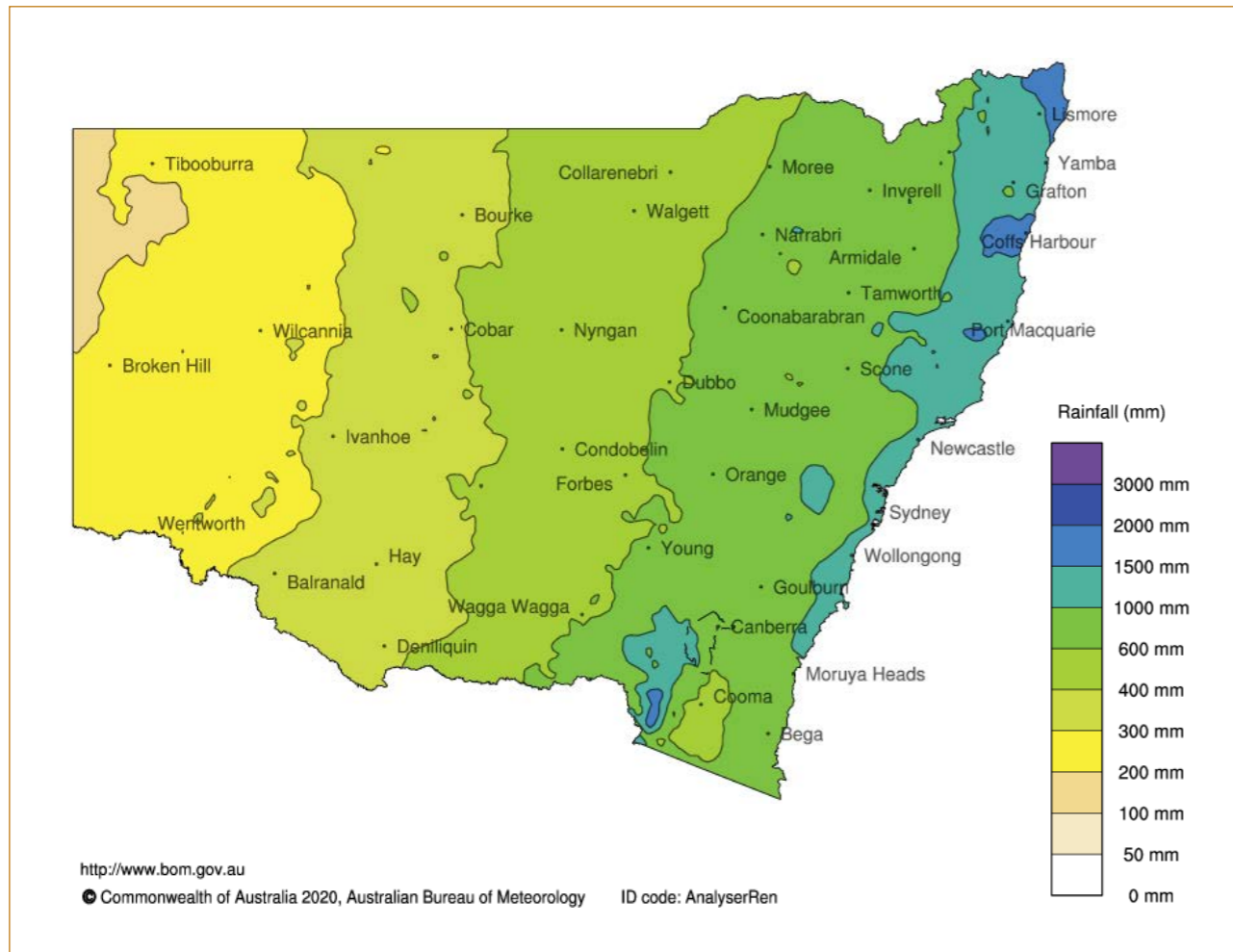
The Hay and Carrathool region receives relatively low rainfall, with average annual rainfall of 366.5mm between 1877-2015 (BoM, 2024c). Rainfall in the Riverina was relatively stable between 1989-2018, decreasing slightly (4%) compared to the preceding 30-year period (1959-1988) (BoM et al., 2019). It is important to note, however, that these averages can mask the significant periods of both extreme drought and flooding experienced in the region during this period. These events include the Millennium Drought (1997-2009: see Figure 3) and record flooding in November 2022 (Hay Shire Council, 2023).
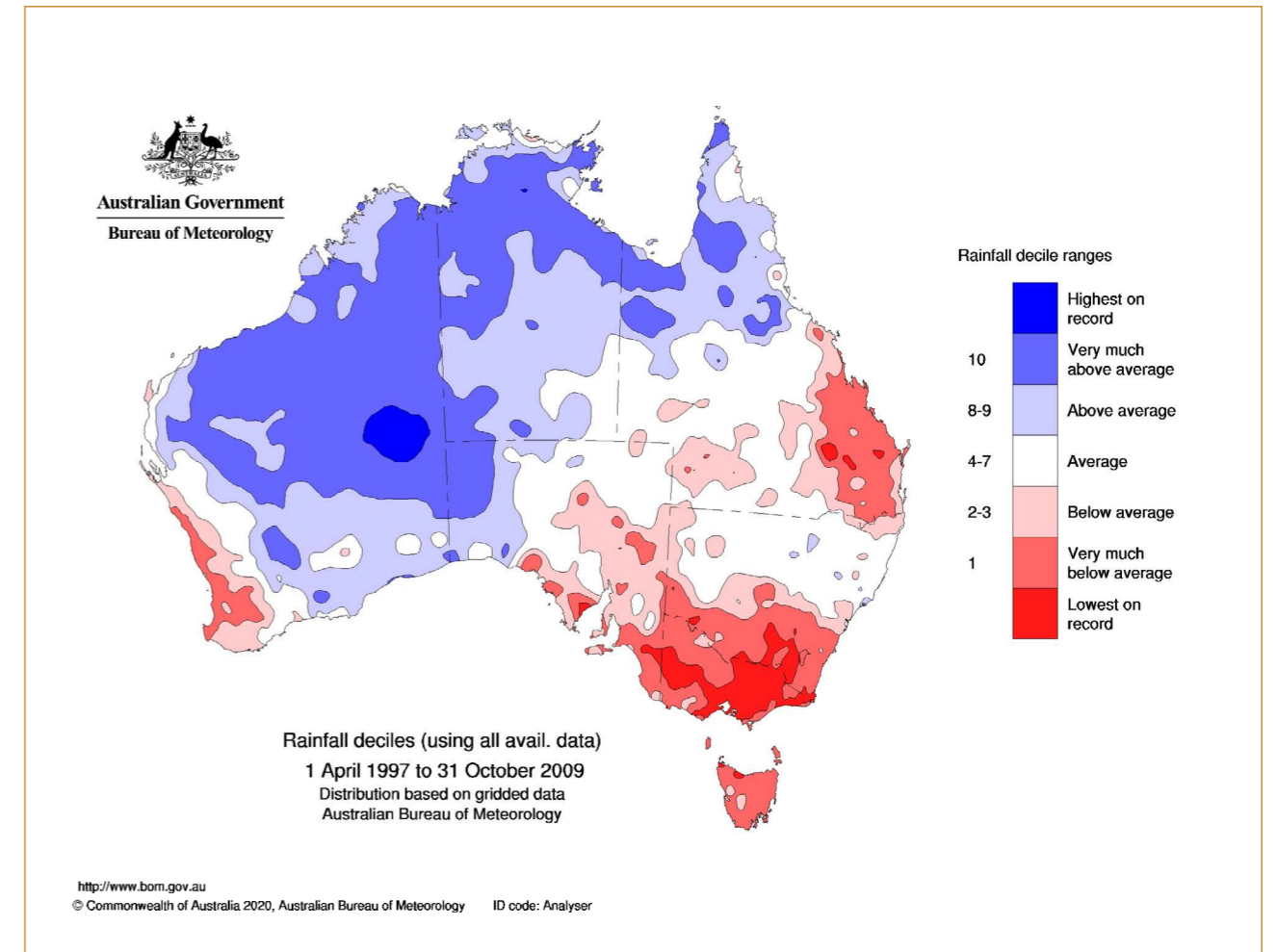

Figure C2. Average annual rainfall in New South Wales (30-year climatology, 1981-2010) (Source: BoM, 2020a).

Figure C3. Rainfall deciles for the Millennium drought (1997 to 2009) (Source: BoM, 2020b)
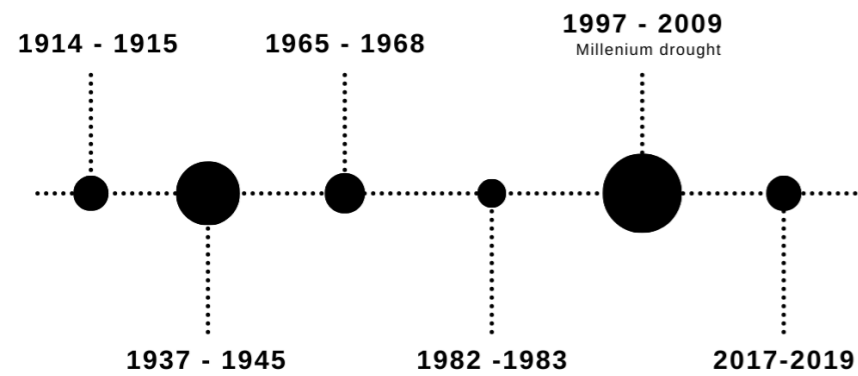
Figure C4. Periods of significant drought in Hay & Carrathool region

Projections for drought in the future

More frequent years of below-average rainfall, especially in the cool season between April and October, have been observed in the south-east of Australia over the past two decades (Figure 5, BoM & CSIRO, 2022). This is particularly important for agricultural regions like the Riverina, as the cool season is the main growing season for many crops and also when peak streamflow tends to occur for most catchments in southern Australia (BoM & CSIRO, 2022).

Long-term drying and warming trends are projected for the region, particularly in the cool season, which is expected to reduce rainfall and overall water availability (OEH, 2014). This is expected to increase the occurrence and duration of droughts, leading to greater heat and moisture stress on crops, pasture and animals, in addition to more intense heatwave, flooding and fire events (DPI, 2018).
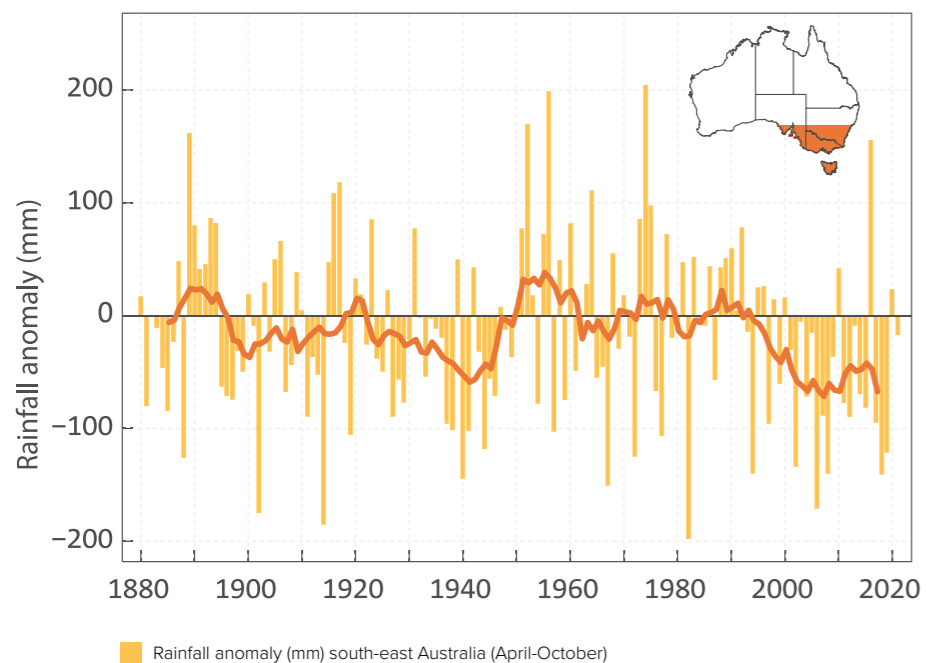

Figure C5. April to October rainfall anomaly in south-east Australia, there are fewer wet years now than during the 20th century (Source: BoM & CSIRO, 2022)

Impacts of Drought

The climate characteristics of the Hay and Carrathool region, combined with the region's high economic reliance on the agricultural sector, contributes to high vulnerability to drought (Fleming-Muñoz et al., 2023).

The impacts of drought can be devastating and far-reaching. Droughts can have an acute impact on ecosystems, agricultural industries and communities in a relatively short period, such as the drought that affected the Murray Darling-Basin between 2017-2019, or chronic impacts over many years, as with the Millennium drought, which lasted from 1997 to 2009. The impacts of drought on communities in the Hay and Carrathool Shires are discussed below.

Social impacts of drought

Drought can take a significant toll on the mental, physical and financial wellbeing and resilience of individuals, families, and communities. Studies have documented links between drought and poor mental health experienced by farmers and people living in agriculture-reliant communities, related to both the financial stress on farms and psychological toll of local environmental degradation (Hanigan et al., 2012; Fleming-Muñoz et al., 2023). Drought-related distress and isolation also exacerbates existing vulnerabilities: for example, drought impacts may be felt more acutely among young farmers, people with lower financial security, and those living in geographically remote areas (Hanigan et al., 2018;Fleming-Muñoz et al., 2023).

People in drought-affected regions are also susceptible to poorer physical health caused by water shortages, poor air and water quality, and more extreme heatwave conditions (Fleming-Muñoz et al., 2023). Studies have found that health impacts include cardiovascular problems, respiratory conditions, and increased risks of infectious diseases (Padrón-Monedero et al., 2024).

Drought can lead to unemployment in the agricultural sector and migration away from rural and regional communities. This can have a knock-on effect in nearby towns and businesses, particularly in areas where there is little economic diversity. These effects include the loss of services, skills and local knowledge, and unemployment outside of the agricultural sector (Aslin &Russell, 2008).

Financial stress and poor physical and mental health can greatly impact family relationships, safety, and resilience. Additional paid and unpaid work obligations on all family members (for example, off-farm work to supplement on-farm incomes or to replace paid labour on-farm) can exacerbate experiences of stress, depression, and isolation (Aslin & Russell, 2008). These experiences have historically impacted men and women differently. Research in New South Wales has found that men are at higher risk of suicide during periods of drought (Hanigan et al., 2012), and women experience greater incidents of domestic violence by their male partners (Whittenbury, 2013).

Environmental impacts of drought

The environmental costs of drought can be enormous, exacerbating existing stresses on rivers, wetlands and terrestrial ecosystems. For example, many river systems experienced record low flows during the Millennium Drought over a long period of time. The intensity and duration of the drought had a severe impact on broad areas of wetland and dryland ecosystems in the Murray-Darling Basin: river red gums died across extensive areas, while water toxicity contributed to a significant decline in fish, aquatic plant, and water bird populations (Bond et al., 2008).

Agricultural practices such as intensive land use, loss of riparian (riverbank) vegetation, introduced pest species, and alterations to river flows have reduced the natural capacity of aquatic ecosystems to cope with drought. This impact on ecosystem resilience, in addition to the intensity and duration of droughts, determines whether and how long ecosystems affected by drought will need to recover. There can be long delays in a return to health and balance, and in some cases, the drought may have resulted in local species extinctions (Lake, 2006, cited in Bond et al., 2008).

Economic impacts of drought

Droughts have had a significant economic impact on Australian farming communities and national GDP, spanning through and well-beyond particular drought events. For example, from 2007 to 2008 (a single year towards the end of the Millenium Drought), regional GDP in the southern Murray-Darling Basin fell 5.7 percent below the forecast and cost a temporary loss of 6000 jobs (IPCC, 2014, cited in Steffen, 2015). Australian cropping farms received record cash incomes in 2022-23, largely derived from high commodity prices and high levels of production (ABARES, 2024). Despite this recent bumper season, research has estimated that the long-term climate trends towards higher temperatures and lower winter rainfall has reduced annual average broadacre farm profits by 23% (Hughes et al. 2022).

Community perceptions of drought impacts across the Hay and Carrathool region

Residents living within the Hay and Carrathool region have experienced significant environmental events, including droughts and floods, that have caused damage in their local communities, ecosystems and industries over the past 30 years.

During the development of the Plan, we surveyed 147 local residents and spoke to 316 people through workshops and interviews. We asked how exposed people feel to natural disasters and how prepared they feel to cope with these events. Survey participants understand that they live in a region with a high risk of drought (84.3% agree or strongly agree), heatwaves (80.9% agree or strongly agree), and floods (64.1% agree or strongly agree). Over half of survey participants agreed (56.1%) or strongly agreed (10.1%) that they were well prepared for drought, though their confidence was lower in relation to the preparedness of the broader community.

Conversations with locals provided a more nuanced understanding of this question. In a workshop with agronomists, one participant reflected: "People don't have their head around how quickly the climate will change the intensity of drought. Farmers are the most prepared they have ever been for thinking about these things, but this next phase of climate and environment is not what they are expecting." Another participant said: "Even though people are more prepared, there seems to be a bit of PTSD. We saw this with El Nino forecasts last year...there was a lot of unease in farmers, thinking if they were up to that again. They might have all the tools but are they emotionally ready and confident – do they feel ready?"

Workshop participants discussed how quickly changing climate conditions and meteorological forecasts can impact the emotional and psychological states of primary producers and quickly affect markets and commodity prices. Local forums, like farm groups or a Community Drought Task Forces, were identified as important compliments to published information. Participants reflected that this is because a social space to discuss changing forecasts, locally observed conditions, and their potential implications for the season could better support producers to make informed decisions about farm management under changing climate conditions.

Overall, community discussions suggest that residents feel that they are prepared for environmental disasters such as drought if they do happen, though there is more work to do in the face of our changing climate.

Existing capacities and preparedness for drought in the context of regional resilience

Participants in this project consistently identified community spirit and support as a key source of resilience in the Hay and Carrathool region. As one participant said: "Resilience is the ability to shift and evolve and be adaptable in face of whatever change comes your way. It's embedded in the community and the people themselves."

The strength of local communities was raised as an asset and strength in times of acute crises, as with the 2022 floods, as well as longer term challenges. Another participant reflected: "It isn't an organised or coordinated response, but I know I can reach out for emotional or financial support (e.g. time to pay invoices) when it is needed. That doesn't happen everywhere. We have a history of helping each other."

Survey respondents identified a range of other local strengths, assets and resources for responding to disasters, including good local communication channels, local volunteers in services like the State Emergency Services (SES) and Rural Fire Services (RFS), and access to government support through the shire councils and primary producer support programs.

Regional drought resources and support

The New South Wales (NSW) Government and Australian Government have dedicated significant resources to understanding and preparing for the future impacts of droughts. These include:

1. **NSW Government DroughtHub.** The DroughtHub is an online centre that includes a wide range of guides, resources and assistance programs for primary producers and rural communities who are preparing for, managing the impacts of, or recovering from, droughts in New South Wales.

2. **Disaster Assist.** This federal government program allows people to apply for disaster recovery payments when their Local Government Area has been declared a natural disaster.

3. **Future Drought Fund.** This federal government fund helps farmers and rural communities prepare for drought. It includes subsidised training and coaching, innovation for drought resilience, information about the projected impacts of climate change on different commodities, and low-cost drought loans.

Appendix D. Regional strategies and plans

This is a summary of the Regional Resilience Strategies of the Hay and Carrathool Regional Drought Resilience Plan and the high level goals of the existing regional plans and strategies that were used to inform and shape them.

Resource	Relevant themes	Published	Link to resource
Hay and Carrathool Regional Drought Resilience Plan			
Hay and Carrathool RDRP	The Hay and Carrathool RDRP has 26 Priority Actions organised into five Regional Resilience Strategies. These are: 1. Inclusive and Empowered Communities. 2. Future Ready Businesses. 3. Reimagined Care Economy. 4. Placemaking with Purpose. 5. Coordinated Action for Climate Resilient Economic Development.	October 2024	–
Drought tools and information			
NSW Government's DroughtHub	The DroughtHub brings together resources for primary producers navigating drought across NSW.	Ongoing	Website
AdaptNSW	AdaptNSW maintains a summary of relevant information and resources about drought in NSW.	Ongoing	Website
Thirsty Country: Climate Change and Drought in Australia	This report by the Climate Council explores the likely impacts of climate change on drought in Australia.	2015	Available online

Resource	Relevant themes	Published	Link to resource
State Development plans			
NSW Net Zero Plan	The New South Wales Government's Net Zero Plan is the foundation for NSW's action on climate change and goal to reach net zero emissions by 2050. It is guided by an overarching commitment to "maintaining a strong economy, improving the quality of life for the power of NSW and protecting the environment". The Net Zero Plan Stage 1: 2020-2030 identifies four priorities for the state: 1. Drive uptake of proven emissions reduction technologies 2. Empower consumers and businesses to make sustainable choices 3. Invest in the next wave of emissions reduction innovation 4 Ensure the NSW Government leads by example.	March 2020	Available online
NSW 2021: New South Wales State Plan (2011-2021)	The NSW State Plan was a 10-year plan that informed the development of regional development plans (see Riverina Murray Regional Plan 2041). The State Plan introduced five key strategies: 1. **Rebuild the economy:** Restore economic growth and establish NSW as the first place in Australia to do business. 2. **Return Quality Services:** Provide the best transport, health, education, policing, justice and family services with a focus on the customer. 3. **Renovate Infrastructure:** Build the infrastructure that makes a difference to both our economy and people's lives. 4. **Strengthen our local environment and communities:** Improve people's lives by protecting natural environments and building a strong sense of community. 5. **Restore Accountability to Government:** Talk honestly with the community, return planning powers to the community and respect the wishes of the community when making decisions that will impact on their everyday lives	September 2011 (not yet superseded)	Available online

Resource	Relevant themes	Published	Link to resource
Regional Development plans			
Riverina Murray Regional Plan 2041	This Regional Plan provides a framework to align actions across all levels of government to enhance the environment, communities, place and economy across the Riverina region, including Hay and Carrathool Shires. It is guided by six goals: 1. **Proactively encourage greater economic growth, diversity and industry innovation.** 2. **Nurture the development of a sustainable environment for future generations,** including the development of an innovative response to the water challenge. 3. **Support education and skill development initiatives** that enable all people to have the capacity and confidence to contribute to the region's growth. 4. **Facilitate a collaborative approach across all tiers of government, business and community** to solving the challenges of the region. 5. **Encourage a proactive approach to health and living.** 6. **Act with honesty, integrity, transparency** and in accord with relevant legal and financial obligations, sound corporate governance procedures and to fulfil Departmental funding requirements.	First published in 2017, updated in January 2023	Available online
NSW Regional Economic Development Strategies	The NSW Government has supported local councils and communities across regional NSW to develop Regional Economic Development Strategies for 38 Functional Economic Regions (FER). The Carrathool Shire is within the Western Riverina FER. The updated strategies to support economic development in the region are to: 1. Develop and grow the agricultural and manufacturing 'Engines of Growth' 2. Invest in skills and the supply of key utilities critical to 'Engines of Growth' 3. Grow the Western Riverina population and labour pool	June 2018, updated in January 2023	Available online

Resource	Relevant themes	Published	Link to resource
Regional Development plans			
NSW Regional Economic Development Strategies	The Hay Shire is within the Western Murray FER. The updated strategies to support economic development in the region are to: 1. Drive growth in high-value agriculture and value adding in agricultural product manufacturing 2. Recognise the role of the visitor economy in developing a more resilient and diverse economy 3. Grow the mining and construction industries to capitalise on the region's renewable energy generation, storage and transmission opportunities 4. Leverage cross border and training accessibility to diversify and grow key industries.	June 2018, updated in January 2023	Available online
Murrumbidgee Regional Water Strategy	The NSW Government is supporting the development of regional water strategies, including for the Murrumbidgee River system, which is integral to the Hay and Carrathool Shires.	Expected late 2024	Available online

Resource	Relevant themes	Published	Link to resource
	Local Development plans		
Carrathool Shire Council 'Towards 2032: Our vision, our plan'	The Carrathool Shire Council's "Towards 2032: Our Vision, Our Plan" sets out the community's long-term plan for the Shire. The Plan's five goals and community outcomes are: **1. Thriving and liveable communities** a. Our communities are vibrant and liveable and help maintain and improve our quality of life b. Our open spaces are inviting and accessible to all, showcase the natural beauty of the landscape, and provide us with places for meeting, resting and playing c. There is enough land and housing available for our community to grow and for us to have choice in where we live **2. Accessible and connected** a. We have a reliable and well-maintained local road network that connects us with our own community and other places b. Our public spaces and parks are accessible to all community members c. People and places within our communities are connected through well-planned networks of footpaths and walking tracks **3. Resilient and welcoming** a. We have a strong connection to place, and our sense of community is one of our greatest strengths b. We provide opportunities for our youth and talent c. We enjoy a variety of community events and programs. Tourists enjoy a range of attractions that showcase our shire.	2022	Available online

Resource	Relevant themes	Published	Link to resource
	Local Development plans		
Carrathool Shire Council 'Towards 2032: Our vision, our plan'	**4. Reliable and relevant services** a. We enjoy well-maintained public infrastructure, parks, and open spaces b. The services Council provides are reliable and suited to our needs c. Our future service needs are considered **5. Civic leadership and governance** a. Our views are heard and responded to b. We are informed and engaged c. Our local leadership is strong and effective.	2022	Available online
Hay Shire Council's Community Strategic Plan 2022-2032	The Hay Shire Council's Community Strategic Plan 2022-2032 sets out the community's vision for their region, in alignment with the NSW State Plan and Riverina Murray Regional Plan. The key objectives of the plan are: **A. Environmental sustainability** a. Celebrate and promote our unique local environment b. Protect our water security c. Manage our waste sustainably d. Our community is inclusive and sustainable **B. Liveable and vibrant community** a. Maintain and beautify the town centres b. Our community has available housing options c. Our community has access to a range of employment opportunities d. All cultures are strong, well supported, flourishing e. Our community has access to a range of community services	2022	Available online

Resource	Relevant themes	Published	Link to resource
Local Development plans			
Hay Shire Council's Community Strategic Plan 2022-2032	**C. Economic prosperity and sustainability** a. Our community welcomes new and innovative industry to support our future b. Our community values its history and tourism c. We have the capacity to hold numerous events and activities d. Our community is innovative and adaptive **D. Governance and organisational performance** a. Our community is supported by a strong and resilient Council that is responsive to its needs b. Our community is connected and informed	2022	Available online
Hay Shire Council Circular Economy Strategy	The Hay Shire Council's Circular Economy Strategy aims to "provide guidelines and practical examples of where the Hay Shire Council as an organisation can make a difference, and ultimately lead by example" in relation to circular economy approaches in the region. The vision in the Strategy is to: 1. Reduce waste and pollution 2. Circulate products and materials at their highest value 3. Regenerate nature	October 2022	Available online
Hay Shire Council Drought Management Plan 2018	The Hay Shire Council published the Drought Management Plan 2018 to provide guidance to staff when managing drought events and inform the community of the issues associated with drought management and the community's role during drought. The Plan includes: 1. Drought prevention strategy 2. Preparedness actions 3. Drought response strategy 4. Recovery strategy 5. Water supply scheme 6. Climate considerations 7. The applicable regulatory framework	January 2018	Available online

“ We know the best solutions will come from within our region. The Plan is an invitation for all to contribute to the delivery of actions and initiatives that will turn the Hay and Carrathool region into the future we want. ”

Horses in Hay (Hay Shire Council)