



Northern and Yorke Regional Drought Resilience Plan

Northern and Yorke Regional Alliance Forum

31 March 2023

This project is part of the Regional Drought Resilience Planning Program and is jointly funded through the Australian Government's Future Drought Fund and the Government of South Australia.

Context and background

Context and background

- Future Drought Fund
 - \$5 billion fund aimed at supporting farmers and communities' drought resilience to prepare for future drought, legislated under *Future Drought Fund Act 2019*
 - Administered by Department of Agriculture, Fisheries and Forestry
 - Activities of the Fund structured via:
 - 4 themes (climate information, management practices, planning, preparation by communities)
 - 8 programs (to date)
 - Productivity Commission currently reviewing effectiveness, efficiency and appropriateness of funding allocations – due to report to Australian Government by 10 September 2023

Context and background

- Regional Drought Resilience Planning Program
 - Place-based approach to identifying (and pursuing) priority actions for improving drought resilience locally
 - Evidence-based approach to developing priority actions focused on resilience, adaptation and transformation
 - Independently reviewed by Commonwealth Scientific and Industrial Research Organisation (CSIRO)
 - Community-led plans sustained through adaptive learning processes
 - Co-design process with industry, communities, traditional owners and other local stakeholders
 - Pilot round currently being finalised in two regions and underway in a third region in South Australia

The Process

The Plan

- Co-design process
 - SA Drought Resilience Adoptions and Innovation Hub consultation (Aug – Oct 2021)
 - Stakeholder consultation and co-design (Feb – Jun 2022)
 - Key Insights Paper – climate projections, historic experiences of drought, current drought preparedness and planned activities (March 2022)
 - Draft plan (Jul 2022)
 - Independent review by CSIRO (Jul – Dec 2022)
 - Final draft for Commonwealth Minister approval (March 2023)

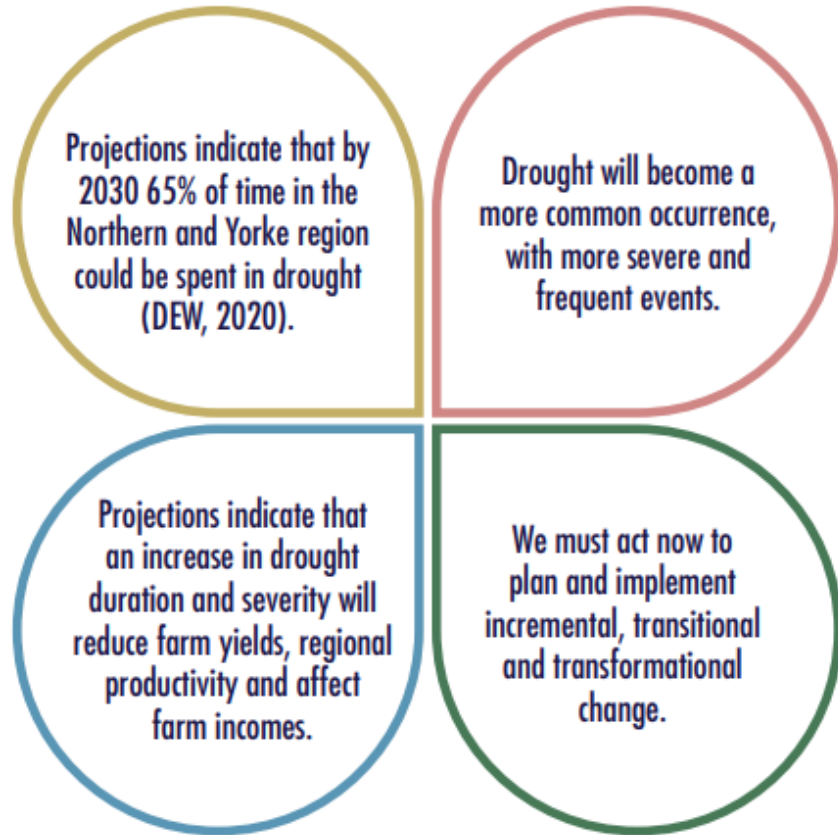
279 stakeholders engaged by SA
Drought Resilience Adoption and
Innovation Hub

143 stakeholders engaged directly
through the NYRDRP co-design
process

The Plan

The Plan

WHY DOES THE NORTHERN AND YORKE REGION NEED A DROUGHT RESILIENCE PLAN?



RESILIENCE

Resilience can relate to the ability of a system, organisation or individual to withstand adversity and to bounce back from such adversity.

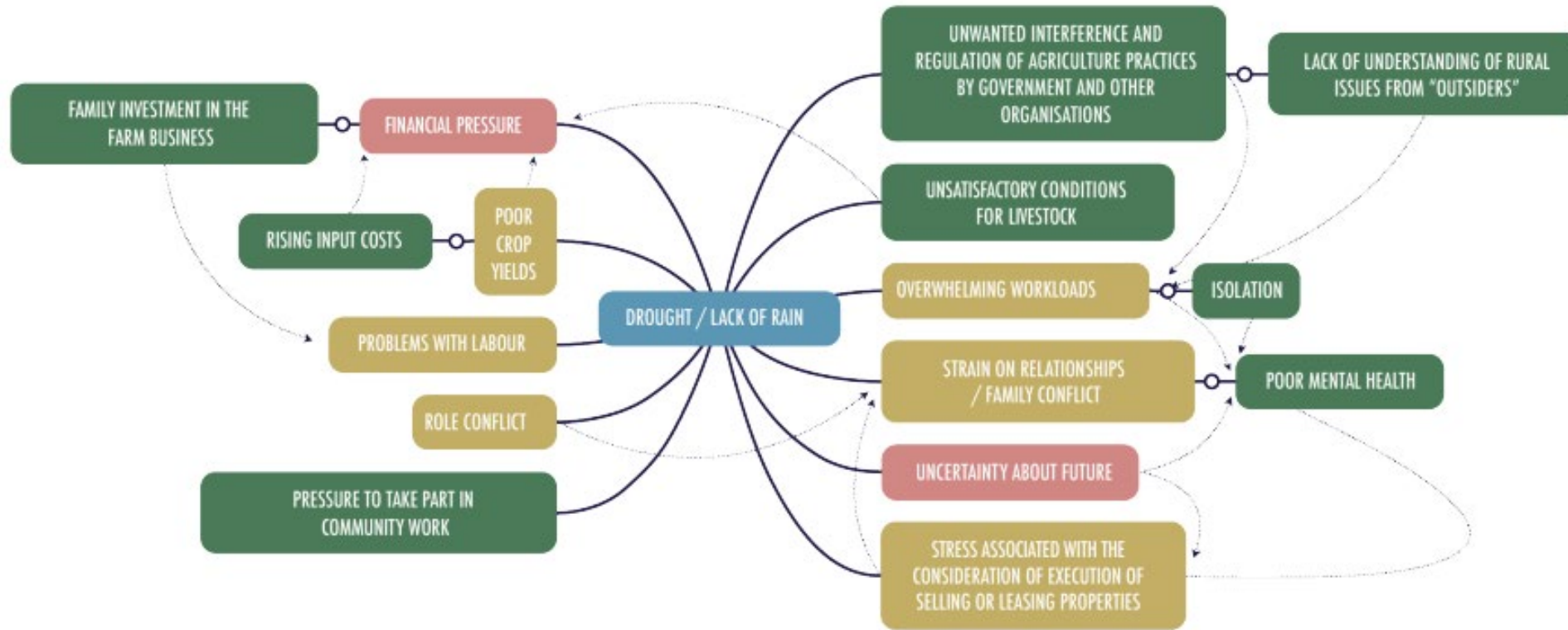
As a concept, resilience represents the community's capacity to deal with change, move forward and adapt to minimise the impact of adverse events.

A resilient community is innovative, diverse and has the tools to learn from the past to progress in the future.

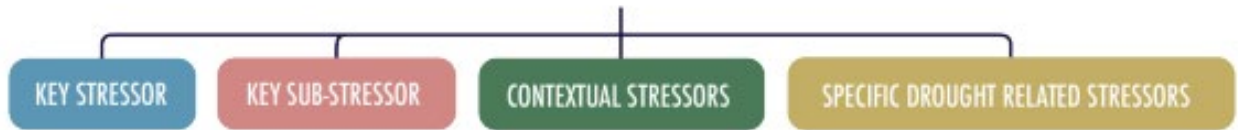
The Plan

RESILIENT FARM ENTERPRISES	RESILIENT INDUSTRIES	RESILIENT COMMUNITIES
<p>Resilient farm enterprises are built upon strong, resilient and diverse production systems operated in accordance with effective risk management frameworks that enable income production during challenging times.</p> <p>Key characteristics or attributes include:</p> <ul style="list-style-type: none"> • A diverse farming income stream • Sustainable land management • Support systems in place for farmer and family health and wellbeing • Sound production systems • Appropriate business planning which incorporates risk planning • Knowledge sharing and education <p>Key implications or challenges posed by future drought include:</p> <ul style="list-style-type: none"> • Reduced and loss of crop and livestock production • An aging workforce • Successional change on farms and depopulation • Reduction in water availability • Increased water prices and or decrease water quality • Reduced profit and income • Increasing input costs e.g. fuel and fertilisers. • Poorer mental health and wellbeing outcomes 	<p>A resilient industry is one that recovers quickly and adapts from an unexpected event, is able to identify process changes that allow it to recover in a better position than prior to the disruption.</p> <p>Key characteristics or attributes include:</p> <ul style="list-style-type: none"> • Flexibility in sourcing, manufacturing or otherwise procuring supply • Market and product diversity supporting multiple income streams • Utilises business and disaster planning to anticipate adverse events • Active preventative maintenance on machinery/equipment • Active coordination and knowledge sharing between supply chain stakeholders <p>Key implications or challenges posed by future drought include:</p> <ul style="list-style-type: none"> • Increase in product and commodity costs • Issues with transport infrastructure (e.g. road) causing delays or inability to transport supply • Loss of markets via demand or credit-worthiness of clients • Supply delays • Crop or harvest failure 	<p>Communities resilience is interdependently linked to the community's health and wellbeing in that when one is reduced or strengthened, so is the other. A resilient community has the capacity to deal with hardship, can get back up and return to normal after an adverse event.</p> <p>Key characteristics or attributes include:</p> <ul style="list-style-type: none"> • Effective leadership • Diverse economic activities • Access to services and infrastructure • Involved in decision making • Socially cohesive • Strong cultural links • Knowledgeable • Healthy • Engaged <p>Key implications posed by future drought include:</p> <ul style="list-style-type: none"> • Poorer mental health and wellbeing outcomes • Poorer physical health outcomes • Reduced incomes • People leaving the region • Poorer social connections • Poorer engagement (volunteerism)

The Plan



LEGEND



The Plan

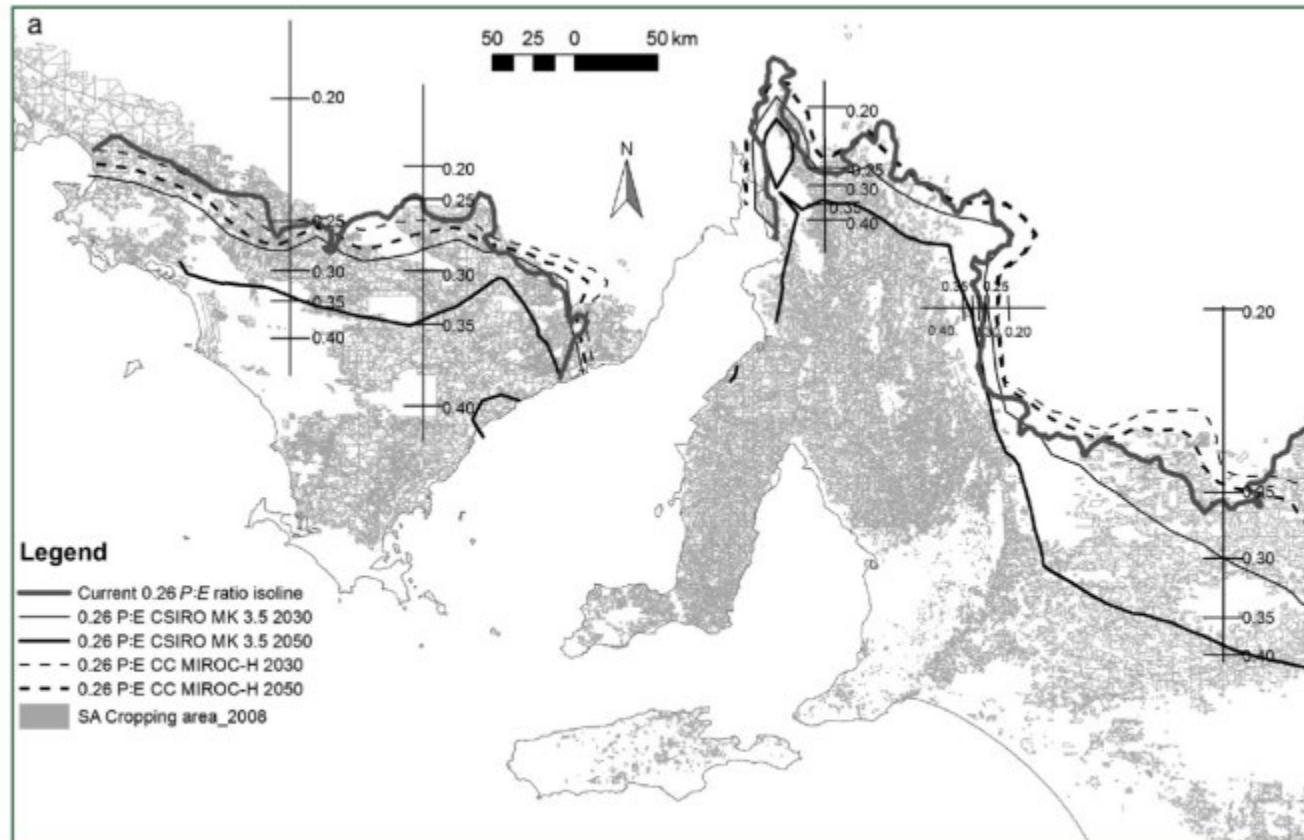
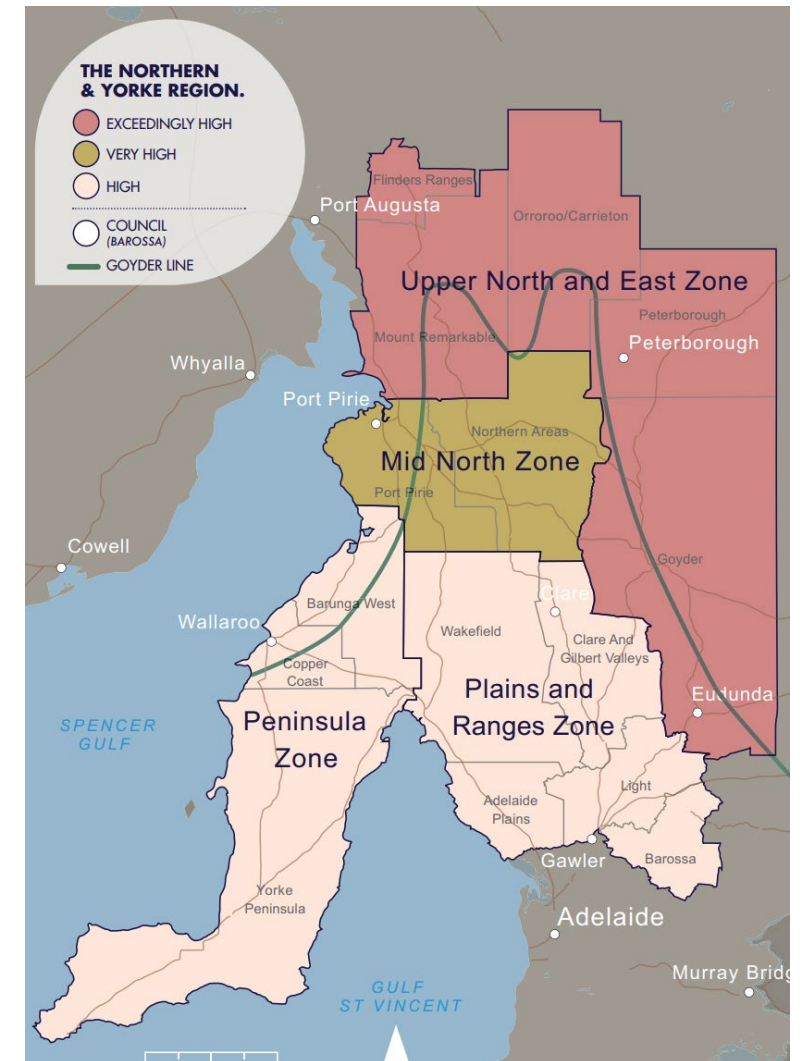
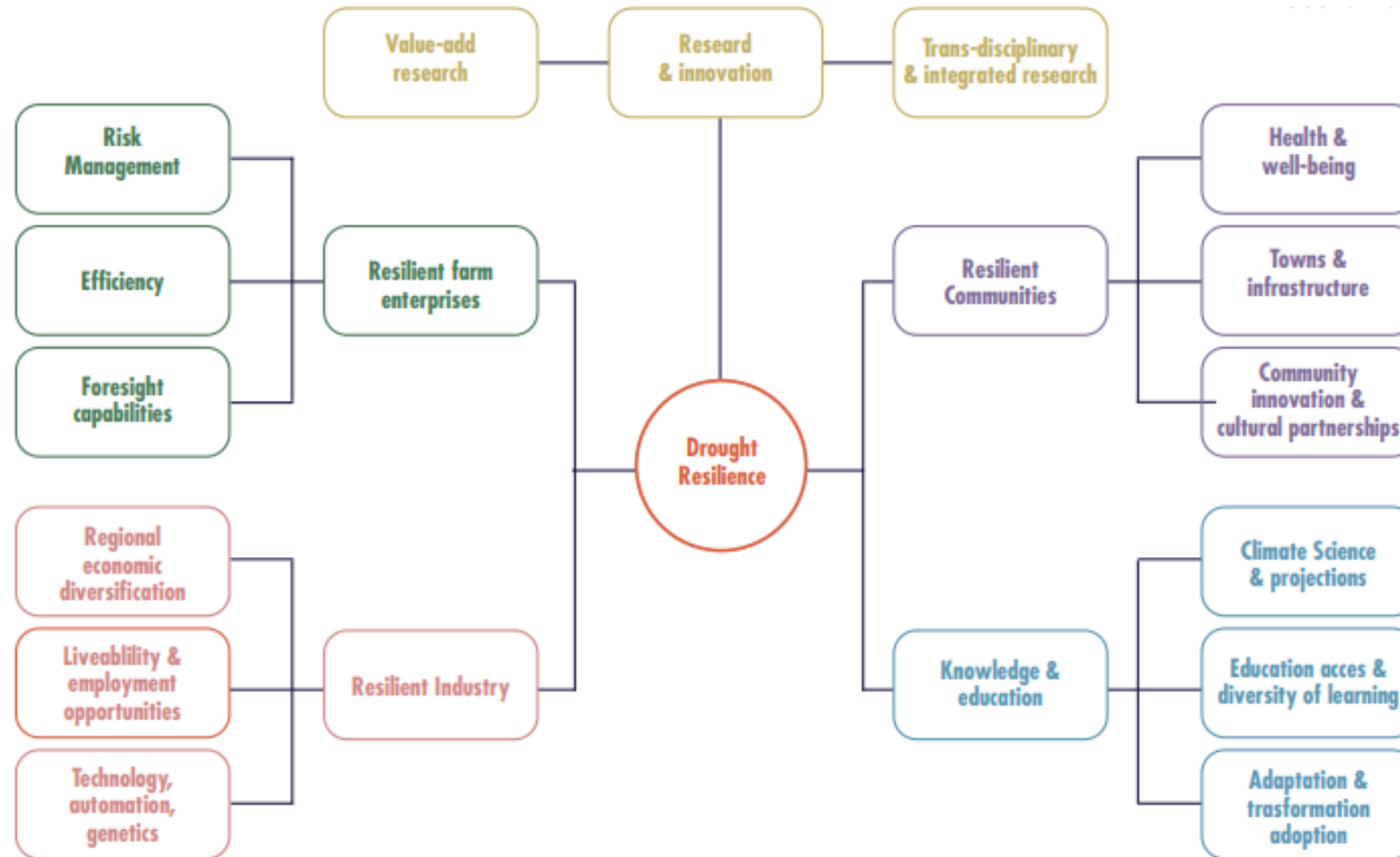


Figure 19. Precipitation:evaporation (P:E) ratio of 0.26, generated for 2030 and 2050 using CSIRO Mk3.5 and CC MIROC-H climate models. Transect values = P:E ratios of current climate along Goyder's Line in South Australia (Source: Nidumolu et al. 2012).



The Plan



The Plan

THEME #1 RESILIENT FARM ENTERPRISES			
	CURRENT PROGRESS:	PRIORITIES GOING FORWARD:	ACTIONS:
KEY ENABLERS: RISK MANAGEMENT	<ul style="list-style-type: none"> Strong history of productivity gains through localised agricultural research and development. On-farm rainfall dependent diversification. Select examples of on-farm rainfall independent diversification. Farm Management Deposits. Business Planning, including off-farm counsel. 	<ul style="list-style-type: none"> Further off-farm diversification. On-farm rainfall independent diversification. Forward planning, knowledge of market trends, access to markets and future food demand. Understanding and acceptance of a new reduced rainfall and increased evaporation. Reduced reliance on export markets. Integrated and coordinated that allows for greater access for farm families and workers. Access to rainfall independent irrigation districts. 	<ul style="list-style-type: none"> Transition farm operations to carbon neutral (e.g. electrify machinery, carbon farming etc.) Increase access to off-farm income sources through further education of the need for off-farm income and increasing access to regionally located education and training services.
	THEME #2 RESILIENT INDUSTRY		
KEY ENABLERS: INCREASE REGIONAL ECONOMIC DIVERSIFICATION	CURRENT PROGRESS:	PRIORITIES GOING FORWARD:	ACTIONS:
	<ul style="list-style-type: none"> Sound access to freight routes, ports and Adelaide. Large scale solar and wind energy projects across the region due to high exposure to both sun and wind. Historically, a profitable and productive farming region, providing a significant proportion of South Australia's agricultural produce and exports. Increase in tourism resulting from COVID-19 through many districts and towns has provided economic benefits. Community collectives encouraging local entrepreneurship and place-making. 	<ul style="list-style-type: none"> Regional diversification in industry form and function. Value add to existing regionally produced agricultural commodities. Increasing understanding of market access and development. Define, measure and report regional resilience. Take advantage of existing South future target industries. Encourage business investment in offset market for locations where viability is reduced. Provide non-farming enterprises and training for the development resilience plans (especially related to drought). 	<ul style="list-style-type: none"> Investigate options for regional diversification linked to the South Australian Government future industries. Define the value-add opportunities for the region based on current regional economic strengths and growth areas and the South Australian Government economic growth priorities. Continue to build upon a growing and significant tourism industry across the food, wine, outdoor adventure and community sectors.
THEME #4 KNOWLEDGE AND EDUCATION			
KEY ENABLERS: UNDERSTANDING CLIMATE PROJECTIONS AND SCIENCE	CURRENT PROGRESS:	PRIORITIES GOING FORWARD:	ACTIONS:
	<ul style="list-style-type: none"> Recognition of changes to weather patterns over time by many farmers and farming groups Significant work conducted by DEW and SARDI to quantify projected impacts of climate change on available soil moisture and agricultural systems. 	<ul style="list-style-type: none"> Develop appropriate communication materials to suit varied learning styles and educational levels. Co-develop materials with and for farmers, supply chains and rural communities. Effectively communicate the opportunities and need for rainfall independent income and revenue required for future farming enterprises. Connect community leaders who have experienced drought to the Drought Leaders Mentoring Program 	<ul style="list-style-type: none"> Engage both communications, researchers and educational specialists to work with farmers, ergonomists, supply chain stakeholders and the broader community to understand barriers to understanding and acceptance of climate change. Develop communication materials based on findings from the stakeholder engagement and co-design process. Ensure the focus is on actions required and taken, rather than climate data.
THEME #3 RESILIENT COMMUNITY			
KEY ENABLERS: HEALTH AND WELLBEING	CURRENT PROGRESS:	PRIORITIES GOING FORWARD:	ACTIONS:
	<ul style="list-style-type: none"> Initiatives and programs for farmer health and wellbeing: Fat Farmers, I Farm Well and PIRSA's FAB Mentor Program. Community Grants programs. 7 Regional Public Health Plans across the region. Community Connect model. 	<ul style="list-style-type: none"> Improve capacity for mental health support. A better connected and integrated community. Better access to health and wellbeing services. Maintain access to healthy natural environments. Coordinated approach to mental health services. Community involved in decision making. 	<ul style="list-style-type: none"> Coordinate and expand Community-Led Mental Health and Wellbeing Support Initiatives (e.g. Lifeline Country to Coast initiative). Establish an Online Hub/Community for promotion and awareness of mental health supports and case studies. Advocate for visiting and outreach mental health services. Prepare for acute mental health resources under drought conditions. Support suicide prevention programs favouring a self-determination /community-led approach. Ongoing support and access to health and community services for at risk sectors with priority being mental health services. Support community leaders and community resilience coordinators to help promote drought resilience programs. Education programs to fight stigma around mental health issues.
TOWNS AND HERITAGE	<ul style="list-style-type: none"> Water sensitive urban design. Water recycling. Smart irrigation technology. 	<ul style="list-style-type: none"> Manage natural environments in urban areas for drought resilience. Ensure sustainable use of water. Support the development of strategic community 	<ul style="list-style-type: none"> Integrate planning for risk of drought within regional health service and infrastructure planning. Assess current reliance of health, aged care, housing, industry and social infrastructure on rainwater.

The Path Forwards

The Path Forwards

- Final draft submitted to PIRSA, DAFF
 - To be approved by the Commonwealth Minister responsible for Drought
- Governance of the Plan via Northern and Yorke Regional Alliance
 - Ownership of the Plan by communities, represented (and engaged) by Alliance members
- Monitoring, evaluation and learning (MEL) framework to incorporate learnings via adaptive learning process
- Implementation (and maintenance) of the Plan at the sub-regional level

The Path Forwards

- Implementation activities to be coordinated by NY Regional Alliance members at the sub-region level will include:
 - Identifying alignment with, and opportunities to integrate, priority actions into strategic and operational plans
 - Sharing information pertaining to drought resilience (including funding opportunities)
 - Supporting funding applications and engagement with the Future Drought Fund
 - Monitoring activities and reporting on progress in implementing priority actions under the NYRDRP
 - Updating and reprioritising priority activities based on changing circumstances, knowledge and progress towards drought resilience

The Path Forwards

Sub-region zone	Local government areas
Upper North and East (Legatus)	Flinders Ranges Council District Council of Mount Remarkable District Council of Orroroo Carrieton District Council of Peterborough Regional Council of Goyder
Mid North (RDA Yorke and Mid North)	Port Pirie Regional Council Northern Areas Council
Peninsula (Northern Yorke Landscape Board)	Barunga West Council Copper Coast Council Yorke Peninsula Council
Plains and Ranges (RDA Barossa, Gawler, Light and Adelaide Plains)	Wakefield Regional Council Clare and Gilbert Valleys Council Adelaide Plains Council Light Regional Council Barossa Council

The Path Forwards

- Why these priority actions are important for land use in regional areas
 - Achieving drought resilience farm businesses, supply chains and communities will mitigate or ameliorate the negative impacts of drought
 - Stronger local communities and regional economies
 - Increased diversification for broader-based growth
 - Improved amenity values
 - Funding opportunities via Future Drought Fund
 - \$100 million per annum investment across Australia until (at least) 2030



Regional
Development
Australia

YORKE AND MID NORTH