

**Northern WA & NT Drought Resilience Adoption and Innovation Hub
Research, Development, Extension, Adoption and Commercialisation (RDEA&C) Activities (in development)**

The core consortium partners include Charles Darwin University (lead), industry bodies (Kimberly Pilbara Cattlemen’s Association, Northern Territory Cattlemen’s Association, Northern Territory Farmers Association) as well as NRM organisations (Territory NRM, WA Rangelands NRM), Regional Development Australia and government agencies (WA Department of Primary Industries and Regional Development and the NT Department of Industry Tourism and Trade). All activities are subject to change as we progress the co-design process.

Activities	Activity objective	Outcomes	Regional coverage and user focus (e.g., type of farm businesses)	Project lead and partners
<p>Activity 1 <i>Developing the Knowledge Bank</i> Undertake a situational analysis of currently available capacity, programs and activities that enhance drought resilience within rural industries and communities, evaluate their performance and identify remaining gaps in the NT and northern WA.</p>	<p>To develop the knowledge base for development of a portfolio of comprehensive and complementary programs and extension activities that effectively meet the resilience-building and drought response needs of rural stakeholders</p>	<p>The project will enable consortium partners to identify, define and deliver an innovative and transformative program of measures to enhance drought resilience that learns the lessons from, and builds upon, existing programs and future activities to fill any remaining gaps in support or services</p> <p>The knowledge and techniques to build capacity of the rural community will be shared and disseminated through a centralised repository and supported by the knowledge brokering and extension and adoption Activities 3-5.</p> <p>Key Outcome 1 The project will be a key foundational activity for the hub, through collecting and reviewing years of ground up efforts, combined with specialist interpretations of the literature, to inform the design of successful projects.</p> <p>Key Outcome 2 Continual update of the knowledge repository based on project results and shared learnings. A focus on equipping primary producers and industry stakeholders with an integrative suite of tested methods and tools to increase drought resilience.</p>	<p>TNRM / RNRM WA boundaries</p> <p>pastoral broad acre horticulture Forestry Indigenous enterprises</p>	<p>Knowledge broker, extension officers, consortium and project partners (representative producer and indigenous groups, NRM, researchers and peak industry bodies)</p>
<p>Activity 2 <i>Foundational Activity: Learn the lessons from recent drought to inform future drought strategies</i></p> <p>Engage with producers to explore their own knowledge and capacity for drought adaption with reference to their experiences and the outcomes of their resilience strategies during periods of climate variability, scarcity and drought and projected drought scenarios.</p> <p>This extension activity will apply recognised approaches (e.g. the Bestprac/Continuous Improvement and Innovation Model™) and draw upon appropriate leading practice in extension methods</p>	<p>To capture and recognise existing producer knowledge and strategies and so develop a drought resilience program capturing the empirical experience of successful responses to drought</p>	<p>This project will be critical to giving producers a voice in the development of resilience programming. It aims to ensure that local knowledge, lived experience and indigenous knowledge can be drawn upon to complement scientific-based knowledge in developing resilience programs</p> <p>This project will be essential to engage producers and industry stakeholders into the development of Hub programming and will also help to continually test those programs.</p>	<p>TNRM / RNRM WA boundaries</p> <p>pastoral broad acre horticulture indigenous enterprises</p>	<p>Knowledge Broker and partner organisation extension officers</p>

<p>Activity 3 <i>Planning for drought resilient businesses</i></p> <p>In combination, Activities 1 and 2 will identify key resilience needs, gaps and available options for producer support. Activity 3 will draw on these to inform resilience planning It will strengthen Territory and Northern Western Australian producers and rural enterprises to better withstand the impacts of drought through effective resilience planning, and building more efficient, agile and diversified businesses</p>	<p>To ensure that rural businesses are best informed and prepared to respond to the challenges of future drought with access to appropriate industry training, business planning and management support that helps create buffers and options against drought.</p>	<p>This project will focus upon the business and enterprise management elements that are common to all rural industries and underpin the capacity of producers to adapt and respond to drought. It will support enterprises to strengthen operational efficiency and promote development of drought preparedness and adaption plans, including diversification where appropriate. This project will investigate and support new ways of doing business in variable and dry climates by piloting alternative or supplementary business models such as collaborative ventures and integrating natural capital values and markets into business plans.</p>	<p>TNRM / RNRM WA boundaries pastoral broad acre horticulture Forestry Indigenous enterprises</p>	<p>Extension DITT, DPIRD NT Farmers, NTCA KPCA GCG GNRBA SRPA TNRM RNRM WA Private consultants /training providers</p>
<p>Activity 4 <i>Enhancing forage production and sustainability for drought resilience in the rangelands</i></p> <p>Apply leading edge knowledge, technologies and management practices to enhance natural capital to buffer against the impact of drought across the rangelands and within the grazing industry</p>	<p>To ensure that grazing land management decisions and pastoral operations are being guided with the best and most relevant information and implemented with the techniques which can most effectively sustain rangeland health, productivity and resilience to drought.</p>	<p>Innovative tools techniques and practices will support pastoral producers achieve greater efficiency and sustainability in the management of Northern Territory and Northern Western Australian rangelands, to both enhance their productive resilience and protect the ecological services they provide.</p>	<p>TNRM/Rangelands WA/NT Pastoral industry Indigenous enterprises</p>	<p>Extension DITT, DPIRD TNRM Rangelands WA NTCA KPCA GCG GNRBA SRPA KLC, ILSC etc</p>
<p>Activity 5 <i>Building water security and efficiency of use</i></p> <p>Improved management of water in the landscape to strengthen drought resilience among both rural industries and communities, and to protect natural values</p>	<p>The build the effectiveness of planning and management of the total water resources use at both property and landscape scales, to underpin diversification and maximise the sustainability and productivity of the resource and resilience of the integrated businesses through future periods of climate variability, scarcity and drought</p>	<p>Effective landscape scale and science-based planning for the management and utilisation of both ground and surface waters for existing production and future planned developments. Properties and industries configured to maximise water capture and retention in the landscape while enhancing production. Improved crop varieties, growing systems and land uses that achieve greater water use efficiency and drought tolerance, including improved pastures, fodder production, cropping systems and other production systems enabled by available sustainable water management. Use of remote sensing and enabling technologies to optimise capture and storage of surface water and minimise impact of surface water harvesting on the environment.</p>	<p>TNRM / RNRM WA boundaries •pastoral •broad acre •horticulture •Forestry •indigenous enterprises</p>	<p>Extension NT Farmers ORD RIVER DITT DPIRD RNRM WA TNRM NTCA KPCA GCG GNRBA SRPA KLC, ILSC etc</p>
<p>Potential Additional Activities <i>The co-design process has already identified several potential additional activities that may be added to the hub's core business if funding is available.</i></p>				
<p>Indigenous Drought Resilient Agriculture Development</p>	<p>To develop individual projects for each indigenous land Estate engaged, tailored to suite the aspirations of land holders.</p>	<p>This proposal would see the Hub or its agent (members) working directly with Traditional Owners, Indigenous stakeholders, potential investment partners, Land Councils and all levels of government to assist Indigenous landowner groups to become engaged in the agriculture sector in greater numbers.</p> <p>Project Outputs Drought resilient Indigenous agriculture, web based growers stories and virtual farm tours highlighting Indigenous enterprise, best practice development and planning, workshops and meetings to leverage, benchmarking data available for industry, regular onsite monitoring and auditing.</p>	<p>Joint ventures Wholly Indigenous enterprises Employment outcomes Land leases.</p>	<p>Extension ILSC NT Farmers DITT DPIRD RNRM WA TNRM</p>

<p>Fodder Industry Standards</p>	<p>To maintain a viable fodder sector which can provide resilience during drought periods and remain viable during non-drought periods.</p> <p>The capacity to deliver a premium product sustainably requires industry support through a registered stewardship / standards program.</p>	<p>Outcome 1 The project will significantly improve drought resilience of the natural resource base in Northern Australia, mainly in soil, water, vegetation and biodiversity, and on farm adoption of best practice sustainable agriculture. Improvements in natural resources will be driven by the development and industry adoption of fodder production standards that prescribe responsible and environmentally aware farming techniques.</p> <p>Outcome 2 The forums, field visits and resources will increase awareness, knowledge and skills of farmers. It is proposed the online support system will generate resources to support the implementation of best practices and continue to evolve for the industries future. The forums are a unique opportunity for the latest knowledge and research in sustainable agriculture to be shared with a vast collection of industry stakeholders. They allow for a collaborative approach for growers to learn about innovative fodder practices. Field days will provide participants with firsthand demonstrations on how to implement sustainable best practices.</p>	<p>Producers support industries merchants end users environmental groups government Indigenous stakeholders</p>	<p>Extension NT Farmers DITT DPIRD NTCA KPCA</p>
<p>Potential Social Studies Associated with drought and adoption of R&D</p>	<p>During initial co-design discussions, core members agreed activity associated with the social aspects of drought reliance would be useful. This may be one project or several smaller activities each looking at different areas of social sciences that relate to drought and adoption.</p>	<p>Areas of focus identified during discussions included: Social Connections to community and to country and how this is impacted by drought Looking at what the Australasian Centre for Resilience Implementation for Sustainable Communities is doing in the community reliance space. Looking at the impacts of drought on workforce retention and availability and identifying solutions to these impacts A social science study into why producers are not adopting the existing available research (is it cultural) A study of adoption models and techniques with recommendations for the best model to suit drought innovation in a Northern Australian context.</p>	<p>TNRM / RNRM WA boundaries pastoral broad acre horticulture Forestry Indigenous enterprises</p>	<p>Knowledge broker, extension officers, consortium and project partners (representative producer and indigenous groups, NRM, researchers and peak industry bodies)</p>