Australian Government
Department of Agriculture, Water and the Environment

Future Drought Fund



South Australian Drought Resilience Adoption and Innovation Hub

Annual MEL Report

Financial year: 2021-2022 (1 July 2021-30 June 2022)
Report due: 31 August 2022



Guidance note:

The annual MEL Report for 2021-2022 lays out the Outputs and Outcomes achieved by the South Australian Drought Adoption and Innovation Hub. The report presents both the Indicator that Hub is reporting against, in accordance with the Data Capture Plan (2022), and the specific questions that Hub is required to respond to.

Please note that whilst the Hub was not able to provide extensive responses for some Outputs and Outcomes, we have endevoured to provide as much detail on our progress as possible.

Table of Contents

Executive Summary 3

MEL Report on Outputs 4

Output 1: Knowledge development and sharing (products developed from) 4

Output 2: Outputs of innovation programs and opportunities 5

Output 3: Outputs of innovation programs and opportunities (specific to First Nations communities) 7

Output 4: Scholarships 8

Output 5: Support for access to funding 9

Output 6: MEL Plans – baseline data provided and monitoring data being provide on an annual basis. 11

Output 7: Learning activities to support resilience with end users and those who support end users (and associated products) 11

Output 8: Products from co-designed activities to support First Nations engagement and knowledge 18

Output 9: Hub communication activities plans and products 21

Output 10: On-farm trials and demonstrations to build drought resilience 25

Output 11: Co-designed Operational Plans 31

Output 12: Activity Plans that incorporate aspects of co-design processes 33

Output 13: Outputs from Hub governance activities conducted 35

Output 14: Drought commercialisation opportunities 37

Output 15: Drought and resilience tools and products 38

MEL Report on Outcomes 41

ST1: Increased collaboration and partnerships among organisations working in RDEA&C. 41

ST2: Co-design and participatory approaches embedded in the design and delivery of Hub activities 47

ST3: Hubs seen and utilised as key regionally focused institutions for defining and delivering RDEA&C services (relating to drought resilience) 48

ST5: Efficient and effective activities to support RDEA&C and uptake by end users 49

MT4: Design and delivery of Hub activities is responsive to end-user needs 50

Executive Summary

The South Australian Drought Resilience Adoption and innovation Hub (SA Drought Hub) has undertaken a wide range of activities throughout the initial twelve months of operation from July 1st, 2021, to June 30th 2022. The SA Drought Hub has implemented a co-design process that has engaged farmers, Grower Groups, research organisations and researchers, Industry peak bodies, Government, NGO and private extension officers and networks, Local Government, and a range of agricultural service and equipment providers to inform the Hub of the drought resilience priorities. The SA Drought Hub has continued to increase the number of network partners since commencement and this has built the capacity of the Hub to deliver projects, and broader awareness of the SA Drought Hub activities across South Australia.

The SA Drought Hub has commenced fifteen SA Drought hub funded projects across the state and an additional three Cross Hub projects that deliver a wide range of activities across the key South Australian agricultural commodity sectors of grains, livestock and viticulture. All projects align with the priorities identified through SA Drought hub's codesign process, and are being delivered through the South Australian Grower Group network with project service provision through a broad range of Hub partners.

The SA Drought Hub has developed active communications channels with extensive networks to promote the activities of the Hub and our partners. This has proved to be invaluable in promoting Hub projects and engaging people in the activities being undertake n through the SA Drought Hub member base.

The SA Drought Hub has supported a large number of Hub partner and non-partner organisations to apply for and attain grant funding though the Future Drought Fund (FDF) Drought Resilience Soils and Land Management Grants and Drought Resilience Innovation Grants Programs and has provided a range of support to these and other FDF initiatives including the Drought Resilience leaders' Program, the Networks to Build Drought Resilience Grant initiatives and the Regional Drought Resilience (RDR) Planning program. Support for these has been through providing connections, linking FDF programs on the ground, providing SA Drought Hub presentations, workshops and other content to value add to events, steering committee attendance, considering collaborative opportunities and provision of letters of support.

Whilst the First twelve months of the South Australian Drought Hub have been formative, we have also achieved a large amount of project development and delivery on the ground through a co-design process that has seen the drought resilience needs of South Australia's primary producers prioritised and supported. There are still many opportunities to build upon the first twelve months of Hub endeavour to increase the level of stakeholder and end user engagement and uptake of drought resilience and preparedness practices.

MEL Report on Outputs

Output 1: Knowledge development and sharing (products developed from)

Indicators in MEL Plan

- Knowledge sharing/resource platform is implemented (if relevant).
- Number and type of knowledge resources developed and shared.
- Number of users utilising the knowledge sharing/resource platform.

MEL report questions

1. ***Please provide an overview of the types of knowledge sharing/resource platforms and knowledge resources that your Hub has developed, implemented and shared. Please state if these are external facing (e.g., website, e-newsletter, social media) or internal facing (e.g., SharePoint, internal e-newsletters).***

   The SA Drought Hub has developed a website which contains key information on the SA Drought Hub: https://sadroughthub.com.au. This includes information about the Hub, our members and partners, node locations, contact details, news, events, and resources. The website is being updated regularly with resources being added as they are developed or become available.

   The Hub also has a monthly newsletter which is widely distributed to the Hub mailing list. The newsletter covers Hub priorities, co-design opportunities, upcoming events of the Hub, FDF and Hub members, announcements on staff recruitment opportunities and staff joining the Hub. As projects of the Hub progress and/or are completed outcomes from projects will also be reported.

   The Hub hosts an active Twitter account providing links to Hub and FDF material. The account has 202 followers (and growing) and has made 129 tweets.



Above: A screen shot of the SA Drought Hub Website home page.

The Hub Communications Manager, Node Coordinators and Knowledge Broker have been extensively liaising with various stakeholders on drought resilience material that already exists. This material is being reviewed. Future work in the coming months will involve provision of weblinks accompanied by a brief description to other sources rather than seeking to be a one-stop-shop for hosting all material directly. Where gaps are identified, or material requires synthesis into a consolidated document this will be undertaken.

The Hub has coordinated South Australian input from Hub members and stakeholders on the Drought Resilience Information System (DRIS) and provided feedback from the SA Hub stakeholder group on the opportunities and risks that DRIS presents. The Hub contacted and sought permission of 20 end users and extension providers from across the Hub member network to participate in interviews to determine what would make a drought resilience information system (DRIS) valuable to them. These interviews were undertaken by Nous Group as part of their national consultations to develop the scope for the DRIS.

SA Drought Hub staff and key partner organisations have participated in Drought Resilience Self-Assessment Tool (DRSAT) consultation sessions and provided targeted feedback on the tool's functionality and its usability from a South Australian primary producer perspective across key industries, in particular grains and livestock (mixed farming) production. This has guided ongoing development of the DRSAT and refinement to suit South Australian production systems and environments. Most recently a technical group was formed and provided advice on specifically on the suitability of the questions and options provided by DRSAT for South Australian Grains and Livestock (mixed farming) enterprises.

The Hub hosts all internal documentation on an access only basis (invite) within Teams. This enables efficient document handling and tracking. Internal documents include Head Agreements, subcontracts, project reports, milestone reports.

2. ***Please quantify the number of users that have utilised the knowledge sharing/resource platforms and knowledge resources (where possible).***

   The SA Drought Hub website has been accessed by 3177 unique visitors, received 5823 visits, had 129,275 hits, and 26,229 page views.

Output 2: Outputs of innovation programs and opportunities

Indicators in MEL Plan

- Gaps in existing drought resilience knowledge and practices identified and prioritised by stakeholders: number of stakeholder consultations, stakeholder category, type of needs identified, region etc.
- Extent to which Hub has identified opportunities and worked to address gaps through its co-design processes.

MEL report questions

1. ***What are the gaps in existing drought resilience knowledge and practices that were identified during the co-design processes? Please provide a short summary of each gap identified.***

   The gaps in existing drought resilience knowledge and practices identified through the Co-design process were across all aspects of drought resilience: Community, economic, management, agronomic and environmental. The SA Drought Hub co-design consultation

process captured 991 ideas for building drought resilience and current knowledge gaps, and these were ordered into 10 themes as listed below:

1. Community resilience and wellbeing through support, collaboration, and access to technologies
2. Farm planning and decision making to manage climate and operational risk
3. Farm business management
4. Livestock and fodder management strategies, technologies, and innovations
5. Crop and pasture management strategies, technologies, and innovations
6. Access to drought information and technical support
7. Soil and land management strategies, technologies, and innovations
8. Water security and management strategies, technologies, and innovations
9. Native vegetation, biodiversity, pest management strategies, technologies, and innovations
10. Upskilling advisers, researchers, and key influencers

The full Node Co-Design Workshops Report provides a description of each theme, lists each of the 991 ideas received, lists the priority ideas identified for each of the SA Drought Hub Nodes, and provides participant feedback on their enterprises and exposure to drought.

The report can be found on the resources page of the SA Drought Hub Website Resources Page at https://sadroughthub.com.au/resources



Above: The Orroroo Node Co-Design Workshop

2. ***Please provide an overview of how these gaps were addressed and resolved and what type of co-designed process was used to identify/resolve them? (or plans to do so?).***

   The SA Drought Hub took the priorities identified in each of the Hub Nodes through the co-design consultations and worked collectively with Hub Members to codesign projects that recognise and add value to past and current investments, are tailored to local farming

systems and environmental conditions, engage local and regional stakeholders in the design and delivery of projects, and are of the highest priority to local end users. This process was undertaken through a series of online workshops (due to COVID requirements at that time) to identify the priorities in each node arising from the co-design consultations and to have a discussion on the opportunities for project design and delivery. The SA Drought Hub delivers projects on the ground primarily through the South Australian Grower Group Network and specific targeted and localised project development was undertaken by a range of grower groups and Landscape Boards from across the State to ensure the projects recognised and met the principles outlined above. The projects developed as part of the co-design process are listed in this report however the co-design process remains ongoing to ensure the identified priorities can continue to be addressed across the hub network.

The Hub team will also be reviewing and where appropriate collating and synthesising existing drought resilience information. One example of this will be reviewing the research-oriented projects (co)funded by SA Grain Industry Trust which would inform improved practice for farm resilience. Often these reports are written for a scientific audience and have not yet been (fully) adapted and communicated to grain growers and their advisors. This effort will be complementary to the co-designed demonstration trials, crop walks and workshops projects which will provide the physical/visual demonstration alongside the summarised written material.

Output 3: Outputs of innovation programs and opportunities (specific to First Nations communities)

Indicators in MEL Plan

- Gaps in First Nations' knowledge and practices identified (in relation to resilience to future droughts).
- Gaps in stakeholder's knowledge about First Nations' knowledge and practices identified (in relation to resilience to future droughts).
- Opportunities to address identified gaps (a and b above) through co-design processes.
- Extent to which opportunities identified through First Nations co-designing processes (c above) are incorporated into activities.

MEL report questions

1. ***Please provide an overview of the work that your Hub has undertaken to work with First Nations communities to identify gaps knowledge and practices related to resilience to future droughts.***

   The SA Drought Hub has only just commenced our First Nations engagement program and has not completed a co-design process or undertaken any project activities undertaken in this area. We have Received the First nations Engagement Guide presented by Murawin and conducted a launch at the SA Hub with Murawin presenting the First nations Engagement Guide to Hub partners who attended in person and on-line.

   The Hub has promoted the engagement guide to partner organisations and has commenced discussions with key partners on opportunities to align Hub projects and investment with

their current or proposed First Nations Projects to add value and engage in areas that have already been identified by First Nations Communities as priorities. This work is ongoing and requires a significant investment in time given the number of First Nations communities across the state and the need to build trusted relationships.

2. ***What gaps in First Nations' existing drought resilience knowledge and practices were identified during the co-design processes? Please provide a short summary of each gap identified.***

   A First Nations co-design process has not been conducted to date.

3. ***What gaps in stakeholder's knowledge about First Nations knowledge and practices were identified during the co-design process? Please provide a short summary of each gap identified.***

   A First Nations co-design process has not been conducted to date.

4. ***Please provide an overview of how these gaps were addressed, resolved and what type of co-designed process was used to identify/resolve them? (or plans to do so).***

   A First Nations co-design process has not been conducted to date.

5. ***How have you incorporated the learnings from these opportunities into subsequent activities?***

   A First Nations co-design process has not been conducted to date.

Output 4: Scholarships

Indicators in MEL Plan

- Number, dollar value range and impact area of scholarships (or similar output) (by category of scholarship and type of recipient) funded by the Hub.

MEL report questions

1. ***How many scholarships has the Hub funded since the inception of the Hub:***

   The SA Drought Hub has not funded any scholarships to date. This is as per the December 2021 Activity Workplan. As detailed in the recently revised Activity Work Plan (AWP, July 31st 2022 milestone report documents) the Hub will support at least two postgraduate research students operating for field based activities with growers where aligned with other AWP deliverables

   a) ***What is the total dollar value of all scholarships funded by the Hub?***

      $0

   b) ***What is the average value of all scholarships funded by the Hub?***

      $0

2. ***What types of activities have these scholarships funded?***

   The Hub has commenced an intern program to meet an identified need for greater early career development opportunities at the interface of applied research, consulting and grower group projects. The SA Drought Hub is supporting an intern hosted by the South

Australian Research and Development Institute (SARDI), Additionally, there is co-investment from the South Australian Grains industry Trust (SAGIT) to the program.

The SA Drought Hub will support a second intern program in the 2022/2023 financial year and work has commenced on contracting the HART Field Site Group to manage this program and provide mentoring and guidance in project delivery. This program will see a focus on the Grains industry in the Mid North region of South Australia and will receive significant co-investment from SAGIT and support from SARDI through use of facilities and staff mentoring.

3. ***What field of study have these scholarships been in? (e.g., Agribusiness, horticulture, natural resource management, tropical agriculture)***

   The SARDI intern program has a focus on the grains and mixed farming (livestock and grains) sector. The program will focus on grains and mixed farming project initiatives and farming systems and concentrate on initiatives that build drought resilience in these areas. A key role of the program is to undertake a review of past SAGIT and SARDI research initiatives and identify the opportunities to build extension programs from these which align with the priorities identified through the SA Drought Hub co-design process. This will aid in the translation of past research outputs into on-farm adoption and outcomes of the SA Drought Hub. The extension of identified research initiatives that add value to the hub objectives will be co-designed by SA Drought Hub partners to ensure projects recognise and add value to past and current investments, are tailored to local farming systems and environmental conditions, engage local and regional stakeholders in the design and delivery of projects, and are of the highest priority to local end users.

4. ***Please provide any available details about the more notable impacts of the scholarships on the recipients to date.***

   The Intern has only recently commenced and is beginning work reviewing the past SARDI and SAGIT research initiatives. There are a range of these that would address the SA Drought hub priorities and can be built upon through a co-design process with SA Drought hub partners.

Output 5: Support for access to funding

Indicators in MEL Plan

- Number and type of organisations that have received support, advice etc. from Hub to access funding relevant to the program (e.g. grant funding).
- Total value of funding received.
- Number of meetings with Industry Funders and RDCs

MEL report questions

1. ***How many grants/proposals has your Hub provided support, advice etc. on?***

   The Hub has supported a wide range of proposals and grants including

   a. FDF Soils and Landscape Grants
   b. FDF Innovation: Innovation, Proof of Concept and Ideas grants
   c. FDF Regional Drought Resilience Planning Program
   d. FDF Farm Business Resilience Program

e. FDF Networks to Build Drought Resilience
f. FDF Drought Resilience Leaders Program
g. Future stage of Plant phenomics. Plant phenotyping tools and research. (in development)
h. Collaboration between Hub Members with SABRE (https://news.defence.gov.au/media/media-releases/biotech-alliance-announced-adstar-2022) including cross-Hub connections
i. Collaboration with Meat and Livestock Australia on management of breeding herds in variable climates
j. Additional resourcing to complement that from Landscape Boards awarded to Farming Systems Groups for projects with environmental and drought resilience outcomes

2. ***For each grant/proposal that support has been provided for, how many organisations have received support, advice etc. from the Hub to access funding relevant to the program (e.g. grant funding)? And what types of organisations and what type of support have they been?***

Total number of organisations directly supported exceeds 20 including landscape boards, farming systems groups, community organisations, research providers, and local government. A summary for Soils and Landscape grants is provided below as an example. Support across each of the programs listed under question 1 above has included providing connections, linking FDF programs on the ground, providing SA Drought Hub presentations, workshops and other content to value add to events, steering committee attendance, considering collaborative opportunities and provision of letters of support.

Project title and program	**Lead Organisation**	**Outcome**
Building drought resilience by scaling out farming practices that will enhance the productive capacity of sandy soil landscapes" to the Future Drought Fund's Drought Resilient Soils and Landscapes Grants Program	Agricultural Innovation & Research Eyre Peninsula (AIR EP)	funded
"Landscape SA Drought Resilient Soils Project" to the Future Drought Fund's Drought Resilient Soils and Landscapes Grants Program	Kangaroo Island Landscape Board	funded
"Mixed cover crops for drought resilience in southern Australia's low/medium rainfall regions" to the Future Drought Fund's Drought Resilient Soils and Landscapes Grants Program	SARDI	
"Improving sowing opportunities for increased farm resilience in a changing climate'" to the Future Drought Fund's Drought Resilient Soils and Landscapes Grants Program.	CSIRO	Funded
"Promoting best-practice feedbase management to deliver improved drought resilience in low to medium rainfall regions through on-farm demonstrations and case studies"	University of Adelaide	Funded
"On-Farm Diversity on low to medium land classes to aid drought resilience" to the Future Drought Fund's Drought Resilient Soils and Landscapes Grants Program.	Murraylands Riverland Landscape Board	

Building drought resilience with landscape scale remediation of saline land" to the Future Drought Fund's Drought Resilient Soils and Landscapes Grants Program	Mallee Sustainable Farming	Funded
Supporting Regenerative Grazing Practices in South Australia's Rangelands to the Future Drought Fund's Drought Resilient Soils and Landscapes Grants Program	SA Arid Lands	

3. What is the total value of funding approved following provision of this advice?

A total of $7,168,410 of funding was approved following the support offered by the SA Drought Hub.

This figure takes account of the successful grant applications that the SA Drought Hub has supported at the time of application, however, there has been a significant amount of support provided during the establishment and implementation phases of programs and projects as identified in question 2. Whilst this support has not been valued from monetary perspective, it has been extremely important in attaining cross FDF Program synergies and collaborations of which the SA Drought Hub has taken a lead role in South Australia.

Output 6: MEL Plans – baseline data provided and monitoring data being provide on an annual basis.

N/A - Outputs and activities being reported via progress report, this document and annual provision of data.

Output 7: Learning activities to support resilience with end users and those who support end users (and associated products)

Indicators in MEL Plan

- Number of learning activities by:
  - type (farm visits, seminars, workshops etc.).
  - focus area (e.g. risk practices and other resilience technologies and practices).
  - number of participants/attendees with associated demographics (e.g. location, industry, farm type, number etc).
- Number, type and focus type of training activities conducted specifically for those who support end users, and participant number and type.
- Quality, relevance and learning gained through training activities.
- Products developed for or from learning/training activities (if applicable).

MEL report questions

1. Please provide details of the learning activities to support resilience with farmers and those who support farmers

There were twenty learning events undertaken as listed in the learning activity table below. Of the 20 learning events listed, sixteen were organised by the SA Drought Hub and Nodes with the remaining four being organised by Hub Members as part of project activity delivery. These included co-design workshops, co-design prioritisation workshops, the Science to practice Forum and field trip, personal resilience workshops, and a pasture management workshop.

The SA Drought Hub had also planned to undertake a series of climate resilience workshops however these needed to be delayed due to unavailability of the primary presenter. The workshops have now been scheduled for July to December 2022 in addition to those already scheduled for that period.



Above: Enjoying a BBQ after the Coober Pedy Node Co-design Workshop .

Activity name	Type of activity	Location of activity (LGA)	Primary category of participants	No. of participants (by category)	Primary focus area
• SA Drought Hub Node Codesign Workshops	• 7 x Workshops	1 x Wudinna District Council 1 x Port Augusta City Council 1 x District Council of Coober Pedy 1 x District Council of Orroroo Carrieton 1 x District Council of Loxton Waikerie 1 x Light Regional Council 1 x Naracoorte Lucindale Council	• Hub Members Local Farmer Networks / Farmers / Local Government / Private Consultant and Agribusiness	279 total participants	• Co-design programs
• SA Drought Hub Node Codesign prioritization workshops	• 6 x workshops	Meetings conducted Online. Participants joined from a wide range of Local Government areas across South Australia.	• Hub Members Local Farmer Networks / Farmers / Local Government / Private Consultant and Agribusiness	82 total participants	• Co-design programs
• Upper North drought resilience group workshop	• Workshop	District Council of Orroroo Carrieton	• Local Farmer Networks / Farmers	12 x Farmers 2 x SA Drought Hub 2 x SA Government	• Local Risk management opportunities and initiatives • Project planning and integration

• Torrens Resilience Institute workshop on drought resilience initiatives for regional communities in SA (Flinders University)	• Workshop	• City of Mitcham	• Project delivery organisations / researchers	1 SA Drought Hub 6 x TRI Researchers	• Project Planning and integration • Community Resilience
• Minnipa Node Coordinator delivered at March 2022 Eyre Peninsula workshop on personal resilience.	• Workshop	• Wudinna District Council	Local Farmer Networks / Businesses / Farmers / Local Government / Private Consultant and Agribusiness	1x SA Drought Hub 2 x Local Government 3 x Businesses 3 x Local Farmer Networks 6 x Farmers	• Community Resilience • Personal resilience.
• Loxton Node Coordinator delivered and had a mentor role at May 2022 Kingston-on-Murray	• Workshop	• District Council of Loxton Waikerie	Local Farmer Networks / Businesses / Farmers / Private Consultant and Agribusiness	1x SA Drought Hub 5 x Businesses 2 x Local Farmer Networks 8 x Farmers	• Personal resilience. • Community Resilience
• Utilising satellite imagery in the growing season to inform adaptive management	• Workshop	• District Council of Mount Remarkable	Farmers / Private Consultant and Agribusiness	Farmers x 15 Private consultant or agribusiness agents x 15	• Pasture Management

• Science to practice forum	• Forum	• Light Regional Council	Local Farmer Networks / Businesses / Farmers / Government / Private Consultant and Agribusiness	Local Farmer Networks x 4 Businesses x 6 Farmers x 4 Government x 6 Private Consultant and Agribusiness x 8 Researchers x 12	• FDF programs Showcase
• Science to practice forum filed trip	• Field Tour	• Light Regional Council	Local Farmer Networks / Businesses / Farmers / State and Local Government / Private Consultant & Agribusiness	Local Farmer Networks x 2 Businesses x 2 Farmers x 2 Government x 3 Private Consultant & Agribusiness x 3 Researchers x 8	• Showcase Drought Resilience Projects

2. ***Please provide an overview of how these activities have been delivered (e.g., online, face-to-face, or dual-delivery).***

   All activities, with the exception of the 6 Node codesign prioritisation workshops, were delivered face to face in workshop participation and learning format as this is the preference of most of our stakeholders and members. The Node codesign prioritisation workshops were time critical and Covid restrictions at that time limited the ability to conduct in person meetings.



Above: The Utilising satellite imagery in the growing season to inform adaptive management Workshop held at the Tools, Technology and Transformation Field Day in Melrose SA.

3. ***Please provide an overview of the products developed, adapted and/or used to support these activities (e.g. decision tools, information sheets, fact sheets).***

   The approach of the Hub in many of the above workshops has been to provide the platform/mechanism for effective extension of existing information. At these workshops participants were provided with an overview of the SA Drought Hub structure, design and purpose and the opportunities to participate in the SA Drought hub activities. This has been successful in engaging many members in the on-the-ground projects of the Hub.

   The other two workshops focused upon local prioritisation and planning for project delivery with existing groups (Upper North Drought Resilience Group and the Torrens Resilience institute). This saw discussion on the opportunities to integrate SA Drought Hub activities into current local and Future Drought Fund project initiatives to realise maximum on ground benefit. The outcomes have seen codesign and deliver of SA Drought Hub Programs to support and build upon the existing initiatives identified.

   A further workshop, Utilising satellite imagery in the growing season to inform adaptive management, was held as a component of the Tools, Technology, and Transformation (TTT) field day funded by the FDF Networks to Build Drought Resilience Program. The workshop provided an overview on the opportunities for the use of satellite imagery to manage pastures and stocking rates.

   The SA Drought hub also hosted the Science to Practice Forum SA venue and associated field trip. Both were attended by a diverse range of people from across the SA Drought Hub network.



Above: The 2022 Science to Practice Forum conducted at the SA Drought Hub on the University of Adelaide's Roseworthy Campus.

4. ***How have the types of learning activities (and associated tools) been tailored for various regions, community groups and industries?***

   The presentations and associated workshop discussions were tailored for each specific regional audience and guided by Node Coordinators who have extensive local experience in project delivery, community networks and inherent understanding of community dynamics and key issues. This was important to frame the conversations in a way that resonated with participants and engaged them in discussion with a local flavour.

5. ***For quality, relevance and learning gained, see learning activity survey template (Attachment 1).***

   Learning Activity surveys were not collected at these events as the templates had not been developed at the time of the seven codesign and six prioritisation workshops. Other workshops undertaken saw a combination of organisations and presenters involved in their delivery and it was difficult to apply a new (SA Drought Hub) evaluation template given there was already another participant evaluation being employed ie: from the Networks to Build Drought Resilience Program.

   We envisage the use of Learning Activity Survey's to be greater across the 2022 / 2023 financial year as people engage with the newly formed SA Drought Hub led projects and activities such as farmer tours, demonstrations through field days, crop and pasture walks and grower workshops across the Hub region.



Above: participants on the Science to Practice Forum Field Trip at Pindarie Wines in the Barossa Valley.

Output 8: Products from co-designed activities to support First Nations engagement and knowledge

a. Indicators in MEL Plan

- Activities delivered to support knowledge in First Nations and from First Nations (by numbers and type).
- Engagement with First Nations community members (by number and type).
- Quality, relevance and learning gained through training activities.

MEL report questions

1. ***Please provide an overview of the engagement that your Hub has had with First Nations communities (please include any activity relevant to your Hub).***

   The SA Drought Hub has only just commenced our First Nations engagement program and has not completed a co-design process or undertaken any project activities undertaken in this area. We have Received the First nations Engagement Guide presented by Murawin and conducted a launch at the SA Hub with Murawin presenting the First nations Engagement Guide to Hub partners who attended in person and on-line.

   The Hub has promoted the engagement guide to partner organisations and has commenced discussions with key partners on opportunities to align Hub projects and investment with their current or proposed First Nations Projects to add value and engage in areas that have

already been identified by First Nations Communities as priorities. This work is ongoing and requires a significant investment in time given the number of First Nations communities across the state and the need to build trusted relationships.

2. ***Please provide an overview of how these activities have been delivered (e.g., online, face-to-face, or dual-delivery)***

   A First Nations co-design process has not been conducted to date.

3. ***Please provide an overview of the products developed, adapted and/or used to support these activities (e.g., decision tools, information sheets, fact sheets).***

   A First Nations co-design process has not been conducted to date.

4. ***How have the types of learning activities (and associated tools) been tailored for various regions, community groups and industries?***

   A First Nations co-design process has not been conducted to date.

5. ***What feedback has the Hub received from First Nations communities about this engagement, regarding quality, relevance and learning gained through these activities?***

   A First Nations co-design process has not been conducted to date.

6. ***What feedback has the Hub received from participants who do not belong to First Nations communities about this engagement, regarding quality, relevance and learning gained through these activities?***

   A First Nations co-design process has not been conducted to date.

Activity name	Type of activity	Location of activity (LGA)	Primary category of participants	No. of participants (by category)	Primary focus area
• N/A	• On Country visits • Yarning circles/Seminars • Workshops		• Farmers • Traditional owners •		•

Output 9: Hub communication activities plans and products

b. Indicators in MEL Plan

- Number and type of communication activities and products.
- Coverage and uptake of communication activities and products including:
  - # of newsletter subscribers
  - newsletter open and click rates
  - website visitor stats (including numbers and time on page)
  - social media follower counts, and engagement data
  - media hits
  - event attendance and feedback
  - other metrics as required (e.g. survey results).

c. MEL report questions

1. ***Please provide an overview of the type, number, scope and intent of the communication channels and products that the Hubs has produced.***

   SA Drought Hub communications program has seen a diverse range of communications products developed and a wide array of topics covered in order to extend the reach of the SA Drought Hub to all communities across the Hub's operating region. The communications strategy has been designed to provide a range of communications channels in order to appeal to all demographics and reach all regional areas within the Hub's footprint.

   The SA Drought Hub has been extremely active in engaging the South Australian rural community to promote the opportunities that the SA Drought Hub offers. The Hub has provided displays at 22 events including conferences, regional field days, and forums and has delivered 41 presentations to Hub members and stakeholders to provide updates on the SA Drought Hub progress, direction and opportunities for involvement.



Above: Reporters from ABC Country Hour and Stock Journal at Turretfield Research Centre during the Hub's Science to Practice Forum field trip.

Category	Overview	Primary target audience	No. issues/posts/? (i.e. how many generated/produced)	No. of subscribers/visitors/ followers	Feedback (if available)
Newsletter	SA Drought Hub monthly Newsletter	SA Drought Hub Members and Network partners	12 Newsletters	76 member and partner organisations, with numerous people within the organisations receiving these	
Website	SA Drought Hub Website	End users, SA Drought Hub Members and Network partners, general public	1 website	The SA Drought Hub website has been accessed by 3177 unique visitors, received 5823 visits, had 129,275 hits, and 26,229 page views	
Social media	SA Drought Hub Facebook and Twitter Pages	End users, SA Drought Hub Members and Network partners, general public	South Australian Drought Resilience Adoption and Innovation Hub - Home | Facebook Drought Resilience Adoption and Innovation Hub (@SADroughtHub) / Twitter	See sites for latest number of followers	
Media	Media Releases	End users, SA Drought Hub Members and Network partners, general public	8 Media Releases	6 x Media Releases are available on the SA Drought Hub Website	
Media	Radio Interviews	End users, SA Drought Hub Members and Network partners, general public	11 x radio interviews	Various Hub promotions	
Media	Television	End users, SA Drought Hub Members and Network partners, general public	2 x regional television news segments	News segments promoting the SA Drought Hub	
Ad hoc communiques to partners	SA Drought Hub Communique	SA Drought Hub Members and Network partners	6 communiques	Update Hub Members and Network partners on opportunities through he SA Drought Hub and Future Drought Fund.	
Podcasts	Podcasts	End users	2x podcasts in development	• Uni of Adelaide/SARDI – Managing heat stress in sheep • Buckleboo Station on EP – drought mitigation	

				• Peel Pastoral in South-East – dry times preparedness	
Presentations	Presentations at meetings	SA Drought Hub Members and Network partners, Other Stakeholder groups.	41 presentations delivered at meetings	823 people received presentations on the SA Drought hub.	
displays	Displays at Rural Shows, conferences, regional field days, and forums.	End Users, SA Drought Hub Members and Network partners, Other Stakeholder groups.	SA Drought Hub displays at 22 events	1000+ visitors to SA Drought Hub displays.	
Other (please specify)	Videos	End users, SA Drought Hub Members and Network partners, general public	3 (2 videos produced, 1 in development)	1 x video on SA Drought Hub focus and objectives (available on SA Drought Hub Website) 1 x video for science to practice forum 2022 (available on SA Drought Hub Website) 1 x video in development has been filmed on zonal crop nutrition (Mallee Sustainable Farming-led project).	



Above: ABC SA Country Hour presenter interviewing SA Drought Hub staff during an outside broadcast of the program from the Hub's Science to Practice Forum event at Roseworthy in June.



Above: Filming the SA Drought Hub video for the 2022 Science to Practice forum.

Output 10: On-farm trials and demonstrations to build drought resilience

d. Indicators in MEL Plan

- Number and type of on-farm trials and demonstrations of drought resilient practices conducted.
- Number of farmers/primary producers that participated in on farm trials and demonstrations of drought resilient practices.
- Relevance and learning from on-farm trials and demonstrations.

e. MEL report questions

1. Please provide an overview of the number and type of on-farm trials and demonstrations of drought resilient practices conducted using the table below

The SA Drought Hub has established 28 on-farm demonstration sites across 10 projects. The focus of these sites is mixed farming, cropping and rangeland livestock production.



Above: *Fiona Tomney, SA Drought Hub Minnipa Node Coordinator, presenting at the Buckleboo Farm Improvement Group visit to the Buckleboo strip and disc demonstration site.*

Activity name	Activity (type and description)	Location of activity (LGA)	Number of visitors to trial/demonstration (please breakdown by stakeholder category if possible)	No. of businesses participating in trial/demonstration
•	• *On-farm trials* • *On-farm demonstrations*		*Farmers* *Government extension officers* *Private consultant or agribusiness agent* *Businesses* *Local farmer networks*	
Retaining soil water in farming systems using strip/disc machinery	3 x On-farm demonstrations	1 x District Council of Kimba 1 x District Council of Wudinna 1 x District Council of Cleve	Farmers/Producers x 15 Local farmer groups x 1 Regional Agricultural Landcare Facilitator x 1 Hub Node Coordinator x 1 Grains Industry rep x 1	3 x farm businesses
Best practice for early sowing opportunities	2 x On-farm demonstrations	1 x District Council of Ceduna 1 x District Council of Franklin Harbor	Farmers/Producers x 21 Government, extension officers, staff x 7 Private consultant or agribusiness agent x 3 Local farmer groups / networks x 2	2 x farm businesses
Building pastoral sustainability – property management planning	2 x On-farm demonstrations	2 x Pastoral Unincorporated Area	Nil to date	2 x Pastoral Businesses

Ground truthing satellite imagery for use in pasture management and assessing its role in adaptive management of grazing systems in the Upper North of SA	3 x On-farm demonstrations	1x Northern Areas Council 1x District Council of Orroroo Carrieton 1x District Council of Mount Remarkable	Nil to date	3 x Farm Businesses
Intercropping in break crops in the Upper North – In-crop decision making and the impacts on profitability and soil function	1 x On-farm demonstrations	1x District Council of Mount Remarkable	Nil to date	1 x Farm Business
Containment feeding and the effect of ewe health over lambing	3 x On-farm demonstrations	2 x Barossa Council 1 x Regional Council of Goyder	Nil to date	2 x farm businesses
Improving on-farm water security using innovative remote sensing systems	3 x On-farm demonstrations	2 x Barossa Council 1 x Mid Murray Council	Nil to date	3 x farm businesses
Demonstrating soil zone mapping for variable rate nutrition management	6 x On-farm demonstrations	2 x Mid Murray Council	Nil to date	6 x farm businesses

		2 x District Council of Loxton Waikerie 2 x Southern Mallee District Council		
Improving canola establishment in dry conditions	1 x On-farm demonstrations	1 x Mid Murray Council	Nil to date	1 x Farm Business
Mixed Species pastures Demonstration sites	4 x On-farm demonstrations	1 x Adelaide Hills Council 1 x Barossa Council 1 x Regional Council of Goyder 1 x Clare and Gilbert Valleys Council	Farmers/Producers x 12 Government, extension officers, staff x 1 Private consultant or agribusiness agent x 2 Local farmer groups / networks x 1	4 x farm businesses




Above: Penong early sowing demonstration site. Local growers and SARDI Minnipa Agricultural Centre staff discussing the demonstration site.

2. ***What feedback has the Hub received from farmers/primary producers on the relevance and lessons learned from on-farm/on-property trials and demonstrations?***

   Feedback from end users and SA Drought Hub Members and Network Partners involved in the delivery of the on-farm demonstrations has been overwhelmingly positive. Comments have praised the Hub for providing initiatives that directly and practically address local drought resilience issues and take account of locally nuanced farming approaches and systems. Much of this work would not have occurred without dedicated project funding through the SA Drought Hub, or if the Hub's co-design process had not been initiated and allowed grower group engagement. This is a strength of the program and has empowered local groups who are run by farmers and for farmers to lead the conversion of drought resilience priorities most applicable to them and their local members.

   The ability of the SA Drought Hub to co-invest alongside many other programs to add value, depth or scale has also been widely valued. The Hub has, in several instances, funded the continuation of a project after initial RDC and/or Government investment. This has importantly allowed local producers groups and participants to undertake follow up work to address key limiting areas identified through the initial investments, and in doing so, increase the opportunity for adoption and extend the reach of the project.

   Additionally, the SA Drought Hub has placed funding alongside FDF Grants program investments to extend these initiatives to additional regions in South Australia where the project objectives were identified as a priority through the co-design process. This has seen the FDF grants program expanded through Hub activities and provided a high level of integration across FDF funded initiatives.

   The ability for efficient project development and implementation coupled with scope for partner across the Hub's network has been advantageous. The guidelines on eligible in-kind

from RDCs have on occasion made it somewhat more difficult to partner alongside without compromising the ability of the Hub to meet its in-kind obligations.

There have been a number of additional activities and programs that the SA Drought Hub has been required to engage in and support above and beyond the initial Hub funding allocated through the Head Agreement. Whilst we are grateful for the opportunities that these have presented to SA Drought Hub members and end users, there have been some delays to project commencement as a result. This has not impacted upon the quality of the projects but has created some anguish amongst members and placed additional pressure on project deliverers to initiate projects in quite compressed timeframes.



Above: Discussion on mixed species pastures at the Angaston site.

Output 11: Co-designed Operational Plans

a. Indicators in MEL Plan

- Extent to which co-design principles and processes were used appropriately.
- Impact of co-design principles and processes on stakeholder satisfaction with the process and outcomes

b. MEL report questions

1. ***Please detail what co-design principles and processes you employed and how they were utilised to develop your Operational Plans [we note that your Hub may not have been able to co-design your Operational Plan]***

   The SA Drought Hub co-design process was run alongside and at the same time as the development of the Operational Plan. Information and feedback received through the co-design workshops and other co design consultations was used to guide the development of the Operational Plan through development of the key themes and the Hub's program logic. The 991 ideas received through co-design consultations were ordered into 10 themes to understand the priority placed by codesign participants towards certain areas of drought resilience building, and the opportunities that this presented for project development. The 10 themes identified in the Operational Plan and program logic are:

Theme Number	Theme
1	Access to drought information and technical support.
2	Community resilience and wellbeing through support, collaboration, and access to technologies
3	Farm Business Management
4	Farm planning and decision making to manage climate and operational risk
5	Native vegetation, biodiversity, pest management strategies, technologies, and innovations
6	Soil and land management strategies, technologies, and innovation
7	Livestock and fodder management strategies, technologies, and innovations
8	Crop and pasture management strategies, technologies, and innovations
9	Water security and management strategies, technologies, and innovations
10	Upskilling advisors, researchers, and key influencers

SA Drought Resilience Adoption and Innovation Hub Program Logic

Objectives	1. Increase the uptake of drought resilience practices and technologies that will reduce exposure to drought risks, and therefore improve economic, environmental, and social resilience to drought. 2. Implement a delivery model that is place-based, informed by co-design and participatory approaches, and focused on practical application of research, can drive a step change in the application of effective drought resilience practices and technologies.			
FDF Long-term Outcomes (4+ years)	Economic Outcome 1 (EC1) • More primary producers adopt transformative strategies and technologies to reduce financial exposure to drought	Economic Outcome 2 (EC2) • More primary producers adopt risk management practices to improve their sustainability and resilience	Environmental Outcome 1 (EN1) • More primary producers preserve natural capital while also improving productivity and profitability	Social Outcome 2 (S2) • Communities implement transformative activities that improve their resilience to drought
DRR@A Medium-term Outcomes (2-4 years)	• Increased availability and accessibility of, and capacity to use and adopt, knowledge that can be applied to improve drought resilience • Increased adoption and commercialisation of drought resilience technologies and practices • Technologies and practices adopted are effective in improving drought resilience • Design and delivery of Hub activities is responsive to end-user needs			
Short-term Outcomes (1-3 years)	• Increased collaboration and partnerships among organisations working in RDEA&C • Co-design and participatory approaches embedded in the design and delivery of Hub activities • Hubs seen and utilised as key regionally focused institutions for defining and delivering RDEA&C services • Hubs work effectively as part of a national network/architecture • Efficient and effective activities to support RDEA&C and uptake by end users			

Additional SA Drought Hub Outcomes

- Increased capacity, preparedness, and transition of users towards a future climate with less rainfall
- Industry sectors in SA are engaged in and supported by the SA Drought Hub to increase drought resilience

Key Outputs

- Knowledge development and sharing
- Advice on innovation programs and opportunities
- Scholarships
- MEL plans
- Learning activities to support resilience with end users (and associated products)
- Products from co-designed activities to support first nations engagement and knowledge
- Drought and resilience tools and products
- Hub communication activities plans and products
- On farm trials / demonstrations to build drought resilience
- Co-designed operational plans
- Activity plans that incorporate aspects of co-design processes
- Hub Governance conducted
- Drought commercialisation opportunities
- Drought and resilience tools and products

Additional SA Drought Hub Outputs

- Establish a Drought Resilience Innovation Scheme.

Activity 1
Collate drought resilience and adoption knowledge and resources
Themes 1, 2

Activity 2
Deliver demonstration sites to increase adoption of existing research
Themes 2,5,6,7,8,9

Activity 3
Establish Drought Resilience Innovation Scheme.
Themes 2,5,6,7,8,9

Activity 4
Educate researchers to co-design and translate research findings.
Themes 2,10

Activity 5
Increase adoption of resilience decision-making tools and strategies
Themes 2,4,5,6,7,8,9

Activity 6
Co-investment to attract commercial partners for drought resilience.
Themes 2,4,5,6,7,8,9,10

Activity 7
Communications and extension
All themes

Activity 8
Administration of SA Hub programs and activities
All themes

Other FDF Programs
Farm Business Resilience Program, Regional Drought Resilience Planning, Innovation Grants, NRM Grants, DR SAT, Climate Services for Agriculture., Networks to build Drought Resilience, Drought Resilience Leaders.
All themes as appropriate to each FDF Program

Co-design and co-delivery

Extension projects

- Co-designing and delivering extension projects that are informed by the ten key themes and associated drought resilience ideas identified through the community and Hub partner codesign consultation process.
- Delivery of extension projects will be undertaken by SA Drought Hub partners in collaboration with local producers through the Hub and Nodes.
- Extension projects will be overseen by Node advisory groups comprising Hub partners and local producers.

Hub partner contributions

Producer and community contributions

Theme 1
Access to drought information and technical support

Theme 2
Community resilience and wellbeing through support, collaboration, and access to technologies

Theme 3
Farm business management

Theme 4
Farm planning and decision making to manage climate and operational risk

Theme 5
Native vegetation, biodiversity, pest management strategies, technologies, and innovations

Theme 6
Soil and land management strategies, technologies, and innovations

Theme 7
Livestock and fodder management strategies, technologies, and innovations

Theme 8
Crop and pasture management strategies, technologies, and innovations

Theme 9
Water security and management strategies, technologies, and innovations

Theme 10
Upskilling advisers, researchers, and key influencers

Foundational and Program Initiation Activities

- Identify and engage SA Drought Hub partners.
- Engage our Hub Partner and stakeholder networks to identify existing projects and undertake gap analysis
- Identify current baseline datasets and information
- Undertake consultation process to gather ideas and priorities from SA Drought Hub partners and the wider agricultural and horticultural communities in SA that informs Hub and Node activity delivery as part of the co-design process.
- Undertake recruitment processes and appoint SA Drought Hub staff.
- Develop MER planning and program logic
- Project project partners engaged through procurement processes to deliver Hub activities and services
- Communications and promotions
- General administration

Hub partner contributions

Producer and community contributions



Above: The Minnipa Node Co-Design Workshop

The SA Drought Hub Operational Plan continues to evolve as we incorporate new ideas from Hub Members, as Future Drought Fund investment opportunities evolve, and as the SA Drought Hub continues to grow its member base.

2. ***Do you have any feedback from stakeholders about their experience of being involved and their level of satisfaction from using a co-design approach for the Operational Plans?***

   The Hub member organisations who were involved in co-writing the Operational Plan felt the plan provided the opportunity for the SA Drought Hub to capture it's objectives and delivery strategy in a single and succinct document. Allowing the Hub to revise the Operational Plan as needed will provide the opportunity to ensure the activities of the Hub are best aligned with grower need and collective resources of the Hub members.

Output 12: Activity Plans that incorporate aspects of co-design processes

c. Indicators in MEL Plan

- Number and type of activity plans arising from the co-design process.
- Activities/outputs/programs developed and delivered using a co-design process.

d. MEL report questions

1. Please provide an overview of the number and type of activity plans arising from the codesign process.

The SA Drought Hub has developed an activity work plan for the delivery of Hub activities. Each of the fifteen projects the SA Drought hub has initiated has an activity work plan and there has been an Activity Work Plan developed for each of the three Cross Hub Projects the SA Drought Hub is involved in.

All of the Activity work plans developed were a result of the Co-design process and all address key priorities identified through that process at Hub and individual Node level.

2. ***Please detail what co-design principles and processes you employed and how they were utilised to develop your Activity Plans.***

Information and feedback received through the co-design workshops and other co-design consultations was used to guide the Activity Work Plan through development of the key themes and the program logic. The 991 ideas received through co-design consultations were ordered into 10 themes to understand the priority placed by codesign participants towards certain areas of drought resilience building, and the opportunities that this presented for project development. The themes were aligned to the appropriate delivery activities identified in the Activity Work Plan, and this was used to co-design specific projects with Hub member organisations. The 10 themes identified in the activity work plan and program logic are listed under section 11 (g) above.

Projects were co-designed between Hub Members based on the themes and priorities stemming from the initial consultation and presented in the Hub Program Logic. For each project of the Hub that was scoped, the Knowledge Broker, Node Coordinator, Farming Systems Group representatives, local service providers, Landscape Boards and people with relevant technical expertise were engaged in design of the project(s). This facilitated strong alignment with the deliverables, target outcomes and built ownership of all involved in the project.

Cross Hub Projects were developed to address key priorities identified through the co-design process where there was also alignment with the priorities of other Drought Hubs. The Cross Hub projects were aligned to the SA Drought Hub themes and program logic and were selected to address priority issues that were identified across key South Australian primary production industries (Grains, Livestock and Viticulture). Like all SA Drought hub projects, on ground delivery is undertaken by Grower Groups and other SA Drought Hub Members and Network Partners to recognise and add value to past and current investments, tailor delivery to local farming systems and environmental conditions, engage local and regional stakeholders, and ensure projects are of the highest priority to local end users.

3. ***Do you have any feedback from stakeholders about their experience of being involved and their level of satisfaction from using a co-design approach for the Activity Plans?***

Hub Members have appreciated the opportunity to be involved in the codesign process and as detailed throughout this report. Overall, the projects of the Hub have excellent grower and community engagement. This will assist in ensuring the impact/benefit of the projects is strong through greater likelihood of successful adoption.



Above: The Loxton Node Co-Design Workshop

Output 13: Outputs from Hub governance activities conducted

e. Indicators in MEL Plan

- Number and type of governance activities: when, by whom, how many, and progress made.
- Level of satisfaction by governance members on their level of input, the extent to which it is valued and its impact on guiding the program.

f. MEL report questions

1. Please provide a brief summary of the overall governance of the Hub.

The SA Drought Hub has 59 partners including grower and livestock groups, universities, State Government agencies, landscape boards, agribusinesses and industry groups.

The Hub has an Advisory Board to advise the Director on strategic directions and meeting the needs of local agricultural industries. The Advisory Board has an independent chair and includes representation from PIRSA, the University of Adelaide, Ag Excellence Alliance, key agriculture commodity representative groups, Local Government Association, Landscape SA and appropriate State Government Agencies. The Advisory Board also meets with representatives from other FDF programs undertaken within SA to ensure communication between FDF programs to avoid duplication and maximise outputs from each program.

The SA Drought Hub has an Institutional Management Committee (IMC) to oversee the governance and management arrangements and progress of the Hub. This includes project approval, Membership and Network Partner additions, budget oversight, progress against the activity work plan, and reporting

Each Node in the Hub is in the process of establishing a Stakeholder Advisory Group (SAG) that will include representatives from the Hub Members and Network Partners participating in project delivery at each Node and local primary producers who are independent of these organisations and groups. The SAGs role is to work with the Node Coordinators, Adoption Officers and Knowledge Broker to identify shared interests, set priorities, and co-design and co-deliver activities on the ground to meet priorities identified through the co-design process in each of the node regions.

Senior Hub staff conduct a weekly management meeting to plan for and manage upcoming events, project delivery, funding opportunities, reporting, stakeholder engagement, communications, and other operational matters that arise. Senior staff discuss weekly workplans and allocate tasks that require attention to personnel accordingly.

Operations staff conduct a weekly operations meeting to identify and discuss project delivery opportunities, update progress of current projects, share project results, look for opportunities for cross node collaborations, and discuss weekly workplans. The SA Drought Hub Knowledge Broker attends the management meeting and the Operations Meeting to link information between the two.

2. ***Please provide the number and type of governance activities carried out by the Hub.***

   There have been:

   - 3 x Advisory Board meetings,
   - 3 x IMC Meetings,
   - 37 x weekly Hub Management Meetings (since October 2021),
   - 16 x weekly Operations Staff Meetings (Since March 2022),

   Node stakeholder Advisory group meetings will commence in the 2022/2023 financial year.

3. ***How has the governance evolved since the inception of the Hubs?***

   The Governance of the Hub has evolved as the Hub has become established and governance structures and bodies have been put in place. This is ongoing, with the development of the Advisory Board and appointment of an independent Chair, initiation of the Institutional management Committee and initiation of Hub staff meetings. Node Stakeholder Advisory Groups (SAGs) will commence in the 2022 / 2023 financial year and this will further strengthen the governance arrangement s of the SA Drought Hub.

4. ***What governance related challenges have you encountered and how have you addressed them?***

   The Hub has been in a rapid expansion phase with significant growth in staff and partners whilst at the same time developing the administrative processes required to manage the Hub and delivering project activities on the ground through Hub members and network partners. This has created some challenges at times and has been addressed through prioritisation and sharing of work tasks by the Hub's management team.

   The Hub has not been able to fill one of the Node Coordinator positions at Struan. This role has now been adapted through integration with ag-tech and the Innovation aspects of the Hub to ensure it appeals to the widest potential pool of applicants.

   Initially some Nodes did not receive sufficient interest for membership on the Node Stakeholder Advisory Groups (SAGs). This was largely in the nodes with a lower population base. Additional locally targeted promotion was undertaken and all Nodes now have sufficient numbers to commence their SAGs in the 2022 / 2023 financial year.

5. ***What feedback have Hub members provided about how effectively the Hub is operating? Please provide an overview of the responses to the Hub governance members survey (Attachment 2).***

   Given the Hub has been in a development phase, establishing governance structures, has not yet commenced the Node SAGs, and has most governance activities undertaken by Hub staff whilst the Advisory board and IMC have been established, we have elected to not undertake the Hub Governance members Survey in this round of reporting. This will be undertaken in future reporting rounds to capture SAG member satisfaction with the governance arrangements of the Hub along with those of the Advisory Board, IMC, and Hub Staff. The survey will be extended to all other persons and organisations who may become involved in the governance of the SA Drought Hub to determine overall satisfaction.

6. ***Are there any other reflections or lessons learned related to the Hub's governance that are relevant from a MEL perspective?***

   No.

Output 14: Drought commercialisation opportunities

g. Indicators in MEL Plan

- Number and type of products promoted and/or assessed for potential commercialisation.
- Number, type and stage of commercialisation opportunities promoted and/or delivered.

h. MEL report questions

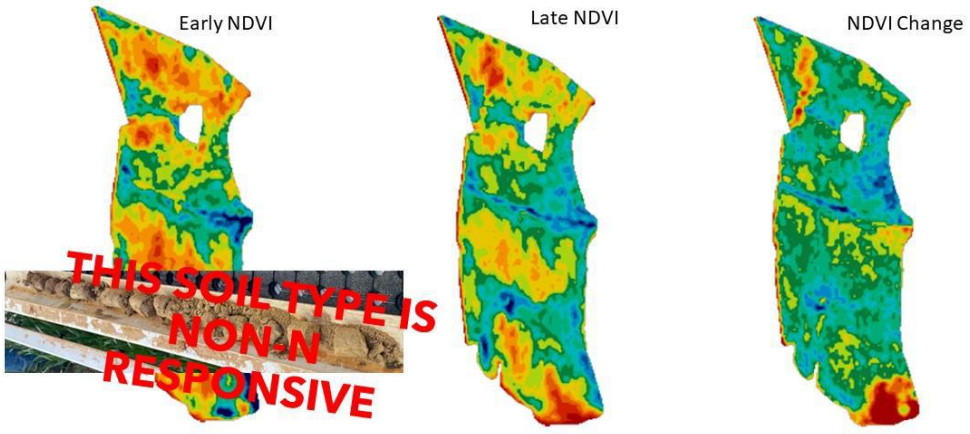
1. ***Please provide an overview of the number and type of products that your Hub has promoted and/or connected with relevant services (or supported directly) to facilitate potential commercialisation.***

   A call of expressions was held in February 2022 with significant interest from grower groups and commercial companies. This has led to their contribution and involvement in projects being delivered by the Hub. Demonstrations have been established including:

   a) Improving on-farm water security using innovative remote sensing systems (Roseworthy node). This project showcases four current water (for livestock) management technologies on farm, and links to the PIRSA Ag Tech Program which has completed economic analysis on a number of water management technologies to determine the benefits from installation.

   b) Use of property mapping technology for property planning in rangelands (Port Augusta Node). This project allows pastoralists to use the latest remote sensing and ground-based mapping technologies to plan works such as water management, earthworks, and road construction, and manage grazing optimally on their properties

   c) Use of NDVI and other remote sensing to determine pasture volume and health as a guide to grazing management in low rainfall areas (Orroroo Node). This project demonstrates the use of remote sensing technologies to monitor pasture volume, health, and yield potential to allow for responsiveness to seasonal conditions as they change. This informs producers and allows them to match livestock numbers to the pasture volume in the paddock.



Above: NDVI and other remote sensing images being used to determine pasture volume and health as a guide to grazing management.

2. ***Please provide an overview of the type, and stage of commercialisation opportunities promoted and/or delivered.***

   - ***Number of opportunities:***

     There are six different products being demonstrated through the SA Drought Hub demonstration sites. The products are already commercialised and were recognised as having potential to address drought resilience priorities identified through the SA Drought Hub co-design process. Whilst adopted in other regions, these projects have limited uptake in the areas they are being demonstrated.

   - ***Type of opportunities:***

     As per the projects listed above

   - ***Stage of commercialisation (e.g., research and product development, on-farm demonstration/trial and market validation, commercialisation):***

     The SA Drought Hub is not seeking to commercialise tools, products, or services through the Hub or its activities. The Hub has adopted an approach of supporting market driven and led commercialisation initiatives by showcasing recently commercialised tools and products to generate interest and uptake amongst end users where opportunities and need for uptake have been identified by Hub members, stakeholders, and end users through the Hub's codesign process.

Output 15: Drought and resilience tools and products

i. Indicators in MEL Plan

- Number of drought and resilience tools and products promoted and/or developed, and their description/purpose including intended user.
- Promotion and/or facilitation of activities (delivered by Hub) to support tools and products development.

j. MEL report questions

1. ***Please list and provide an overview of the drought and resilience tools and products that your Hub has adapted or developed (if applicable).***

The SA Drought Hub has developed one video and three podcast products to showcase examples of drought resilience being undertaken by producers in South Australia. These are listed in the Communications section (9) of this report. The video Topic is zonal crop nutrition , a project being undertaken by Mallee Sustainable Farming and Murray Plains Farmers Group to better manage soils for improved resilience to drought. Podcast topics are : Managing Heat Stress in sheep, Drought mitigation in pastoral enterprises, and dry times preparedness in medium rainfall livestock production systems.

Type of tool/product	Primary focus area	Overview and purpose	Promotion strategies	Extent of uptake (if available)	Sources/Collaborators (if applicable)
Podcast	Livestock	Demonstrate managing Heat Stress in Sheep	Via SA Drought hub Newsletter, Social media, and website	TBD	University of Adelaide, SARDI
Podcast	Property management	Demonstration of drought mitigation strategies in a pastoral enterprise	Via SA Drought hub Newsletter, Social media, and website	TBD	Buckleboo Station, SA Arid Lands Landscape Board
Podcast	Property management	Demonstration of preparedness for dry times and strategies to employ when leading into drought.	Via SA Drought hub Newsletter, Social media, and website	TBD	Peel Pastoral
Video	Soils	To demonstrate soil management strategies	Via SA Drought hub Newsletter, Social media, and website	TBD	Mallee Sustainable Farming, Murray Plains Farmers

2. ***Please provide an overview of the promotion and/or facilitation of activities delivered by the Hub to support the development of drought resilience tools and products***

The SA Drought Hub has promoted the video and podcasts through the SA Drought Hub communications channels including social media, the Hub Newsletter, and the Hub website. All of the products were developed by Ag Communicators who provide communications services to the SA Drought Hub.

Current projects are expected to develop a range of drought resilience tools and products.



Above: (L-R) Kylie Matthewson (Mallee Sustainable Farming), Sean Mason (Agronomy Solutions), Kym Walton (SA Drought Hub) at the Pinnaroo Soil Zonation Demonstration site where the soils video was taken.

MEL Report on Outcomes

ST1: Increased collaboration and partnerships among organisations working in RDEA&C

There have been increased collaboration and partnerships among organisations working in RDEA&C as a result of the SA Drought Hub activities. Several RDEA&C member organisations who have not previously worked together are collaborating in the delivery of projects that address priorities identified through the Hub's codesign process. The SA Drought Hub has facilitated many connections, as detailed in the table below, between Hub Member organisations and a range of FDF programs being delivered throughout South Australia. This has increased end user and organisational engagement in not only SA Drought Hub but a broader range of FDF programs. There are a number of further opportunities to increase collaboration and partnerships across the breadth of FDF programs in South Australia where the Hub is engaged to assist in the design, promotion and delivery of those initiatives.

k. Indicators in MEL Plan

- Number of organisations collaborating in and with the Hub (including types/purposes of partnerships).
- Extent to which collaboration and partnerships are functioning well.
- Extent to which collaboration and partnerships are achieving desired outcomes.
- Evidence that engagement in Hub related networks has led to shared learning, increased access to RDEA&C resources and assistance and confidence in responding to challenges.

l. MEL report questions

1. ***Please list all of the member organisations that are part of the Hub (can refer to Operational Plan).***

   The SA Drought Hub has 59 founding partners which include a range of grower and livestock groups, universities, State Government agencies, landscape boards, agribusinesses and industry groups. All founding members of the SA Drought Hub members are listed in the Head Agreement between the SA Drought Hub and the Department for Agriculture Fisheries (DAFF) and Forestry and the SA Drought Hub Operational Plan.

2. **Have there been any changes to the Hub membership? (both new members and exits) since the inception of the Hub? If so, could you please outline the reasoning as to why these changes occurred.**

   Fifteen new Network Partners have joined the Hub as regionally based co-designed projects have commenced. All have been approved through the SA Drought Hub Institutional Management Committee (IMC) and DAFF. There have been no organisations withdraw from the SA Drought Hub although some individual staff members from within organisations have withdrawn due to the following reasons:

   - Changes to their roles and function by their employer organisation.
   - Insufficient time due to increased workload in non-SA Drought Hub work and initiatives
   - Insufficient opportunities through the SA Drought Hub as the role of Hubs has become

better defined i.e.: primary focus on production-based resilience building initiatives.

New Network partners to the SA Drought Hub are:

- Contour Agricultural and Environmental Consultancy - ABN - 56 609 399 500
- Bentleys SA and NT - ABN - 74 852 475 418
- Society Precision Ag Australia (SPAA) - ABN - 43 553 215 627
- Breezy Hill Precision Ag Services - ABN - 47 582 942 791
- Cibo Labs - ABN 21 624 033 521
- Nutrien Ag Solutions - ABN - 73 008 743 217
- Barossa Veterinary Services - ABN - 98 611 092 598
- Alpha Group - ABN - 38 128 115 131
- Ellenex - ABN - 87 621 283 921
- Farm Bot - ABN - 14 447 113 408
- Coorong Tatiara Local Action Plan (Coorong District Council - ABN - 36 233 436 743 and Tatiara District Council - ABN - 69 784 251 661).
- Frontier Farming Systems - ABN 94 204 729 188.
- Agronomy Solutions - ABN - 32 609 068 528
- AgXtra - ABN - 43 144 904 914
- Pinion Advisory - ABN - 87 648 234 975



Above: one of the Soil zonation demonstration sites near Cambrai.

3. ***Please provide a summary overview of how the Hub's collaboration with stakeholders, beyond the Hub member organisations, has evolved since the start of the program. Please discuss the purpose, progress and outcomes from these partnerships.***

Please use either the table overleaf or provide a narrative summary for question 3.

Category of partner	Current status	Purpose of collaboration	Overview of how collaborations have evolved	Outcomes to date from this collaboration (or progress toward)
Farmer/Primary Producer	Stakeholders	End users	Farmers and primary producers have become more engaged in the Hub as activities have been implemented on the ground.	Farmers recognize the activities, role and function of the Hub now that there are tangible projects that can be seen. Farmer engagement is expected to continue growing as more projects are developed and as sites receive increased exposure and visitation.
Farming Systems (Grower) Groups	Hub Members	End users, project delivery	Additional Grower Groups have become Network partners to the Hub. Groups have been supported by the Hub to deliver FDF Grant initiatives.	New groups are involved in project development and delivery, and this has broadened the Hub's ability to deliver projects across SA and engage a larger number of farmers and communities. Ongoing discussion regarding new project opportunities. Ongoing engagement with the Hub in the co-design process.
Government extension officers Other Extension Officers	Hub Members	Project Delivery	Government Extension Officers have become increasingly engaged in the Hub as projects have been developed and opportunities for participation in Hub activities have presented.	Government Extension Officer Programs linked to SA Drought Hub initiatives and Government Extension officers providing support to hub Projects. Information sharing between extension officers and Hub staff. Discussion regarding new project opportunities and ongoing engagement with the Hub in the co-design process
Private consultant or agribusiness agent	Hub Members	End users, Project delivery.	Additional consultants and agribusiness agents have become Network partners to the hub	New consultants and agribusiness agents are involved in project delivery, and this has broadened the Hub's ability to deliver projects across SA and engage a larger number of farmers and communities.
Business	Hub Members	End users, Project delivery.	Additional businesses have become Network partners to the hub	New businesses are involved in project delivery, and this has broadened the Hub's ability to deliver projects across SA and engage a larger number of farmers and communities.
Other Hub	Project collaborators	Project partners	Collaborations in project delivery have evolved through the development of the 3 Cross Hub Projects	Project development, success in attaining funding, development of project steering committees to guide delivery of cross Hub projects and share project information and resources as it is developed. Discussion regarding new project opportunities.

University or other research organisation (please specify)	Hub Members	Project Delivery	Projects have been developed and Universities are engaged in their delivery Universities have been supported by the Hub to deliver FDF Grant initiatives.	Project development, success in attaining funding, FDF grant initiatives delivered successfully, ongoing discussion regarding project opportunities. Ongoing engagement with the Hub in the co-design process
Government • Local • State • Commonwealth	Local - Hub Members State – Hub Members Commonwealth – Administering	Local – Project promotion and project collaboration State – project collaboration and project delivery Commonwealth – project collaboration and administration.	Local and State Government have been supported by the Hub to deliver FDF program and Grant initiatives and Regional Drought Resilience Planning State Government collaboration in the delivery of Hub programs and projects. Commonwealth has supported a range of Cross Hub initiatives,, facilitated Knowledge Broker, Communications, MEL, Hub Manager and other COPs to facilitate information sharing and partnerships.	Local and State - Ongoing discussion regarding project collaboration and co-delivery opportunities, Support for FDF initiatives being delivered by Local and State Government, and ongoing engagement with the Hub in the co-design process. Commonwealth – funding support for Hub programs, facilitated COPs for information and knowledge sharing and networking, supporting and guiding Hubs in administrative requirements and providing commonwealth level information to Hubs
RDC	Project administration	Collaborative project delivery	Discussions have been held with RDCs on the most appropriate collaboration pathways, shared project priorities, and opportunities for joint project delivery.	Identification of areas most suitable for co-investment.
Landscape Boards	Hub Member	Hub Member, project delivery	Landscape Boards are delivering SA Drought Hub activities. One additional Landscape Board has applied to become a Network Partners of the Hub. Landscape Boards have been supported by the Hub to deliver FDF Grant initiatives.	Landscape Boards are involved in project development and delivery, and this has broadened the Hub's ability to deliver projects across SA and engage a larger number of farmers and communities. Ongoing discussion regarding new project opportunities. Ongoing engagement with the Hub in the co-design process.
Economic Development organization (Regional Development Australia)	Hub Members (some RDAs), Project collaborators	Project Delivery	RDA's have been supported by the Hub to deliver Regional Drought Resilience Plans.	Hub data and information from consultations and co-design used in the development of the plans
Industry associations/peak body	Hub Members	Project advocacy and promotion	Industry Associations and Peak Bodies have supported Hub initiatives and cross promoted them through their producer networks. The Hub has supported Industry initiatives in the area of building resilience to drought.	There is good alignment between SA Livestock and Grains industry Blueprints, allowing Hub activities to contribute to Industry strategic objectives. This has been welcomed by Industry Associations and Peak Bodies.

4. ***What evidence can you provide that engagement in Hub related networks has resulted in the following outcomes for Hub members/partners:***

- ***shared learning***

  several projects being delivered through Grower Groups have multiple partners that otherwise would not have collaborated on the delivery of the project. The Hub has brought these partners together and facilitated the opportunity to work together on a common issue. This includes Gower Groups working together to deliver a project in each of their regions with their local producers and sharing information between the groups on the progress of the on ground activities and the learnings from them.

  This is evidenced through the Hubs contractual arrangements for project delivery which show the diverse array of project participants involved in many projects.

  The SA Drought hub is supporting several grower tours in the 2022 / 2023 Financial Year to facilitate cross node peer-to-peer learning activities and information sharing.

- ***increased access to RDEA&C resources***

  The Hub members include the South Australian Grower Group network, three South Australian based Universities, The South Australian Research and Development Institute (SARDI) and The Commonwealth Scientific and Industrial Research Organisation (CSIRO). Hub initiatives have increased collaboration between these organisations and have seen increased access to REDA&C resources as a result. This is evidenced through the collaborations being realised in the delivery of SA Drought Hub projects, the information being shared between organisations and ongoing co-design of projects that see applied research taken through an extension and adoption pathway via SA Drought Hub projects.

  Node Coordinators and Adoption Officers play a key role in ensuring relevant and appropriate RDEA&E information is disseminated between Grower Groups and to their members and other producers as information is sought on drought resilience topics and concerns.

- ***assistance and confidence in responding to challenges***

  Hub members have reported that the co-design process has allowed them to undertake key projects of local importance that were not possible to deliver though other programs. The Hub co-design process has empowered Hub Grower Group members to lead the design of projects to best meet the needs of local farmers and communities. Whilst this certainly has provided the assistance needed to respond to drought resilience challenges at local scales, it is too early to determine if this has translated to confidence in adopting new practices.

- ***other (please specify)***

  The SA Drought Hub has crated many linkages between FDF programs being delivered in South Australia including

  a) FDF Soils and Landscape Grants
  b) FDF Innovation: Innovation, Proof of Concept and Ideas grants
  c) FDF Regional Drought Resilience Planning Program
  d) FDF Farm Business Resilience Program
  e) FDF Networks to Build Drought Resilience
  f) FDF Drought Resilience Leaders Program

This has included the provision of cross program and community connections, linking FDF programs with organisations and community members on the ground, providing SA Drought Hub presentations, workshops and other content to value add to events, steering committee attendance, and facilitating collaborative opportunities.

This has been key strength of the SA Drought Hub and can be evidenced through emails, meeting minutes, meeting schedules and invites and directly through the organisations and programs who received assistance from the SA Drought Hub.

ST2: Co-design and participatory approaches embedded in the design and delivery of Hub activities

m. Indicators in MEL Plan

- Extent to which co-design and participatory principles and approaches are used in the design and delivery of Hub activities.
- Extent to which users feel engaged in the design and delivery of Hub activities.

n. MEL report questions

1. ***How has the Hub employed co-design and participatory principles and approaches in the design and delivery of Hub activities?***

   The SA Drought Hub took the priorities identified in each of the Hub Nodes through the co-design consultations and worked collectively with Hub Members to codesign projects that recognise and add value to past and current investments, are tailored to local farming systems and environmental conditions, engage local and regional stakeholders in the design and delivery of projects, and are of the highest priority to local end users. This process was undertaken through a series of online workshops (due to COVID requirements at that time) to identify the priorities in each node arising from the co-design consultations and to have a discussion on the opportunities for project design and delivery. All SA Drought Hub member organisations were invited to attend the workshops and provide input to project design and delivery options.

   The SA Drought Hub delivers projects on the ground primarily through the South Australian Grower Group Network and specific targeted and localised project development was undertaken through these groups and Landscape Boards from across the State to ensure the projects recognised and met the principles outlined above. The projects developed to date as part of the co-design process are listed in this report in various sections however the co-design process remains ongoing to ensure the identified priorities can continue to be addressed across the hub network.

2. ***What evidence do you have that farmers, primary producers and other stakeholders feel engaged in the design and delivery of selected Hub activities?***

   Allowing local grower groups to present their ideas for drought resilience, prioritise those ideas and then develop projects in conjunction with all hub Member and Partner Organisations has been very well received by Grower (Farming Systems) Groups and Agricultural Industry Groups.

Feedback received (verbally) from organisations and individuals involved in the delivery of SA Drought Hub programs has been positive in that the co-design process has allowed them to undertake key projects of local importance that have not been possible though other programs due to restrictions of the types of investment those programs make, or those projects of local importance have not realised the same level of importance at State or National scales.

Hub funded activities have also allowed for the valuable extension of projects where other investments have concluded, allowed the addition of additional scope and breadth to existing projects to increase their reach and local applicability, and have provided opportunities to undertake locally important projects in a manner that best addresses local environmental conditions, farming systems and community needs.

ST3: Hubs seen and utilised as key regionally focused institutions for defining and delivering RDEA&C services (relating to drought resilience)

o. Indicators in MEL Plan

- Hubs are *seen* as key regionally focused institutions for defining and delivering RDEA&C services relating to drought resilience.
- Hubs are utilised as key regionally focused institutions for defining and delivering RDEA&C services relating to drought resilience (and how).
- Extent to which the Hubs are responding to the local RDEA&C needs and priorities relating to drought resilience of each region.

p. MEL report questions

1. ***What evidence can you provide that the Hub is responding to the local RDEA&C needs and priorities relating to drought resilience in your region?***

   See ST2 questions 1 and 2 above.

   The SA Drought Hub activities were developed from the ideas and priorities identified through the co-design process. The full Node Co-Design Workshops Report provides a description of each theme, lists each of the 991 ideas received, lists the priority ideas identified for each of the SA Drought Hub Nodes, and provides participant feedback on their enterprises and exposure to drought.

   The report can be found on the resources page of the SA Drought Hub Website Resources Page at https://sadroughthub.com.au/resources

   The SA Drought Hub has primarily taken the co-design information into account when co-designing activities on the ground and has allowed project design to occur at local scales led by Grower Groups and supported by other Hub Members.

ST5: Efficient and effective activities to support RDEA&C and uptake by end users

q. Indicators in MEL Plan

- Number and type of activities to support RDEA&C and uptake by end users.
- Extent to which participants in Hub related training/skilling activities report that they have gained relevant knowledge and skills and how they are applying this in practice.
- Level and type of practice change (and intended change) that has resulted from engagement in Hub-related activities.

r. MEL report questions

1. ***Please provide an overview number and type of activities to support RDEA&C that your Hub has led or enabled since the start of the program.***

   The SA Drought hub has led and enabled a large number of activities to support RDEA&C. This has included 15 projects being delivered via the SA Grower Group Network which contain a mix of in field demonstrations and learning events. Within these projects there have been 28 demonstration sites established and 6 learning events.

   Additionally, the SA Drought Hub has commenced the delivery of three Cross Hub projects, one in Mixed Farming Production Systems, One in Pastoral Production Systems and one in Horticultural Production Systems. These projects have only just commenced at June 30th 2022 and have not delivered outcomes to date. The projects will deliver demonstrations of key drought resilience building opportunities in each of the target sectors and a host of learning activities.

   The SA Drought Hub has promoted DR SAT and Climate Services for Agriculture tools through our networks, has created a stakeholder feedback groups and facilitated workshops to provide feedback on these tools and their applicability in South Australian farming systems and landscapes.

   The SA Drought hub has assisted a range of Drought Resilience Innovation Grants (Innovation, Proof of Concept, and Ideas) and Drought Resilient Soils and Landscape Grants through providing connections, linking FDF programs on the ground, providing SA Drought Hub presentations, workshops and other content to value add to events, steering committee attendance, considering collaborative opportunities and provision of letters of support.

   The Hub has extensively promoted and linked a number of people into the Drought Resilience leaders' Programs that were run in the SA. This included presentations to the groups by two of the Hub's Node Coordinators on the topic of personal resilience and providing information on the Hub and opportunities to engage in Hub activities.

   The Hub has assisted several Networks to Build Drought Resilience Grant initiatives by providing connections to potential presenters at events being delivered through the program, providing community based contacts, and assisting in the promotion of events. The Hub also assisted the Farm Business Resilience Program through promotion of the program to Hub Members and Networks partners and members and contacts.

   The Hub assisted the Regional Drought Resilience (RDR) Planning program that was run in South Australia. The Northern and Yorke RDR plan was supported through the SA Drought

Hub Knowledge Broker sitting as an observer on the project steering committee and providing information and linkages to other relevant FDF programs and initiatives, local contacts in the agricultural sector, and advice on Hub priorities. The Murraylands and Riverland RDR Plan was supported through provision of information and linkages to other relevant FDF programs and initiatives, and advice on SA Drought Hub priorities

2. ***To what extent have participants in Hub related training/skilling activities gained relevant knowledge and skills and how they are applying this in practice?***

   a. ***Please provide initial data from activity survey responses.***

      The SA Drought hub has not collected any participant evaluation data in the 2021 / 2022 financial year. This is because many of the events were conducted prior to the development of the national participant learning event survey form, and co-delivery of events with projects funded through other Federal programs that had different participant surveys. This made it difficult to apply the Hub survey when people were already completing one for another program. As the SA Drought Hub delivers more stand alone events in the 2022/2023 financial year, we expect to have completed participant learning event survey forms to draw MEL information from.

   b. ***Please provide data about new knowledge and skills gained by farmers and primary producers.***

      SA Drought Hub activities have only recently commenced, and no data has been collected to date on the new knowledge and skills gained by farmers and primary producers. This will become available as the SA Drought Hub continues the delivery of activities through the life of the Hub.

3. ***What evidence can you provide that these activities and increased capacity have led to intended and actual changes in practices among farmers and/or primary producers?***

   Given activities commencement began in March 2022, there has not been the opportunity for adoption of new practices. Events to showcase the SA Drought Hub demonstration sites will be undertaken more frequently across the 2022/2023 financial year and should provide information on the intent to adopt new practices and actual adoption rates.

MT4: Design and delivery of Hub activities is responsive to end-user needs

s. Indicators in MEL Plan

- Extent to which stakeholder needs are reflected in design and delivery of Hub activities.
- Extent to which end users feel that Hub is responsive to their needs in the needs design and delivery of Hub activities

t. MEL report questions

1. ***What evidence can you provide that the needs of stakeholders, including farmers, primary producers and other collaborators have been reflected in the design and delivery of Hub activities to date?***

   The SA Drought Hub received 991 ideas from stakeholders and Hub members on what was needed to build drought resilience at the Co-design workshops held in late 2021. These were ordered into the following 10 themes:

- Community resilience and wellbeing through support, collaboration, and access to technologies
    - Farm planning and decision making to manage climate and operational risk
    - Farm business management
    - Livestock and fodder management strategies, technologies, and innovations
    - Crop and pasture management strategies, technologies, and innovations
    - Access to drought information and technical support
    - Soil and land management strategies, technologies, and innovations
    - Water security and management strategies, technologies, and innovations
    - Native vegetation, biodiversity, pest management strategies, technologies, and innovations
- Upskilling advisers, researchers, and key influencers

Follow up workshops were held to prioritise the ideas received and to identify the key drought resilience issues that stakeholders wanted addressed in each Node region. The Node Co-Design Workshops Report provides a description of each theme, lists each of the 991 ideas received, lists the priority ideas identified for each of the SA Drought Hub Nodes, and provides participant feedback on their enterprises and exposure to drought. The report can be found on the resources page of the SA Drought Hub Website Resources Page at https://sadroughthub.com.au/resources

SA Drought Hub staff then worked collectively with Hub Members to codesign projects that addressed the priorities identified in the consultation phase. On the ground project delivery is undertaken primarily through the South Australian Grower Group Network, and specific targeted and localised project development was undertaken by a range of grower groups and Landscape Boards from across the State to ensure the projects being developed recognised and met the identified priority ideas. The projects developed as part of the co-design process and currently being delivered are listed below.

Project Title	Description
Retaining soil water in farming systems using strip/disc machinery	Using disc sowing systems and stripper fronts with the aim of retaining soil water (less soil and stubble disturbance, more stubble residue retained at harvest, greater rainfall infiltration) to increase their resilience in dry conditions. Other benefits cited include increased harvest efficiency and improved timeliness of sowing.
Best practice for early sowing opportunities	Investigate best practice early sowing opportunities for producers I low rainfall areas on Eyre Peninsula including fertiliser rates, seeding depth, and variety.
Remote water management in the arid lands	Demonstrate the application of Ag Tech options for remote water management in the pastoral Zone of SA. Produce information resources to showcase the technologies.
Building pastoral sustainability – property management planning	Property Management Planning with 6 large pastoral properties (1 to 4 participants from each property) from the SA Arid Lands region, covering goal setting, property mapping using Ecologically Sustainable Rangelands Management (ESRM), planning and development of a management/ action plan.

Project Title	Description
Utilising satellite imagery in the growing season to inform adaptive management	Improve understanding, knowledge and skills of farmers and advisors in the Upper North in utilising satellite imagery to inform in-growing season decision making in both cropping and grazing enterprises.
Ground truthing satellite imagery for use in pasture management and assessing its role in adaptive management of grazing systems in the Upper North of SA	Utilising pasture demonstration sites to quantify biomass and feed quality and compare this with zones and measures from satellite imagery platforms for improved and early decision making on livestock management and stocking rates.
Intercropping in break crops in the Upper North – In-crop decision making and the impacts on profitability and soil function	Increasing complexity of the break crop from vetch pasture to a dual species vetch and canola inter-crop will increase profitability of rotations and reduce the risk by providing multi-end use options to adapt & respond to climatic variations.
Containment feeding and the effect of ewe health over lambing	Building on previous work to optimise containment feeding, this project will identify the metabolic status and cause of death in ewes that were in containment so that actions such as increased mineral supplementation can be considered to prevent further deaths because of containment.
Improving on-farm water security using innovative remote sensing systems	Establish demonstration sites for producers to learn and observe the different water monitoring systems available to help them reduce water use and maximise water use efficiency, monitor salinity and ensure livestock have access to water.
Understanding weather forecasts (short & long term) and climate change predictions	Support a presentation from a leading SA weather and climate experts to assist growers to understand forecasts, climate prediction models and other tools to make better decisions on farm.
Demonstrating soil zone mapping for variable rate nutrition management	The projects will demonstrate management of input costs and risk by zoning in different soil types, understanding input requirements in different zones, and fertilising accordingly. This is particularly relevant following dry or drought years where nutrients may be left behind and less will need to be replaced, and also in years with good soil moisture and rainfall to maximise the opportunity for higher yield potential.
Improving canola establishment in dry conditions	A demonstration trial which leads to improved management of canola in dry conditions, particularly focused on dry seeding, as well as understanding agronomic practices that can maximise return on investment with high input costs.

Project Title	Description
Tools for pasture forecasting	The Project will investigate the tools available for use in pasture forecasting and pasture measurement tools in the high rainfall zone of South Australia (e.g. Farmer Forecaster, My Farm Dashboard, AskBill). The project aims to improve primary producer decision making around grazing decisions by providing them with up-to-date information about the tools available that they can access to help inform their decisions.
Mixed Species pastures Demonstration sites	Demonstrate mixed Species pastures in medium to high rainfall environments and the drought resilience benefits they provide to soil, pasture longevity and productive use of out of season rainfall
Identifying barriers and enablers to farmer engagement with climate resilience practices and technologies	This project will investigate effective methods and practices that should be employed to increase farmer engagement in projects that encourage the adoption of drought and climate resilience practices and technologies. The project will identify the barriers and challenges to farmer engagement and participation and recommend opportunities and strategies to overcome these.
Cross Hub Project Image-based sensing for improved irrigation scheduling of horticultural crops	It is well known that a trees canopy size is strongly linked to irrigation requirements of a crop. This project will deliver a vineyard and orchard monitoring system to help growers manage irrigation and plan other management activities to achieve the best outputs with the available water resources. The tool will integrate canopy measurements and soil moisture data for accurate irrigation modelling.
Cross Hub Project Drought Resilience Practices in Mixed Farming Systems	This project will fast-track direct support to cropping and livestock farmers across three states (Victoria, South Australia and Tasmania) in the management of pastures and use of livestock containment and feeding systems for drought resilience. The project demonstrations, activities and outputs will lead to improved farm decision making and improved environmental condition in preserving soil cover and livestock welfare and nutrition in periods leading into, during and post drought.
Cross Hub Project Managing Rangelands for drought resilience	This collaboration will establish at least six demonstration sites across Australia to showcase technologies and techniques that use mapping to improve rangeland management. Utilising digital precision mapping technologies at the property scale, each site will be analysed using property utilisation and land condition tools to develop a plan for future management and infrastructure changes that could be implemented to improve drought resilience

2. Please provide feedback from end users that shows if and how the Hub is responsive to their needs in the design and delivery of Hub activities

No feedback has been received to date due to the recent commencement of projects. The SA Drought Hub anticipates that end user feedback will be provided though Hub learning activity surveys, Hub Member Surveys, via Node Stakeholder Advisory Groups, and through direct feedback received Hub members and end users.

