# Science to Practice Forum

## Day 3 Part 2 Program Transcript

**1 July 2021**

### Introduction

This event connected researchers, farmers, agribusinesses, communities and governments todiscuss practical opportunities and strategic challenges in building drought resilience across Australia. The Forum brought together for the first-time the eight new Drought Resilience Adoption and Innovation Hubs who presented their region’s co-design priorities and how they plan to address these issues over the next four years. There were opportunities to learn about the other Future Drought Fund programs, other national programs and initiatives such as the National Agricultural Innovation Agenda and contribute to the Research and Adoption Investment Plan.

### Transcript

[Event continues]

Andrew Bell:

And welcome back to this final session of the Future Drought Fund Science to Practice Forum. By the time we wind up in a couple of hours time, we'll have been on air, online for the better part of 24 hours give or take. And I know there's been lots of conversations in the comments section and a lot of reaching out to each other. And it's a bit old lang syne this afternoon, but keep reaching out. We've got a new poll up, have a look at that, lots of things going on. We've got a bit of interactivity still to come. When our friends at alluvium come up. In a roundabout a time, we'll be discussing the National Drought Resilience Research and Adoption Investment Plan. And alluvium are going to reflect on the priorities and innovations that have been arisen out of our discussions of the last three days. And there will be interactivity.

Andrew Bell:

So, I'm giving you an early heads up that have your devices and laptops ready, because alluvium are going to link to another platform called mural. You don't have to do anything just yet, but just have those to hand. We've had six hubs, we've got two more to go, and then we'll have the full set. And our penultimate visit to a hub is the one in Victoria. And let's take a little overview of what they are getting up to.

Tim Reeves:

The best time to be working on drought is before you're in drought conditions.

Catherine Marriott:

Historically, when we've been dealing with drought, we deal with the community or the farming sector and we don't often bring those collaborative solutions together.

Fiona Best:

I think that's what makes the Victorian approach so unique, is that we'll be able to identify the priorities regionally and solve them collectively.

Angela Avery:

I haven't seen a project from a Victorian perspective that is so collaborative and has such great coverage of Victoria.

Tim Reeves:

The strength of our hub is the partnership that we've put together to work on drought resilience in Victoria. We've got four universities, Deakin Federation, La Trobe and the university of Melbourne, and we've got Agriculture Victoria. We've got five regional nodes. Each node is being laid by a key organisation in that region. They're closely linked to all of their stakeholders and they will be doing the consultation.

Fiona Best:

The regional nodes bring that grassroots element to the Victorian Hub because they are representing their own region. They understand what their key issues are. What the virtue of collaborative group is so excited about is the opportunity to work with such a range of different people from a whole range of different areas.

Catherine Marriott:

Through a quadruple helix of government, academia, industry, and the community means we are guaranteed to get the most high impact that we can for rural and regional Victoria.

Angela Avery:

Agriculture Victoria will bring to the hub two main things. The first is our smart farms across Victoria aligned to the different industries. The second main area that we will bring is our extensive networks across Victoria.

Tim Reeves:

It will also enable us, the universities, Agriculture Victoria to be working with them on statewide functions around knowledge brokering, around digital technologies and sharing of good ideas between the nodes, node to node learning. But we will undoubtedly identify gaps in our knowledge, and that will require research. But what we want to make sure is that the research clearly addresses important gaps in relation to building drought resilience.

Catherine Marriott:

There are three stages of drought and each require different management. We need to take into consideration coming into drought. Managing our businesses throughout drought, and then running our businesses as we emerge from drought into a better season.

Tim Reeves:

All too often, but what we see in the past is that if there's no money on the farm then the local town also suffers. We want to try to break that nexus between what happens on the farm and what happens in those communities. And so that really means at looking at the potential for diversification.

Fiona Best:

Work of the hub and the nodes address not only the on-farm implications, but how can we also prepare our communities to be more resilient in times of drought. And then of course, how will our landscapes in our own unique environments manage and be resilient through drought conditions.

Angela Avery:

In the farming sector with the changing climate, the traditional owners have been here for 40,000 years. They have knowledge that we haven't even started to tap into. Through this hub, we actually have a mechanism to ensure that not only are their voices heard, but their ideas are actually acted on.

Fiona Best:

Having the regions identify their own problems and potentially their own solutions will no doubt have a direct impact on how quickly some of these new innovations are adopted.

Catherine Marriott:

One of the biggest barriers to adoption is the change management process. Now what this hub and the resources enable us to do is actually walk with people beside them to de-risk that change process.

Fiona Best:

For Victorian communities to be the centre it certainly will shape how innovation looks like for the drought cross-industry cross sector, cross supply chain.

Tim Reeves:

We don't want more of the same. We want innovation. We want to see new ways of addressing drought resilience. And we think that with the team that we put together, that we can do that.

Andrew Bell:

And if you're wondering where Dookie is, if you're watching interstate, it's a lovely spot mat 20-25 minutes drive out of Shepparton. And when the canal is out it is a glorious place to be I can assure you. And there gloriously professor, Tim Reeves, my eyesight, all the harbours have had to adapt to COVID and what it means with our restrictions. Victoria was early adapters and have been flexible throughout. So Tim, our penultimate hub over to you and for the first and only time, I'm going to say in my career, over to Dookie.

Tim Reeves:

Thank you very much. Indeed welcome to Dookie everybody. I'd like to start by acknowledging and paying respect to the traditional owners of the country, the elders past and present and emerging and for their ongoing custodial care of this place. This includes the Yorta Yorta but also to the near south, the Taungureng people of the Kulin peoples.

Tim Reeves:

Welcome, I hope you enjoyed our video. My presentation is unashamedly. Again, it'd be about the Victoria drought hub. I'm not going to be talking about Victoria and agriculture. Most of you would know that Victoria accounts for about 3% of the land area and around a quarter of Australia's gross value of agricultural production.

Tim Reeves:

But drought is a very real thing in Victoria. The ABARES report on drought risk last year said these two things, Victoria has the highest level nationally of flow-on effects of drought to household incomes, highest levels of industry and community dislocation.

Tim Reeves:

Northern Victoria, which is where we are now is among only four regions in Australia at the highest level of drought risk nationally. And therefore our hub we're looking to look at drought resilience in all of the regions across all of the key agricultural production systems, natural resource environments, regional communities, and with of course, the regional businesses exposed to the effects of drought.

Tim Reeves:

Hub design includes five nodes and you can see them. They're Gippsland node, South-West, North-West, Northwest Irrigated Horticulture, North-East. Each one of those nodes is being led by our tried and trusted organisation in those communities. And that's one of the real strengths of our hub design.

Tim Reeves:

In addition to the nodes we also have a very strong team around statewide issues. We've got four universities, we have Federation, we have Deakin, we have La Trobe, we have the University of Melbourne, we have Agriculture Victoria. And of course our partnership, key partnership with the Australian government.

Tim Reeves:

In addition to those main partners we've also got affiliates, a number. Those bars on the left there, the length of them records the numbers of each one, but we've got many, many people who want to be and are integrally involved with this hub. And many of whom are making direct contributions to it.

Tim Reeves:

So I talked about the hub structure and the nodes. Those nodes are going to be absolutely critical in relation to the regional consultation and co-design, and priority setting processes, regional delivery, and also a key part of node to node learning.

Tim Reeves:

And as I said before, these node leaders are absolutely respected organisations there and with their own networks. So Food & Fibre Gippsland led by Nicola Pero, Southern Farming Systems by Scott Chirnside, Birchip Cropping Group by Fiona Best, the Mallee Regional Innovation Centre, Rebecca Wells, and Riverine Plains, Catherine Marriott. Through their networks, they will engage with all of the other key players in each part of Victoria as we go through this co-design priority setting process and then of course delivering some solutions.

Tim Reeves:

In addition to the nodes we have the universities. Obviously a key part here will be the collaboration between the universities, and between universities and the other partners. Universities will be heavily involved in that consultation and priority setting process with the regions and statewide. And critically, the universities will be helping to deliver statewide key support services. And this is a critical part of our hub structure.

Tim Reeves:

So, the university of Melbourne, my co-director professor Ruth Nettle, who couldn't be with us today. Knowledge brokering from Deakin we have professor Rebecca Lester. Associate professor Helen Thompson from Federation leading these support services around digital platforms. And at La Trobe university associate professor James Hunt and Dr. Tim Clune leading capacity building and education. And I think one of the things I want you to note there is that this is a real team effort. We haven't kept all of these functions and services within the university of Melbourne. We've put them where we believe our team partners have the real strengths.

Tim Reeves:

We also have Agriculture Victoria as a part of our hub structure. Agriculture Victoria brings a number of strengths. They're a statewide network of drought knowledge and services. They're regional smart farms. And of course we'll be looking at and we'll be collaborating with the universities and the regional nodes around many of the key deliveries that will come from this hub.

Tim Reeves:

The same right the way through has been about co-design and about co-governance. And so when we look at our co-governance mechanisms in the hub, we've got these three key groups. The investor oversight committee, the hub operations committee, which really be the engine room of the hub activities, and the advisory committee, high level of representation industry and science communities helping to steer us appropriately. And we believe that this co-governance process is absolutely critical. And I'll say a little more about it later on.

Tim Reeves:

Co-design has been a feature of our hub from the concept, the planning through to the current, and then we'll go through to the future. Our regional consultation co-designed priority setting. Engaging with stakeholders, nodes, key regional organisations, universities, Agriculture Victoria. Consultation within those regional nodes the networks that they have and which they will bring together. And of course, as I said before, absolutely critical. We want this node to node learning processes sort of. A good idea that comes up in Gippsland that might be applicable in the North-East. We're actually working on that and making it really effective in terms of that knowledge transfer.

Tim Reeves:

Talking about knowledge and knowledge brokering, absolutely acritical part. Obviously, knowledge brokering process a conduit between the partners, between the partners and the regional communities, between the Victoria hub and other national drought hubs. All the ones we were hearing from at this meeting. And of course during the Victoria Hub and other key stakeholders.

Tim Reeves:

We want to add value to what's already going on. And I think that's been a clear message from the federal department that this isn't business as usual, we want things to be better. So we want to compliment that capacity. And in knowledge brokering they're going to be these key functions around the priority setting, the final selection of activities, communication and extension, a conduit to the research expertise at the statewide level and assist with the leveraging of funding, and obviously designing enhanced knowledge brokering processes in conjunction with all of the partners, particularly our regional node partners.

Tim Reeves:

Engagement with first nations people, absolutely critical part of our hub. At the statewide level we're working with Ben Gordon from the Federation of Victorian Traditional Owner Corporations. And he's already giving us some great guidance, but we want this to be building on the sort of current relationships that our partners already have with indigenous groups around the country, and already have some projects going on. I've just given a very small example of them there. So, really working extremely hard on this. And we've already had a couple of meetings with Ben post announcement.

Tim Reeves:

Progress guide. What have we done? Well, we've had four whole hub team meetings. All of the universities, Agriculture Victoria, all of the regional nodes. We have moulded an amazing... Just putting the bits together.

Tim Reeves:

We're up to 12 updates now on what's happening with developing the terms of reference for our key committees, the planning for the meetings, position descriptions, of course the science, the practise forum and our video, which I hope you enjoyed, and preliminary engagement. And I suppose the key thing that I'm saying here about co-governance is even though we will be making appointments here at the University of Melbourne and relations of the director and some other positions, we're still going to port those position descriptions to the investor oversight committee. So all of our partners have a say in these processes of appointment.

Tim Reeves:

What are we seeking to do in the first six months and a half? We certainly want to be developing regional priorities from farmers and communities, helping us to set the agenda for Victoria. We want to look at what people have already done. We want to combine some of the critical success factors for drought response in each region to strengthen informational support services across Victoria. In so doing, we want to create this platform, this powerhouse, that harnesses information and communication technologies, forecasting and information services into a statewide drought forecasting and response powerhouse.

Tim Reeves:

When drought is imminent, when drought is happening, where should you turn to? We want people in Victoria to be turning to the Victoria Drought Resilience Adoption and Innovation Hub. And so that's part of what we want to really be establishing in this first part.

Tim Reeves:

The other thing that relates to not business as usual, but we want what we calling some Arrowhead projects, some major projects around industries. What's the main thing that we're going to do about drought resilience with the dairy industry? What's the main thing we are going to do about drought resilience in the South-West region of Victoria?

Tim Reeves:

We want to tackle some of the big issues that haven't been really tackled comprehensively before around rural mental health challenges during drought. We've got our rural health people from the University of Melbourne. We've got Deakin's rural health unit and involved in thinking about how we might do this. We want to look at trying to break that nexus between the impacts of drought on farm and the associated devastating economic impacts on regional businesses and communities. How can we do that? How can we diversify in ways that we can make those impacts not flow on so much into regional communities? We think this is absolutely critical. And we think we got the team that can tackle these big issues.

Tim Reeves:

I talked about the team. Our real belief is that we're going to get some real synergies that the whole is going to be greater than the sum of the parts. Each one of our members bring something strong to the table, but working together, we think we can get some real synergies going.

Tim Reeves:

Our aim is to leave a legacy of drought resilience impacts on farms, for the environment, and for regional communities. And we really looking forward to working with all of you in the federal department and all of you in the other hubs around the country to help achieve this. Thank you very much.

Andrew Bell:

Thanks Tim. And it's a question time now. And the questions have already started coming in. Obviously people who've seen the other hubs are seeing how they're similar and they're different obviously reflecting where they coming from. And Victoria, a place... Again, declaration of interest. Very much dear to my heart. First question we've got in is from David Combin. And David asked you Tim, you spoke about adding value. How and where do you feel the Victorian Hub is most able to add value to both your state and also the sub areas of the state. And I'd add, I think it's fair to say that most people have got a pretty good idea of where those subdivisions within the state of Victoria and within Mallee and things like that. So where does the value adding come?

Tim Reeves:

We think the value adding is going to come very much from the partnership. Obviously, as I said, each one of the partners in the hub has been doing some very good work in the past and drought. And there are some excellent examples of that. Obviously the services provided by Agriculture victoria will be one of those. But we believe that by having this unique team sharing thoughts about how to tackle drought, how to build resilience is really going to add value to some of the things that obviously we'll need to get along in relation... We're not trying to replace key things that go on. What we're trying to do is add on top of that some real strategies so that we're preparing for drought before we get into drought. Looking at adding value, we'll be breaking that nexus. For example, between impacts on farm and impacts in communities. So we think it's going to come from this sharing of knowledge, experience, and ideas, and being able to deliver them through our tried and trusted node leaders.

Andrew Bell:

Another question here, which sort of talks to the sort of regional... Clear regional aspects of Victoria from Jenny Evans, how do you feel the distinct regionalization of Victoria will shape your hub? But if I can throw my two cents worth in, people are always looking to what's going on next door and that can create a nice creative tension, I guess and sharing.

Tim Reeves:

Yeah. And look, we're not really looking at it in that way at all. What we... Is like everything else that they're basically five regional nodes. And to identify them, we've said, well, obviously the Birchip Cropping Groups in North-West Victoria, that's your normal area of operation, for Southern Farming Systems most of our operations is in the Southwest, Food & Fibre Gippsland their operations are in Gippsland, and Riverine Plains in the Northeast, and obviously the Mallee Regional Innovation Centre up in that Northwest irrigated area. But we haven't gotten the hard lines drawn there. We want people to be able to go where they normally would turn to in terms of getting advice. And so we want it to be a natural fit. There's no hard lines that you're in there, you're in here. We'll all be working together node to node and with the statewide partners for a continuous flow of information where it's appropriate.

Tim Reeves:

Obviously there will be activities and projects that are more applicable in the broad acre cropping in the Northwest than they are to... And likewise say horticulture in Gippsland. But it certainly won't be a compartmentalised approach. We're acting as one. As I've said, we've already had the whole team meetings, all 10 organisations, 20 people there sharing ideas. So, we've already got a seamless operation, I think.

Andrew Bell:

Do you think... Just as a sort of sidebar, do you think the kind of way we now meet because of COVID in this virtual space is actually... I think those conversations, people don't have to travel, they can see each other, they can see the body language, that kind of thing. Is that actually helping with the deleting nodes are sometimes arbitrarily written and drawn lines?

Tim Reeves:

Absolutely. I think you've hit the nail on the head there. First of all, it was sort of making the best of a bad job as you know we've been living with COVID in Victoria for a bit. But what it's enabled to do is to engage with a whole range of partners that if we'd been doing the traditional way and driving round et cetera, just wouldn't have happened. But as I said, we've been able to get all those smiling faces around the table many, many times in co-designing the thing itself. And now of course, in the co-design process for priority setting and the co-governance.

Tim Reeves:

And we've got our first meeting of the investor oversight committee coming up in a couple of weeks time. And that will be the senior representative from each of the group that has investment. And of course, that will include Michele Akeroyd from the federal department. We think that's an absolutely critical part of our co-governance mode of operation.

Andrew Bell:

Yeah. Michele, who we heard from on day one of the forum. Kirstie Lee's asking this. She says Kate from NRM Australia mentioned the importance of the catchment management groups in this space. How does the hub, your hub hope to consultant work with the CMAs?

Tim Reeves:

Yes, the CMAs are going to be key organisations in the regional consultation process. We've already had some significant dialogue with the CMAs at the state level. And of course, one of the advantages of having our node leaders, as I say, tried and trusted organisations.

Tim Reeves:

In their location, many of them already have key partnerships with the CMAs, agriculture Victoria does. The universities each have their own relationships with CMA's. We see CMA's as absolutely critical in this regional consultation process, helping us to set priorities, helping us to deliver them, but also other groups out there, absolutely critical as well. Whether they be water groups, whether they be Land care groups, whether they be local government, other industry groups, we will be consulting with all of those. There we've got no leaders, but it's not just their current customers, they're leading because they know their way around that part of the world. And as I say, quite often already have great relationships with local CMAs.

Andrew Bell:

A lot of experience, obviously being brought to the table. How much representation is there of the younger end of the community? Be it farming community or regional rural communities? Are you getting engagement from those kinds of people?

Tim Reeves:

Absolutely. That'll be critical. I think I can safely say I'm the oldest bloke in this hub set up and I'm just the interim Director.

Tim Reeves:

But, again, one of the things about four year universities, obviously universities, have got their, all their alumni out there, largely of course, young people by definition. The farming groups out there are working with all those communities, all the farmers old and young. And so we believe by having, as I know, I keep repeating this, but by having those tried and trusted Node people out there, they know their way around this. They're working with the younger farmers, they're working with schools, they're working with other organisations in their communities. So to then have them working in relation to the Drought Hub MRAs, that will be something that should come naturally. But of course it will be armed with different knowledge and skills coming from the whole of the hub.

Andrew Bell:

I've just had a bit of a light bulb moment. There you mentioned the word schools. I think that's the first time we've actually heard that word. And of course, of course, of course it has to be part of it.

Andrew Bell:

Talking of old dogs, new tricks kind of thing, John Kennedy asked what common features do you find with your communities and stakeholders who demonstrate resilience? And have you got a sort of plan in mind of how to learn from them and then go forward and share those kinds of lessons?

Tim Reeves:

Yeah, a very good question. Thanks John. Yes. When I was talking about the first six months, anyone can recall that slide. The second thing that we want to do is to look at what the really good things that have happened in the past. What lessons can we learn, bringing them together and making sure that we're building on those and not reinventing the wheel. We really want to share amongst these things, they could be something that really worked well in Gipsland. We want to make sure that at least the principles of that we're sharing right across the hub.

Tim Reeves:

I think you would have picked up from the video that there's a lot of excitement here about this unique team working together for the first time and it's on drought. And that's because of the great initiative of the Future Drought Fund. I'm pleased to see one of our regional Node Leaders, and the Interim Deputy Director of the hub, Fiona Best, just put up a little statement there about getting to those next generation people will be absolutely critical.

Andrew Bell:

And finally Tim, if I may, on a personal note, you've already said you've been around the block a few times, looking forward, how different is this conversation about drought and planning and getting things in place? How much has it changed from what were tried tested and often not so successful in the past? Is this a sea change? What the things we're now talking about and the way we're arranging, how we talk about these things?

Tim Reeves:

Well, that again is a very good question, and we're certainly thinking of it as a sea change. When I look back over my 50 odd years of working in agriculture and working with farmers, a lot of it up here in Northeast Victoria, out of Relic land, most of the things we did in drought before were about what happened during drought, drought feeding, looking after livestock, those sorts of things. The future in the Drought Fund, I thinks absolutely critical that we now trying to work on drought, not in drought. We're thinking about what can build resilience. I was talking about breaking that nexus between what happens on the farm, what happens in communities. What's the diversification that we can bring now to the community or the farms have got another source of income that is not connected to how much rain fall's out of the sky or how much access you have to water.

Tim Reeves:

And there are some pretty exciting things there. We've talked a lot about sort of technology is in this forum, but you know, I really see it as more, a sort of three layered approach. Obviously we've got to be looking at the industries and their drought resilience. So the choice of industry is obviously important in a region and with our changing climate. The second thing is that within the industry, we've got to look at the production systems that are the most drought resilient. They're still productive and profitable, but they're more resilient to climate shocks, particularly drought. That's the second layer. And then the third layer is what is the role of new technologies, of new digital technologies of monitoring, of delivery, of micro-irrigation, et cetera. We're really looking at it in that integrated approach of making the right choices about land use, making the right choices around farming system, and then what's the role of new technology in there.

Andrew Bell:

Professor Tim Reeves, you may have seen the comment, but I'm going to reiterate it about your passion. And what enthusiasm you brought to the table as have all the hubs. Thank you so much for joining us from Victoria today and have a great rest of the day.

Tim Reeves:

Thank you.

Andrew Bell:

Seven hubs down, you're welcome.

Andrew Bell:

Seven hubs down, oh, there's an audience. Fantastic. Some people are in the room, others, unfortunately we've had to make other arrangements right at the last minute. One of those cases is actually South Australia last, but by no means least in our hub lineup. We'll be crossing live to SA shortly, but before that, let's take a look at this.

Chris Preston:

Welcome to South Australia's Drought, Resilience, Adoption, and Innovation Hub based here at Roseworthy in South Australia's mid-north. The home of Australia's first agricultural college. I'm Chris Preston, the Interim Director of the South Australian Drought Hub. This hub's going to play a crucial role in preparing South Australia for future droughts. Led by the University of Adelaide the South Australian Drought Hub consists of 59 dynamics partners. Including Grower Groups, the three South Australian universities, government agencies, research development, and extension partner, agribusiness, Indigenous partners, and various industry bodies. We are fortunate to have so many committed partners across the breadth of the state, willing and able to contribute to the South Australia Drought Hub.

Chris Preston:

These partners are going to be contributing $11.5 million dollars of cash and in kind in addition to the $8 million from the Federal Government's Future Drought Fund. Our hub model consists of the core Hub here at Roseworthy and five regional nodes at Minnipa on the Eyre Peninsula, at Port Augusta in the far North, at Orroroo in the upper-North, at Loxton in the river land, and at Struan in the Southeast. The location of these nodes ensures that we got statewide coverage across all pastoral, low, medium, and high rainfall, agricultural production zones in South Australia. This initiative will generate employment in the regions. It will build stronger farm businesses, strengthen business knowledge, and build resilience in primary production businesses in South Australia.

Rhiannon Schilling:

Like everyone else, I'm really excited about this initiative. It brings together a network of our primary producers, industry groups, researchers, government agencies, agribusinesses, traditional owners, and other stakeholder groups to work together towards a common vision to strengthen the drought, resilience and preparedness of our farms and regional communities in South Australia. The South Australian Drought Hub links with all industry sectors; from cropping and livestock, to viticulture and horticulture. So much fantastic research and development has already been done, to develop strategies, to increase drought, resilience and preparedness, as well as innovations that have been developed by our leading primary producers during past droughts.

Rhiannon Schilling:

Now it's time to build on that hard work and increase adoption and scaling out of these innovations throughout South Australia. Our Hubs regional nodes and their various activities will be co-designed and driven from the ground up. With input from partners at our local level, each node will establish drought resilient priorities. To address these priorities' extension programs will be designed to facilitate adoption of drought resilient practices in our farming systems through peer to peer learning, on farm demonstrations, and training workshops. It's very much a holistic approach. We can't prevent droughts, but we can bring together the people, the information and resources into the Hub Network that will facilitate the strategies to enable our farms and regional communities to be better prepared for future droughts.

Mark Stanley:

The first step will involve understanding what's happened in the past, through benchmarking existing research, knowledge, resources and practises. What has worked and where, and what are the gaps and adoption and research to build resilience? We will develop new initiatives to extend this existing knowledge into areas where adoption has been limited. Whether learning practises and building skills and knowledge. We will develop a portfolio of good ideas from farmers, and their key influences that informs future research. The key to the success of the Drought Hub will be the ability to connect directly with the farmers, so that their ideas are developed, and are then able to build their skills and knowledge to implement new and innovative practices.

Mark Stanley:

Through our partners in South Australia farmers will work with researchers from the very beginning to ensure activities are relevant to their specific needs. The South Australian Drought Hub aims to empower farmers with the ability to make informed decisions, enabling them to better understand drought for their benefit and that of their families, communities, and industries. Thanks to the commitment, enthusiasm of so many partners. We're ready to embark on the journey to meet the challenges ahead.

Andrew Bell:

So time for our final Hub and any final Hub questions specifically for SA, but also if there are more broad ranging questions, which can be answered by a Hub, that's been watching closely everything else that's been happening around the country. Anyway, without much further ado, keep the questions coming in and running the show from SA it's over to Chris Preston.

Andrew Bell:

Hello, Chris, how are you?

Chris Preston:

I'm well and good afternoon, and thank you everybody for watching our video.

Chris Preston:

My name's Chris Preston, and I'm going to be presenting this afternoon on behalf of the team at the South Australian Drought Hub. I'm not actually where I was expecting to present today, but I have done a bit of redecorating. My lounge room sits in Kaurna country. I'd like to begin by acknowledging the Kaurna people of the area around Adelaide, who were just traditional custodians of the land and pay my respects to their Elders past, present and emerging. Now I'd like to spend a bit of time telling you a little bit more about South Australia and our state's Drought hub.

Chris Preston:

Food, wine and agribusiness is the largest export and manufacturing sector in South Australia, and it is one of the key pillars of the South Australian economy. It is a resilient sector and it's characterised by a history of innovation, the adoption of new technologies, efficiency and productivity gains. Total primary production for 2019-2020 was 14.1 Billion. This was despite a really challenging year in 2019-20, where we had drought and bush-fire's impacting production. Then the COVID-19 pandemic creating major disruptions in the second half of the year.

Chris Preston:

In South Australia we have some challenges because South Australia is the driest state in the drought inhabited continent. Rainfall has high importance. When I lived in the United States one of the things I noticed was as you went to towns in New England, that they would announce on a sign at the front, the beginning of the town, the date of founding of that town. In Colorado, the towns would advertise their height above sea level. In South Australia there's a tendency for towns to announce what their annual rainfall is. Most of the agricultural enterprises in South Australia occur on land that receives less than 600 millimetres of rainfall per year on average.

Chris Preston:

However, the upside of that is that many of our primary producers have developed a lot of skill and expertise in managing in dry conditions. This provides us with a significant opportunity that we hope to capitalise on through peer to peer learning across our regions. On the other side of the coin having low rainfall means that if there's any reduction in rainfall at critical time to the year, that can have a major impact on profitability of farm businesses. Significant parts of South Australia have suffered through drought in recent years. In 2019, the positive Indian Ocean Dipole situation that we had led to 70% of the state being affected by drought. This included many of the major production areas, including the Eyre Peninsula, the Upper-North, the Northern Yorke Peninsula, the Murray Mallee, the Mid-North and the Northeast and the pastoral zones. Large areas of South Australia pastoral districts received less than 30 millimetres of rainfall.

Chris Preston:

When drought hits, there's a ripple effect that impacts individual farmers, their families and regional communities. Mixed farming in South Australia is reliant on Winter rainfall and temperate growing conditions, and it's highly sensitive to climate and seasonal variability. Anomalies in rainfall and main temperature in the growing season are causing volatile short-term declines in productivity. This may only get worse. The state of the climate 2020 report indicates that Southern Australia will continue to see an increase in average temperatures in all seasons more hot days, and warm spells and less rainfall during the cold seasons. A dry warming tent will lead to a southward shift in South Australia, rainfall science. A recent report based on CSIRO's climate change in Australia and the CSIRO Institute projections indicates that by 2050 rainfall will climb in South Australia for all regions. It's essential that South Australia and mixed farming business are quick with and adopt existing knowledge, technologies, tools, practices, and systems to deal with the variable and changing climate in the short term. There's a need for stakeholders to co-design activities to achieve transformational change and develop best practise economic, environmental, and social practices to manage increasing climate variability.

Chris Preston:

Our Hub Rationale.

Chris Preston:

It's across commodity Hub, linking with all sectors for broad resilience, and innovation across South Australia. It's aligned to the strategic plans and industry blueprints of the grains sector and the livestock sector. It's got linkages to the proposed one basin CRC, which will have a lower basin Hub, and they will be spending a lot of their time on irrigated agriculture. We'll also have linkages to The Green Triangle Forestry Industry Hub. And one of the features of our Hub is that we'll be building our activities based on rainfall zones, where the challenges are similar and producers can learn from similar experiences that other producers have had.

Chris Preston:

The model we have is that we'll have a core hub at Roseworthy in the Mid-North of South Australia. Then we're going to have five nodes and this map depicts the coverage of those nodes. There'll be a node at Minnipa on the Eyre Peninsula. There will be a node at Port Augusta, which will be focused on the pastoral side. There'll be a node at Orroroo in the upper-North. There will be a node at Loxton, which we'll be covering the Murraylands and the Riverland. And there'll be a node at Struan, which will cover the Southeast Kangaroo Island, the Limestone Coast, the Adelaide Hills, the Fleurieu Peninsula and the Southern Eyre Peninsula. As I said earlier, the location of these nodes means that we've got statewide coverage of all pastoral, low, medium, and high rainfall agricultural production zones. Each of the nodes will have a coordinator and each node will also have a stakeholder advisory group that will be made up of the partners that are involved in that node.

Chris Preston:

We have 59 partners and I will not list them all. Importantly, alongside the University of Adelaide, we have Society of PIRSA, but also the other universities in South Australia. Most importantly, we've got a large range of grower groups as partners in our Hub. We also have Indigenous partners. We've got agribusinesses, we've got research development and extension partners, and we've got industry organisations. This diagram is how we see our Hub working. We have the hub in the middle, and then the activities are focused around the nodes, with the various groups that are located feeding in to each one of those nodes.

Chris Preston:

As Mark mentioned in the video through the Hub partners, our farmers will be working with researchers from the outset. One of the things we really want to do is to make sure that the activities that have been done have researchers tied into those on ground activities, ensuring that we meet the needs of our partners around drought preparedness and resilience.

Chris Preston:

So what are our plans? Well, we'll do some benchmarking. We need to set some priorities, which we'll be doing through our nodes. We'll be developing our co-design programs and we'll be looking at validation of innovations. Some of the themes that have emerged from our consultations to date are grower decision making and on-farm resilience strategies, livestock production, and fodder management, agronomic management of crops, particularly cereals and pulses and pastures, soil productivity and management, and on farm water management. I'm expecting that these will feature strongly in the activities that our Hub conducts. We'll be delivering our training and workshops. We try to influence practice change and ultimately what we want to achieve is to build resilience within the agricultural community of South Australia. I'd like to thank you for your time and for listening to our presentation. I hope that there's been some interest in some of the things that we're going to be getting up to.

Andrew Bell:

Thanks, Chris. So we've got some questions that have come in already keep those questions coming in the Q&A box. Right? Let's start at the top here. A question from the ACT from Tony Kennedy, he's asking a pretty direct question actually, "are South Australian farmers still burning off stubble after harvest?" He says he can remember learning this practice when at the agricultural College there at Roseworthy.

Chris Preston:

Well, the vast majority of farmers in South Australia have now adopted no-till and stubble retention. They're trying to maintain all the stubble they can because they've understood that this is actually vital for soil health, is vital for nutrient cycling. More importantly, it's vital for productivity. There are still some areas where we have some issues around managing stubble. And this really falls, particularly in the high rainfall zones that we have, where crops can be so large, that you cannot see your next cropping through the stubble, and there farmers have to get rid of the stubble one way or another. A number of them cut low and remove that stubble from the farm and sell it as a straw, but under certain circumstances and particularly when we have difficult years, burning that stuff becomes the only practical option.

Andrew Bell:

Another question here that's come in, how can you get people directly involved in? And it's one of the praises of our meeting over the last few days, the co-design process. How have you, have you got a particular why of trying to get as many people, as diverse, a group of people involved with that?

Chris Preston:

My thinking about how we're going to go ahead and do that is we want to have the node structures going to go out, we're going to spend some time and we're going to spend time listening to the people at the nodes about what they see their issues are. Then we need to be also listening to what they think the solutions might look like. Within that, of course it'll be their ideas and their ideas about solutions that we we'll end up going forward with. So they'll actually have some ownership over this. Once people have ownership over the process, they're much more likely to take on the outcomes. Once we've done that of course, we want to get some experts involved in that process so that we make sure that the activities that are delivered are robust and that we measure the right things. Because measurements are a key part of understanding whether change has been effective.

Andrew Bell:

I've got a question here from Mark Bateman for you, Chris, "the state of the climate report and the report from the CSIRO seem quite dire," says Mark, "what do you think are the big barriers to these kinds of messages to driving change?"

Andrew Bell:

You know that background noise, if you like, we're talking very often in the kind of discussions we've had here about quite specific things, but in the background all the time, state of the climate report, and what's coming from CSIRO.

Chris Preston:

Certainly my experience with Australian primary producers is that they've, they've largely got over the idea that they need to, be against climate change. It's climate change has happened to us in South Australia already. So our farmers understand that they need to know how the climate is going to move and they need to make adjustments to their management strategies accordingly. So I don't know that we're going to have too much problem with the noise in the background so much.

Chris Preston:

I think the issues that we're going to be really facing, how do we actually provide the strategies that farmers going to need to be able to manage that into the future? So I think that the fact that this is actually already happening, we're already seeing some of the things that have been, that I spoke about in my presentation on the ground means that most producers have got an understanding that this is happening and we need to adapt to it.

Andrew Bell:

And now a deceptively simple question, I think from Adam Zur, who asks what other in inverted commas write things to measure, how do you decide what to measure in coming to your conclusions and therefore informing policy priorities and the kind of activities you're going to get engaged with?

Chris Preston:

Well, the right thing to measure often going to depend upon the type of activity you're doing and what you're doing that activity for. So one of the things that can happen is you can get over measurement, it is the people that decide that they're going to measure everything they can about the process. Whereas often you need to sit back a little bit and look at it and go, well, this is the outcome we're looking for. How do we measure that outcome? So this is why we want to get the experts involved because I'm an expert in my own little space and I know what needs to be measured in work that I get involved in. But I don't know what needs to be measured in other spaces. So we want to get those researchers embedded in this co-design process with the on ground people so that we actually get the right things measured.

Andrew Bell:

I mentioned to Tim in Victoria, that in that state, there was a fairly clear recognition of what the various regions of the state, where they are and they're fairly close together. Of course, in South Australia, you have distinct geographical areas, but they're far apart. How do you bring the nodes together? Just in a feeling of being we're all in this together, as well as their specific tasks. Again, our platforms like this, where we can talk online, digitally and see each other. Do you think that's going to aid the process because there's a lot of tyranny of distance in SA?

Chris Preston:

Yeah. Look, I think that there's going to be a number of things that we're going to have to do around that space. And I think one of the things that will set us up well is the concept of trying to build our hub around the rainfall zones. And that means that we've got producers and groups who are battling similar problems. And so that they end up then talking within the node with people who've got similar issues and who have experience that they can relate to. So that's one of the things that I think we'll do well through that.

Chris Preston:

The other one of course, is that how do you deal with a big state like South Australia and getting around? And in some ways there is no true substitute for getting out into people's own backyard and talking to them about the problems they've got. That's when you learn the most. So there will need to be a lot of that, but we also need to bring people together. And I think that now that we've all got used to doing these sorts of exercise, I think we can use these as that sort of regular in-between types, bringing people together to have discussions about what's happening on the ground. What's working, what's not working. And how do we change what's not working in, and turn it into something that's working?

Andrew Bell:

And going back to the particularities of the state, particularly I think that the north, has the South Australian hub asked George Wilson? This question comes from George asked has the South Australian hub, being able to engage with the indigenous land and sea corporation?

Chris Preston:

Look, we've had some engagement with some of the indigenous bodies and certainly, there's plenty of knowledge and expertise that they have and I will be really, really interested in listening to what they're going to say and trying to work with them about how do we meet their needs as well as meeting the needs of pastoralist in that area?

Andrew Bell:

Amanda Robinson has as asked, many of the hubs, do many of them share the same partners? And if they do, how will this affect the way you all connect? Because obviously you're keeping an eye on your nodes, but I'm guessing you're glancing from side to side, looking up, looking up at the sky, looking down at the ground and seeing what some of the others are up to

Chris Preston:

I'll look down or we're in a particular position of that because one of our partners is actually also involved in the Victoria hub. So one of the key things that we're going to want to do as we're starting that, sort of co-design process is to continue to be in touch with other hubs that might be doing similar sort of things because there's no point in duplicating things that don't need to be duplicated. But there might be things that our groups are coming up. So we want to look at this and they're saying the same thing in Victoria. So why don't we do it together instead of doing it in isolation?

Chris Preston:

So we see Victoria in that space as being one we're certainly interested in and talking to southern New South Wales around and Victoria around irrigator cropping when we get involved in that. And of course in the pastoral zone, we'll probably be looking to northern New South Wales, Southeast Queensland hub for how do we make sure that what we're doing is adding value. And we're not just doing the same up there as we're doing down here.

Andrew Bell:

And Chris, one last question and from me, and we've been together now for three days in this forum and I feel we're all friends. If we weren't friends to begin with, we're certainly all friends now. Can I ask you as someone who's observed the landscape over quite a long period? Can you just talk about your own personal feeling about where we are and where we hope to go?

Chris Preston:

Look, I think I've got to perhaps talk a little bit of history there because I got involved in, in agriculture some 30 years ago when I moved to South Australia. And what I can say about the landscape in South Australia is the while things have got drier. Management of the land has got incredibly better. We had a devastating drought in 2019 within the state. And back when I was young, a drought like that would lead to farmers, not getting their seed back and the whole place blowing away. And while we did have some dust storms in some really badly affected areas had been in drought for a long time, that the damage was a whole lot less.

Chris Preston:

And what I'd like to see is for us to continue to move that stewardship of the land that our farmers have developed through new practices to the point where we actually don't get these issues when drought hits. That there is enough ground cover to hold the land. So I think that that's one of the things that are--I'm hoping that we can get out of this whole future pre-upfront processes that we'll just actually be better stewards of the land.

Andrew Bell:

Thanks so much, Chris Preston and thank you in particular for being so flexible. I know it's been a bit of a Rocky ride for all the hubs in where they are going to be and how they're going to deliver their presentations, but you have brought the hub presentations to a fantastic finale go well, and thanks for your time today.

Chris Preston:

Thank you.

Andrew Bell:

Well we're getting now to the sort of the business end, I guess, of what we've been doing for three days and Alluvium consulting, they really want to capture comments and hear from you people out there about what we've been talking about. So we put a poll up now, so you can tell us how you plan to use the drought, resilience, research, and adoption investment plan. Paul sometimes are a bit of fun. This is deadly serious. This is direct input into where we go next and where we go next in the forum is to Alluvium and is to Katie. Hello there, Katie and I believe people should have devices and laptops at the ready because we're going to get a bit interactive in the next hour or so. Over to you.

Katie McRobert:

That's right. Thank you. We should also have Bill and Tim from Alluvium join us, but while we wait for that to happen, I'll introduce myself, Katie McRobert. I'm the general manager of the Australian Farm Institute. And we've been working with Alluvium on this investment plan. Now that we've got Bill and Tim I'll pass over to Bill to do the formal introduction.

Bill Moulden:

Thank you, Katie. And thanks everybody for joining us once again. So today I suppose we wanted to build a bit on our session from two days ago. So, we've put the poll out there. Thank you for everybody who's contributed to that. That's really given us a sense of, I suppose, what are the major themes that we've already identified that are going to be really important here. So today, I suppose it's about sharing with you some of our thinking about those focus areas, because we've done a whole lot of work in the background. Tuesday was really the big picture and the engagement, and this is getting into the nitty gritty a bit more. We also want to get some feedback from you guys on some of these real priority focus areas, just to help us focus the investment plan a little bit more. So we've got a few of us are going to speak about different parts of the investment plan today. And I think Tim, it's over to you now.

Tim Fisher:

Thanks very much, Bill. Hi everyone. I'm Tim Fisher from Alluvium and it's great to be here today. And as you can see, the priority directions that were covered in the poll, and as you'll see in the poll results that this prior direction of hearing the natural resource base was most prominent in Tuesday's poll outcomes. So if we can, yes. Thanks. Thanks Katie. In, in summary, I guess you could say that the state of knowledge on the relationship between drought and natural resource condition is not as good as it could be. And there's a raft of, of reasons for that. There's a raft of dimensions of that too. As a research and adoption priority, the challenge is to build the data, knowledge and tools needed to better understand the role and significance of NRM for drought resilience in agriculture. Next slide, please Katie.

Tim Fisher:

Now he's a quick refresher. These are the four focus areas that we've identified under this priority direction of maturing the natural resource base. The capacity and limits of farming landscapes, which you ranked it number five in Tuesday's poll evaluating the resilience of systems and practices came out at number one, they would acknowledge about natural capital assistance services and the grant would seal these opportunities and benefits associated with...

Tim Fisher:

So that if we could go to the next slide, please, Katie, what we have for you here is, is a question. We'd like to harvest some more insight from you and answer in to this question about the adoption challenges associated with NRM the CNRN priority direction. So thinking about the communication and adoption challenges of this priority, what's the best scale to consider and who would be the best partners to involve? I ask you now to make use of the next two to three minutes or so to provide your answers to this question using the link on this slide. Okay. So I will just pause there while you think about your answers and record them in Slido?

Katie McRobert:

I'll also just post that link there into the comment box. Might make it easier for people, but yeah, if you can jump in there, you can put in more than one answer if you've got more than one thought, but we'll give you a few moments to just consider that. If you've got your phone nearby, put on a little bit of thinking music, keep yourselves busy.

Katie McRobert:

We should also say a very big thank you to everybody who's contributed to the poll. We were hoping to get some good responses from everybody. We weren't expecting to get 200 responses. So well done everybody for making sure that you've contributed and made sure that you've got your voice heard so far. We're looking forward to hearing what comes next. Since the question is already on Slido, I'll just go back a couple of slides there. What you guys identified as, as a very strong priority so far is securing the natural resource base and the things that you identified as focus areas, which is actually all four of the ones that we had listed there, were landscape capacity and limits, evaluating resilience systems and practices, natural capital and ecosystem services and carbon sequestration.

Katie McRobert:

I'll leave that slide up there just to give you a bit of context as well. So people can see how things are going on, I'll move that across. And we can see that you've got quite a few answers coming in already.

Bill Moulden:

Nice to see somebody doing it at the paddock scale. It's a bit of an outlier.

Katie McRobert:

Bit of an outlier. It's a fairly strong leaning towards regional scale. There's a few farms coming in at the end.

Bill Moulden:

Lots of both just to make our job easy.

Katie McRobert:

If we could have a few extra comments on the best partners to involve as well, that would be very helpful. Thanks, Grace. We're on the same page. Good point, Lee. Pop that into the Slido capture as well. You do need to work initially at paddock scale to get to farm scale, and then it farm scale to get to regional scale.

Bill Moulden:

Should we get started with the next focus area? So what the next focus area that you guys identified and it came through quite strongly, but it stood out a little bit from the other ones because it was about water and water use efficiency. Now this means a lot of different things to a lot of different people, depending on what your role is in the community, what type of business you've got, where you are in the value chain. But the way that we've sort of thought about it in the investment plan and the way is it fits in with this priority direction of transformational change. So we've been thinking about that water efficiency probably at a higher scale and thinking about it in terms of what are the hydrological systems, what are the business systems that link to these resilient, natural systems that Tim's been talking about just now.

Bill Moulden:

So it's really about what is the business model? How does water fit in with that? And how does that support this longer term resilience is sort of how we've imagined it here. But having said that, we've heard a lot of different thoughts about water efficiency through our different engagement workshops from everything, from capturing rainfall in soils with increased carbon, through to better irrigation efficiency, through to capture and storage of water on farm. So it's a bit of a catchall term, but really what we've got is it's about the information that people need to be able to plan their water use over this wet, dry, wet, and dry cycle, and how people communicate through the value chain from it can be everything from people operating water supply systems through to through the users and through the suppliers and buyers, they're planning their businesses around that.

Bill Moulden:

So really, I suppose the question that we've got for you today is really to talk to us about what it means for you in your region. So what are what are the measures that are most relevant to you in your hub? We think there'll be some of the hubs will probably have very similar thoughts about what water use efficiency means and at what scale you should be thinking about it. Whereas others will come out quite differently depending on geography and climate. So that's the question is to really think about you in your hub and tell us what water efficiency and water security means for you.

Tim Fisher:

Just to add to that, just to emphasise this is through a drought resilience lens, looking at this question through the perspective of building drought resilience.

Katie McRobert:

You see comment there from Matt about Gary's comments yesterday, which unfortunately I missed, but priority three is all about rehydrating. The landscape.

Bill Moulden:

That is an interesting one. And I think it goes beyond just the agricultural landscapes as well. If you think about our water producing catchments, managing fire and forestry and maximising runoff and storage within the forests can really have big impacts further downstream.

Katie McRobert:

We do have a lot more to ask of you today so although we still have answers coming in, we're going to be brutal. Move on to the next section. I'll push you on to the next section. I'll leave the poll open a little bit longer if people are still thinking, you want to add some thoughts, but we'll move on to the next bit. Bill, skipping backwards.

Bill Moulden:

Thanks Katie. So the next priority area has got a bit of a different focus in terms of who research user is. This one's more about, I think, primary producers. So I think the focus areas that were identified were around risk management and preparedness for drought. So to me, this really links back quite closely to when we looked at the survey there and the results coming from primary producers in that survey rating risk management as being probably the top priority in terms of adoption of existing knowledge. So this one's coming down from the landscape scale and really focusing more on the business and the farm scale. And one of the things that we heard out of the workshops was really about incorporating this into a business model.

Bill Moulden:

So it's about what does that resilient landscape look like at the farm and how do you make money out of that? What's the information that you need? What are the tools? But also it's about having the skills to be able to use that information in a timely and robust way to manage risk. So, really we see the key stakeholders here being the primary producers, advisors, extension officers, people with risk management skills there. So this one's really, I see this as being an adoption problem more than anything else. It's about getting the existing knowledge out there to people and also learning from people who are doing it better. The people on the ground are the ones who have to manage the risks. And there's probably a lot we can learn from people who are doing it well, that'll help inform the research. So what was, what was that question? I think it was around adoption. Okay. Yeah. Here we go. Yeah, this one's really focusing on the adoption.

Katie McRobert:

So closing off the water poll, sorry for those who are still typing, that's over and moving on in Slido to. What are the key adoption barriers to uptake of risk management tools and options as they relate to drought resilience?

Bill Moulden:

It's worth mentioning. We've had some interesting discussion about, both in the workshops and later on, about getting the right advice and getting it from trusted sources. So making sure that the people giving advice have got qualifications and have got the right background to be able to do that. And I think Michele and the team at the future drought fund, are looking into that a bit more as well.

Katie McRobert:

Comment just on the screen at the moment sums up very clearly what we've heard over the past few months that trusted independent and regionally based advisors are absolutely crucial.

Bill Moulden:

Skilled and engaging trainers as well.

Katie McRobert:

And I just it's gone down because this is a popular one, everyone is typing so fast, but I just saw something in there about timing of when the advice and the adoption is being rolled out is absolutely crucial as well, which is another theme that we heard in our workshops up to this date. Yay.

Katie McRobert:

Moving on to the next lot of priorities that you as a group have helped us identify as being their most urgent priorities out of that list of 21, we provided on Tuesday. Something else that did come out was the importance of resilient communities, which of course we've identified through the workshop process. We know all of these things are important, but this has come up into your top 10 as well.

Katie McRobert:

The impacts of drought of course stretched beyond farm businesses and families. Ag is the cornerstone of prosperity for many rural, regional, remote and indigenous communities, which leads to very clear negative effects on those communities. During drought, social and behavioural research can enable understanding about the perceptions and capacities within those communities to adapt to drought and to build resilience. Pardon me. Don't have COVID, I promise. Even if I do, you can't catch it from me. Research in this theme, we'll explore how people perceive with one, two risks and understand what those barriers are to people in those communities, engaging in increased preparedness for drought, and to understand the impacts of economic hardship and mal adaptation on people and communities. Much of the research development and extension in adoption activities, which were gathered up in the Acil Allens stock take, which was undertaken last year, they've demonstrated a focus on the imperative of economic resilience outcomes, but sustain triple bottom line resilience will only be achieved if there's an increasing understanding of the building of social resilience.

Katie McRobert:

And that's certainly something that came out a lot in our workshops that people told us that social resilience is very important, but that there's not a very good understanding of how those things are rated or ranked or what the baseline is or how you measure social resilience. So community and social resilience questions, they relate to the themes of production systems and technology and financial instruments income, then the hubs and the multidisciplinary innovation proposals will be really important in including these elements, which explore social resilience.

Katie McRobert:

So I'm just going to multitask and skip over here to forward my slide. There we go. The priorities that you guys identified for us in the survey, social and community resilience came in ranked at number six. Stakeholders identified that the social barriers to drought resiliency and adoption and investment are pretty poorly understood as they stand so far, the behaviours and influences on individuals, communities, businesses, and enterprises, and markets in response to drought and the imperative to increase resilience need to be much better understood than they currently are. And this knowledge can then be used to design services and appropriately extend the options and to, to meaningfully engage instead of it just being lip service.

Katie McRobert:

Behaviours for preparedness also sort of squeezed in there at number nine out of your top 10, with people identifying that understanding resistance to resilience is a barrier within itself, which is a little bit meta I know, but there's a really strong need to identify what the triggers and indicators are for drought, resilience, planning, which decisions have the biggest effect on resilience outcomes, and understand how to improve on the ground decision-making. During of course, what a very slow and stressful events droughts don't come on us suddenly. There's a lot of time building up to what can be very traumatic for people. So the question that we'd like to ask you next in Slido is when you're thinking about the barriers to improving community resilience.

Katie McRobert:

Who are the partners that can facilitate this? And we're talking about organisations, and individuals. So this is a fairly specific question. Feel free to put in some other general thoughts if you like. But specifically, we're asking you this time, who are those partners and where can they make the biggest impact? So again, giving you some thinking time, minus thinking music, two or three minutes, let me switch back over to the poll and open the next one, just a second. Right, that should be open for you now.

Katie McRobert:

Thanks is your very first answer, that's a surprise to me. I was going to say, why are you so quiet on social when you're so busy on the last one? Yeah. Interesting.

Bill Moulden:

Katie, we had somebody ask a question that kind of pre-empted this, put a question in to the website last night about involving community groups. So, Rotary, CWA type groups and identifying people outside of the agricultural sector as being key partners for the hubs.

Katie McRobert:

Now we've asked you some fairly specific questions about the priorities and the focus areas that have been identified in your top 10, so far. We wanted to do something a little bit different now, still interactive, where we're having a lot of fun with Slido. So we thought we'd use it to its best advantage. And ask you to consider what the three things you think are the most important for the Drought Resilience Research and Adoption Investment Plan to consider.

Katie McRobert:

And when we asked you to do this in Slido, I haven't changed it over yet. So, if you're still having your last minute thoughts on social resilience, you can pop those in. But when I switch it over, we're asking you to try and stick to a single word, if you can. Or a short phrase, so that we can see if you've used word clouds. Before, you'll know that if a lot of people say one particular thing, that word will get bigger and we can see the, visually, where people's priorities lie. So if possible, check your spelling before you hit enter, and try and keep it to a single word or a short phrase. All right, apologies to those people who are still going on social resilience, but your time is up. I'm going to open the word cloud and ask you to pop your thoughts in there.

Katie McRobert:

And Tim is there anything jumping out at you that you didn't expect to see or anything surprising there? So a lot of confirmation of things we have heard, of course, which we would expect, there are a few things that are popping up for me. It's been interesting emphasis.

 Tim Fisher:

I saw somebody wrote hydrogen and oxygen, and I'm guessing that it's water. It's interesting to see trust there. Which came through in some of our early obsessions about trusted sources of knowledge and advice.

Bill Moulden:

Yeah. There seems to be a focus on the physical and the biophysical, and the systems there. Yeah, we're seeing the people in the communities come in there, but the big focus on the physical reality of it.

 Tim Fisher:

And soil health is coming through and everything that soil health means is obviously coming through, is the biggest theme at the moment in building drought resilience.

Katie McRobert:

Well, knowing of course that this is not in any way scientific and we're not going to be using this word cloud to direct your hard-earned dollars in particular. It's just more interesting for us to sort of gauge a sense of where people's instinctive priorities lie.

Bill Moulden:

...sort of questions that will be asked of the plan as well, I think. I mean, it's a good indicator to us of what people will be looking for when they pick this up and what we need to cover.

Katie McRobert:

And on that note, as much as it's fun to watch a word cloud evolve like that, we do have a few extra things that we wanted to ask you as well. So we've got some open questions to go through, but we do also have some time put aside at the end of our session here to allow you to re-rank those priorities that we discussed earlier. Having had some time to think about it with these other questions that we've asked you along the way. So looking at the time, what are we up to? 40 minutes. We've got 20 minutes left in our hour.

Katie McRobert:

So, we might see if we can get through a few of these open questions just quite quickly. And then we'll give you some time at the end to have some more thought on how we would re-rank those top 10, and which order you'd put them in. So, I might just go straight to the Slido. What do you think Bill and Tim?

Bill Moulden:

Yeah, I think so.

Katie McRobert:

Figure out which tab I've got open. It's this one here. Okay. So first question we're going to ask you, what are the best cross-sectoral opportunities to improve drought resilience? This is your speed dating section of the questions. So you've got one minute to get through this one, starting from now.

Katie McRobert:

There are no cross-sectoral opportunities to improve drought resilience. Thanks for your time.

Bill Moulden:

Takes a lot to type, Katie.

Katie McRobert:

I shouldn't say one minute, then that's a bit unfair. We'll say you've got two minutes. Please explain. Bill, do you want to talk a little bit more about the cross-sectoral opportunities? Throwing you under the bus because this was your question.

Bill Moulden:

So really, I suppose this is about... There's a lot of things it could mean, but there's, cross-sectoral in terms of the type of research that's being done. So, environmental research, plant breeding, soils and systems. So thinking about the type of research and extension that's being done there and trying to bring those together. So for example, a plant breeding thing is focused on one small part of the system. But then there's another, I think that's focused on soils. Obviously those two things relate to each other. So, that might be a chance for researchers and extension services to sort of bundle up their effort. Then there's of course, cross-sectoral in terms of the agricultural value chain. So from suppliers, producers, finances, and getting the information to people through that sort of network.

 Tim Fisher:

I'll just add there, looking across the different commodity sectors to some of the more common themes shared across weathering, grazing, cropping, various types of Horticulture and so forth. Those cross-sectoral opportunities from that perspective as well.

Bill Moulden:

Yeah. The different industries and commodities on a farm or within a region.

 Tim Fisher:

And the different RDCs as well as investors.

Katie McRobert:

All right.

Bill Moulden:

Yeah. And I suppose that points to one of the things that the investment plan is supposed to do is that it's supposed to identify these opportunities for people in the existing research system to come together. So, it's not just about what future drought fund is going to do, but it's about identifying priorities as identified by users and people on the ground to help make that whole, what is it? Billion dollar research and investment sector, a bit better focused on drought.

Katie McRobert:

Okay. So we might move on to the next open question, which is hopefully a little bit more self-explanatory which is, what are the resilience measures that no one else is yet doing? Given that, doesn't mean mouse population control either. There's some interesting points coming through there. I'm hesitant to cut it off too soon, but while you're still popping your answers into that particular question, we do have a related question, very strongly related question for you coming up next. Which is, what existing research are you aware of where adoption and extension is lagging? These people are still typing busily away in Slido, I'll give you another short moment just to finish that up and then I'll open question three.

Katie McRobert:

The particular reason we're asking this question too, is it was a very strong theme throughout the workshops expressed by people that there is plenty of research out there. That's not been adopted and taken up, but we didn't get a lot of specific feedback on what particular research people were talking about, like where the actual blockages were. So, you can be as specific as you like, if you want us to talk about a particular project or a particular initiative that you're aware of or involved with, or you have a particular dog in this race, that's actually fine, horse in this race. Isn't it dog in the fight, horse in the race? feel free to pop that in there as well.

Katie McRobert:

While you're thinking about where adoption and extension is lagging, in the back of your mind we also want you to be thinking about what kind of activities would help to address that problem. I'm watching the time, I'm aware that we've only got an hour with you. And there's a little less than 10 minutes left of that. So, as you're popping those last couple of notes in on the existing research where adoption and extension is lagging, we might move on to the next one. Which is, what are your top three adoption activity priorities? How do we address question three? So, moving on with Slido. Bill, did you want to give a bit more context about this particular question?

Bill Moulden:

Oh, adoption activities. A lot of interest around adoption and extension in the workshops. I suppose the two... I'm kind of pre-empting things a bit here, but two that stood out for me were that, people continually expressed interest in, was peer to peer networks. So, implementing and maintaining those networks of knowledge exchange on the ground. And I suppose, that network being an end in itself, and trying to support that, and let that network find the information it needs to rather than it being a sort of information focused. Getting this information to people.

Bill Moulden:

And then, I suppose the other thing was the translation of research and knowledge into business systems. So, a lot of research gets done about production or soil health or water efficiency or whatever, but it's putting all of that together and demonstrating that it is a viable business model over a wet and dry cycle.

Bill Moulden:

And then of course, there's the advisors and the expertise and, building trust and some sort of qualifications, perhaps for people acting as advisors. Because there's so many different fields that advice can be provided in from economics through to herbicides, soils, and everything in between.

Katie McRobert:

There's a lot of really good suggestions and answers coming through here. So, I'm going to make a captain's call and probably skip question five and give people a little bit more time on this one. Because we still want, at the end to give you those ranking options again. Of your top 10 identified focus areas and get you to pick your top three out of those. So, a little bit more time on this, just because this is terrific. This is really good feedback for us. And then we'll skip ahead to re-ranking.

 Tim Fisher:

So, often an adoption is regarded as a bit of an optional add on and I'm hoping it's to the credit of the future drought fund, but it's putting so much focus on this adoption challenge. Which, if you're going to do it well it can be quite complicated, expensive, and time consuming in order to get the right outcomes.

Katie McRobert:

Absolutely. So, our final activity for the workshop is to rethink these priorities. Apologies that I was driving the slides and I skipped through this a little bit too quickly at the start, but just to show you, they're out of the 21, the highlighted ones are the ones that you as a community have ranked as the top 10. And based on what we've heard today in the discussion, we'd just like you to look at that and consider those. And out of that top 10, thinking also not just about them as a list, because we did provide them to you fairly quickly on Tuesday. And didn't really have as much time as we have today to provide that context.

Katie McRobert:

Thinking not only about the focus areas themselves, but how they fit in with those priority directions and where those linkages are. So, some of them do overlap quite strongly. You might want to choose two or three that do connect very closely, or you might want to choose ones that are separate from relying on the links to sort of bring the entire theme through, as a priority.

Katie McRobert:

I think, considering we've only got four minutes left in our one hour, it might be time to move on to the re-ranking. So, if you scan through these, try not to read them in order, if you can, otherwise, we might be prejudiced with a little bit of a donkey vote, there. Have a look at those 10 on your Slido poll, but what I'm also going to do, I'm assuming that you can all see the Slido and you don't need to have a look at it here in real time. Let's keep this slide up so you can have a closer look at how they fit into those priority directions, where the linkages are. And then we'll give you three minutes on this to choose your top three. So we're coming right up on the hour now, I'll hand over to Bill.

Bill Moulden:

Okay. Thanks Katie. A little bit of of change there. I suppose the major ones are still there, but some of those social ones creeping up in the importance there. So anyway. Yeah, we do want to thank everybody for your participation in all the polls and all the sessions. It's been really great for us to hear from you. There's a lot that we can now work into the investment plan and we really hope it's going to be useful for everybody in the hubs here. So, once again, from all of us, thank you for participating in the workshops and everything up to now. And, we hope you enjoy the investment plan. Thanks a lot.

Andrew Bell:

Thanks very much indeed, to our colleagues from Alluvium. That's Katie, Bill, and Tim. And its conversations, answers to questions, informing the further conversation. And, it's really down into the granular detail and seeing where we're about to go to. And that's what we've been talking about for three days.

Andrew Bell:

Now, we had scheduled the Future Drought Funds Innovation grants next. But, unfortunately we've had to cancel that item on our agenda. As the grant guidelines are still being finalised, but more information on the innovation grants is coming soon, and keep checking at Future Drought Fund website for updates. And, the web address is in the comments. So keep a weather eye open for that. As I said, I think a little bit earlier on we've been together, I think it's 21, 22 hours since Tuesday morning. And now, it's time to wrap it all up and to help us wrap it all up, we're going to just travel a little bit up the street here in Canberra to the department offices on Marcus Clark. Lyn O'Connell is there, she is hotfoot from a meeting. So, thank you so much for making time. Lyn, if you'd like to make your closing remarks, the stage is yours.

Lyn O'Connell:

Thank you very much, Andy. And thank you everyone for your contribution to the inaugural Science to Practice Forum and the focus for this year's theme on building the foundations of drought resilience. So this kind of hybrid arrangement, I know it's been a bit challenging for both presenters and participants, but in the end with the changing COVID circumstances, it's worked really well. It's been COVID safe, and it's reduced our carbon footprint. Now, a few quick stats. Now these are stats from end of yesterday. So, they will change once we get the end of today's stats as well. But throughout the two days to end of yesterday, we had 842 registered participants, 342 was the peak attendance at a particular point in time. And there's been about 270 on average people attend during all the various different sessions. So that's a 74% turnout rate, which is pretty good and 45% of attendees online at any time of day.

Lyn O'Connell:

And the biggest number of all is of course, the number of comments I've been one of the participants and seeing the comments and the discussion take place. So as of close of business yesterday, there were 874 comments from participants. And I'm sure as I've said, that's been completely overtaken today and no doubt well exceeded the thousand mark. So I've really been pleased to see how you've maximised these three days, taking on board, lots of new ideas, and forging new networks that will transform our ag industries and regional communities to become more drought resilience. We've seen each of the hubs in focus and how they'll contribute to drought resilience and innovation in the regions, but also how they will do things nationally as well. And we've had lots of experts share their ideas on how to bridge the gap between research and then the practical impact on the ground for farmers and communities.

Lyn O'Connell:

We've also heard how the hubs can incorporate indigenous knowledge into perspectives for drought resilience activities. And really now, I guess it's up to all of us to take a look at the priorities and innovations arising from the forum and to start building the foundations for drought resilience by putting things into practise, continuing to collaborate, continuing to work together. And really this means kind of our hubs to reaching out to farmers, the researchers, the business owners, industry, community representatives, and inviting all to share knowledge and contribute to particular solutions for local and point specific problems. So I'm really excited to hopefully see the contributions that will be made as a followup to this forum over the last three days. Now, a quick advert, it's going to be an annual forum. So you want to mark in your calendars for March next year. March 2022. That's when we'll be holding our next year's forum and be great to see the progress and the development from the drought innovation hubs in this new era of building drought resilience.

Lyn O'Connell:

I also just want to briefly mention that today, coincidentally being the 1st of July is the first year anniversary of the future drought fund. So it's a great time to be concluding the Science to Practice Innovation Forum, which is part of the products and services that come from that future drought fund. And so, on behalf of my colleagues in the Department of Agriculture, Water and the Environment, I want to thank everyone for your participation. Thank the speakers for all the effort that they've put into their presentations. Thank all the members of the hubs, and thank my team for help organising. Thank you, Andy, and your team for comparing, et cetera. And look forward to seeing you in next year's event. Thanks and back to you, Andy.

Andrew Bell:

Thanks so much, Lyn. And we knew it was one year on for FDF because we have had cake. So thank you to you, for winding up our forum. And thanks to all the people in the hubs. Those have appeared, those who have attended. Some people have been able to attend in person, and also there've been people you haven't seen in all those hubs who have wrangled technology to help us get this event up. We really thank them. It's been close to the market times, but we got there, and thank you from the bottom of our hearts. We'd also like to thank all the speakers. Many of whom had to go with the flow. There were people in states, they never imagined they were going to be in, talking about their own state and vice versa.

Andrew Bell:

It was quite remarkable. Talking of remarkable, if you'd like to tell us how remarkable you think the event has been, and we'd love you to do that. There is a survey, there's always a survey at the end of a conference or a forum. There's a link in chat and that will help make the next forum in 2022 in March, even better. And isn't it great to have something to look forward to coming up in less than a year's time? How we do it? We'll find out down the track.

Andrew Bell:

I'd like to reiterate Lyn's thanks to the future drought fund team, not just here, alongside us in the studio. But also in the department, not just in Canberra, but around the country. They've done a lot of work to get us to this point. And it is invidious to single out anybody out of a big team, but I'm going to be invidious. I'd like to thank Narelle from FDF. And I'd like to thank Annabelle and Ben from contentgroup on the technical side, because without them, I wouldn't be sitting at this table, I'd be rolling on the floor. It's been a real pleasure to have been with you for these 20 plus hours. Thank you all for coming to the table. Keep sitting around those tables, keep having those amazing conversations. Thank you for hopping in. And remember, look up at the sky, look down at the ground. See you next time.