# Science to Practice Forum

**Day 1 Part 1 Program Transcript**

**7 June 2022**

**Introduction**

The Forum brought together farmers, their communities, the eight Drought Resilience Adoption and Innovation Hubs, Future Drought Fund program leaders, researchers, agribusinesses, and all levels of government to share knowledge about building drought resilience.

**Transcript**

[Event begins]

Andrew Bell:

Hello, there. It's eight o'clock in WA, half past nine in SA and the Northern Territory and 10 o'clock in Tasmania and on the East Coast. My name's Andrew Bell. And together with the Department of Agriculture Water and the Environment, I'd like to warmly welcome you to this year's Future Drought Fund Science to Practice Forum. I'm in Canberra where it's chilly and a little bit drizzly and I'll be hosting the next three days of this forum during which we'll be visiting every state and territory. We were here last year for the very first one of these. And we're back to catch up on what's happening and what's to come. But before anything else, let us start as we always should with a welcome to country.

Nin Jannette Phillips:

[Welcome to Country in Ngunnawal language], Yumalundi in the ancient words of my father's grandmother is the word for welcome. So to each and every one of you who are listening and at this conference, thank you. I'm grateful that I have been invited here today. I see the acknowledgement to country, or as people say, "Welcome to Country," as part of ongoing reconciliation. So Yumalundi to each and every one of you. Stay safe. And my parting theory is great spirit never sends us a mountain we can't climb and we will climb this mountain. Last two years have proven that. All the amazing people who have stepped up to the mark. I frankly believe that we should look after the good people in this country that really do put their best feet forward. And for that, I thank everybody that's involved. Thank you.

Andrew Bell:

And thank you, Nin Jannette. And Yumalundi from Canberra and wherever you are. Let us acknowledge the lands on which we gather. Welcome, Yumalundi from Ngunnawal Country here in Canberra. Now, by joining us at the Science to Practice Forum, you'll be seeing and hearing how the eight Drought Resilience Adoption and Innovation hubs across Australia are harnessing innovative tools and technologies to help farmers and communities become more drought resilient. The R word, you're going to be hearing a lot of that during the next three days. Speakers at this year's event are coming from right around Australia, including Future Drought Fund Program leaders, farmers, AgTech entrepreneurs, researchers, natural resource managers, resilience experts and industry group representatives. We'll be hearing updates from the department and from people all over Australia, working together to plan for and to mitigate drought in their own farming regions and what that might mean for everyone else.

Andrew Bell:

We'll also get to see some formidable examples of an indigenous led projects, helping us to better learn from first nations people and integrate their understanding of country into ways of working on and healing country. Now, more on the nuts and bolts of the forum, the housekeeping stuff in a little while, but let's get onto proceedings with an overview right at the start under the banner, our progress towards drought resilience and joining us first this morning, we're going to be going far and wide, Brent Finlay, who is in Queensland and Caroline Welsh, who I believe is in Victoria. Brent and Caroline are members of the Future Drought Fund's Consultative Committee. Welcome, Brent and Caroline.

Brent Finlay:

Morning.

Caroline Welsh:

Good morning.

Andrew Bell:

Good morning to you both. Now Brent, let's start with you. Your Chair of the Committee. I'm guessing you've been out and about a bit talking all things FDF with stakeholders. Can you to begin our proceedings and to setting up the next couple of days, share with us how the fund is bringing about the change we need in drought resilience? What are you hearing and what are you seeing and what is striking you? Starting with the question, what's going on and how is it going on?

Brent Finlay:

Morning, Andy and morning, everybody. It's great to be here at the Science of Practice Forum. Again, I'm coming to you from the University in Toowoomba, University of Southern Queensland. And part of what we've been doing, Andy, as you said, is travelling around the country, talking to stakeholders, talking about collaboration, talking about I guess, the programs that have been rolled out through the fund. This just under two years ago that we actually, I stood up with the minister, the then Minister David Littleproud and announced the foundation programs for this fund. So to be talking again two years later and I know the team later on will have a lot of numbers of about how the programs are going and that's the exciting part. We're now actually starting to see those numbers. See where we're building resilience in our farm businesses, our farm production systems, the landscapes in which we manage, but also really importantly in those communities where we are.

Brent Finlay:

Now, we're getting great feedback. We've had over 800 people through the leaders networks programs so far. 800, that's amazing. Now building drought resilience right across this country, as we roll it out through the regions that we've done so far. And part of what we do is with all the other programs and to all the participants and the stakeholders looking at it, watching in today is around collaboration. The way we maximise the opportunity through all these programs that we've got, how we actually build drought resilience is through collaboration. Great opportunity and unique in my experience, so. And it's up to us to make the most out of that.

Brent Finlay:

Again, these numbers are great. They're exciting and they'll only build. It's also interesting that we have a new government and certainly reaching out in the near future to talk to the new minister about the Future Drought Fund, but also about know how other programs that will roll out into the future. I see where we are today is a bit of a... we are commencing that consolidation period. It's been so busy. It's been a heck of a pace up till now, but we're actually moving into more of a consolidation period. A lot of the programs are out there, they're up and running those foundation programs. We'll get a few new programs to bring to you that were in the last budget. That's exciting. Again, please come on board, support, but also the collaboration. That's how we maximise it. Andy, back to you.

Andrew Bell:

Yeah. And before I move on to Caroline, if I could just ask you Brent, for a personal reflection. We spoke last year. Are you surprised at how far we've come in those 12 months or so?

Brent Finlay:

I think so, like anything the Future Drought Fund and I say this regularly, we're a startup. We're only two years old or just under two years old. And when you actually hit the go button, you have to roll these programs out. Again, collaborate with where we can with organisations and even including the organisation where I am today at the University in Toowoomba. That's really important to do that. I think we're on track. I'm confident about where we're going. I'm really excited about these numbers that we're going to talk about later on there. That's the sort of, I guess, the proof in what's going on, but we can do better. We can expand more looking at new programs. I said, right at the start, Andy, when we did the public consultation way back in 19, this is about a contest of ideas. It's about finding those ideas that we can bring to our farm businesses, our landscapes, our communities that can actually change the dial. So we are more resilient for when the next drought arrives, which will now as we know in Australia, that's only a matter of time.

Andrew Bell:

Thanks, Brent. You could almost bottle your enthusiasm from this distance here in Canberra, to you in Toowoomba. Let's go to Caroline, bringing you into the conversation. You are also a key member of the committee. What are you hearing as you travel around? Are you picking up that the enthusiasm is rising and rising and also people are getting perhaps a better notion of what this FDF is all about?

Caroline Welsh:

Yeah, no, absolutely, Andy. In some ways we've been talking and living FDF for two and a half years now, but it takes a while, particularly for such a big program for it really to be rolled out. We're talking about trying to make changes in the way people farm, the way we think about drought and setting up a lot of systems and processes to make that happen. And that's always going to take a fair while to, I suppose filter out through to the regions, but I think that's what's exciting about, listening to certainly what we heard last year from the Science to Practice Forum. And I think it's going to be really exciting over the next couple of days, but I suppose I'm always very mindful that we are actually called a consultative committee. And I think that's something that's been really key.

Caroline Welsh:

Brent's talked about how much time he spends travelling around talking to a whole range of people and having a consultation committee that is spread across Australia. We also get to talk to our local communities, to our broad networks. A lot of the people on the committee know a wide range of people across a number of different regions. And we get this great opportunity to feed back what we're hearing from our local community, what our local farming groups, our local community groups, what they're understanding of the Future Drought Fund is and what the programs are as they roll out. It's very much a part of FDF to continue to seek feedback from our stakeholders and feed that we get the opportunity to feed that back into the department, but also on a regular basis to feed that directly back to the Minister for Agriculture.

Caroline Welsh:

And we are seeing, as projects are developing and the initial roll out of our programmes that we're getting feedback. And we are really open to that idea of, "Oh, this one needs a bit of tweaking. This could be refocused. This could be improved if we just tried something a little bit different." And so as we develop on from our foundation programs and deliver, start to prepare and plan for new programs, we can make those changes and fine tune it because developing drought resilience across Australia is not a short term project. It's something that will take quite a while and we'll need some reflection and change and tweaking as we go along.

Andrew Bell:

There's often a lot of talk about flexibility and being nimble. And you are putting that, dare I say it, into practice. Let's hear about one of the themes now, if I may Caroline, with you. This triple bottom line, which is all about the funding plan, can you address that triple bottom line?

Caroline Welsh:

Oh, very much Andy. For anyone who lives in a local area, we know that farmers don't farm in a vacuum. They farm within a natural environment and they farm within rural and regional communities. So very early on within FDF, we developed this triple bottom line. So we're talking about economic resilience, environmental resilience, and social resilience. It's very clear that without resilience to all three aspects, then we can't really achieve drought resilience. So that is very, very much fundamental to the plan and how it's being rolled out and the programs are being developed. So in what terms of economic resilience, FDF, we've really focused on best practice business planning and a lot of farmers would exhibit this already, but I suppose we are all about that drought resilience lens and ensuring that we are ready to adapt and change for the next and prepare for the next drought coming.

Caroline Welsh:

So ensuring that our best practice farm planning includes planning for drought in the long term. So really getting drought resilience as an inherent part of business planning. We're also ensuring that farmers have access to improved information, data, innovative research and technologies to improve their decision-making. That's a really key part of it as well. In terms of environmental resilience, we all know that farmers manage a large suede of our natural resources and we also all know that improving our agricultural landscape can actually have a lot of benefits in terms of our businesses on farm. So there's really benefits to improving our soils, our native vegetation, our flora and fauna health within our agricultural landscapes. So we've got a number of programs investing in the best ways to the farmers can really achieve high quality agricultural landscapes for the benefit of the landscapes, but also for the benefit of their businesses.

Caroline Welsh:

And the third priority as I mentioned, is very much social resilience. And in that aspect, we've really tried to focus on leadership and networks. And leadership and networks can occur at a very local level and they can occur at a much broader regional level. So some of our programs are looking to fund regional planning to ensure that what happens locally is consistent and nuanced with what else is going on with the region. They all work together. But overall, Andy, it's very much about making sure that all of these priorities are addressed because in, like I mentioned before, to ensure we get drought resilience, we need to address all of these three priorities. And whilst some programs will address all three priorities, some may address one or two. But overall the FDF is very much about addressing all of those three triple bottom lines.

Andrew Bell:

Thanks, Caroline. And thanks to Brent as well for kicking us off and also showing just how far and wide we're going to travel on this three day forum linking Queensland, Victoria and the ACT. I'm here in Canberra and joining me in the studios here in Canberra, Louise Palfreyman who is the Acting Assistant Secretary of the Future Drought Fund Branch in the Department. And Kimberley Shrives, who is the Principal Director, leading the work on Innovation FDF. Welcome to you both.

Louise Palfreyman:

Thank you and welcome to everyone too.

Andrew Bell:

Lovely to have you here. Let's start with you Louise. For those new to the fund, let's just give a quick snapshot because we can't assume that everybody knows what it is about. So let's kick off with that.

Louise Palfreyman:

Sure. Well, as we all know, drought is an enduring part of the Australian landscape and climate change of course means that we'll be seeing more severe and more regular droughts coming. And so it's fairly important that we're prepared for this. It's part of, I guess our Australian life here. The Future Drought Fund's not about providing government assistance when we're in drought. It's all about putting in place foundations for farmers and communities to draw upon at the time when the next drought hits so that we can manage through it and survive it and perhaps thrive through those conditions. And that's why the Future Drought Fund was created.

Louise Palfreyman:

So the Future Drought Fund has a hundred million dollars allocated to each year to spend on programs that are going to be targeting drought preparedness across our Australian agricultural communities and industry. And you've already heard from our committee just now about some of the work that's underway and our investments are really focused on better planning for drought risk underpinned by quality data and supporting practice change. So those practices and technologies that we know are going to be working to reduce the impact of drought next time. And of course, as we've just heard from Caroline, better prepared communities. So supporting our local leadership and our networks so that we are ready, to be prepared for and living through that next drought.

Andrew Bell:

And I guess as well, we're changing the way we approach this. We're thinking in a more holistic, we're not putting things in silos as much as we use to. So how about the nitty gritty? People want to know what's it, what's this doing for me and my community? How's the fund supporting Australians to prepare for future drought?

Louise Palfreyman:

Yeah, sure. Well, I mean, as we've just been saying, it's been a year since we were here talking at the inaugural forum and there has been a lot of progress to date over the last 12 months and all towards improving drought readiness and the resilience of farmers and communities. So we're better supporting planning for farmers and we're investing broadly with farmers and regions. We already have 3,800 farmers who are receiving direct support to assist in improving business and risk management skills. And we have the goal of reaching 17,000 farmers over the next two years which is ambitious. And this is helping businesses to actively plan for drought and as well as other business risk because it's not in isolation. We know that we have a strong drought lens, but it's just one of many risks that farmers of course need to manage through.

Louise Palfreyman:

We have 19 regions actively planning at the moment, looking at the drought resilience of their region and undertaking consultative planning in their communities. And we have a goal of developing these resilience plans in every agricultural region over the next two years as well. So we have a significant work plan. So farmers, agribusinesses, communities and others, they all need good data to underpin this planning they're doing. And of course, decision-making when the time comes and as this evolves. And we've got two digital tools that we launched to help farmers and regions for this very purpose. And one of these tools is called the drought resilience self-assessment tool. And we know it affectionately as DRSAT, this enables farmers to assess the resilience of their farm business and how their business will be prepared for the next drought. It provides some information about actions which might improve resilience and it's available freely to farmers.

Louise Palfreyman:

It's actually quite easy to use. It's very safe to use. The information that goes into this system can provide tailored climate information for a farmer's property and can provide some hints and tips about things that might be worth exploring in the future. And farmers have complete control of the information that goes in, which makes people feel more comfortable. And there's a lot of opportunities to engage with this tool. And actually in day three of this forum, I'd be encouraging people to tune in and you can try DRSAT in an interactive session. So that's a big plug for that session. We are progressively developing these tools and we really need people to provide their feedback, good, bad, ugly, that's fine. We are progressively releasing updates so that we can make it the best as possible. So I do encourage viewers to check it out on our website or tune in on day three. So we can continue to enhance these products.

Louise Palfreyman:

In addition to planning, the Future Drought Fund supporting farmers by focusing on practise change and innovation. So of course, this is all about reducing the impact of drought. And we'll be hearing a lot of that for the next few days during the forum. And I'm sure many of you know, that there are now eight regional Drought Resilience Adoption and Innovation Hubs in place. And these have all been designed to deliver farmer focused extension and demonstration support. In these hubs, we've funded 20 adoption officers. And that again, is to work directly with farmers to drive the uptake of innovation for drought resilience, practices and technologies. In addition to that have 152 projects all across Australia and they're all also about trialling, extending, demonstrating, helping people to look and learn and see the sort of practices that they might want to uptake on their farm or within their sector to, I guess, bring about some change in practice.

Louise Palfreyman:

And this includes some of the innovation grants that we've done in the last 12 months that we launch, as well as grants that are focused on land management to help our agricultural landscapes to remain productive during and coming out of drought. So you'll get to see some of these projects over the next few days and I guess see what people are up to across the country. And there will be lots of opportunities for farmers to engage in their regions in practical demonstration projects. And moving forward, we do have some other programs at early stages of development, which again are really focused on practice change and supporting that in our community. And that includes some long term trials to test some new resilience practices with rigorous data and opportunities to look and learn for farmers and then be more opportunities to share experiences from people who are trying very successfully on their properties, different practices which are known to help. We'll also be supporting some scholarships to build drought resilience expertise and adapt innovative technology and practices from overseas. For farmers to share those learnings with their peers.

Louise Palfreyman:

So peer-to-peer connections is pretty important. Community networks and organisations and leaders, they are the backbone of Australian communities and they've got a critical role to play in leadership and in leading conversations and action on drought preparedness and supporting people when inevitably the next drought does come. And we are focused on helping prepare communities and supporting them. We already have 144 people across nine separate regions in Australia undertaking and being supported in drought leadership roles. And so they'll be ready to take action now. And at that time, when it comes, we have more than 550 people who are involved in a national mentoring network. And this is a program where farmers are sharing, I guess, lived wisdom and their experience of tackling the challenges of drought and otherwise working on the land and the many challenges that are presented from that.

Louise Palfreyman:

We have another 93 projects across Australia, which are also supporting networks and local organisations all with this aim. As many of our programs are to support regional and rural Australians. And it's about building capability and then know how and so facing those challenges when they come. So the next phase of our communities programs is coming underway and we'll be integrating some of these programs that I've just been speaking about to deliver a more targeted support. And we'll be expanding the reach of those to up to 35 regions. So you can stay tuned for that one. And it's just all about supporting communities where they're at with opportunities and risks that they're facing tailored for that particular regions.

Andrew Bell:

Seeds are being planted all around. And it's the numbers suggest, it's all about people. The more people you've got, the more conversations you can have.

Louise Palfreyman:

Yeah, absolutely. Building momentum with it at all.

Andrew Bell:

Thanks, Louise. Well, Kimberley, let's bring you in here. We've heard about these programs getting pretty extensive now with the FDF. How do they all connect? Are the dots that connect?

Kimberley Shrives:

Yeah. Andy, that's correct. We've built in interlinkages across all of the programs to support farmers, communities and regions at different stages of their resilience and preparedness journey. For example, the farm business resilience program that Louise was talking about earlier has been designed to help farmers build their business skills and plan for future risks. To help people better understand climate risks, we've been developing the climate services for agriculture platform. This is providing current and historical climate data, as well as future projections to support decision-making, which we believe is going to help businesses, help business advisors and help regional planners plan for the future. Louise also mentioned the drought resilience self assessment tool, DRSAT, which is providing information at a farm scale, which we believe will help farmers consider the climate impact and resilience needs for their farms at their scale, so that they can also start to better plan for what they need to do, to better manage through the next drought.

Kimberley Shrives:

We're aware that some farmers may have a need or they want to try something new. And in order to support that we're encouraging them to connect with one of the local regional hubs to test those ideas, to look for connections. The hubs are also connected across Australia so that they can test those ideas out and see what's going on in other hubs that may be relevant to bring back to that farmer's farm. There are also growing opportunities to learn from the activities that we already have underway. So learning from the innovation and better land management projects that we are already funding through demonstration sites, workshops and through things like this forum where some of the recipients of those grants will be talking about what they've learned so far and where those projects are going. As Louise also indicated, we've got new programs coming online soon and these will provide additional opportunities for farmers to participate, including through some of our extension and adoption trial work.

Kimberley Shrives:

And again, I'd encourage farmers to connect with a hub, to test any ideas that they've got in relation to that and potentially discuss collaborations to make those projects more worthwhile and have greater impact. There are also mentoring programs, which Louise has referenced as well, where we're encouraging people to share the knowledge that they've gained as they've lived through droughts and other challenges, to help others also who might be facing a similar challenge and equally where people can go and seek such advice from others. And we're supporting building leaders and building community networks as Caroline pointed out, farmers live in an environment that involves other people, encouraging those, supporting those communities to be better connected will help everybody as they start to deal with tough times as we move in inevitably to next drought. Thanks, Andy.

Andrew Bell:

So you've just touched on the hubs there. I wonder if we could talk a little bit more about that, because I guess that's almost a ground zero where those conversations are naturally staged and there's a structure there. Can you give us an update on how they're going and their involvement with the fund because we've moved quite a long way along the road, haven't we, since this time last year?

Kimberley Shrives:

Yep. Yep. So the hubs have spent the last 12 months really establishing themselves, forming their networks, establishing the partners, undertaking activity, planning to work out what they need to do and what's relevant to their regions. The role of the hubs is really to help farmers get better connected into the knowledge and the outcomes that are being invested in our research and development environment. So what the researchers are doing, connecting that so farmers can actually put it into place on their farms. Each of the hubs are creating shop fronts. And as Louise pointed out earlier, have employed adoption offices so that farmer centric model can be implemented. And so farmers can connect with those people and find out how they can help solve particular problems. There are over 40 nodes around Australia associated with the eight research hubs and they're tuned into the local regions and communities.

Kimberley Shrives:

They're places where we really want farmers to be able to connect with each other and with the other hubs and learn from all of the investment in research and knowledge that's happening across Australia. I will say though, that all of the hubs are a little bit different. No two are exactly the same. They've been set up in regions to serve their regions and in doing so, be responsive to those regional needs. As I said before, local partners have come on board, they've identified projects and those projects are now starting to get underway. I expect those joining us here over at the forum over the next couple of days, we'll start to see and hear about some of those activities that are all underway. I'm hoping that through that people will also be inspired and be motivated to connect further with the hubs to learn and grow and contribute to the things that the hubs may be doing in future.

Andrew Bell:

Thanks, Kimberley. And don't forget, everybody, that there's going to be videos from all of the hubs. We're going to be hearing from all of the hubs what they're getting up to. And you'll also be seeing a slew of logos reflecting the number of partners there are around the country. And that is a site to behold. Kimberley, Louise, thank you very much in Canberra and to Brent and Caroline from earlier on, thank you to those two. We're going to get travelling again in just a moment. We're going to head across the Nullarbor, but now the dreaded H word for events such as this, a bit of a housekeeping. So let's take a look at that.

Andrew Bell:

Now we're going to be delivering the forum sessions in a hybrid format across three days. It gives you the flexibility to attend interactive online sessions as well as in person events in hub regions. So it's a bit like this but it's also face to face as well. We've moved a long way since last year when we were here and we were just about hanging on by our fingernails during COVID and we got to the end of a three day event in fine fettle. Now we're just growing it ourselves a little bit more. All this means wherever you are across the country, you can connect with other farmers, practitioners, and anyone else with an interest, see how different projects are helping the regions get ready for future droughts.

Andrew Bell:

Now, last year, we've talked about it, over 800 people tuned in over the three days. We're looking forward to having many of you back again this year. And if you're here for the first time, well, Yumalundi, welcome to you as well. It's a little bit more relaxed as I say, because, well, we know that COVID was all around us this year and it is going to be really good for the hubs that they can stage face to face meetings as well. We're completely hybrid here. We're online. We're face to face. We're in person and a bit more besides as we'll find out on day three.

Andrew Bell:

Now, housekeeping. Hopin is a platform we're using and this is a guide to Hopin. No, it's not. This is a guide to Hopin, which you will find on the DAWE website. You'll get used to it and it's a really nice platform to use. It says Q&A, that's for questions. If you'd like to comment in the comment section, rest assured anything that you don't hear being asked or commented upon during the event, department staff are monitoring those feeds just to make sure that everyone's voice is heard. If in doubt, come back here to the main stage and this is the safe place. Now we will have breakout sessions at every break for expo booths, which will have somebody on board to answer questions and interact with you. So that's at the main breaks.

Andrew Bell:

We'll also have what we're calling breakout sessions. There's one of those today. Stay tuned for that one. We'll tell you when all that is happening. Now, we are still in the hands of technology and with technology, as we all know, things sometimes don't go quite according to plans. So I will ask in advance for your forbearance and patience. I'd also ask if I may in the comments and Q&A sections, let's all be respectful. We're all hoping for a positive outcome. So let's be nice to each other.

Andrew Bell:

Now, someone will be available in each hub in the virtual booths, jump into those. And to check out the full schedule of events, there's a link to the forum program in the chat box on your screen. As I say, we'll be asking questions. There'll be Q&A sessions during this event we'll alert you to that. Feel free to use the chat function throughout the event to discuss topics. It's just like any other get together. The more you chat, the more you learn, the more you establish networks. Over 1,000 people commented or 1,000 comments last time. That's a lot of commenting. That's a lot of interaction and on that we are growing. It'd be great to see that happen again.

Andrew Bell:

Right then it's just gone half past the hour here in Canberra and we are going to head on our first visit to one of the hubs. Now, during the next couple of days, we are going to be visiting each of the hubs with not only live interactions, but also a little snapshot of what's been going on. We've been visiting the hubs and we produced short videos just showing you what's going on, and also an opportunity to meet some of the people who are involved. We're beginning over in Western Australia. We're crossing the Nullarbor and we're going to start with the South-West WA Hub. The big number one shows you where the hub is. The smaller numbers show you where those nodes are. And though that map is small, you all appreciate WA is extremely big. Let's hear what's going on in South-West WA.

Oral McGuire:

The process for us is not so much about agricultural practice but this planting here is a native fodder feed system that absolutely has relevance to livestock and adjustment, as well as food production in mainstream agriculture.

Andrew Crook:

It's going to be a collaboration. Farmers are striving for best practice.

Prof. Kadambot Siddique:

Southwest of Western Australia has been experiencing climate change since 1975. 28 to 30% of the rainfall has been declining. So this initiative is a timely initiative and it is going to deliver practical outcomes to the farmers of Southwest of Western Australia.

Vanessa Stewart:

What we see the hub is providing is a really good opportunity for more collaborative opportunities. So both within Western Australia, across industry opportunity with the grower groups looking and focusing on the ground and how we can get the research out and adopted.

Rikki Foss:

We are quite different to the other hubs and we are very proud of that. The drought hub is able to utilise and leverage the unique hub and spoke model that the power of the Grower Group Alliance has. When the Grower Group Alliance won the tender to lead the South-West WA hub, it was certainly a great day for us. It has put a fantastic spotlight on the Grower Group Alliance.

Mark Holland:

We've got 12 projects worth $13 million funded through the future drought fund now in our region. One of those projects is actually with six hubs and that's around the remote sensing of feed base in pastoral areas helps pastoralist make better management decisions in their areas.

Tanya Kilminster:

What we've learned that we have a lot of similarities across our hubs, even if we're working with the Northern WA Northern Territory Hub and the Northern Tropical Queensland Hub, we might have pastoralists in those regions and they have similar issues. It's really about putting science into practice. What they're doing in Victoria, we're not doing here in WA. And so we are now learning that there's some ag tech that we can implement into our systems here. Just by that collaboration across Australia, our horticulturalists here can learn from that. So it's really exciting.

Prof. Kadambot Siddique:

The good thing about these hub becoming together is the researchers in universities and other institutions can connect with the farmers. And also, it'll provide a vehicle for translating our research outcome.

Oral McGuire:

Everything's got a spirit. Everything that's living has got a spirit. And we've got to find out ways how we can connect to spirit of that rock. These rocks that are here, that everybody goes, "Oh, look at those. Look at that landscape and look at this hill. Look at that river." Drought is real. It's on us. The desertification of these lands out here, these farming lands, is absolutely backed by the scientific evidence. So if we're going to use science or knowledges and knowledge systems, I think it's about using all knowledge systems and not relying on one.

Mark Holland:

One of the key ingredients to a rich project when we can get first nations people, natural resource management influencers, scientists, government, regulators, all coming to the table and having input into a particular project that we'll be designing.

Andrew Crook:

There's got to be a collaboration between ourselves and the researchers, hopefully through the hub that will allow, like I say, there's this mitigation going into an event and then resilience with while you're handling the event too, that's probably has bigger effect on the farming community as anything.

Vanessa Stewart:

So drought resilience isn't just about what happens on farm. It's also about the broader impact on community and the regions that we live in.

Tanya Kilminster:

As a farmer, we have so many complex decisions to make every day and it's not business as usual and so we need to be thinking about the future so that farmers, their kids, their future generations can still be in it.

Andrew Crook:

Once you lose that family farm in inverted commerce, it has a knock on effect on your local community. And so trying to make sure that every farmer is taking every opportunity to operate with best practice, I'm fairly passionate about that.

Oral McGuire:

When we get smart about white fella science and black fella science and we give it equal recognition and respect, enormous awakening and awareness.

Andrew Bell:

I told you there'd be a slew of logos. And that's the first collection of them just showing the variety and amount of support through partnerships. Andrew Crook and Oral McGuire there ending that sticky beak at the South-West WA Hub. There are seven more videos to come from the hubs. They're all butte and they're all very individual. Stay tuned for those during the next couple of days, but let's stick with WA and let's go live to WA. And let's greet hub director, Mark Holland. Good morning to you. Thanks for getting up early for us Eastern Staters.

Mark Holland:

Good morning, Andy. Yes, no problem at all. Lovely to be here to be here.

Andrew Bell:

And I believe you are introducing the showcase.

Mark Holland:

Yes, that's right. I am the director of the South-West Drought Resilience Adoption Innovation Hub. The South-West Hub is led by the Grower Group Alliance. And the Grower Group Alliance is a producer led organisation, a not-for-profit covering 70 grower groups and 4,000 farming businesses. It's great to be here in Merredin Dryland Research Institute, a facility of the department of primary industries and regional development and one of our key hub members. We have over 50 hub members in the Southwest Drought Hub.

Mark Holland:

I'd like to begin by acknowledging the Njaki Njaki people, the custodians of the land which we're broadcasting from. And I'd also like to pay my respect to the elders of the Noongar nation past, present and future. And I'd also like to extend my respects to other Aboriginal people that are attending this forum. We saw in our video that the South-West Hub is all about collaboration and getting important projects on the ground. We have progressed from the 12 projects worth $13 million in the video to now 22 projects worth $20 million that are either approved or very nearly operating. So that's a really pleasing result for the South-West Hub one that reflects our focus over the past six months.

Mark Holland:

Our core goals, our collaboration and our project focus is exemplified by the water smart dams and the water smart farms projects. These collaborative projects address farms critical need for water security. I'm pleased to introduce Richard George from department of primary industries and regional development to speak about the water smart farms project. And Richard will be followed by Nik Callow from the University of WA who will speak about the water smart dams project. So welcome, Richard.

Andrew Bell:

We'll just have a seat swap here.

Richard George:

Good morning, everybody. Thanks for the opportunity to do a short presentation. To me, I'm a hydrologist, and drought means water. And water smart farms and the water smart dams project, its goal is to get climate independent water supplies in a landscape where we've got a lot of water, but in the case of the West Australian wheatbelt, it's pretty salty. The motivation for us is that since the 1970s, we've had reduced rainfalls or the order of 20% and runoff to dams has reduced, but infiltration to groundwater has increased. We've also had farming systems that have tucked into the runoff supplies and produced less water and we've had farmers that have got much more efficient about using the rainfall that's formed. So now we have a need for not only new water, but also we need high quality water.

Richard George:

In the last four or five years, we've had a couple of large changes that have convinced us to get into water deficiency and new technologies. And that's the series of three low rainfall decile three years though were green droughts where we've produced a lot of crop but we produced almost no runoff. I'd like to go into a presentation if I can now and move through it, just to give you an example of a new technology called desalination, which we are experimenting in Western Australia and to give you a couple of early results. Andy, if you can go to that video, please.

Richard George:

All right. So what you're seeing here is a small desalination unit down to the left and a bore. The bore's producing around about a third seawater and I'm just going to fly you through in one minute, a quick graphic. The bore's on your left and the desalination units in that container. It's a fully solar powered unit. The experiment here is to show how we can not only use that saline groundwater, but discharge the reject water from that site safely back into the groundwater system in that same paddock while not changing the third salinity groundwater. That's the production bore that the reject water goes back into that system. And this is the desalinated sitting inside the container that you've just seen. It's taking a third seawater, concentrating it up to two third seawater and producing 500 litres an hour through a fully solar powered system going into a sheep production unit where this particular grower is producing around about two and half thousand sheep. And in this particular example, who saved that sheep in the 2020 drought.

Richard George:

We're working with around about 50 growers that put desal into place across West Australian farms. In the last 18 months, two and a half years, we're looking at how each of those 50 growers have actually adapted that technology onto their farm. We're putting four desalination systems into trial units in small rural communities. And we are looking at deep groundwater as a way to try and find new and low salinity groundwater supplies to help farmers adapt to the deficiency of water. So I know this presentation is going to go pretty quick and I'm going to now ask to throw across to Nik Callow to talk about the smart dams project.

Nik Callow:

Yeah, thanks very much, Richard. It's nice to be able to join you down here in Perth, on Whadjuk Noongar country. The water smart dams project is really this great example of, I guess, what the ambition of the future drought fund is all about. It's this partnership between the University of Western Australia. Richard's agency is the lead agriculture agency in Western Australia and the Grower Group Alliance plus our four regional partner groups, Compass Ag Alliance, Southern Dirt, the Merredin District's Farm Improvement Group and the Fitzgerald Bisophere Group, which means we've got partners across key regional sectors of Western Australia.

Nik Callow:

So really this grant is funded by the future drought fund's drought resilience and innovation grants and a co-investment by the WA state government. And really it's looking at these sorts of technologies. Some of the examples here that you can see in the slides. So for those of you, maybe not familiar with some of these systems in Western Australia and elsewhere, the one on the left, there is a large roaded catchment. So this is where we've trying to create these high amounts of runoff from relatively low infiltration and amounts of rainfall. So trying to deal with that and design systems that can run water in these low rainfall years. So one of the key aspects of this project is finding out our local smart dams champions who have got examples of these dams that allow them to get through low rainfall years, series of low rainfall years. And water smart dams is really about, trying to focus on the partnership at the universities with the R&D skills and DPIRD with the Grower Group and our regional partner groups to do the extension adoption and commercialisation.

Nik Callow:

We maybe quickly throw to the video that I've got to go with this. So part of this is project is trying to look at some of these different options, what we might call key dams. In this case, very large 20 to 30 mega litre dam here that's used on the Merredin Dryland Research Institute to run all of the plot trials. You can see a large 12 and a half hectare roaded catchment up the back. Here's example of one of our partner demonstration sites that we're starting to develop down in Kojonup about a 50 mega litre dam. And this one's another site that we're interested in looking at. This one has these evaporative covers these hexagonal tessellated covers that all come together and trying to reduce evaporation. So anecdotally something like 70% reduction in evaporation at this site. So these might be the technologies that allow you to get through a drought when you wouldn't otherwise. And really being able to look at options to innovate with our changing climate.

Nik Callow:

Again, here's a plastic catchment here. This is about a 0.4 of a millimetre rainfall event. In the background, you can see another catchment that is a Beachman one. And in this case, we're able to still produce runoff in different sorts of events. So we've innovated a lot of our farming systems to deal with the changing climate. And I guess innovating how we produce the water to run our farming systems is a really key question. And so that's really the focus of this project. It's a really exciting one and we've got a whole range of partners that are contributing to this. So we'd be really interested if you want to follow this project, you can go into and search GGA water smart dams. And we've got a link right down the bottom of that page called smart dam project follower. So if you want to come and find out more, if you've got ideas you want to contribute, we're all ears and we are here to learn from each other. So that's about it from me and thanks for the opportunity.

Andrew Bell:

Thanks very much, Nik. You don't get away Scott free because we've still got about 10 minutes for questions to come in. The Q&A box is your friend. If you have any questions for Nik or Richard, please let us know. Wonder you both, someone has already asked actually and thank you very much. Unnamed please, when you ask a question, tell us where you're questioning from, whereabouts in the country. We'd love to know. And it's actually about the video we've just seen saying the bore surrounded by crops, does this help or hinder infiltration of rainfall. And does it have an effect on the quality of the groundwater? I don't know which one of you two gentlemen can answer that. Is that Richard?

Richard George:

Yeah. Thanks. The video was pretty quick clip of a farm in the Eastern wheatbelt, 300 millimetre rainfall where we've seen a really a great increase in the efficiency of these crops to use surface water. The legacy that I talked about there is the fact that the wheatbelt was been cleared 50 plus years. And in that time of removal of vegetation, we've seen groundwater levels rise five to 10 metres and create that saline groundwater resource. So it's not just about farming systems using more water which they are, it's also being able to access that legacy of 50 to 100 years of water that's gone under the ground and turn what was creating a saline landscape and a dry land salinity problem to use that as an opportunity to create a water resource. So that site's got about... the supply to that desaliner is running at about third sea water. And the products producing obviously very, very fresh water at about 300 milligrams per litre, so drinking water. And the concentrated product is going back under the ground.

Richard George:

So the opportunity for us across 18 million hectares of the wheatbelt is to use something that's creating a million hectares plus of saline land to use the resource that's causing that to actually create a drought resilient water supply.

Andrew Bell:

That's an amazing figure, 18 million hectares for the entire area. And you can get a million hectares back in the game, so to speak. Hannah Griffiths is asking a question here, does desalinating the groundwater make the water table more saline? And Hannah asked, is this actually making the problem worse? And are you looking into farming methods to reduce salinization focusing on things like perennial plants? So Richard, Nik, who can answer that one? Or both of you.

Richard George:

So the wheatbelt's underline by essentially 18 million hectares of seawater quality salinity, which there are some windows that are half to a third seawater, which is what our target is for desalination. And yes, we are making very small areas of the wheatbelt underneath these desalinated slightly more saline, but only just a little bit. And that's what the experiments are there to do, to see if we could drop the water tables using desalination to give us a water resource and a salinity benefit. And the consequence of that is putting some small amount of that water back underground. So that's the opportunity and the consequence, but we're trading off a million to two million hectares of salt land by the opportunity of desalination and I'll get throw to Nik now to do so, but right across the wheatbelt, farmers have been establishing perennials and revegetation to try and reduce that amount of water that's going underground. So it's a two-pronged attack using saline water as an opportunity and limiting the supply of water that goes underground to prevent that in the future.

Nik Callow:

Yeah. I just wanted to pick up, I guess, on the question, which is a really good one, which I think is talking about thinking about our farming systems. So I think what we've got to do with the water question is look at what I think is probably the greatest success story of climate adaptation, which has been the way that we've evolved our farming systems to, if we look at the last year in South-Western Australia grew incredible crops, which is to do with our plant breeding and our genetics and our farming systems technologies, but it's trying to keep up water technologies with that same focus, which I think is what this project is looking at, which is trying to look at these options about how we work with our change in climate and how we change things or how we also learn off people that have been really good at adapting.

Nik Callow:

So there are people out there who are not using amazingly fancy technologies, but are just using good tried and trusted things. And where we look at one property next to another and really different profiles in terms of their drought resilience. So it's trying to share this information and develop these partnerships doing the R&D work through into the extension and adoption.

Andrew Bell:

Yeah, more questions coming. Thank you so much. This is really getting us underway with great energy. Another question from Catherine Marriot of the Riverine Plains asking about silting of the dams, how are you managing that? And the runoff when it comes into contact with the road infrastructure? And Catherine also asked about the plastic, have you looked at alternative uses that won't degrade or influence the quality? Let's start with the silting of the dams. Who can speak to that?

Nik Callow:

I'll maybe take those. So silting of the dams, I guess there's some different technologies that you can use. And some of the ones that we are looking to try and showcase where you have maybe a smaller dam in front of a second one, so what we'd call double dams. If you do that, I guess you can trap a lot of the silt, you engineer them so that they're pretty cheap and easy to clean up out with front end loaders and that sort of machinery that people have got on their property to really do that maintenance and upkeep, which is really good strategy. And then throwing that water into a larger dam that's maybe going to store it really effectively. We've got some R&D partnerships looking at the plastic catchment question and obviously that's a big one. The water corporation of Western Australia is one of our partners, so they're obviously needing to have water quality at a much higher standard where they're using these plasticized catchments for drinking water supply. And they're doing a lot of R&D work that we can learn off.

Nik Callow:

The other thing is low technology sort of stuff that we are really interested in. So things like what we call CBH. So this is our grain handler in Western Australia or one of them, and looking at the tarpaulins they use to cover their grain solar. So there's a lot of interest in using those and reusing those sorts of materials to try and create these high runoff surfaces. So this is what the partnership is dealing with. And a lot of the answers we don't already have, which is what the project is about, is trying to learn and people throwing those ideas in that we can put into the mix and tests. Great question. Thanks.

Andrew Bell:

And we've got time for just one more question. It's one from your backyard, gentlemen, from Amber Baeta, who is from the wheatbelt. And she's asking, does your research team or your research groups use any knowledge from permaculture practices to assist with water capture in the soil? Permaculture practices such as large scale revegetation.

Richard George:

No. I can have a go at that one. I guess what we're trying to do here is make farms water efficient and water resilient. And our goal is in the driest of years, to give farmers and agricultural systems, the supply of water that they would not have had previously. Two years ago, we had 450 road train supplying water around the wheatbelt to small rural towns. We had thousands of trucks on the roads trying to keep up to the back of sheep industries. We've got farmers now with new technologies that need three to five mega litres a year just to keep spray routes and boom sprayers running around the wheatbelt growing really efficient and high quality crops.

Richard George:

The goal of this project is not to look at the full scope of farming systems and ecosystems management to get farmers water resilient in decile two and decile three years when they need it to make their businesses profitable.

Andrew Bell:

And thanks to you, Nik, for kicking us off, and thanks for the videos. It's great to see a part of the world, which is for many people unfamiliar, even perhaps for some people in Perth, it's an unfamiliar part of the world. And thank you for kicking off our Hub Showcase and to director Mark Holland earlier on have a great day there over in the west. And we didn't get to all the questions, but rest assured the team here are noting them and don't forget, you can always connect with each of the hubs and carry on the conversation. The conversation does not begin and end here, the conversation just continues here. Talking of continuing the conversation as we go into the second hour of the FDF Science to Practice Forum, we're going from the west to Cal Archibald, who is in Brisbane and a co-founder of Beanstalk AgTech, which is an innovation agency dedicated to advancing agrifood innovation ecosystems. Good morning to you, Cal.

Cal Archibald:

Good morning. How you doing? Thanks for having me.

Andrew Bell:

Not bad. I'm going to ask you a question, I'll probably ask a few people. What's the weather like in Brisbane today?

Cal Archibald:

Bit overcast, but yeah, not too bad. Nice and fresh.

Andrew Bell:

I bet it's warmer than it is in Canberra. Anyway, you're going to be talking about disruption, disruptive agricultural innovation and the R word coming back in resilient production systems. You've got a presentation Cal? Take it away.

Cal Archibald:

Yes, I do, thank you. I've got a couple of slides, but yeah, first of all, I just wanted to say a big thanks for the opportunity to sort of share some learnings and thoughts and perspectives around the drought hubs and these innovation hubs a year down the road. I guess I'll talk a little bit in a moment about who Beanstalk is and how we're involved. But, before this morning, reflecting over the past few years and sort of thinking about how quickly the media and the industry conversation kind of moves on, had moved on from drought to be replaced by conversations, obviously around coronavirus.

Cal Archibald:

And now the latest kind of current topic is around supply chain, disruption and surety. But the drought is something that's always going to be persistent with us and is going to continue to be and climate change is going to be a huge theme going forward. But not just that, all of these big disruptors to our production systems in Australia, it's just been shown over the last set of year, how important it is to have these hubs, to drive innovation and bring people together to think about what does the future of our industry look like and how do we innovate as a collective to build a more sort of resilient agribusiness system.

Cal Archibald:

So, I guess, by way of introduction, my name's Cal Archibald, I'm a director here at Beanstalk and as was mentioned, we're an innovation agency dedicated to the Ag and food sector. We truly believe that agriculture can be a leading force for good in the world, but in order for that to be true, we need to see a huge amount, more innovation and adoption of technologies and shift the narrative on farms away from doing less harm and more about being a leading force for good. And so I think these innovation hubs are playing a big role in that narrative. And you can see why with that as kind of a mission at Beanstalk, you can see why we are so passionate about the work that these drought innovation hubs are doing.

Cal Archibald:

So just as a bit of a level set in terms of how we are involved. We at Beanstalk kind of have two perspectives, one is that we are involved with a number of the hubs. We are really keen to see sort of a cross hub approach and really help to sort of drive innovation at a national level across all the hubs. So we're a network partner at the Tropical North Queensland hub and a partner at the Tasmania, Southern Queensland and Northern New South Wales hubs. So, we've had an interesting perspective to see these hubs kind of stand themselves up from around the country. But also, in our day to day work, we work across sort of all of the key sort of sectors that make up these innovation and agriculture ecosystem here in Australia.

Cal Archibald:

We work with agribusiness corporates and support them with innovation strategy and technology scouting and adoption, as well as digital, a lot of work in the digital space. We also work with startups and support with commercialising and technology trials and investment readiness. We also work with researchers and support with sort of commercialisation roadmaps and go to market strategy and alike. And then also across with a bunch of investors as well, who are looking at how to invest into agricultural technology and what the future of the space looks like. So I guess from a range of different perspectives, we've kind of been watching these hubs and sort of engaging over the last year and so I thought today, I might just share a couple of lessons and learnings and sort of highlighting some conversations that we've been a part of from these four key perspectives of agribusiness corporates and farmers, startups, investors, as well as sort of government and sort of the ecosystem broadly.

Cal Archibald:

So first of all, through the lens of an agribusiness or a farmer and I deliberately call them agribusiness in this sense, because I think one of the big messages here is about how to make this really commercial. And so innovation is great, it's a lovely word, but really it has to drive commercial outcomes if it's going to be useful and sustainable into the future. And really, but that's one of the major themes of sort of climate resilience and drought resilience is really around sort of commercial viability for the long term. So one of the big lessons we are hearing and things that we've become quite passionate about in this space is really about making sure that all the opportunities that come through the hubs are challenge led.

Cal Archibald:

So we often talk about falling in love with the challenge rather than the solution. And so, we know that farmers and agribusiness are jaded from this big technology push that's happened. So a lot of solutions looking for a problem and a lot of agribusiness have been sort of seeing lots of technology that hasn't actually quite delivered on its promise. And so, one thing we're really excited about seeing come out of these hubs is a really strong connection to the end users and at a local level, each hub getting really, really clear about what are the biggest, most valuable challenges that are worth solving in their region. And then from there translating that through, into innovation and sort of commercial projects rather than the other way around, which is to say, what cool research and science have we got within the hub and how do we find a new avenue together funded through the hub, or how do we actually sort of push what we are doing already out there through this mechanism, but we're really keen to see the challenge led approach.

Cal Archibald:

So starting with the challenge and then looking at... Making sure that we're investing in the research capability at a local level, that's going to really go after those key challenges with vigour, and then also invest in that capability internally at a local level so that the hubs can truly be global leaders in solving those particular challenges and recognising they'll be different for each hub.

Cal Archibald:

The next group is kind of around government or sort of the ecosystem in general. One thing that we have heard across a few hubs and a fair few different sort of players across the country is really the need to be bigger and bolder and back less projects, but be more ambitious with them. It's a really tough space, particularly for sort of government to play in where they don't want to pick a winner. And it's often hard to strike the balance between wanting to make sure that good projects, good research and good opportunities get funded, but it runs the risk of not actually making a huge impact or realising the potential of this amazing structure that's been set up through the drought and innovation hubs.

Cal Archibald:

Obviously, there's a significant budget behind this initiative. But as soon as you divide it into eight different hubs and then there's multiple stakeholders at the table around each hub, it's very easy for the budget to be whittled away and not to have big, bold projects that are really going to truly shift the needle and we're going to look back on in, 10, 20, 30, 50 years and really notice their impact still. So, I guess, being brave enough to back fewer, bigger, bolder projects is something that we are hearing across industry that's exciting.

Cal Archibald:

And I guess as a reference point, when we look at some of Australia's most recent success stories in the AgTech space, the likes of AgriDigital who have raised 30 million dollars, AgriWebb who have raised 50 million dollars and Regrow who have raised 80 million dollars. These are big numbers and to fund innovation, to get to the point where it's going global and it's operating at scale and it makes sense, it takes a fair bit of investment. And so I'd just like to use that as a reference point when we are thinking about these new initiatives in that. Putting significant dollars behind the winners or the groups that we think, or the opportunities that we think are the big opportunities is a really positive step. And we'd love to look back on this and see fewer bigger, bolder ideas that have the really translated.

Cal Archibald:

Now, just to shift gears a little bit from the sort of investors' perspective, we do a sort of a fair bit of work, not just in Australia, but also sort of out across particularly Asia. And we sort of formed the belief that international competition is actually a really, really good thing. We have big climate change and drought resilience challenges to solve here in Australia, but we don't have to solve all of them.

Cal Archibald:

What I mean by that is that there's drought resilience and climate change challenges happening all around the world, in the agspace. And so an open approach would suggest that we can borrow the best of what's working all over the world and either adopt the stuff that works and focus on the stuff that's unique to Australia or where we're particularly well positioned to solve particular challenges. Or we can actually work with the leading solution providers globally and use these hubs as a way to adapt what's working, but make it fit for purpose for Australia. And so lifting the gaze a little bit and looking at what's happening around the world and who's leading in different solution spaces and creating a pathway to support and continue to develop the innovation through these hubs, I think is a really, really positive step.

Cal Archibald:

Now you're probably asking what's that got to do with investors. In order for technology to translate from research into a sort of a seed stage to a series A and then onwards into a sort of later stage funding round. Investors really need to hear that global narrative, not to say that there isn't great innovation that happens at a local level, but when we're, as I just referenced, if we're talking about these big players, like the Agriwebbs and the Regrows, investors back those ideas because there is potential for global scale.

Cal Archibald:

And not only that, if they have a global ambition and an investor invest in them and they only do a base hit rather than the home run, then still from an investor's perspective, that's a much safer bet than investing in a solution that's just really focused on the sort of local market. So it's a two way street and I think in order to unlock the kind of follow on private capital that we need to see some of these opportunities scale, we really need to be thinking global. But also recognising what is it that we can be the best in the world at.

Cal Archibald:

And finally, I'm just going to put a slightly different hat on for us for a second. And I guess as a similar time that the drought innovation hubs were forming up, the Australian AgTech ecosystem was in the process of organising themselves... Sorry, I better click this slide, organising themselves into an association. And so today the Australian Agritech Association has over 450 startups that are founded in Australia and call Australia home. And for most people, when they hear that, they think that's actually quite a big number and probably bigger than they'd originally thought. And so what every single one of these little dots on this map that you probably can hardly read represents is a startup founder or co-founders who are dedicating their life taking a huge amount of risk, probably stepping out of a high paid job to run a startup and to go out and try and solve a really specific challenge in the agritech space.

Cal Archibald:

They likely have ambitions of raising multiple millions of dollars on the way and then obviously they have ambitions to scale their solution up to be not only just national, but global as well. So this is an incredible resource when you think about that at scale, 450 of these companies, all who have small teams trying to solve specific problems, most of it translating science and research into commercial opportunities. And so this is an incredible resource that is at the hubs disposal.

Cal Archibald:

There's two thoughts I have about this and where's the huge opportunity for collaboration here. The first is that as an AgTech startup comes through, the biggest question they've got is, is this amazing science or research I've got actually useful? Or is it a cool science or research problem or project? And so the biggest thing they can do to validate that obviously is to go out and present the solution to potential end users and get that feedback and then based on the feedback iterate and continue to refine that solution based on the whoever's the target market. That's actually a really, really hard thing to do in AgTech, given that just the geographic constraints and how hard it is for researchers at a university or startup founders who are typically based in the cities to go out and validate that with 10, 20, 30 companies or farmers who are willing to take the time out of their busy day to adopt a technology or trial a technology that's not quite perfect yet and give the feedback that's required to help refine it to the point where it's really useful.

Cal Archibald:

So the reason this is so important is because it's impossible for a startup to raise money, unless they can go to an investor and say, yes, we've done trials with all these farmers, they love it. And now our only biggest problem is the fact that we need to build more of them, so we need to raise some money, or at least have a really clear signal from the market, this solution is something that people want and it works. So it's not just about validating and making sure that the product is fit for purpose for the end market. But it's also really about making sure that that follow on funding is going to be available based on the fact that they can prove that there's traction in market.

Cal Archibald:

So I think this is a really interesting space for the drought and innovation hubs and recognising that the AgTech association wasn't in full flight when the drought and innovation hubs were starting up, but this is an amazing resource and should be considered, I guess, partly a bit of a gateway into the AgTech ecosystem to look at the existing solutions for Australian founded startups. Yeah, that's mainly what I had to share some sort of thoughts and learnings from the last year. So yeah, thanks.

Andrew Bell:

We said, we'd bring you a slew of logos and on that last graphic behind every logo, I'm sure there's an individual story. Your questions are coming in fast and furious, we've only got time I'm afraid, for one. But as I say, rest assured all the questions being taken care of and attention is being paid. So Cal, Terry Batty asked, could you talk to insights from Beanstalk on the key ingredients that can see an innovation ecosystem develop and thrives? Is there a magic sauce for this, or is it not one size fits all?

Cal Archibald:

Yeah, great question. It's certainly not one size fits all, but I think where we start to see innovation ecosystems really start to accelerate in terms of the maturity of the solutions that are coming through, is when we start to see successful founders who exit and then can come back into the ecosystem and bring all of their experience and their networks back into the fold and sort of recontribute back in. And we actually started to see that, I listed off a few startups specifically in my presentation before about what we'd consider our kind of current success stories. And those founders were all very active in the Australian ecosystem, we've got the likes of Matthew Pryor who obviously exited from his AgTech startup and is now running a venture capital fund that's solely focused on the AgTech space.

Cal Archibald:

And so once we start to see that life cycle of startups come full circle, those founders come back into the ecosystem with an amazing depth of expertise, incredible networks and the want and desire to mentor the new talent coming through. And I think the exciting thing is we're just getting to that stage where we're starting to see that start to happen and sort of, I guess that signal is kind of the second wave of startup coming through.

Andrew Bell:

Cal Archibald in Brisbane, from Beanstalk AgTech. Thank you so much, so much to think about and plenty of stuff happening, that's great. It's 20 past 11 or so here on the east coast and this is the FDF Science to Practice Forum. We're now going, not too far up the road from Canberra, actually, we're going to Southern New South Wales and we're going to be joined by Dr Alison Southwell, who's the executive officer at the Holbrook Landcare Network. And during the next couple of days, I'll be greeting everybody, but I'll be greeting some people I've had the pleasure of actually sharing a yarn with standing in a paddock, having a coffee with and Alison is one of those. Hello Alison, how are you? The Holbrook Landcare network, you're a recipient of the FDF Drought Resilience Soils and Landscapes Grant. Can you give us an overview from your point of view on those projects and the Landcare group and how they've been working out? Good morning to you.

Alison Southwell:

Good morning, everyone. I hope you can hear me all right. I'm supposed to be in Wagga today, presenting, but I've been struck down with the lurgie. So you'll have to apologise... I have to apologise if I have to stop and grab a tissue, but I haven't actually prepared too many slides, I hope that's okay. But I do have a bit of a talk to give and to definitely talk about the projects that the Future Drought Fund is thankfully funding. As I was introduced, my name's Alison Southwell, I'm joining you from Wiradjuri country today, who's elders, I pay my respects both past and present. I'm a partner in an agricultural contracting business servicing the needs of large corporate and family cropping enterprises, west of Wagga. I'm also a commercial fine wool producer, mother and wife, but I'm also executive officer of Holbrook Landcare Network, a role which I have been doing for over a year now after leaving the university sector where I was an academic specialising in agricultural systems.

Alison Southwell:

And I'm proud to say that I'm still an active adjunct to CSU. So today, yes, I was going to give an overview of my Future Drought Fund Grants, but also give you a bit of a perspective on drought resilience from Holbrook Landcare Network's perspective and why we think we're walking the talk. Talk about other disturbances facing farming systems just for a bit of context and also the role of grassroots organisations like ours on this journey. And finally, if I can squeeze in the time looking at how we can seize this moment a little bit more and embrace this opportunity of doing things differently for greater organisational resilience.

Alison Southwell:

So Holbrook Landcare Network is a Landcare organisation, housing both local and regional Landcare offices, as well as farming systems group. We are part of the Farming Systems Group Alliance, a major partner in the Southern New South Wales hub and we also house a knowledge broker for the hub. Holbrook Landcare's been in existence for 32 years, has an annual turnover of between one and a half to $2 million dollars, which after listening to Cal doesn't sound like a huge amount and currently supports nine staff working across a diverse portfolio of 30 projects on behalf of 350 members who mostly specialise in mid medium to high rainfall, livestock and mixed farming systems.

Alison Southwell:

I haven't given you many slides with words today, just pretty pictures, but I have put up the Holbrook Landcare Network vision and you can see there that as an organisation, resilience is what we're about. Oops, pardon me. So from our perspective, resilience isn't about bouncing back or stoicism, it's about the capacity of our agroecosystems and natural ecosystems, our land managers, our rural communities, our agricultural businesses and industries to absorb a disturbance like drought and then reorganise to keep functioning in the same kind of way, without crossing into an undesirable state or losing its identity. Essentially it's about adapting or learning how to change in order not to be changed. Where innovation fits in is innovation is about bringing new products, processes and new forms of organisation into use. So therefore innovation is an output of a resilient system, a system that is learning from disturbance and adapting to it at Holbrook Landcare, we are we're undertaking a range of projects deliberately chosen to enhance our ability to manage disturbances in farming systems and ensure the resilience and relevance of our organisation into the future.

Alison Southwell:

We have an acid soil strategy directing our participation in a number of project aims to address the region's most significant soil constraint being severely acid soils, in some cases. We also have post the 2019 bushfires, we've orchestrated environmental bushfire recovery plans in the upper Murray region where we've coordinated with local and government stakeholders to design this plan to ensure effective use of bushfire recovery funding. And since then, we've actually followed through on the delivery of over half a million dollars of bushfire recovery funding against that plan, which we've discovered has brought not only environmental outcomes to the region, but also really greater social cohesion, which has been wonderful.

Alison Southwell:

We now have thanks to the future drought fund, significant project activity on pastures to ensure that this most fundamental asset to livestock production systems gets the attention it deserves in preparation for the future. And importantly, we're working with meat and livestock Australia, New South Wales DPI and local farmers to carry out a demonstration study to investigate the fit of tropical pastures in the Southwest slopes refarming systems in response to a changing climate where we have increasing summer rainfall.

Alison Southwell:

We're also working with on a project with landcare farming, to undertake environmental benchmarking across farms in the Holbrook region to equip producers, to participate in the carbon economy and also potential future biodiversity markets. And thanks to the Future Drought Fund, we also now have secured funding to apply these learnings in the rewrite of the Southern New South Wales revegetation guide. And the intent is that this will redefine and demonstrate best practice in revegetation in light of both changing climate, but also changing financial drivers for revegetation around carbon and biodiversity. Importantly, we've also incorporated a community of practice activity in this to help other landcare groups and organisations within the region follow through with this as well.

Alison Southwell:

Finally, we've also got a project working with our first nations people, where we are building policies and guidelines on how to work successfully and respectfully with our first nations communities. Our approach is to actually use Western methodologies to normalise behaviours amongst staff and eventually members to achieve culturally appropriate outcomes, which we can then share across the land care community and other communities. I'd like to think that our organisation is agile and takes a strong approach to good governance and delivers on principles of co-design, innovation, evidence based and collaboration and thanks to our passionate and capable staff and being backed up by some very forward thinking board members.

Alison Southwell:

We believe... Since joining Holbrook Landcare, I've also noticed significant adaptation in the Holbrook region to drought. Farmers in the region have learned considerable lessons from the millennium and the 2018-19 droughts and with climate change, are very aware of the need to have solid strategies in place to manage for drought. It is important to note though, that drought, market, political and international disturbances are currently having a major impact on businesses and communities and lead to the testing of thresholds beyond which the state of our farming systems could change quite significantly. It's raining outside of the moment and so we're managing fine.

Alison Southwell:

But this can change. We have rising input costs, workforce shortages, exorbitant land prices in this area and a lack of local housing. And these issues all need to be learnt from and adapted to, otherwise they could threaten our resilience of systems and therefore our ability to absorb future drought impacts. Protectionist policies are unhelpful as they prevent the testing of the system thresholds, stifling learning and therefore adaptation.

Alison Southwell:

And I guess the point I'm trying to make here is that resilience needs to be considered a moving whole of system aspiration that will continuously shift and change with changing circumstances. And drought is simply one of many disturbances, whilst probably one of the biggest, it's one of many. And you can be compounded by other issues if they're not addressed also.

Alison Southwell:

One topic that we are paying a considerable attention to at the moment is the rise of environmental, social, and governance frameworks in business and investment circles.

Alison Southwell:

Another, which is another disturbance gathering momentum as society begins to expect more than ethical responsibility from our corporations than simply just fiscal competence. These ESG frameworks and expectations are now beginning to play out in investment portfolios, the financial sector, supply chains and bureaucratic circles. So soon to ensure a ticket to play, farmers may not only have to prove themselves on a trajectory towards carbon neutrality, but also demonstrate ethical responsibility on a range of ESG fronts.

Alison Southwell:

So whilst this seems like another hoop for farmers to jump through and it is, co-benefits for environment production systems and businesses exist if done well. And the challenge for us is not to lose farmers between the gaps in this process. And we need to ensure that farmers are supported and not overwhelmed by the changing expectations.

Alison Southwell:

And I guess this is where grassroots organisations like ours can help. Farming systems groups are grassroots organisations that have emerged due to the need to fill a void in localised RD&E and specifically these organisations aim to link farmers directly to industry professionals and to provide a forum for farmers to come together, to support one another and share ideas.

Alison Southwell:

Landcare is similar, bringing together local communities to share values and practices around environmental stewardship. And these organisations have a unique role to play in helping hubs and other organisations achieve real impact on ground.

Alison Southwell:

Importantly, these organisations contribute to the social cohesion of communities, something government organisations can't really do and is fundamental to resilience. Landcare and farming systems groups can assist the translation of science to local environments and help identify thresholds or challenges and support discussions in the community around what we want our rural landscapes to look like in the future. Importantly, being independent, community-led organisations, they enjoy a degree of trust within their local communities that cannot be matched by other organisations. And so we really need to protect this unique status of these organisations within the communities and leverage them for the advancement of resilience in innovation.

Alison Southwell:

I'm excited that for the first time farming systems groups have been fully integrated into the Southern New South Wales hub and I encourage other hubs to look around at what grassroots organisations exist in their areas and how these organisations, with enabling and support and investment, can drive progress in other regions.

Alison Southwell:

And I guess this leads to my final point around seizing the moment. To truly develop resilient and innovative rural sector, we need to build an organisational ecosystem and culture that also fosters these attributes internally. By working collectively, genuine bottom-up and co-design principles can be applied, and innovation in the form of new processes of organisational interaction and extension are a real possibility through this model. We might actually get research adopted, which would be good.

Alison Southwell:

So I guess the future drought fund resilience hubs are an organisational disturbance, which we haven't seen before. And we need to take this opportunity to learn each other's strengths and find new ways of working together. So I guess if we expect our rural communities to work together to achieve a more resilient and innovative culture, we in our organisations and as an organisation need to walk the talk of drought resilience and innovation too. So yeah, I guess that's me.

Andrew Bell:

It is you, and I hope you get better soon. There are your contact details. Unfortunately, we're already falling a bit behind so anyone with any questions, they can contact you direct on that email address, Google Holbrook Landcare. I hope the rain keeps falling and you feel a bit better soon. But lovely to catch up with you again.

Alison Southwell:

You too. Thanks.

Andrew Bell:

So that's Southern New South Wales. We're now going to visit another hub. We're going from Southern New South Wales to Southern Queensland and Northern New South Wales. We'll be going live there shortly.

Andrew Bell:

This is the pattern we are establishing. There you see the extent of the SQNNSW hub. We're going to pay a video visit first and in producing the hub videos, there's been a lot of organising and travel, and we're very grateful for how the hubs have collaborated with our production teams, field producers, camera operators and all the rest.

Andrew Bell:

But one thing you can't organise all every time of course, is the weather. And when our team visited Southern Queensland and the Northern New South Wales hub, the heavens opened and they stayed open, but that did not stop us or the hub. In fact, it served as a great reminder that the best time to start planning for drought is when, in the words of hub director professor John McVeigh, "it's bucketing down." Let's take a look.

John McVeigh:

That's what it's all about. Drought preparedness and being as resilient as we can be during the next drought. Now it's a strange conversation perhaps to be having when it is bucketing down, but now's the time to have that conversation. Because we know full well, drought will come and bite our community again. We want to be able to manage that impact.

Cameron Leckie:

It's very exciting to be involved in the hub and in improving the capacity to deal with drought through improving the capability and the capacity of both landholders and the extension industry, the knowledge of soils, how to manage soils. I think we can hold ourselves in a pretty good stead in how we manage the drought, which we know will return, even though we're having rainy times at the moment. Now is the preparation times.

Peter O'Reilly:

We have five different varieties here. And one of those varieties is particularly susceptible to downy mildew, that's Marsanne from the Rhone Valley in France. And we think it's one that really lends itself to a project of this type.

Peter O'Reilly:

If we are able to detect disease incidents at that very early stage, we'll be able to spot-spray and head that off. That will save half a day in spraying. It could save thousands of litres in water and a lot of chemical usage as well, which is good for the environment and good for the bottom line of the farm.

Peter O'Reilly:

We, as a community, see the hub as enabling. Enabling us access to that information and enabling us access to new innovations. Being able to diversify farms, I think will be a really important outcome of the hub.

Saleena Ham:

It's early days. But so far, we are seeing new ideas, efficiencies and synergies pop up from just bringing people together across silos, where people have been focused very heavily on their areas of special expertise or their special clients or their areas of obligation due to funding. As we bring people together across those silos, we are finding that passionate people find ways to be more efficient and they find solutions by doing things together that we cannot do alone.

John McVeigh:

Now to get into implementation. On-ground activities. To talk, as I have, to indigenous elders in the Cunnamulla area, talking about the history of landscape management from their perspective. We've got a lot to learn from their thousands of years of experience.

Dr Dale Kerwin:

It's about getting First Nations' knowledge of drought into mainstream and that cultural continuum of that knowledge from our 50-odd-thousand years of occupation of this country. There's a lot of farmers who have lived on their country for a long time. They are actually walking with Aboriginal people and using the cool burns to manage country. And so there's a lot of examples of non-indigenous people walking with Aboriginal people and using that knowledge to manage their country through drought.

John McVeigh:

So it's not just what's the weather doing and what are international commodity prices doing? It's much more than that. It's working with leading producers, working with broader communities to talk about innovation in agriculture, to talk about the latest techniques in drought preparedness, whether that's around animal nutrition or water management or soils understanding, you name it. So we will have embedded those regular conversations such that will become the norm, not just the discussions around what the weather might be doing today or tomorrow.

Andrew Bell:

And let's continue the conversation about Southern Queensland and Northern New South Wales and go live to Saleena Ham, the hubs knowledge broker. Hello Saleena. And you know the question I'm going to ask, has it stopped raining?

Saleena Ham:

Well, it has been raining a fair bit, certainly this year and there's lots of producers still finding it a bit wet to get on and do planting at the moment. But hopefully it'll dry out a little bit for them shortly. We never thought we'd be saying that, did we?

Andrew Bell:

Go ahead and present the showcase from your hub.

Saleena Ham:

The showcase from our hub is from our one of our node managers, Lu Hogan, who is a dynamo at the University of New England. She's also a member of our steering committee. And she's going to talk with you about a fantastic innovative project and tool to help people build decision-making capacities around drought resilience. Over to you, Lu.

Lu Hogan:

Thank you very much, Saleena and good morning, everybody. Yeah, as Saleena said, I'm very pleased to be able to work as the manager for the Armidale node of the hub for Southern Queensland and Northern New South Wales. And I've also had a lot of experience because I'm also a sheep and cattle producer in my own right and so that gives me a lot of insight into the challenges that producers face in droughts, but also across all the climatic extremes that we experience in Australia.

Lu Hogan:

In the past, I've done a lot of work with Australian rural innovation and the Sheep CRC, helping farmers to adopt new technology and knowledge that can build the resilience of their business. So that has put me in good stead for this new role with the drought hub. Today, I'd like to introduce you to a product called Ag360 that was developed initially by the Sheep CRC, and then further enhanced through the University of New England and is now supported by the drought hub.

Lu Hogan:

That product Ag360 is a very comprehensive digital tool that allows sheep and beef producers right across Australia to do three key things. Firstly, to keep a really accurate record of all the management actions that have taken place on their property.

Lu Hogan:

Two, once we've mapped the property we also have the ability then to draw in a very comprehensive weather data set from the Bureau of Meteorology that has historical information, but also provides a six monthly weather forecast, which is updated daily. So on any day of the year, we can give you a prediction about what's going to happen in terms of rainfall and all the other weather parameters for everyday over the next six months.

Lu Hogan:

So those two important pieces of information are then combined and used in our powerful predictive models to estimate what's going to happen going forward on the property in terms of soil moisture, how fast the pasture will grow, what quality that pasture will be, how the animals panels will perform on that pasture in terms of weight gain and whether or not they're going to require supplementary feed.

Lu Hogan:

And we also can provide warnings around health risks related to excessive heat and cold and flystrike in sheep. So recording the past and predicting the future and allowing us to match stocking rate to feed supply is really what Ag360 is about and allowing us to be proactive in response to climate rather than reactive after things have occurred. So I'd like now, if we could show the video, please and I'll come back and sum up at the end, thank you.

Lu Hogan:

Working in Ag360 has been one of the most exciting things that I've ever been involved with because it's really providing a digital solution to a whole lot of issues and challenges that we've faced in the sector for such a long time.

Lu Hogan:

My name's Lu Hogan, I've spent my entire career working in the livestock sector, both as a producer, but also in helping farmers to take up new technology and adopt new things that will improve their business.

Lu Hogan:

So as you can see, it's beautiful and green here at the moment, and we've got lots and lots of pasture. But this time, last year, he had absolutely nothing in these paddocks. We were in the middle of a serious drought and there was absolutely no feed for our stock at all.

Lu Hogan:

And this is one of the huge challenges that Australian farmers face is this incredible variability in our production. And of course, that flows through to the amount of returns we can make from our business. And of course, most of that variability is caused by the climate variability that we experience here in Australia.

Lu Hogan:

Ag360 is a state of the art software product that simplifies the complex relationships between climate, livestock and pastures. And it allows us to reduce risk in the business and therefore improve our profits.

Lu Hogan:

All the management recording for the farm is included in the software and integrated with the climate forecast and our really powerful predictive models to make assessments of what's going to happen in the future in terms of how much pasture we're going to have, how well our animals will grow, whether they'll be in good enough condition at landing time and how much feed we'll have for them going forward.

Lu Hogan:

So Ag360 has proved to be a really powerful tool for our family business in Armidale in New South Wales. It's helped us by giving us warnings when we were going to fall short in terms of feed for our livestock. And this has allowed us to actually sell stock in good condition before the markets fell. And alternatively, when we've had excess feed, it's given us our prior warning of that, so that we could actually stock up and take advantage of that excess feed. We have customers and users right through every state in Australia successfully using it to improve their business management.

Lu Hogan:

Ag360 is really simple to set up. The first thing you do is locate your property in the landscape using Google maps. And then once you've done that, you start to map your paddocks and describe them in terms of the soils and the pastures. You're ready to start using the software, not only for recording movements around paddocks and veterinary treatments and paddock treatments, but also to get predictions about what the future rainfall might be on the property and how that will flow through to soil, moisture, pasture growth and then of course, animal growth.

Lu Hogan:

And of course the software can also give you predictions about challenges to your animal health, like flystrike, worms, excessive heat, or excessive cold.

Lu Hogan:

Locating your farm using Google maps also allows us to bring in a weather data set that's been customised to your location. So our weather data is relevant to within five kilometres of your farm. And this is why we can give you really accurate forecasts of the weather going forward, continuously available for six months in advance.

David McKemey:

It's a sheep and cattle property in the New England, about 2,800 acres and we're running breeding stock and trade stock and also sheep here. Started using Ag360 beginning of last year. So 12 months now.

David McKemey:

Pasture growth rates. I concentrated a lot on pasture growth rates and having a body of feed to run into winter with. Look at the soil and moisture availability quite a bit. I find that's really important planting crops. If you want to plant crops, or buying stocks, so you know that you've got a growth going head into the future.

David McKemey:

I found that predictions on Ag360 quite accurate in the last few months, given the weather and the rainfall events and the stocking rate that what we had on have been quite good.

David McKemey:

Yeah. You're better prepared for bad seasons or good seasons too. Like it's one thing preparing for a bad season. It's still a tough gig preparing for a good season as well.

Lu Hogan:

Ag360 is a really powerful tool because it really kills two birds with one stone.

Lu Hogan:

Firstly, we've got the predictions, but those predictions are empowered and reinforced by your historical management information. So the ability to accurately record stock numbers, where they've been on the property, the grazing rotations, the veterinary treatments, all contributes to making much more accurate predictions about what conditions are going to be like going forward on your property.

Lu Hogan:

So thank you very much. I hope you enjoyed the video. And just to summarise again, Ag360 allows you to keep all those management records that are so important for producers: rainfall records, where the animals have been across the property on your paddocks, grazing history, report monitoring, animal weights and the genetics that have gone into your cattle and sheep flocks. Any pasture assessments that you might take yourself, you can keep a record of those. Your management records in terms of joining, landmarking, calfmarking, weaning, et cetera, can all be entered into the system along with your veterinary and paddock treatments. So you've got a very comprehensive record of what's happening on the property.

Lu Hogan:

And then we use that information in our powerful predictive models, along with the weather forecast, which is updated every day for the next six months. So you always know what's happening six months in advance. And then we can predict that soil moisture, pasture characteristics, plan your grazing track, animal weights going forward and those health risk warnings.

Lu Hogan:

And the final really important thing about Ag360 is the opportunity to solve problems and identify opportunities in the future.

Lu Hogan:

So looking at the impact of changing management, how you might reduce risk in the system, particularly weather based risk, but also act on those opportunities when there's excess feed and you might actually have the chance to stock up and make some more money. And because you've got such good records, it's a very good way to verify that the quality of management on the property and the care of your animals and that will be very important for market information going forward.

Lu Hogan:

And overall, it really allows you to increase resilience of the business, particularly to climate-based risks.

Lu Hogan:

So I'd just like to finish up by just reminding everybody that this is a free product supported by the Southern Queensland, Northern New South Wales hub and it's suitable for livestock producers right across Australia.

Lu Hogan:

So if you are interested in finding out more, please go to the website, Ag360.com.au. And also if you would like to register for our webinar, which will be on the 23rd of June at 11:00, just scan that QR code on the screen now and that'll take you straight to the registration system for the webinar. And you can certainly use that as an opportunity to find out more and feel confident to get started with Ag360. Thank you very much.

Andrew Bell:

Thanks Lu. Our first QR code, I think it won't be the only QR code of the next few days. We've got some time for questions. So if you have any, please use the Q&A section of Hopin. We'll be going to lunch, late breakfast, whatever we're going to call it top of the clock east and west bottom of the clock in the centre. But some questions to you. Lu, you are a livestock producer. Well, I've got a question here. How has Ag360 improved your own business? How have you seen it on a personal level?

Lu Hogan:

Yeah, thanks for that. That's really important question. We use it very regularly to make sure we are matching our stocking rate to the supply feed that we're going to have over the next six months. So it gives us that real ability to be prepared. We also use it to keep very accurate records of all the activities that happen with the livestock and in the paddocks on the property. But in a more strategic sense, we've also used it to assess the potential productivity of a property that we were looking to purchase. So, using the scenario planning tools to really test the claims made by the agents and the vendors about what the productivity of that property might be. So it was very helpful in that very strategic sense as well.

Andrew Bell:

Very practical Lucy Morrell from the department, the Department of Agriculture, Water and Environment has a question. Can people who only have satellite internet use Ag360? Very practical question.

Lu Hogan:

Yeah, look, anybody. As long as you have internet access, we've designed it to be as light as possible in terms of data requirement. Obviously if your internet connection is not high speed, it will take a little bit of time to process the predictions because we run our models 30 times to give us that probability-based prediction. So, so it does take a little bit of time, but it is as light as it can be so that we cater for regional variability in the service.

Andrew Bell:

We got a question back to Southern New South Wales actually, where Alison was speaking from a bit earlier, Donald Stringer has sent a question in. How many farmers have you found have access to the necessary input data and those who don't? Are you able to help them out?

Lu Hogan:

Yeah. So look, the base information that you require, I think things that farmers need like joining dates, when animals are weaned weights, generally people are weighing. So you do need to be able to estimate animal weights. And to get it started, you need to be able to make an assessment of the pasture on the property. And we can certainly provide guidance on that. Or you could call on your local agronomist or local land services agronomist. For example, if you didn't feel confident about making those starting conditions, getting them set up correctly.

Andrew Bell:

The questions are coming in fast and furious, Lu. Here's one from Ewan Malacara. Does Ag360 help farmers to integrate longer-term climate projections and make farm decisions. Is it the great Oracle?

Lu Hogan:

Absolutely. Absolutely. Six months is the longest branch forecast that we can effectively use here in Australia at the moment. So having a vision about whether you're going to be facing really below-average conditions or really above-average, or just on the average really helps in planning forward and matching stocking rate to feed supply, which is the crux of a successful livestock business. And making sure that you can keep minimum biomass levels on the paddocks and obviously protect those soils, which is so important.

Andrew Bell:

Nancy Gattaway is asking, is this a fee for service program and what level of capacity-building support do farmers need to implement it? I guess that's sort of joining the dots between scanning the QR code and actually using the thing.

Lu Hogan:

So the product is free. Thank you. Thanks to the support of the Southern Queensland, Northern New South Wales innovation hub, which is helping to support the maintenance costs of the system. So the product does not cost anything to use. As I said, it works right across Australia and we provide support to people to help them get set up and to have a query service. So there's a "contact us" button on the site. So if at any time you're having difficulty, you can use that to contact us. And we'll answer. We have a very rapid turnaround in terms of supporting our clients.

Andrew Bell:

And almost our time is up. Can I just ask you from me, I'm going to ask people about their personal reflections during this event. How are you feeling about all this? I mean, a whole new world is opening up I guess.

Lu Hogan:

Yeah. Look, as I suppose, I'll respond as a producer, certainly I think as we experience more and more climate variability and more and more extremes, we really do need to upskill in terms of our capacity to be proactive, be prepared and be flexible so that we can respond to whatever the climate throws at us. And, obviously geopolitical instability and changes around the world are affecting that as well. So, you know, more skills means more flexibility and capacity to respond.

Andrew Bell:

Lu Hogan, thank you so much for joining us today. And on the other side of the Tweed Saleena Ham earlier on the knowledge broker there.

Andrew Bell:

Well, that's our first session done, much more to come, but there's no let up, we're breaking for an hour. But don't forget. We have virtual expo booths, which have people from all the hubs. Investigate those, engage with those and see what network connections you can make. And have something to eat in a cup of tea as well, because we'll be back in an hour's time.

Andrew Bell:

We'll be going, travelling again, seeing some more hubs and much more besides. So the Future Drought Fund Science to Practice Forum will return at 1:00 Eastern half past midday in the centre and 11:00 in the west. We'll see you in about an hour.