# Science to Practice Forum

**Day 1 Part 2 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:

And welcome back. This is the Future Drought Fund Science to Practice Forum 2022. I'm Andrew Bell in Canberra. If you're joining us for the first time, a very warm welcome. If you've taken an hour off to have a cup of tea and a refresh, welcome back.

Andrew Bell:

Don't forget to visit the booths in all the break times. There are people ready and waiting. And a special lure to you, that after we play each hub's video on the main stage, you can go and have another look in the booths. That and much more besides in those booths.

Andrew Bell:

Two more sessions for us to get through today on day one. And we're going to start this session with another hub visit. So far, we've been to Western Australia and Southern New South Wales. Now it's time that we go travelling north to Tropical North Queensland.

Andrew Bell:

It's a big country there. There's Cairns, the hub there and the nodes you can see to the west and to the southeast. Plenty to hear about, plenty of work to be done. And while things are very much different in TNQ, there are common themes which emerge there and elsewhere. So let's take a look and lend an ear to TNQ.

Prof. Ian Atkinson:

Drought. No one likes drought. Drought's awful. It reduces production, causes great financial hardship. But, in an innovation context, it's the time where you want to be doing things differently.

Martin Holzwart:

We wait till the drought comes along, and then we spend a lot of our energy working out how we're going to get through it. And by then usually it's too late, and we end up making reactive decisions. If we can discuss these things now, when there's a little less pressure and we've probably got a little bit more time, people are probably financially a lot better position to adopt some different stuff.

Dr David Phelps:

If we've learned anything from all of Australia's history, it's that there will be another drought just around the corner.

Dr David Phelps:

So I'm the director of the Tropical North Queensland Drought and Innovation Hub. And one of the key things that we're really looking to do is create more opportunities for our agricultural industries and their communities, to innovate, to become more resilient in the drought space and to have better pre-preparedness, ready for the next drought.

Martin Holzwart:

To be able to have something like the hub actively operating in a community like Charters Towers, I think it will be great for the industry and for the community. A good place for like-minded producers to get together and tease out some ideas. And hopefully, yeah, work out a few different ones, in a few different ways of dealing with some of these tougher seasons that we've been seemingly getting a lot more often lately.

Eiren Smith:

There's a network from across the country, using local people to implement strategies. So it's really exciting to see how that's all going to happen. And, yeah, getting everyone on board is a really good thing.

Daniel Christie:

It's really there to bring people together and start those conversations around the research that's been done, the sort of solutions that are available and trying to get them more understood, more out there, but also receive feedback.

Dr David Phelps:

So we're running Forums, Field Days and most importantly, we're attending already organised industry events, whether that be in the grazing industry, in horticulture, or other agricultural industries and within their communities.

Dr David Phelps:

So that we can listen and learn about what the real local issues are and then really engage in a conversation around what are the local solutions? What are some of the things that you mightn't have even thought of before, that things like technology or other innovations could bring to the table to actually help?

Prof. Ian Atkinson:

So research in AgTech ranges from very high technology, through to people who can package and manufacture things, to people that can put all these things together to make a solution. And then we need a whole lot of people on the ground, who can communicate with producers, get their knowledge, feed it back into that solution.

Chris Poole:

I think a grazing business in Northern Australia, you always have to be thinking ahead and also keeping that worst case scenario in the back of your mind. What happens if it doesn't rain? Having those options in place and being able to make decisions early is very important.

Eiren Smith:

Yeah. Tech is definitely crucial with modern farming. I've seen the benefits that taking notice of research can have within your business. We can actually have some input into where funding is going to go and getting it into the right areas and getting scientists and producers in a room talking to each other, so that we're not reinventing the wheel.

Dr David Phelps:

It'll be absolutely crucial that what we learn in the TNQ hub is shared across all of the hubs across Australia. Things that are learned out of Tasmania will have application in South Australia, Western Australia, Queensland. So collaboration and sharing, right across all of the hubs, is fundamental to success overall for our agricultural industries, right across Australia.

Daniel Christie:

We as much want to learn from other areas and what other hubs in other regions are doing as well. But I think, what we do up here, as I said, we definitely think there's things that are common. We want to share what we've learned and the practices, but also we want to receive what others have done and learnt as well.

Eiren Smith:

We're dealing with climate variability every day. That's just how we live. And a drought resilient future to me is just being as well prepared as we possibly can, having the infrastructure in place, so that we can react early.

Dr David Phelps:

As we get better and better established over time, we'll be there to help farmers, graziers and their communities really identify the key issues around drought resilience and preparedness.

Martin Holzwart:

Another drought is... Yeah, there's not really anything surer, so.

Prof. Ian Atkinson:

We need more people. We need people to adopt. We need people to want to get involved and participate. And if we get enough people and enough energy, we're going to make Australia's primary production systems a lot more reliable. We can turn drought from a dreaded disaster to something that we can manage, overcome and just make part of the primary production system.

Andrew Bell:

Professor Ian Atkinson having the last word there, talking about not having to dread the drought, to get ready for it. Interesting. We've seen three videos already and the different greens around the country. And there's going to be more variations on green over the next couple of days in those videos.

Andrew Bell:

Now, without more dillying or dallying, let's go live to the hub, to Tropical North Queensland. And it's Director David Phelps. David, can you hear me? More importantly, can we hear you?

Dr David Phelps:

That's a great question. Can you hear me?

Andrew Bell:

Yes.

Dr David Phelps:

Excellent. That's great. You were talking before about different notes of green in the video. It's not just in the video, because the whole draw from Townsville to Richmond just looks beautiful and lush at the moment which is fantastic. Very, very unusual for this type of winter, for North Queensland.

Dr David Phelps:

And it's all on the back of about 90 mils of rain around Richmond over Easter, ANZAC and then some follow up rain of nearly 50 mils, about a couple of weeks ago. And it just just looks a picture at the moment. But, of course, as we all know, there will definitely be another drought around the corner. And now's the real time to be planning for that next one.

Andrew Bell:

So what have you got to show us today, David? What are we going to hear about from TNQ?

Dr David Phelps:

Yeah. So, in a moment, I'll hand over to Darryl Lyons, who's our indigenous entrepreneur in residence. And he's going to be talking about commercialising farmers' ideas through the TNQ Hatch program.

Dr David Phelps:

But just before I do hand over to Darryl, I'd just like to clarify that we are in Richmond, west of Townsville, in Queensland, not Richmond in Melbourne, or any other location across Australia. And this particular Richmond is in the hub of the Mitchell grasslands, fabulous open natural grasslands, fantastic grazing country.

Dr David Phelps:

And it's also the last location of the ancient inland sea, that drained out about 40 or 50 million years or so ago. And that means there's heaps of fantastic fossils, aquatic fossils, things like Kronosaurus, and Ichthyosaurs and all sorts of things scattered around through here.

Dr David Phelps:

So any of our Southern viewers, if you're feeling particularly cold at the moment, I reckon jump in the car and come up here, where it's nice and warm, and have a drive and a look. There's some great things to see. But, now, I'd like to hand over to Darryl. So thank you very much.

Darryl Lyons:

Thanks very much, David. Welcome everyone. I work in the innovation commercialisation team in the TNQ hub and would like to talk about our first program that we're kicking off, which is the TNQ Hatch program. It's one of many programs we're going to be running over the next couple of years, in helping innovation and commercialisation of ideas through the North Queensland area.

Darryl Lyons:

The TNQ Hatch program is a six week idea program. And front and centre of what we're trying to do in the TNQ Hub is put the producers at the centre of innovation. We believe they're really attached to the problems that they experience, especially in this area, where they've experienced multiple droughts and have a really good idea and have plenty of ideas on what they think they can do to become more resilient in their farming practices and also in their communities.

Darryl Lyons:

But what I feel that a lot of the problems are... And this comes from my grandfather and my father who are producers. Have lots of amazing ideas, because they've got plenty of time out in the paddock. But most of the time, they're sitting in their head and they're not sharing them, or they might tinker with something and put it in the shed and it gathers dust and doesn't go anywhere. So there's this plethora of knowledge and understanding of what could be solved, that we're not tapping into.

Darryl Lyons:

And I guess this is the premise of the Hatch program, is really to alleviate the fear of what we feel in trying to do something that could fail. Through the six week program, where we're bringing what we call lead startup methodology and to producers. And we think that's got a real application that can actually work and getting these ideas, moving them through to a solution.

Darryl Lyons:

So the three areas we have are desirability, viability and feasibility. So, in the program, we're teaching our participants. We actually have seven teams in the program and 15 participants, where we're taking them through to understand and drill down with their customer segment, to understand what that problem is.

Darryl Lyons:

What we're aiming to do is we've broken the teams up into three different sections. One of the teams is we have a group of researchers from Sugar Research Australia and also some researchers from James Cook University. We're trying to pivot their way of tackling these problems, to not go and present their solution to producers and actually take on the skills to actually go out and understand and dig down into the problem, to really understand what's that causal issue and not talk about their solution at all.

Darryl Lyons:

So we've seen examples that Cal showed before, around where you go in AgriWeb and AgriDigital. They started with a very customer centric in understanding what the problem was, before they went out and built that solution and then went and tested it with their producers.

Darryl Lyons:

Another area we also have is some innovation grant participants that are participating in the TNQ Hub, which are actually working on community resilience. One of those themes is concentrating on how they can assist families in rural regional areas, who have children with disabilities and what they can do and build a product that actually has better services, to enable those people be very productive members and stay in those communities.

Darryl Lyons:

Another participant of the ideas grant is also helping to look at services that help women in rural areas and how they can get access and adopt an app or adopt a solution, to be able for them to utilise those services. So, to understand that, the teams have gone in and created some customer personas, to really understand and walk in the shoes of those people, to really work out what their underlying issues are, before they go out and create their solution.

Darryl Lyons:

And part of the lead startup methodology... To go through a couple more slides. And the last group is we've had some producers who are looking at diversifying their income. So we actually have a mango producer up on the table end, who's actually diversifying into free range pigs. So they have this wait stream of lots of mangoes that they can't send out, that none of us want to buy or the supermarkets want to take. So utilising that as a feed stock and utilising the pigs to actually put some health into the soil. So we're going through a process with them, to understand how they can build a successful product and market it before they go out and spend money on that business.

Darryl Lyons:

And I guess the premise around lead startup methodologies, fail fast and fail often, without spending too much money. So we've seen lots of deep failures, where people go spend lots and lots of money to create a solution and it probably hasn't really nailed or focused on what that underlying problem the producer is needing to be solved.

Darryl Lyons:

So when we saw the list that Cal put up, with the 450 AgTech companies with the logos on there, what we're aiming to do in the idea program is to get people to understand that problem. So when they go to a farmer and they have a minimal viable product to go and test, it's solving such a big pain point, that producers are actually willing to forego the colloquilness and professional of it and actually test that product, because it's saving that really big pain point. And then they keep going through that cycle of iterating, iterating, to come up with a very commercial product. And that's me. Thank you.

Andrew Bell:

Well, Darryl, don't go away just yet, because we've got an opportunity for some Q&A. So if you've got any questions about what Darryl's been talking about, go to that Q&A function.

Andrew Bell:

Can I just come back to what you said early on in your remarks there, Darryl, fear of failure. It's great in a room, when you talk in abstract terms and everyone agrees. And then when you get closer and closer to reality, that's when failure really bites. Are you finding new ways of holding people's hand, if you like, or enabling people to be able to conceptualise, to use a $10 word, something and to put the chance of failure on the back burner a little bit?

Darryl Lyons:

Yeah, definitely. I think a stat in startups is about 90 odd percent of startups fail. So failure is a real and ready challenge. So I guess what we're aiming to do is build up that tolerance and to learn to fail without much pain.

Darryl Lyons:

Rather than someone going and spending lots of money and building a solution that no one's going to use, how do you fail very quickly and build that skill and actually be able to get a no and learn to fail fast? And, yeah, it's definitely a skill to be learned, I believe.

Andrew Bell:

Yeah. Is that moment where you have to cut the cord, which is a very painful moment, when something that sounded good doesn't quite work? Doing it fast, is that as painless as it can get, do you think?

Darryl Lyons:

Yeah. I think everyone who comes up with a bright, shiny idea gets very attached to it. And it's like their little baby. So they do have an umbilical cord attached to it. And it is a painful process.

Darryl Lyons:

But it's a lot less painful if they get rid of it before they spend any money and move onto something else, from the learnings that can actually solve a problem for producers.

Andrew Bell:

So keep the questions coming in. We have a question. Just a reminder to everyone out there, when you send the question in, tell us where you're asking the question from and your name. That would be great. But anonymous questions will start out this session. Darryl, a very straightforward question, but a timeline, I guess. When will we start to see the Hatch projects on the ground?

Darryl Lyons:

This first one's actually started. So we're nearly three weeks into it. And the TNQ Hub will be running a number of these over the next couple of years. So we really strongly encourage any producers, or people with technology ideas, or even researchers, to come in and learn about the skill really early.

Darryl Lyons:

Because what we want to do is build the skills, so these people actually get their logo on the Aus AgriTech map and become very successful benchers, because that means we're solving problems and we're making producers more resilient.

Andrew Bell:

Phil West, who's from Southern Queensland, Northern New South Wales Hub, asking a question. With all the water on the eastern side of the range, any work being done to get it on the western side of the range?

Darryl Lyons:

That one's a little bit out of my pay rate. I'm sure there are some big grand schemes, but they're not going to start with a really early stage idea of failing fast. Maybe those big ideas need to go through some startup methodology to make them stand up.

Andrew Bell:

Talking of methodology, have you a particular way of coming into a room and turning an idea into something that gives other people the sense that it could possibly fly? Is there a secret there, of persuading people that that shiny idea might actually shine bright?

Darryl Lyons:

I think we're aiming to flip that around on its head, because we had some researchers who are really coming into the program with a hammer, with really shiny new technology that they feel can solve lots of different things. And we're actually trying to tell them to put that away, take away their biases of that technology and then dig down and really understand what the problem is that the producers need solved. That is the first and key most thing that's actually going to move the dial in adoption of the technology, from the ecosystem map and any newcomers as well.

Andrew Bell:

And, on a personal note, as we wrap it up, from your point of view, how exciting is it to hear people's ideas and imagine what might come of them, on a personal level?

Darryl Lyons:

It's very exciting. So I've been through the journey and have created a successful startup that's going pretty well. And we track food around the world. And it's super exciting to be back in the ecosystem and listen to people have crazy ideas and great ideas, that are actually going to move the dial for agricultural systems.

Andrew Bell:

Well, keep moving the dial, Darryl and David and all the rest of you in Richmond, Queensland. Lovely to see you all. I'm sure you're a lot warmer than we are here in the southeast corner of Australia. Thanks for joining us. And stay with us. Thank you.

Andrew Bell:

Okie dokie. Right. That was TNQ. More hub visits to come. Now we're going to move onto a topic which is of first and foremost importance. How do you protect indigenous culture and intellectual property, while innovating in agriculture?

Andrew Bell:

Well, we're going to talk to Laura Melrose and Joel Murgha. They're from solicitors Terri Janke and Company and they're joining us. There's Laura. Hello, Laura. Hello, Joel. And I think, Laura, you're in Sydney. And, Joel, you're in Queensland?

Joel Murgha:

Yep, yep. I'm in Queensland.

Andrew Bell:

Lovely. Well, we're going to have a Q&A session as well at the end of this. So any topics you want asked about, please put it in the Q&A section. But for now, Laura and Joel, take it away with your presentation.

Joel Murgha:

Thanks for that. Yeah, my name's Joel Murgha, a solicitor with TJC. And Gunggandji man from Yarrabah up in North Queensland, just outside of Cairns. Today, we'll be talking about protecting indigenous cultural and intellectual property while innovating in agriculture. And you'll hear us refer to it as is ICIP throughout the presentation, just as an acronym to keep it short.

Joel Murgha:

But, yeah, I'm calling in from Cairns on Yidinji Gimuy country. So I acknowledge the traditional owners of the land I'm on and pay my respects and acknowledge the tiers of the land that you're calling from as well. Laura, did you want to have a quick intro?

Laura Melrose:

Hi everyone. It's great to be here today. Thank you, Joel. Yeah, my name's Laura Melrose. I'm also a solicitor with Terri Janke and Company and joining today from Gadigal Bidjigal country in the eastern suburbs of Sydney.

Joel Murgha:

Yep. So we'll just talk a little bit about what is indigenous cultural and intellectual property, just on the next slide there, if you jump across. So ICIP, or indigenous cultural and intellectual property, derived from the universal declaration on the rights of indigenous people, which goes into saying, "First Nations peoples have the right to maintain control, protect and develop their tangible and intangible cultural heritage."

Joel Murgha:

And just on the screen there, we've got a breakdown of what ICIP is made up of. So just at the top, you've got documents of indigenous people's heritage. So that could be research papers, data collected throughout history, containing information of or about indigenous people. And then you've got traditional scientific and ecological knowledge, which can be knowledge about the land, bush medicines, bush foods, medicines, remedies, those kind of things.

Joel Murgha:

And then we've got cultural property, which includes tools and those physical moveable objects. And then we've got immovable cultural property, which is the physical sites, sites of significance, secret sacred sites, that can't be taken away. And then indigenous ancestral remains, which also falls under cultural property. And then languages, which is both oral and spoken languages. And then literary, performing and artistic works, which is songs, dances, performances, stories, those kind of things.

Joel Murgha:

But the main one here that's relevant to your area is the traditional scientific and ecological knowledge, looking into

Joel Murgha:

How bush foods, bush medicines, the land can be utilised.

Joel Murgha:

So today there's no current laws under... So intellectual property is the biggest body of law that protects Indigenous knowledge. However, there's nothing to actually protect ICIP. So in creating this diagram and considering ICIP, Terri, who owns the firm, put together this and looked at how IP works, looked at how cultural heritage works and filled in the gaps and try to navigate ways in which we can fill those gaps. Because often Indigenous people are the subjects and not the IP owners and not often engaged in the dialogue when people are wanting to use their ICIP, but it's an ongoing, complex area that's hopefully going to be reformed soon. I'll hand it over to Laura.

Laura Melrose:

Thanks, Joel. So rather than launching into big, complicated explanations of intellectual property and Indigenous culture heritage, we thought it might be easiest to try and put in your mind the triggers of when ICIP becomes relevant. So we've got a couple of case studies that we're just going to tell the stories of. The first one being of the Gumbi Gumbi plant. And unfortunately, as with many case studies in this area, this one doesn't have much of a happy ending, but the ones, hopefully Joel will be able to give some more positive light.

Laura Melrose:

So the Gumbi Gumbi plant is an example of what you might have heard of as bioprospecting. So bioprospecting is the exploration of natural areas to seek native organisms that can be used for commercial reasons or commercial purposes. It might be pharmaceutical or medical, cosmetics, personal care, any sort of aspects like that. But bio-piracy is when that similar practice or that practice is engaged with, but it is an unauthorised appropriation of Indigenous or traditional knowledge to find those useful resources in the natural environment.

Laura Melrose:

So in this particular case, there's a plant called the Gumbi Gumbi plant and the Noongar people in Western Australia, as well as the Gangulu people in central Queensland and a number of different Indigenous groups in South Australia and New South Wales have been using the leaf oil extracted from the Gumbi Gumbi plant for thousands of years as a natural medicine. But in 2008, a non-Indigenous company filed a patent on that leaf oil without any permission or consultation with the First Nations communities. So that patent over the leaf oil extract is held by a non-Indigenous organisation now.

Laura Melrose:

And patent laws are breached if any other companies produce and manufactured the product from the Gumbi Gumbi leaves. And that was the issue for an Indigenous business, the Golden Gumbi Gumbi company. So they were prevented from commercialising their traditional practice by way of a non-Indigenous business using intellectual property law to lock them out. The non-Indigenous company also registered a trademark with the words Gumbi Gumbi in it, which is a language word that means woman. They initially registered a logo, a composite trademark for the words plus a logo. They tried to register the words alone as well but IP Australia didn't allow that trademark because they deemed that the words were descriptive, which is a trademark no-no, basically. You can't trademark words that describe the product that they are associated with.

Laura Melrose:

So obviously this case raises a number of different IP issues. It shows that non-Indigenous companies can legally trademark and patent traditional Indigenous knowledge without needing permission from Indigenous communities, which ultimately breaches the ICIP rights of Indigenous people. Indigenous communities, they may be able to challenge those applications and bring opposing arguments to patents or trademark cases, but it's a costly process and it operates on a deadline too. So if you don't bring a challenge within the IP Australia's timeframe, which might be two or four months, after that, it's too late. So there have been other challenges brought against that patent. Most recently in 2018, I think there was another challenge against the non-Indigenous business holding that patent. But as of now, it's still lodged and held by the non-Indigenous company.

Laura Melrose:

Joel, do you want to come in with a good news story?

Joel Murgha:

Yeah, so another case study, just to end on a good note.

Joel Murgha:

And this is people across the country have known the benefits of the bush tomato. And so the Desert Knowledge Cooperative Research Centre, so DKCRC, commenced the project on the 1st of July 2003 to commercialise the bush tomato. And so that project ended on the 30th of June 2010, which framed a remarkable and intensive seven year period of research, training, capacity building, research applications and community engagement in Australia's desert regions.

Joel Murgha:

So DKCRC worked closely with Aboriginal communities, wild harvesters, growers, food processes and retailers, beginning with a review of the commercial potential of desert plants and the existing commercial industry. And the research effort focused on the commercially established bush tomato with the aim of developing a robust supply chain, leading to more jobs, opportunities, enterprises and skills for people living out on country and in remote areas as a model for the industry as a whole.

Joel Murgha:

So that's a case study where it has benefited all parties involved, building up a capacity, building the First Nations people it involved, we're able to get a commercial benefit out of it. So just seeing how these things can be brought in and progressed together.

Laura Melrose:

Yeah. So there's lots of opportunity, I think, in this sort of space. Both with producing wild harvesting of native resources and things, but also there's a lot of examples of like Joel was talking about, of organisations deliberately having native nurseries and things, for products like that. But I think the way that we... I'll just jump to our... I'll open up the screen-share again, to tell you about the work that we do.

Laura Melrose:

So Dr Terri Janke developed the True Tracks principles, which you may have heard of. She released a book, entitled True Tracks last year. And these 10 principles are a start point guide to best practise Indigenous engagement and to working with Indigenous cultural and intellectual property. So the principles, they often overlap they're non-hierarchical and they really inter relate with each other, but they are just that start point to guide interaction and integration of cultural considerations in processes involving Indigenous people and Indigenous knowledge.

Laura Melrose:

So I'll quickly run through them, but without digging into too much detail. But respect is respect for the rights of Indigenous people to own, manage, control, protect and develop their ICIP.

Laura Melrose:

Self-determination focuses on decision making power and First Nation's led processes and decision making elements, rather than having the colonial narrative that has been existing in Australia to date.

Laura Melrose:

Consent and consultation is about ensuring that you're not using ICIP or aspects of knowledge or culture without consent and consultation and also collaboration is a big part of that.

Laura Melrose:

Interpretation is about recognising that First Nations people are the primary interpreters and guardians of their culture. And it shouldn't be interpreted by non-Indigenous perspectives.

Laura Melrose:

Cultural integrity is recognising that aspects of ICIP might have particular cultural protocols around them. So in some traditional groups, caring for country is women's business, or some aspect of caring for country might be women's business, or there may be certain plants or species or other animals that have particular knowledge that has cultural protocols attached to it and needs to be respected. Secrecy and privacy is similar to that. Accepting that some knowledge or some ICIP isn't publicly accessible and shouldn't be and not pushing for that to be published or shared more widely.

Laura Melrose:

Attribution is recognising about not only individual contributors, but also the communal sharing and owning of knowledge. So that may mean not just acknowledging one particular consultant on a project, but also the knowledge that they have because of their attachment and their connection to their community and their group.

Laura Melrose:

Benefit sharing recognises that Indigenous people have the right to benefit from the sharing of their knowledge where that cultural expertise is being used, either in a commercial or a non-commercial setting, they have the right to have something come back to their communities from that.

Laura Melrose:

Maintaining Indigenous culture is about, is about archiving and storage of knowledge. Making sure that's done with respect, with proper data management processes that recognise the value and the respect of the rest of these principles and also done in line with the wishes of community.

Laura Melrose:

And recognition and protection is using anything available to protect everything to do with ICIP. So that might be laws, it might be contracts, it might be protocols like this. And that's the sort of the work that we do. Which is, we have these 10 principles that Terri has developed and we use them to give workshops for government agencies and corporate clients, as well as traditional owner groups or Indigenous groups to help develop best practice in whatever the field is. We also write protocols and policies that align with these principles that can help guide businesses or organisations in their specific fields.

Laura Melrose:

And then the best thing to do is give those policies effects through contracts. So in research agreements or in grant funding or in anything that's associate... That involves the contract or an agreement between parties, whether they're Indigenous or non-Indigenous, we can give principles like this legal weight and fill the gaps that the laws leave in order to put this best practice into... Well, put this best practice framework into effect.

Laura Melrose:

So I can put up our contact details here, if you want to reach out, but otherwise we're happy to take some questions now.

Andrew Bell:

And we have some questions coming in, so stay tuned. First one, coming from Hannah Griffiths. Is there an established way to find or connect with Indigenous groups that might have ICIP associated with projects that they wish to pursue regarding, say, Australian native plants? I don't know who can take that, Joel or Laura?

Joel Murgha:

Yeah, I can take that. There's no established way of connecting with a group that holds the knowledge. And a lot of the time, that's a question we get asked with the work that we do, but majority of the time, it's a matter of actually going and reaching out, being proactive and seeking who owns that knowledge. You can go through community Elders groups, you can go to Traditional Owner corporations, prescribed body corporates. There's a number of different organisations within the First Nations community that you can reach out to and they'll point you in the right direction. But there's no sudden stone way of going about it. It's just a matter of being proactive in reaching out when asking those questions.

Andrew Bell:

And I guess it all starts from respect. If you start from respect and reach out, it's a good place to start. We have a question from the West, from Northam, how is the Nagoya protocol helping in this area? And I don't know if you can assist, at least me, with what the Nagoya protocol is. This question, who's anonymous, says "I know Australia might be a signatory, but is it being ratified locally? And would it make a difference if it was enforced here?" I don't know whether either of you, Laura, Joel, can speak to the Nagoya protocol. Laura looks like she's ready to go on that one.

Laura Melrose:

Yeah, absolutely. So the Nagoya Protocol, it's a protocol that's annex to the convention on biological diversity and it basically sets out best practice... Well, sets out the international standard for use of knowledge and natural resources in this sort of field.

Laura Melrose:

So the short answer is yes, it would help. Australia is a signatory to the convention on biological diversity, but not yet the Nagoya Protocol. So there are a few pieces of legislation in Australia that are close to Nagoya compliant. The Environment Protection and Biodiversity Conservation Act is close because it does require agreements with knowledge holders when they provide particular information that may be of use in that biological sector. But it's not at the absolute pinnacle of Nagoya compliant.

Laura Melrose:

The one act in Australia that is the Bio-Discovery Act in Queensland. It was amended in 2021 and they've released a traditional knowledge Code of Conduct. They've released guidelines in association with that piece of legislation that have really stepped up the use of biological knowledge in Queensland. So hopefully there will be some more changes and some other legislation across the country to bring that the rest of the way.

Andrew Bell:

This is such an interesting and necessary part of the conversation. Laura, Joel, thank you so much for joining us. And you saw the contact details earlier on, if you missed out well, Google away. Google it and you'll find Laura and Joel, thanks very much for your time.

Joel Murgha:

No worries.

Laura Melrose:

Thank you so much.

Andrew Bell:

Well, let's move on to a new topic now and it's to do with animal production. And we are going to be joined by Sarah Strachan who's from the Meat and Livestock Australia organisation, group manager of Adoption and Commercialisation. MLA, a known acronym, peak body for the livestock industry, working to foster long-term prosperity. Not just now, not just next week, but in the years to come for the red meat and livestock industry. And Sarah is going to be talking to sharing drought-resilient animal production knowledge via the hubs. If you have any questions after Sarah's presentation, start composing them now, but I'll hand over to Sarah and whereabouts are you Sarah?

Sarah Strachan:

Thanks for having me today. I'm in the Brisbane office today for MLA. So really appreciate the opportunity for Meat and Livestock Australia to be a part of your forum today.

Sarah Strachan:

So if you're unaware, MLA is the service provider to the red meat industry. So what that means is that we're responsible for investing on behalf of cattle, sheep and goat producers in the areas of marketing red meat here and around the world to drive demand for our product, as well as investing in research and adoption investments that ultimately improve the profitability and productivity of our meat producers.

Sarah Strachan:

So we combine those, really, to define our resilience for our livestock producers. And we've made really significant investments over the last 20 years in those areas in MLA and of late, what we've been really focused on is supporting producers to accelerate the adoption of those research outcomes whilst always keeping in mind what the consumer, so the everyday shopper, what they're thinking about red meats and what they're expecting to receive from buying red meat. So making sure we're always ahead of what they're looking for.

Sarah Strachan:

And today, what I want to share here at the forum is how we are going about this as a model for building resilience of livestock producers and a real opportunity, we see, to work with the hubs to utilise the same principles and leverage from each other and work in partnership to have the most effective outcomes for our producers who will span many agricultural enterprises as well.

Sarah Strachan:

So what I did want to share today was a little bit about the approach to adoption that we've taken. It's a pathway approach, we think of it as. It has a few has three clear steps in that. And those three clear steps are there to really help cater for all types of producer's needs. And what we've found it really imperative is that the process is producer-led and producer-driven. And we're using consultation with producers on the ground to help identify the challenges to their business that would make them more profitable and sustainable in the future, which will inform where they required that extra bit of support.

Sarah Strachan:

And so the adoption pathway that I was going to talk to today has evolved over time to include these three areas. So the first area is broad-scale awareness programs, largely around forums that help disseminate information to producers, get producers sharing stories with each other about what they've done on their farm and how that's changed their business. And some of them you might have heard of they're called MeatUp and BeefUp forums and they happen all around the country.

Sarah Strachan:

Then the next, the pathway then follows or encourages producers to take the next step and gets involved in some short-term workshops that start to get a little bit more refined around a topic of interest that they might like to investigate a little bit further. Now that might be genetics. It might be nutrition. It might be just running general business, just running business fundamentals as well. An example of that you might have heard of is our EDGEnetwork workshops.

Sarah Strachan:

And then our final step of that pathway is what we call long-term practice change programs. And this is a step in the pathway that I do want to spend a little bit of time on now, because it's one that we're going to be throwing more resources through investments and time and support into this area because of the benefits that we're receiving here. And the two main avenues that we call long-term practice change programs are Producer Demonstration Sites and then a suite of long-term training packages that come under the brand of Profitable Grazing Systems.

Sarah Strachan:

Now, both of these avenues or products, if you like, they do require the producers themselves to invest in themselves with their time because they do require from a 12 month through to potentially five year commitment, but also a financial commitment too. So this is really about producers investing in themselves and in their businesses. And the key principle behind both of these is that they use small producer groups that are really focused on a common interest that they share, either on a specific opportunity or problem that they want to address in their region or in their type of business.

Sarah Strachan:

So just go into a little bit more detail about both of those and give you some specific examples. The demonstration site program brings together producers that would like to put in place new or just different practices that they have not done before into their own business. So this is about taking it all out of the research world and putting it into real, commercial businesses. And these usually run for three to five years. And the process is that the producers themselves, they put in place this on their own farm. They come together to review and discuss the results that they're experiencing as well as inviting other producers in the region or in the community to come and observe what they're doing as well.

Sarah Strachan:

Now, a really critical factor to this is that they are supported with a coach or a facilitator who knows the area, can help bring together these learnings and facilitate that discussion between the producers. And help put in place the measurement methodologies to make sure that they are measuring whether this is having a good impact or not on their business.

Sarah Strachan:

So this is an extremely effective way that we've seen of getting practice change with producers. Last year, we had over 340 of these demonstration sites that covered over 7 million hectares of agricultural land. And what we've found is that 90% of the producers that participate in this type of program permanently change practices on their farm because what we've also seen is that on average, the benefit is about an extra $6 a hectare annual benefit year-on-year.

Sarah Strachan:

Now the profitable grazing systems program is a little bit different. It's a suite of training packages, not just one day workshops. They're really customised, longer-term programs that take producers through quite the learning cycle of learning a bit about the outcomes of a particular research area, taking those learnings home and implementing them. Coming back together as a producer group and reviewing that and learning more and so on and that cycle continues. And so last year we had over 600 red meat producers involved in that program and they represented over 700,000 hectares of land as well. And their participation in that program has yielded them benefits of about $18 a hectare benefit year-on-year. So there's real evidence here that the peer-to-peer learning model in helping producers adopt research outcomes really does work.

Sarah Strachan:

We've also become really focused on having big, bold initiatives that will generate the greatest impact for producers. And we've used producers to help inform us of what are those opportunities or the biggest challenges they're finding that are limiting their profitability or sustainability within their own businesses. So for cattle in the northern beef industry, what's been identified there is lifting weaning rates and reducing calf mortality in those businesses would really be a game changer. And then for sheep, it's about improving their reproductive performance and lamb survival. And so it's going to dive just a little bit deeper on those sheep example there.

Sarah Strachan:

And so with that common goal across the sheep industry, we're then working with producers to put activities in place around the country that follow these demonstration sites or profitable grazing systems activities.

Sarah Strachan:

Specifically in the areas of what is best practice management for, it might be about paddock design, mob management, nutritional management, heat managing, heat stress and looking at putting those into demonstrations.

Sarah Strachan:

Looking at what are the human social factors that are actually stopping some of the adoption happening and then what are some of the new technologies emerging that will really unlock some new opportunities. Or how to best utilise things like electronic identification and pregnancy scanning as well?

Sarah Strachan:

So some real examples of where we've applied the demonstration site principle to achieve this common goal of improving lamb survival. I'll give you two examples today. So in Central West New South Wales, we've had three producers across their farms running a project on the exclusion feeding of lambs during drought. Now the past few seasons, when the project started a few years ago it was a completely different looking season to what it is now.

Sarah Strachan:

So the seasons have been variable, but the demonstration regardless has shown really strong evidence of the increased weight gains that can happen in these lambs with that exclusion feeding in place, regardless of what the pasture quantity may be surrounding it. Now that was the focus to learn about drought feeding, but what producers have now seen other benefits, which has shifted the focus as well, is it's resulted in better pasture management, the ability to join maiden ewes earlier and just general animal welfare has improved.

Sarah Strachan:

Now, the other example was in Western Victoria across four different properties where producers trialled some temporary fencing as a way to manage the U-mob and multiple... So the ewes that were going to be having twins at lambing to try and reduce the mis-mothering and improve the lamb survival rates. So this meant the paddock design was manipulated to what they would normally do.

Sarah Strachan:

And what it saw was actually lamb survival increased by 5%. And so with all the extra lambs being born, even with the outlay of all that temporary fencing, there was still an extraordinary 300% return on investment. And beyond the life of the project, there's been an eight to one cost benefit in applying that practice as well.

Sarah Strachan:

So there's just a couple of examples where the principle of bringing producers together to be focused on a common goal and demonstrating it within their own business has really resulted in those producers experiencing increased business resilience through their increased profitability. And we have really seen nothing more effective than having producers learn with producers and then inviting other producers to have a look over the fence and see what's happening on their place.

Sarah Strachan:

So this is why we are really scaling up those principles in all of our research projects. And just to finish, there's two real key success factors to making these work as well.

Sarah Strachan:

And the first is having a network of livestock advisors to support producers in adopting these new practices. We found that that's a really underpinning enabler across the whole, even the whole three stage adoption approach that I explained, because they're local and they are a trusted resource for producers.

Sarah Strachan:

And the second one is being able to have an array of tools, calculators, eLearning programs, information hubs that are available 24/7 and are very accessible and address all the different ways that producers like to read information and take on information. And these are tools that we've identified as things that we would like to work with the hubs with as they're adoption-ready resources targeted at red meat producers.

Sarah Strachan:

And we've collated those in a business resilience catalogue available as well. And it's a real opportunity we see to collaborate with the hubs and we can leverage off the existing resources that MLA has and I'm sure many others have too, especially in the area of climate and weather forecasting, feed-based management, animal management, business management as well, as a way together, really getting some practical outcomes-focused tools into the hands of producers as quickly as possible and at scale. By working together, we can really get that scale as well.

Sarah Strachan:

So I hope that's given you a bit of an insight into how we've been working to help build the resilience of livestock producers. And we're really looking forward to the opportunity to keep working with the hubs, to continue that work and make our livestock producers even more sustainable into the future.

Sarah Strachan:

So thank you.

Andrew Bell:

And thank you, Sarah, coming through loud and clear. As we find as we go around the country, internet connections are variable, but we were hearing you loud and clear with a really great message of peer-to-peer learning.

Andrew Bell:

If I can ask you about that. Do light bulbs go off quicker with people when they're in the room with people like themselves, rather than with people from another world do you find, that people sharing information gets you further faster?

Sarah Strachan:

That's something we've definitely found. So even in our large awareness programs where we might have a one day forum, largely that agenda will be filled with producers telling their experiences of how they've adopted a new practice and what it's meant for their business. And it absolutely gets the greatest response from producers.

Sarah Strachan:

And even through our general communications channels, whether it's social media or our members newsletters that we send out, it's the case studies about other producers that have the greatest uptake and viewership.

Andrew Bell:

And if people want to get hold of you, Sarah, just go to the MLA website, Google your name, search your name?

Sarah Strachan:

Yeah, absolutely. And anyone that's in on call, it would be really useful to Google the MLA business resilience catalogue and that'll list out every type of product, tool that we have that's really on this topic today.

Andrew Bell:

Sarah Strachan in Brisbane. Thank you so much for joining us on the FDF Science to Practice Forum. Thank you.

Andrew Bell:

Well, we're going from Brisbane to back to WA. Next back to Western Australia and we're going to actually travel back in time to try and learn something. And we're going to hear about the 2010 WA drought pilot and to talk about that and to hear about that, I'm joined by Blake Zur from the Future Drought Fund and John Noonan, executive director of the College of Extension in WA.

Andrew Bell:

So let's first contextualise this, the drought pilot. It was a partnership, Blake, between the WA and Australian governments. And 2010, it's predating the Future Drought Fund. So tell us more about it.

Blake Zur:

Yeah, that's right, Andy. So in the next presentation, we'll be hearing from farmers and researchers that were involved in the 2010 WA drought pilot. So 12 years on, they're going to be reflecting on how the pilot helped them become more resilient to drought and other risks and what they learned from that pilot.

Blake Zur:

And the pilot's really important to us at the Future Drought Fund because it really informed the design of our farm business resilience program, which is rolling out across Australia now.

Blake Zur:

So I'll let John explain a little bit more about the WA pilot and then we'll come back to me afterwards to hear a bit more about the FDF farm business resilience program. So over to you, John

John Noonan:

Thanks, Blake. So I'll provide a little bit of context, but today I'm here in Canberra, but normally I'm on Ballardong Noongar Country. So I pay my respects to their elders, past and president and those emerging as well.

John Noonan:

Back in middle 2009, a couple of staff from the Department of Agriculture and Food, Western Australia, which is now rolled into what is now known as DIPIRD, the Department of Prime Ministeral Development. Went to the state minister and said, "We think we can do some things differently. Why don't we ask the federal government if we can have a different look at how we manage drought and drought preparedness?"

John Noonan:

And that resulted in what became the drought pilot, but we had to work for a period of time before it was announced to set up what we were going to have a crack at. So we pre-piloted some work and Curtin University worked with the department to do those things under the guise of Curtin's farm business resilience program, which had existed for a few years then.

John Noonan:

So today we're going to hear from some participants and facilitators and supporters to that program from back in 2010, lucky we had that vision in the can. And we also went and re-interviewed some of those people again about a month ago. And we've also had some conversations since which I'd love to have here, but sadly, the time doesn't permit.

John Noonan:

Just a couple of things that puts some context to some of the messages. When participants were in the farm planning program, there was a nexus to some grants that the federal government provided of between 30 and $60,000. So when the participants are talking about that, that's where that's coming from.

John Noonan:

There was a requirement to complete the strategic plan through the facilitated learning journey to get access to an independent assessment of the strategic plan to get the money. And you'll hear about how travel subsidies and other things worked. And you'll also hear about some of the enduring impacts.

John Noonan:

And as Blakes alluded to, this was a joint initiative of the federal and state governments. So you'll see that some of us have aged a bit. And one of the people who is aged a bit more is on a tractor today, so he's not actually able to join us physically but he's in the video.

Chris Martin:

The one thing we know how to do is work hard, but we don't know how to maybe to think smart. Reason to get around, we'll just go to work. That's how you make money. You just get back and get on that tractor, or whether you chase sheep or whatever you do, that's how we're going to get out of this problem.

Juliet Grist:

The solutions people have put in place in their farm businesses to get over changing business conditions and climate variability in the past aren't working so effectively now and that they're having to come up with different ways of doing things. And they feel a bit vulnerable about that.

Phillip Martin:

I've had a drought in 2002, drought in 2006, 2007. And you could almost consider this year a drought.

Jaylee Tonkin:

There's plenty of young farmers like me, 30 year olds that are really, really struggling with, do we stay or do we go?

Simon Wallwork:

As a young farmer, I'm open to change. I'm open to new information. I think that's really I'm, because I think I need a business that's very dynamic and can cope with the stuff we're dealing with, such as fluctuating grain markets changing, weather, cetera,

Wendy McWhirter-Brooks:

We've become much more flexible, much more adaptable as a consequence of this program, we pivot easily in changing our business and our personal direction in solving these problems.

Grant Brooks:

Farm resilience program was pretty inspirational for us. There were some things that were taught to us that you wouldn't get in other places.

John Noonan:

We had a framework that enabled us to be agile and flexible and to learn from the participants as to what they needed to do.

Mick Quartermaine:

We set it up so that there would be one module per day and a week between spread over four to six weeks. It starts with the first module, which was a strategic planning module, which mapped where are we now? Where would we like to be? And how are we going to get there?

Mick Quartermaine:

The second module was an environmental module, a production module, a sustainability module. The third was the people in the business, the people's skills, their succession planning, anything to do with the people in the business. The fourth day was the financials. How are we going to pay for all the things that we want to put into the plan?

Mick Quartermaine:

And the fifth day was putting it all together and finalising the plan and tidying things up. There was a sixth module if the participants wished, which was actually going to the participants' farm and sitting down at the kitchen table, the dining table it usually ended up being and we could talk about more confidential matters than we could in an open workshop system.

Brian Peddie:

The modules were actually providing things that they often already had some knowledge about, but it gave them a focus in what was starting to become difficult times.

Wendy McWhirter-Brooks:

The workshops that we did in this drought resilience program were succinctly directed towards our business. We looked at our own problems and then with the help of the facilitators we were able to translate those problems into solutions that fitted us. It wasn't a one solution fits all. There was information as the challenges or the information was required.

John Noonan:

We've been able to provide a platform for risk to be better managed.

Jaylee Tonkin:

There is a lot of content, but they do it in five days but they give you enough time to absorb the first lot of information. Go home, think about it, come back, have the same support facilitator team and go onto the next lot of information.

Wendy McWhirter-Brooks:

If it was just a one-off opportunity, you go home, you take the package, you put it on the stack underneath the bills and you deal with the bills. So it was something that we had out and we were working it often. So that's how that feedback loop was important.

John Noonan:

We tried old style training and coaching and at the other end of the spectrum we worked a lot on a facilitated model. We found that the more we went to facilitation, the more effective it was.

Brian Peddie:

The facilitator process means that the participants own their decisions. They actually own their understanding and they come to it at their own pace.

Jaylee Tonkin:

You got so much more, particularly out of farming groups who are active people who need... The plan is about them, so why not let them do the work?

Matt Winter:

What the workshop does is move away from giving them knowledge and educating them to letting them understand what options they've got to make better decisions.

Chris Martin:

And that's where the program helped us, because it brought to us means of being able to decide why we do something. Why are you doing this? Why are you doing that because of this?

Wendy McWhirter-Brooks:

We wanted to be able to work on the business as well as work in the business.

Dr Ian Foster:

It's all very well for so-called experts to come in to tell farmers what to do, but they often learn best when they go and talk with their peers and find out what their peers have done.

Aaron Smith:

The networking and talking with other farmers at the modules was probably the most beneficial part of the whole exercise, just going along and knowing that what you are doing is probably up to the standards that are around the area. Also finding out other ways of doing things to better your farming system in times of dry.

Mick Quartermaine:

The idea was to get at least one person from the business, but possibly two. Once word got around, we ended up with about 12 to 16 businesses with about 40 people in the room at one time, which was fantastic because they could network and swap stories and learn off each other, which is part of the learning process we wanted to set up.

John Noonan:

It enabled the participants to have conversations, to share with their peers, to explore answers to questions that sometimes they would've been too afraid to ask.

Matt Winter:

The facilitation of taking that content and making it real for that farmer, that participant, that's where the magic of the programs come from.

Mick Quartermaine:

We tried to get one facilitator per three businesses. They were led by a lead facilitator who more or less controlled the day, but also did their facilitation work as well. If there were more people in the room then more facilitators were provided.

Simon Wallwork:

It's about being open to change and sourcing information and changing where need be.

Cindy Stevens:

It was really good for Simon and I to sit down and talk about our future plans and ideas and also looking at that balancing life aspects. Yeah, it was mostly just setting down our visions and working through that strategic plan, where we wanted to go in the short term and then further down the track. We probably haven't made that time and wouldn't have made that time otherwise.

John Noonan:

Part of the enduring legacy is people are now prepared to have those conversations, which historically they would've been afraid to have had.

Grant Brooks:

The biggest thing that I got out of the programme personally was resilience. It toughened me up and it allowed me the opportunity to explore avenues that I wouldn't have explored without having that skill.

Mick Quartermaine:

I think a new approach is required and a new driver to get them into the workshop situation. We've had people say, "I came for the money, but knowing what I know now, I would've come. But it was the money that got me there in the first place."

June Smith:

The initial reason why we enacted on the overall program was the thought of getting some financial assistance to help us achieve some of our goals, without really realising what was involved.

Nick Cheethan:

It's hard to get people to come along when they know it's five days and they've got to take all this time away and they get very jumpy at those... Especially that length of time.

Nick Caffel:

We've got three young kids and we had to find babysitters for five days and that was in itself a bit of an effort.

Pete Cowan:

I think initially thinking that we're taking five days off work, especially when it's the two of us, was pretty hard, but there's no getting around that.

Andrew Woodfield:

Having that doubt that you will not get nothing at all for the five days that you've gone has very much pissed a lot of people off.

Carlia Niedl:

There needs to be a surety that if you complete your strategic plan and if you can fit into the guidelines, you will receive the money. Not please do the strategic plan, you must do the five days, there might be money.

Aaron Smith:

I definitely didn't have a strategic business plan before we started this process, so in some ways it's given us a new way to help us with our budgeting and business planning.

Wendy McWhirter-Brooks:

We identified our goals and from our goals we sectioned them into four parts. And from those four parts, we came up with a series of action plans to develop our finance, our family succession, our operational goals and our personal goals.

John Noonan:

One of the consequences of that is that a lot of the participants actually changed the way they went about things.

Grant Brooks:

We've been able to make changes and frame up different viewpoints of what we actually do.

Mick Quartermaine:

The missing link in those that haven't done so well and not sticking to their plan, or using their plan or reviewing their plan, is some regular follow-up, some continuity just to give them that little burst of energy again, to refresh, that wasn't part or funded in part of the program. And that applies to those that have done well as well, because they need some reassurance sometimes.

John Noonan:

We need to keep reinforcing things over time. And in the absence of reinforcing factors, ie. coming back together again as a group or getting new training opportunities, some of the learnings will lapse over time. And that can be as short as two to three months or it could be a couple of years.

John Noonan:

By 2013, '14, effectively two years after the drought pilots activities were conducted, there was a 6% improvement of the equity of those farm businesses for the drought pilot participants compared to the statewide average and a 3% improvement in equity compared to the plan farm benchmark series participants.

John Noonan:

So there was a clear 3% improvement of equity. And if we look back what drives equity, it's profitability. And so we can speculate that there was and the evidence is there as well, but there was a significant improvement in profitability for drought pilot participants versus non-participants.

John Noonan:

In 2019, the Australian government had a retrospective look at the outcomes of the work and Gavin Dwyer re-surveyed many of the participants and found that they were as well positioned now to deal with climatic change, they were actually better. And that they had stronger hopes for the future of their farming businesses.

Matt Winter:

One of the best outcomes of the workshops today is hope, is they start realising there are things they could be doing to actually get more back for them and their family. And the changes that are required are not ridiculous, they're not pie in the sky.

Phillip Martin:

We want to get to the point where we can endure three years of drought and still have a business that we're confident will continue to make money for us and support our families.

Wendy McWhirter-Brooks:

This learning can be transferred to all sorts of other primary production.

Mick Quartermaine:

I can see that over the last 10 years, it works. The proof is there. The participant's confidence is up. They believe they can plan ahead enough to take out the shocks, unexpected shocks, and get through bad times, which will come in the future.

Andrew Bell:

The past instructs and informs and helps us look towards the future. We're going to keep talking about this project now and we're going to welcome in three more guests scattered far and wide. We've got Dr Christine Storer in WA, we've got Rebecca Heath who's in Northam in WA and Dr Roy Murray-Prior in Northern Queensland. All have knowledge of this project and I'm going to hand back to John Noonan to guide us through this next conversation. John.

John Noonan:

Thanks, Andrew. The next few minutes, Christine, Rebecca and Roy are going to explore various elements of the video, but also touch on a few new things. And Roy's going to kick us off with some behavioural science and behavioural economics insights from what we found in the pilot work. Roy, would you like to tell us a bit more?

Dr Roy Murray-Prior:

Yes. I just want to make the point that behavioural science and behavioural economics can provide some insights as to why some of these work. And the first

Dr Roy Murray-Prior:

... One is to do with grants and in the behavioural science literature, micro incentives are a key component that can attract people into programs and get them involved. And in the scheme of things, the grant that was involved with this project is a relatively small amount of money.

Dr Roy Murray-Prior:

The second issue comes from Kahneman’s thinking fast and thinking slow and one of the issues with anything is that people tend to have cognitive bias and simplifying ways of thinking. And we need to break people out of that, thinking fast from Kahneman’s thinking fast and slow, into the more slow, logical and deliberative thinking and being involved in a process with their peers that took them through a series of these things enabled people to rethink their business strategy.

Dr Roy Murray-Prior:

The final one is that, as has been mentioned, we need to have follow up, but also we need to have follow up with our peers to help us through some of these changes. And one of the well recognised points about social groups in rural communities is they have social identities and social norms and you need the support of your peers if you're going to do something new. So this is why, in Western Australia, the Grower Group Alliance is effective and similar groups in other parts of the country. So those are the three points, micro incentives, breaking into existing ways of thinking and providing follow up and support.

John Noonan:

So Roy, would you add to that that the process enabled the participants to break out of a government handout type mentality?

Dr Roy Murray-Prior:

Well, the thing about the micro incentives there in the scheme of things, in the size of West Australian farms, the amount of grant involved is not a handout in the sense, except as somebody has said, it got them involved to pay them effectively for their time involved. But the return on investment was considerable and that wasn't, in essence, the final reason why people made the changes. So they continue to make the changes, even though the handout was initially what was involved to get them involved.

John Noonan:

Thanks for that, Roy. So Rebecca, you're a development officer with the Department of Primary Industry and Regional Development, but you had the good luck to have Roy and Christine as your supervisor for a master's project back at the end of the pilot phase. Would you like to share with us some of your findings and some of your broader thematic outcomes from the doing that research?

Rebecca Heath:

Yeah. Well, I guess following on from Roy's comment, the research that I did does support that bit about the follow up, follow up with the groups to help them continue on with behaviour changes, attitude changes and whatnot. The research I did did show that the program changed participant attitudes and beliefs, but I looked at the changes over a two-year period, or one to two years later and after that time, some of those changes weren't maintained. So the people that participated in the workshops, they go back to their everyday lives after being in that workshop setting for six days over a number of weeks and they do have those influences from their family, from their friends, from their peers.

Rebecca Heath:

But what I also found was that the facilitated process was critical and it was critical by supporting that positive learning environment and building that ownership, building that trust that it did deliver lasting changes to participant understanding and skill levels. And there was also certainly differences between the attitudes and beliefs and also perceptions of resilience when I compared those that had participated in the project, or the program, with those that hadn't participated in the Farm Business Resilience Program and that's all because of the facilitated process that was used.

John Noonan:

Thanks for that, Rebecca. Christine, would you like to comment a little more about how the research that supported the program was conducted and the governance arrangements and perhaps also retouch on how the facilitation process worked as well?

Dr Christine Storer:

Thank you. And it was my pleasure to work with the team and to take the lead role on the research and have people like Bec and others do research over a period of time, because we could really see not just how people responded immediately after the workshops, but longer term. And I guess probably what I found was really good in terms of the way the workshops were run is that while the focus was on strategic planning and the focus was on drought, it was really, in essence, working through how to respond and deal with crises in a room with farmers in your region.

Dr Christine Storer:

So you're building up networks of people to help you think through those processes, you've got a plan in place of what to do and in looking at the longer term effects then you've actually got people that you can count on to help you through those decisions. And because it was a facilitated process, we also developed other local facilitators and trained local facilitators so that they could then be brought into assist in the future crises. So I think that's really important.

Dr Christine Storer:

The other thing that came up in the video from some of the participants is that it's adaptive, so depending on what the people in the room need and where they're at, the process develops from that. So that facilitated process I think is really important and I guess perhaps the challenge for this forum is the hubs and the programs that are currently running in the hubs. How can they build local capacity in their communities so that people can do work such as this, plans such as this and build those skill bases?

John Noonan:

Thanks, Christine, and thanks also to Rebecca and to Roy. I'd just like to be the economist for a second or two, which is my habit from time to time. We've done some deeper analysis and found that even using conservative estimates, the return on this investment and benefit cost analysis shows a nine to one return on this training investment. Now, normally economists try to talk things up. We've actually talked that down in our calculation, so it's a surprisingly good outcome.

Andrew Bell:

Did that surprise you?

John Noonan:

Yes. Yes, is a short answer. It's actually closer to 18, but if you say 18, people won't believe you. The return on investment in terms of the profitability and the equity return saw that the state and federal government's investments was returned in about six months. Six months. So these people were paying more tax within a year. So there's the flip side to the public good and market failure arguments there.

John Noonan:

And some of the earlier reports, that's in contrast to and certainly we now understand that a lot more people know that they don't know and we know more about what we don't know as people who support the industry as well, and it's the participatory learning process that's been critical to that. We've got a whole bunch of new lifelong learners and we've seen that in parts of the video and elsewhere. These people have more respect for what government can do for them as well and that's an important thing. We know that there's a build of trust and a capability that's there and we also know anecdotally that we've had a really important role to play in improving mental health outcomes as well, which was what we had sort of at the edge of what we were planning to do, not only in what we were trying to do in WA, but nationally as well. And we know that suicide and those sorts of things are an issue nationally for farmers.

Andrew Bell:

A question that's come in from Julie McKay, if I can address it to you, John, asking about the title of this session, actually. A Cautionary Tale. She's asking, well, everyone says it's so successful. Are there cautions there, other things you learned that can influence where we go next?

John Noonan:

Yes. Thanks for the question, Julie and Andy, yes. And I think I focused on it a little in the video clip, that the more we went back to a stand and deliver, we're the experts in the room, we're going to tell you about it, it fell over. And we tried it over the pre-piloting phase and a little bit in the early phases of 2010 and clearly, we found that if we had so-called facilitators who weren't good at facilitation, then you hit a problem. We started out with a hundred people putting up their hand. In the end, we had 30 people we could put into the field on a routine basis. So lots of people walk around with a business card saying I'm a facilitator, but...

Andrew Bell:

Okay. And the conversations need to be more than just talking. They need to have a structure and an outcome.

John Noonan:

Yep. We spent a lot of time training up that facilitation capacity with consultants and advisors and I know a number of the advisors who historically have been directive have now changed the model of delivery when working with their farmer groups and with their farmer business consultancies.

Andrew Bell:

John, thank you very much. We'll wrap up this session by coming back to Blake. Hearing about the difference that pilot made for farmers who participated in it and how it evolved, how has the FDF... That was then, this is now. How has the FDF picked up the lessons from the project and from the pilot?

Blake Zur:

Thanks, Andy. So listening to John speak, you can see how great this pilot was and the FDF's Farm Business Resilience Program picked up a lot of the themes from that program around building business capability, around changing perspectives and around planning ahead. So much like the WA drought pilot, it's being delivered in partnership with all state and territory governments through to 2024. It provides subsidised opportunities for farmers to work on their farm business plans with professional support and it builds on existing state government and also industry programs and it's tailored to specific industry and farmer needs.

Blake Zur:

So it's primarily facilitated through small group sessions like we saw in the presentation. However, it also offers larger one-off events and also online opportunities, so that way, all different types of farmers in different situations and locations can take part and that's not a barrier to entry. So in its first year, over 850 farmers are already benefiting from the full program and around 3000 farmers have attended events and workshops with more to come.

Andrew Bell:

And where can people find out more about this?

Blake Zur:

So if you're interested in getting involved or finding out more about the Future Drought Fund's Farm Business Resilience Program, you can visit our website and there'll be a link in the chat in Hopin if you want to follow that to find out more.

Andrew Bell:

And there's even more to that, because we're now doing our first session where you can find out more about this. You can get there, there's a thing on the left hand side of your screen. The chat has tips on how to facilitate all that. So we're going off to one side for those of you who wish to find out more about this, but for now, to John and Blake here in Canberra and to Christine, Rebecca and Roy in WA and Queensland, thank you very much for joining us and telling us about a pilot which is informing the voyage of FDF in years to come.

Andrew Bell:

Right now, we are going to talk about resilience and turning science into practice, which is the core of this event and how we do it. And Dr Graham Bonnett is going to join us to talk about that now in the next session here on the main stage. I see Graham is joining us now from CSIRO, CSIRO. Hello there, Graham. Whereabouts in CSIRO are you in this big country of ours?

Graham Bonnett:

Thanks, Andy. I'm joining you today from the country of the Turrbal, Jagera, and Yagara people, which is here in Brisbane.

Andrew Bell:

Well, take it away with your presentation, Drought Resilience Mission.

Graham Bonnett:

Let me start by saying the Drought Resilience Mission is focusing CSIRO's work with partners towards reducing the impacts of drought. We are focusing on three areas; on-farm innovations, regional community resilience and supporting governments in their development and execution of drought related policy.

Graham Bonnett:

Today, I'll focus on some examples from our on-farm work, but briefly, I'll just talk about the other two areas. In the regional community resilience area, we are working with the Future Drought Fund to assist the development of regional drought resilience plans and with various stakeholders to explore alternative ways of managing water resources to increase town water security. One avenue that we are pursuing is the use of water banking, which is storing water in aquifers which we put there in wetter years for retrieval in dryer years. At the moment, we are working towards establishing demonstration sites with stakeholders and regulators.

Graham Bonnett:

We're supporting the government's response to drought by working with ABARES and the Bureau of Meteorology to develop a drought early warning system. We are also working with the Future Drought Fund and the bureau to deliver the climate services for agriculture platform to help farm businesses understand how climate has changed in the recent past and projections that will show what it means for adaptation into the future. You'll hear more about that particular project later in the program.

Graham Bonnett:

So back to the on-farm innovation area. We are working on ways in which we can make available the things that we already know from previous research, so that that information can get to the hands of those who need it, when they need it and we look forward to continuing discussions with hubs about how we can work together to achieve this. Because unfortunately, whilst we don't know when, the next drought is coming.

Graham Bonnett:

The second approach is to expand the use of technologies that have proven useful in one area to other places and the third approach is to develop new solutions that can be added to the existing armoury to help manage through the drought cycle. Now, we're about to show you a video where we showcase one example of an on-farm practice that is proving beneficial in low-rainfall seasons in Western Australia. This is an example of a practice we are seeking to demonstrate that it can prove benefits in other regions.

Rod Stokes:

There's no doubt that our winter rainfall is changing, you know? Our winter rainfall, we're getting a lot less.

Dr Hayley Norman:

CSIRO's drought mission aims to reduce the impact of drought by 30% by 2030. As part of our drought mission, CSIRO are working on an integrated approach with government, other research agencies and industry. Anameka saltbush is a great example of CSIRO's drought resilience research. It's essentially a desert plant that can survive during dry years and help alleviate problems with livestock feed shortages.

Rod Stokes:

If I had a drought, the sheep would be on here and the reason I'd be doing that is because of the erosion the dry season would be causing on my sand plain paddocks or my other good country.

Dustin McCreery:

This is an Anameka saltbush. All behind me is all Anameka, which has been taken from a cutting. It was developed by CSIRO for palatability, digestibility and biomass.

Dr Hayley Norman:

Annual feed gaps and droughts are a major cost and risk for producers. Anameka saltbush can help fill those feed gaps and reduce the impact of dry seasons. The CSIRO and partners are working with the Australian Future Drought Fund to demonstrate Anameka saltbush systems at producer scales across southern Australia.

Rod Stokes:

In a dry year, it's definitely a help, because I'm getting five kilojoules of energy that I wouldn't be getting anywhere else at that time of the year. I'd have a lot of sheep on here in a drought and these, these bushes would probably get stripped right back. This country's going to survive. It's not going to blow. It's a win-win situation in a dry year. If anything, in a dry year, this would be more valuable to me than in a good year.

Graham Bonnett:

So nearly 4 million Anameka saltbushes have been planted by Western Australian farmers. And as we heard, through the Future Drought Fund, we're working with the Western Australian Department of Primary Industries and Regional Development, tree nurseries and producer groups to demonstrate Anameka and legume systems across southern Australia.

Graham Bonnett:

We're confident that this approach of using demonstration sites will be a useful contribution to extend the uptake and delivery of benefits from saltbush, because it was obvious from our early attempts to spatially plot the uptake of Anameka that it was concentrated around demonstration sites and extension activities in Western Australia. There are other examples of practices now being tested more broadly where we're working with the Future Drought Fund programs. One of these is led by Mallee Sustainable Farming group and another working with grower groups across southern Australia. These projects are looking at a range of sowing practises and management of stubble and crop residues.

Graham Bonnett:

One of the practices is the use of varieties with the long coleoptile trait of wheat. This allows sowing deeper into moisture. So we're undertaking further experiments to see how this fits into various environments and production systems with the GRDC, Grain Research Development Corporation. But as well as demonstrating these trials, using these demonstration trails, we're exploring ways of modelling the benefits of interventions to understanding what systems, when and how often benefits from the interventions can accrue, so that we can further target where beneficial use can occur. Initial modelling work is very promising and has shown that benefits from the use of long coleoptile wheat, compared to a standard, are greater in low-rainfall seasons and environments. We're seeking to understand the basis of this to help guide uptake and delivery of these benefits.

Graham Bonnett:

I'd just like to quickly go through an example where we're developing and testing a new practice and that's a practice to assist in the difficult decision of destocking. One of the reasons that producers give for a reluctance to destock is the loss of genetics in their herd or flock that they've spent time building up. In a Future Drought Fund innovation grant led by the University of New England, we're working with industry to test the use of existing genetic tools and phenomic data to determine the benefits of using these approaches to determine which animals should be sold when destocking is required, compared to just using age. We are modelling out various scenarios for testing them with producers.

Graham Bonnett:

There may be an opportunity to improve genetic performance across the drought cycle. We will know soon how this develops, and if promising, how to try and help people adopt the practice. So in summary, we're looking forward to continuing working with many of you in the next few years and find ways to get more science into practice. So please get in touch and discuss how we can work together to make that happen.

Andrew Bell:

Great video, thanks for sharing it with us and best of luck to you all at CSIRO. Right. Well, we are coming to the end of this session, which had the title of Harnessing Innovation Part One, so that's suggesting there's a bit more to come. There's a bit more to come this day in about 20 minutes time after we take a bit of a tea break, but while you're nursing a cuppa, don't forget to have a look in at the booths. They have people there to help, some of the videos sit there. It's like you're at a field day or any showground. It's like those little tents you walk past. Well, pop your head through the virtual door and say g'day and ask people in the various hubs questions that have arisen after you've heard what they've had to say or might be about to say during this FDF Science to Practice Forum.

Andrew Bell:

More to come, better land management is our topic after tea and we're going to be travelling again. We're going to be going to the Northern Territory, Northern WA, SA and there's a panel discussion as well. Thanks for your company so far today and there'll be more. We'll return at three o'clock Eastern, half past two Central, one o'clock Western time. We'll see you in about 21 minutes time.