



Stimulating private sector extension in Australian agriculture to increase returns from R&D

Key findings Webinar 14 June 2018



Australian Government
Department of Agriculture
and Water Resources

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Department of Industry



Economic Development,
Jobs, Transport
and Resources



Webinar host



Ian Linley
Dairy Australia

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Webinar overview

- Project introduction and background
- Key project findings
- Project evaluation – impact and economic
- Post project options (or where to next)



Project origin

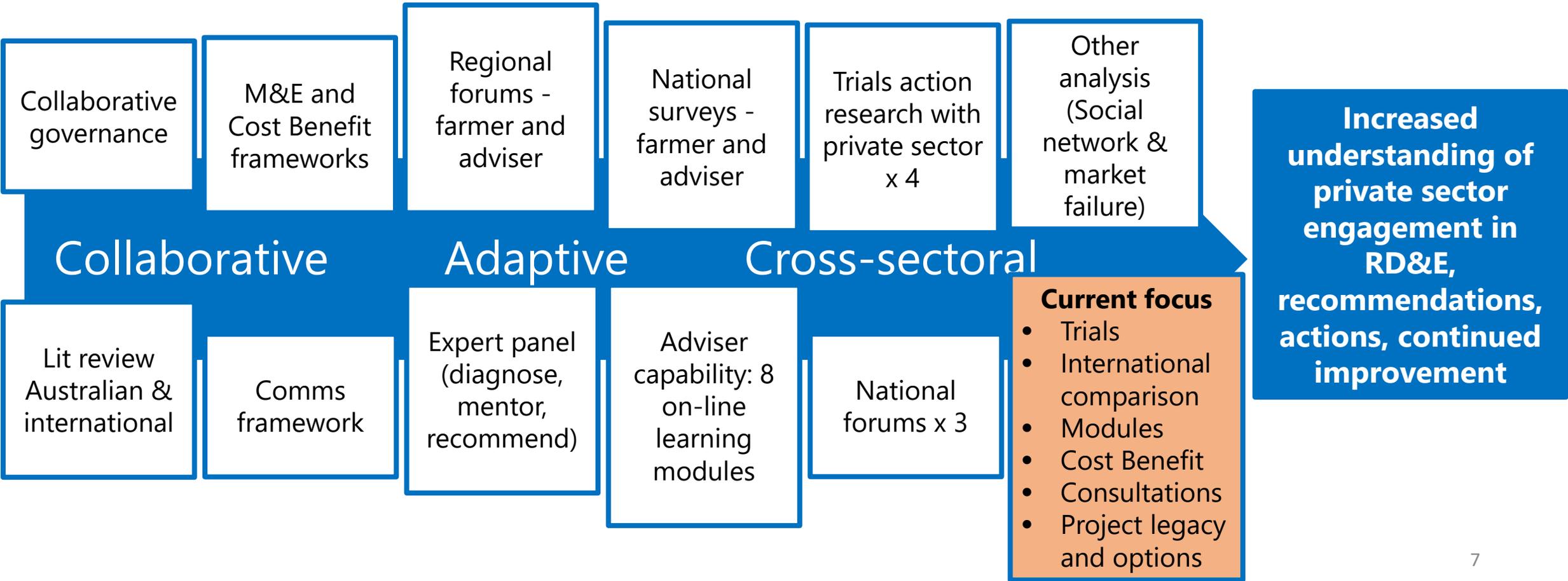
- DAWR Rural R&D for Profit program – RD&E projects to support innovation in Australia's primary industries
- Trend towards increased private sector involvement in primary industry RD&E
- Changes in and consolidation of government roles in RD&E
- RDCs looking to share private sector experiences
- Private sector understanding and research required – Australian, international

This project Rural R&D for Profit priority:

- Identify practical proposals to stimulate private sector extension services, particularly to fill current gaps.



Project overview





Contact details

Ian Linley

Project Manager

Dairy Australia

0422 814 579

ilinley@dairyaustralia.com.au

rimg.fvas.unimelb.edu.au/



Introduction to the key findings

Associate Professor Ruth Nettle



Research team: Rural Innovation Research Group, University of Melbourne:

- ***Nikki Reichelt (Trial 1)***
- ***Dr Margaret Ayre (Trial 2)***
- ***Dr Barbara King (Trial 3)***
- ***Dr Jana-Axinja Paschen (Trials lead, Trial 4)***

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What do we mean by extension?

Facilitation of desirable change

In this project:

- To improve outcomes on-farm (productivity/profitability)
- Involves the people and organisations that operate or influence direct to farm/farm management
- How these people and organisations can be more effectively involved in RD&E

People and organisations providing information, advice and support to farm management ²



Extension in Australia: Private, commercial, pluralistic.

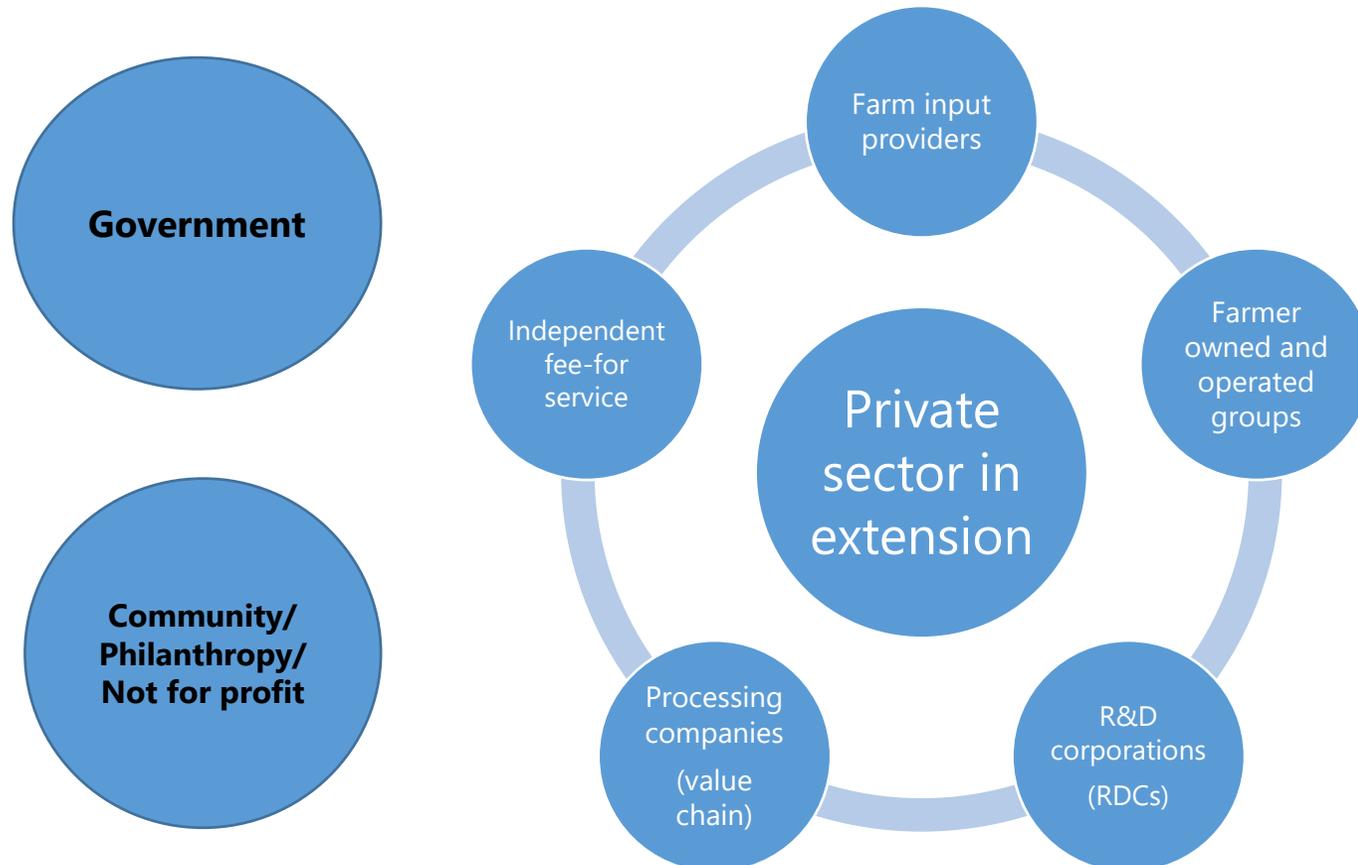
- Public**
- NRM
 - Biosecurity

- Public-Private**
- Dairy
 - Meat & Livestock
 - Grape & Wine

- Private**
- Cotton
 - Sugar
 - Hort
 - Pork



Who is 'the private sector' in extension?



How important are these advisers to farmers?

How well connected are these advisers to the RD&E system?



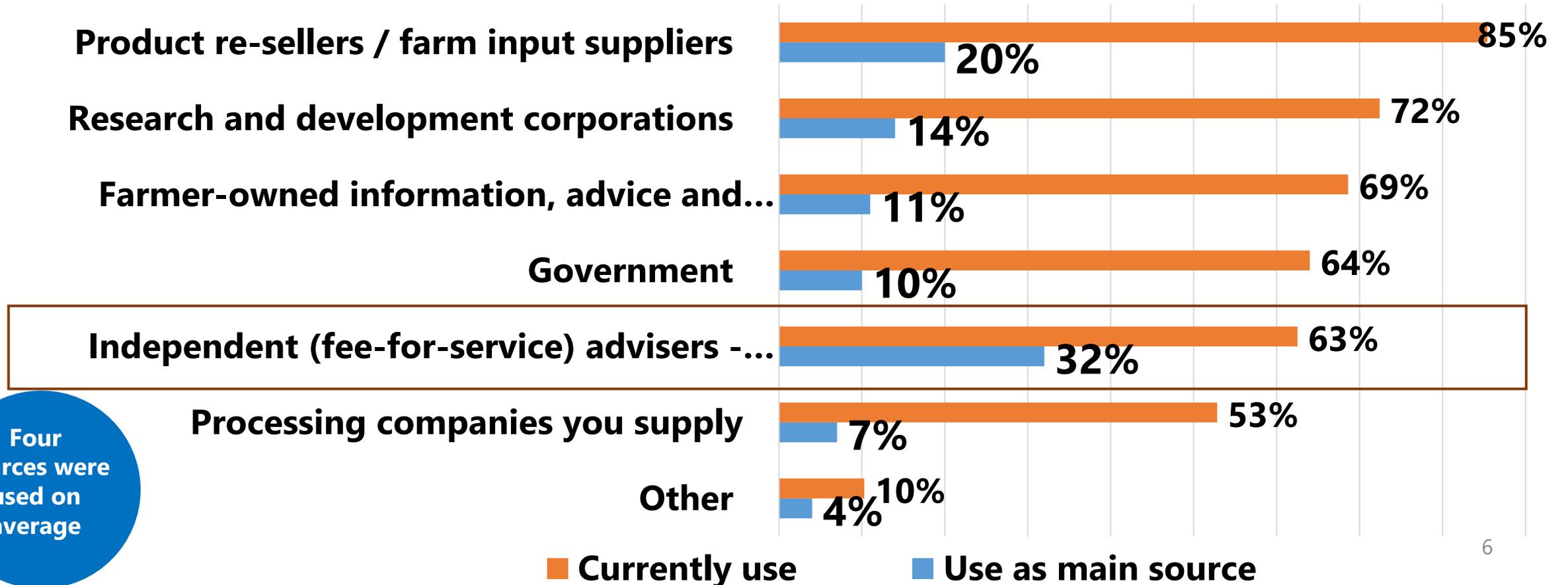
KEY FINDINGS

1. Private-sector providers of information, advice and support are widely used and relied upon by farmers.



Farmers used four sources on average

Sources where farmers obtained information, advice or support (all n=1003; main source n=978)



Four sources were used on average



....and all sources supported change on Australian farms

Between 78-82% (n=954 farmers) of farmers described changes related to

...farm practices

... inputs & products

... farm business

... infrastructure, machinery & equipment

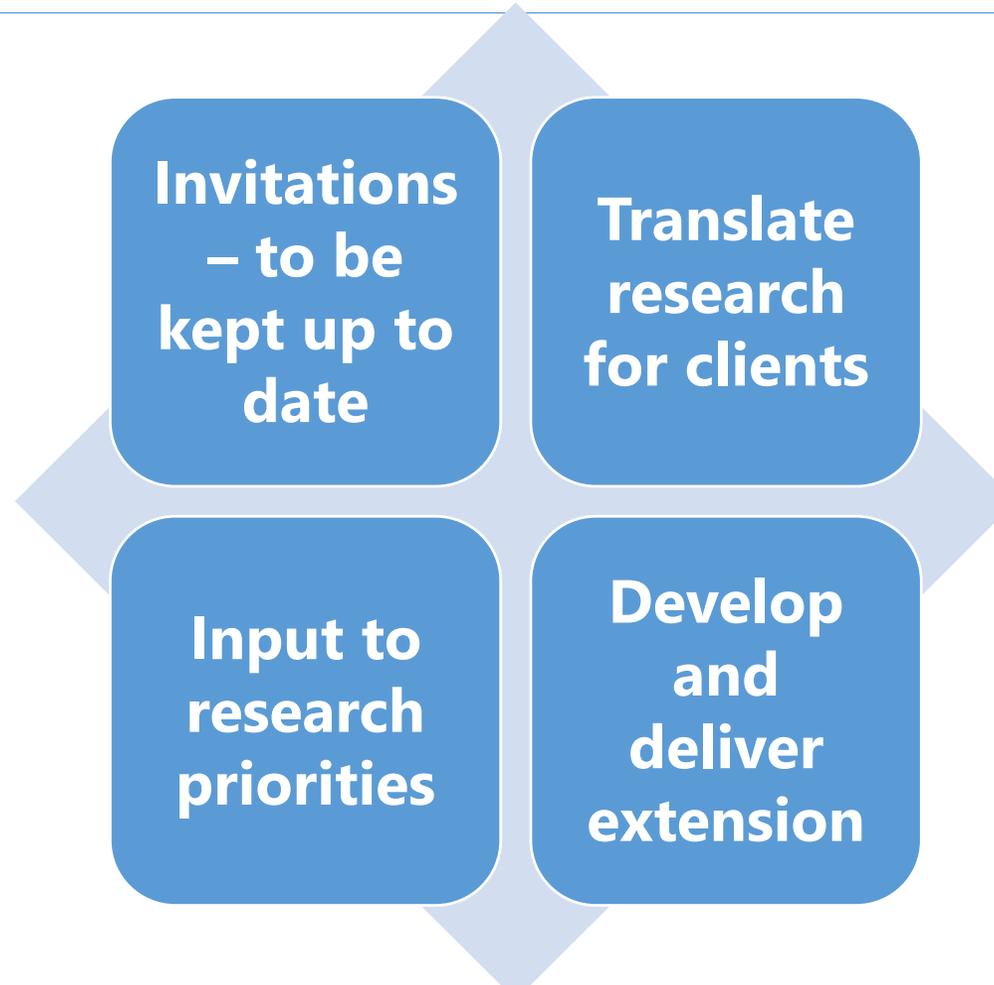
(size of category related to number of comments)



However, farmers' 'main sources' are not well connected to RD&E

Only 14% of providers surveyed were strongly involved in...

Adviser survey (n=365/655)



(75% desire more involvement)



KEY FINDINGS

2. Private-sector providers recognise their important role in extension, but current engagement with them is *ad hoc*.



Engaging the private sector in RD&E?

Level of engagement depends on:

- advisers' capacity to see competitive advantage (i.e. the nature of the innovation challenge)
- advisers' capacity and interest (i.e. advisers engage for the right thing for them at the right time).
- Advisers' needs, expectations and business models that impact their engagement



Engaging the private sector in RD&E?

Sophisticated engagement strategies are needed.

- Through the action research trials of the project, it was possible to engage an appropriate diversity of providers around specific technical innovation challenges and maintain this engagement throughout.



The trials

1. Supply-chains through processors (dairy, meat)



3. Advisory pathways: new entrants and professional development



2. Precision agriculture



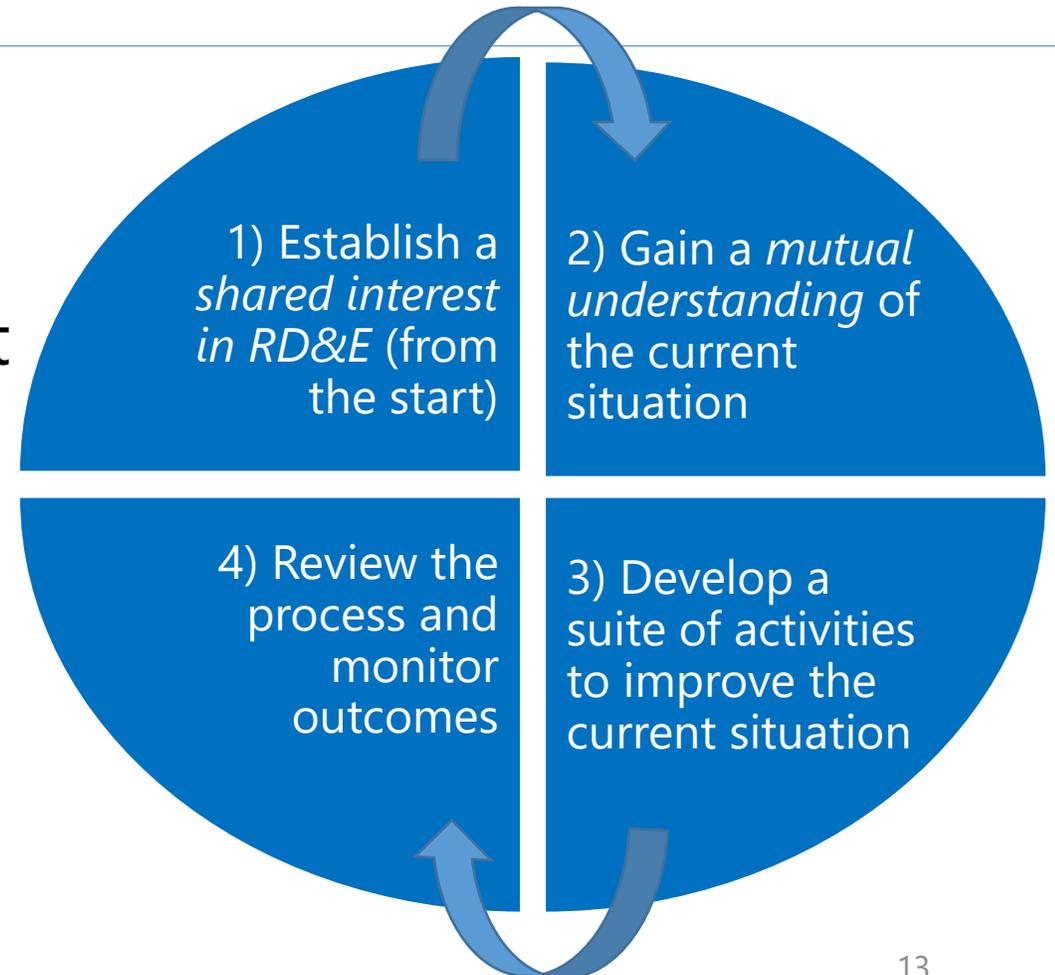
4. Knowledge (research)





The 4 trials for private sector engagement

- Trial 'project team':
 - 'Sponsored' by an RDC/govt and involving at least one other RDC/govt
 - Private sector adviser as the project officer
 - Researcher
- Trial team invited private sector participants into the process:





Trial 1: Advisers in the supply-chain (dairy, meat) (VIC)



Collaborating to support processors in their quest for continuous improvement in supply chain performance

The business case:

- Front-line teams (dairy - field officers; livestock: buyers): access to R&D outputs to support service provision and meet supplier expectations.
- Companies were able to strategically address PD needs of frontline staff
- For RDCs and processors: developed mutual understanding of drivers and needs and where mutual benefit can be derived.

Participants

Industry Lead:

Dairy Australia

Industry partners:

Meat Livestock Australia, Australian Pork Ltd

Project Officer:

RMCG

Project Consultant:

Rural Solutions South Australia: Primary Industries Research South Australia

Research Lead:

University of Melbourne

Dairy Processor:

Warrnambool Cheese and Butter – Saputo

Meat Processor:

JBS Australia – Great Southern

Trial 1 - Key findings



- 1. Processor staff connection to RD&E was a means to continuous improvement in supply chain performance**
- 2. Extension is increasingly integral to the dairy field officer and meat livestock buyer role: particular PD needs**
- 3. Institutionalising the brokering of RD&E co-innovation opportunities in supply chains was a key recommendation from the trial team**



Trial 2: Precision/digital agriculture (Qld)

To support capacity of private agricultural advisers to engage in digital agriculture



Participants

Industry Lead:

Cotton RDC

Industry partners:

Sugar (SRA), cotton and sugar consultants

Project Officer:

AGK services Pty Ltd

Research Lead:

University of Melbourne

Participants

Digital Agriculture suppliers₁₆



Trial 2 - Key Findings

The trial developed:

- new skills and knowledge in managing risks and accessing opportunities for investing in digital agriculture;
- A Digital Value Assessment (DVA) Tool



'We have demonstrated use of the DVA tool through making robust decisions in our businesses' [participant]."

Considerations in the DVA Decision Support Tool :

- Financial
- Market
- Support required
- People
- Social License
- Technology
- Environmental
- Legal/regulatory
- R & D



Recommendations from Trial 2

- A 'Community of Practice' of Private Advisers in Digital Agriculture:
- Engage private agricultural advisers in priority setting for R&D in digital agriculture.
- Develop a typology of common digital agriculture innovation challenges (cross-sector) to better target support for farmers and advisers
- Develop a professional development package for private advisers in digital agriculture.

[The most valuable aspects]...speaking to advisers from other agricultural industries and developing ideas in the process that hadn't been part of the thought process in the past [participant].



Trial 3: Advisory pathways: new entrants and professional development (national)

***Creating career development
pathways for new entrants and
professionals in the agricultural
advisory and extension sector.***



Participants

Industry Lead:

Meat and Livestock Australia

Industry partners:

Dairy, Horticulture

Project Officer:

Sally Martin Consulting

Research Lead:

University of Melbourne

Participants

11 new entrant advisers and
industry mentors



Recommendations (Trial 3)

Early career advisers need:

- professional development plans and opportunities to develop business , technical and extension skills
- mentoring by senior colleagues and/or peers and members of professional groups
- employers willing to recognise that developing skills and client relationships takes time and must manage their expectations regarding delivery of billable hours

Private sector advisory businesses need new strategies and incentives to provide training for early career advisers



Trial 4: Knowledge trial (enhancing research connections) (VIC, QLD)

Addressing disconnects between research and extension affecting end-user relevance



Participants
Industry Lead:
 Victorian government (AgVic)

Industry partners:
 Sugar (SRA), Horticulture (HIA), MLA.

Project Officer:
 Meridian Agriculture

Research Lead:
 University of Melbourne

Participants
 Best Wool/Best Lamb network (Vic);
 Project Catalyst (Qld)



Trial 4 Recommendations

- ✎ **Need a coordinating intermediary to support collaborations and drive and maintain advisory networks**
- ✎ **'Harvest' farmer and adviser knowledge to broaden the innovation knowledge base**
- ✎ **Improve communication around sharing, translating, contextualising research results**
- ✎ **Build trust and understanding between different groups**





Cross trial findings: Considerations for co-innovation practice with the private sector

Key considerations	Explanation
Make collaboration 'fit for business'	The ability to collaborate needs to be supported: contractual relationships are part of collaboration
Change 'business as usual'	Commit to doing things differently; creating a 'route to change'
Invest in innovation broker roles	Brokers are pivotal to connecting, networking across agricultural sectors to foster common interests and industry good
Consider time frame for the collaboration	Finding shared interests, trust building and learning to do things differently are time-intensive



KEY FINDINGS

3. Private-sector providers see value in cross-sectoral efforts



The value of cross-sectoral engagement

Specific contexts seen as important for cross-sectoral effort:

- Regional level
- New research areas/complex problems
- Professional development and capacity building—addresses complexity of advisers' professional needs and helps new entrants find their feet.



Nine on-line professional development modules piloted with 70 participants

1. Social media in agricultural innovation
2. Targeting farmers? Segmentation and adjusting advisory approaches.
3. Facilitating farm practice change (1) –why do people change?
4. Working your network: brokering adviser networks in agricultural innovation.
5. Facilitating farm practice change (2) –delivery approaches to enhance adoption and change
6. Knowledge management: Making the most of your knowledge assets (mini-module)
7. Evaluating impact in agricultural innovation and adoption
8. Analyzing the whole farm system
9. Conflict resolution and mediation (mini-module)



Professional development modules

Strategic recommendations:

- Establish a steering group for the program consisting of representatives of each segment being targeted through the modules.
- Fund 'case management' to codevelop the value proposition around professional development and delivery preferences with commercial agribusiness.
- Funding model options: user pays, fully funded, cost sharing



Contact details

Associate Professor Ruth Nettle

Leader, Rural Innovation Research Group
Faculty of Veterinary and Agricultural Sciences

T: 0419 569 684

E: ranettle@unimelb.edu.au

ring.fvas.unimelb.edu.au/



Project Monitoring & Evaluation



M&E Team

Coutts J&R

Jeff Coutts; Amy Samson; Ben Coutts;
Liesel Rennie; Neels Botha

AgTrans (Benefit Cost Analysis)

Peter Chudleigh; Talia Hardaker

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Project Monitoring & Evaluation

The aim of the M&E program was to understand how the process was working, barriers and issues and capturing impacts as they happened.

This was done by:

- ➔ Having a robust M&E Plan and LogFrame
- ➔ Rigorous feedback from participants in all activities
- ➔ On-going interviews with the program team & stakeholders
- ➔ Case studies and narratives
- ➔ Supporting Benefit Cost Analysis (AgTrans)



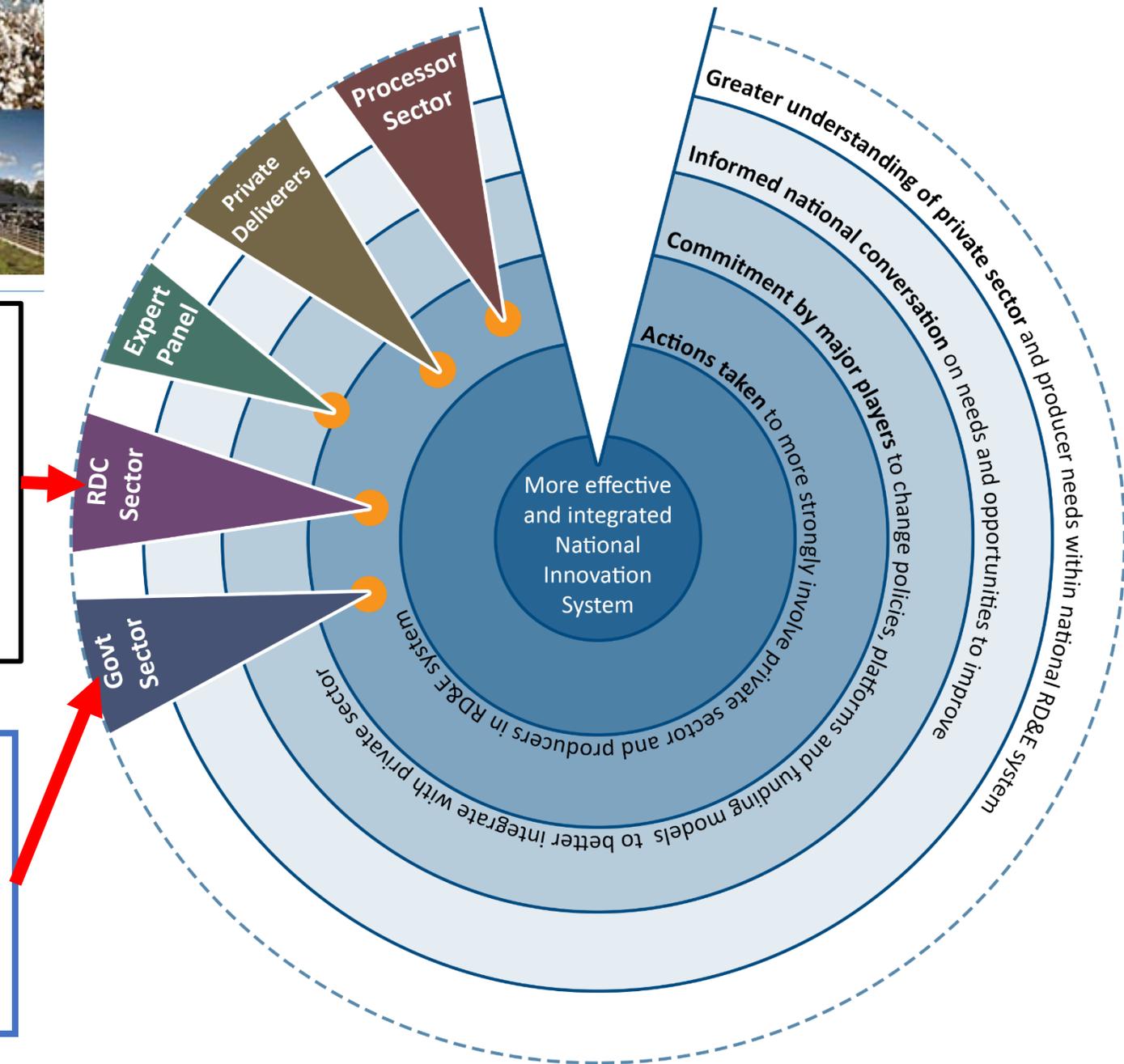
Key findings

The project has made a marked contribution towards the longer-term goals to which it aspired.

Through its collaborative approach, it gathered new understanding and benchmarks around the current state of the public and private advisory landscape, trialled approaches to better support and integrate stakeholders into the RD&E system and most importantly started and fed the conversation about what changes are needed to effectively overhaul the model currently in place.



Rural R&D for Profit program



"The training modules designed with the private sector has helped to strengthen collaboration and trust between Dairy Australia and the processor Warrnambool Cheese and Butter".

Ross Bawden (Dairy Australia)

"Good information came back from the two national surveys. My understanding of how different industries work has improved"

Carole Hollier (Agriculture Victoria)

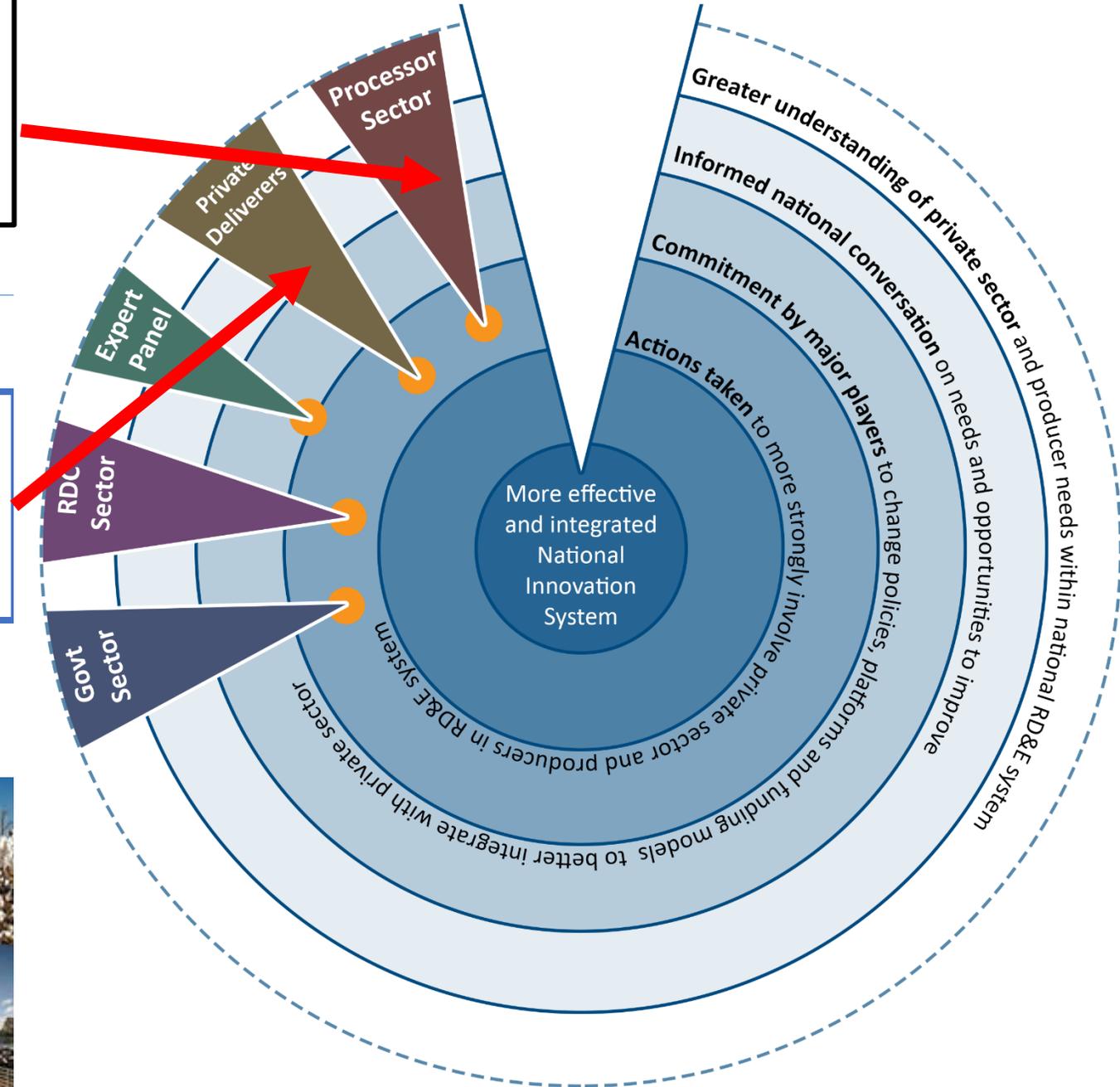
"There is a role for processors to work closer with Dairy Australia to drive some of those improvements on-farm".

Rowan Ault (WCB)

"This is a new network that strengthens my capacity, no doubt about it. I am a better operator for that experience."

Bruce Hancock (RSSA:PIRSA)

Rural R&D for Profit program





The trials: taking action (collaborative models to engage the private sector)

1. Supply-chains through processors (dairy, meat) (VIC)



Total expected present values of benefits over 30 years: \$5.52 million

3. Advisory pathways: new entrants and professional development (AUS)



Total expected values of benefits over 30 years: \$0.61 million

2. Precision agriculture (cotton, sugar) (QLD)



Total expected present values of benefits over 30 years: \$4.89 million

4. Knowledge (research) connections (VIC, QLD)



Total expected present values of benefits over 30 years: \$3.46 million



Benefit Cost Analysis AgTrans

Total Investment: \$3.83 million
Benefits (4 trials): \$14.48 million

- *Net Present Value (NPV) of \$10.65 million*
- *Benefit-Cost Ratio (BCR) of 3.8 to 1*
- *Internal Rate of Return (IRR) of 17%.*

[Net Present Value Basis]





Looking ahead

The project has triggered much interest, discussion and some initial actions and improvements. What will be critical however is for the momentum to be maintained if the full benefit across the RD&E sector and primary producers is to be realised.



Contact details

Jeff Coutts

Coutts J&R

T: 0418 691 959

E: jeff@couttsjr.com.au

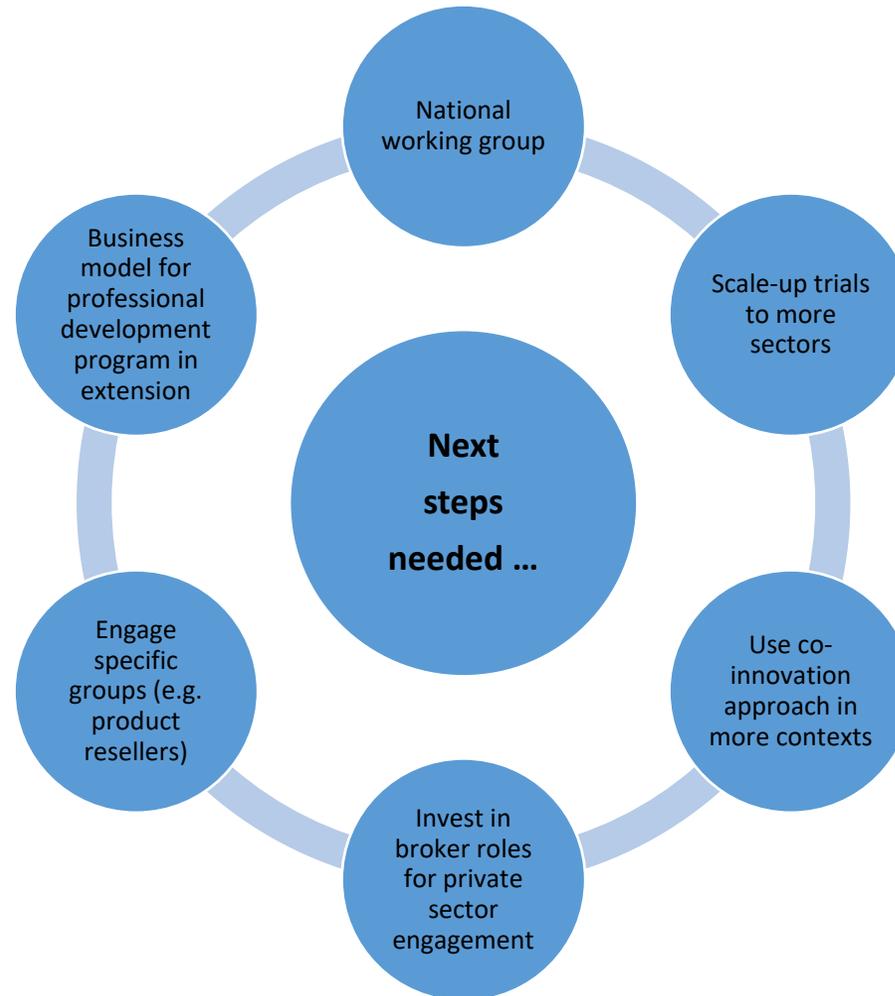
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Where to next?

- Workshops and stakeholder consultations in the last month suggest these areas for further research and engagement of the private sector ...

**Research and evaluation:
(incentives,
business models,
impacts,
constraints,
enabling policies)**





Contact details

Ian Linley

Project manager

Dairy Australia

T: 0422 814 579

E: ilinley@dairyaustralia.com.au

Associate Professor Ruth Nettle

Leader, Rural Innovation Research Group

Faculty of Veterinary and

Agricultural Sciences

T: 0419 569 684

E: ranettle@unimelb.edu.au

Jeff Coutts

Coutts J&R

T: 0418 691 959

E: jeff@couttsjr.com.au

rimg.fvas.unimelb.edu.au/