National Farmers Federation

20 December 2019

Agriculture Innovation Section
Department of Agriculture
GPO Box 858
Canberra ACT 2601

Via email: aginnovation@agriculture.gov.au

To whom it may concern,

The National Farmers' Federation (NFF) welcomes the opportunity to provide a submission to the *Modernising the Research and Development Corporation system* discussion paper.

This submission has been developed by the NFF in partnership with representative organisations from across primary industries, through a coalition convened by the NFF earlier in 2019. This coalition comprises CEOs of commodity representative organisations – both NFF members and non-members – who have come together to develop and advocate a collective industry view on innovation system reforms. This coalition was established in recognition of the pivotal role the innovation system plays in the enduring prosperity and sustainability of our farming, fishing and forestry industries.

The modernising the RDC system consultation process has provided an opportunity for the commodity coalition to work together and arrive at a collective position on system reform. This position is articulated in the attached submission, and includes ten recommendations endorsed by the commodity representative organisation coalition, which includes Seafood Industry Australia – a non-NFF member. The submission has also been endorsed by the NFF's broader membership, including state farming organisations.

The NFF and the broader commodity coalition look forward to engaging with the Agriculture Innovation Advisory Panel, once established, as it develops advice on RDC system reforms in early 2020.

Should you require any further information in relation to this submission, please contact Adrienne Ryan, General Manager Rural Affairs, on 02 6269 5666 or aryan@nff.org.au.

Again, thank you for the opportunity to provide a submission to this process.

Yours sincerely,

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Submission to

Modernising the Research and Development Corporation System discussion paper

20 December 2019

NFF Member Organisations

AGFORCE

ACGC

Australian Dairy Farmers

AUSTRALIAN FOREST PRODUCTS ASSOCIATION afpa TREES | WOOD | PAPER

Australian Livestock Exporters' Council ALEC

ALPA

Australian Blueberry Growers' Association

Australian Organic

AUSTRALIAN Pork

AVA AUSTRALIAN VETERINARY ASSOCIATION

PURE BEECHWORTH HONEY 100% Pure Australian Honey

CANEGROWERS

CATTLE COUNCIL OF AUSTRALIA

COTTON AUSTRALIA

dfa driedfruits australia

FCA FARMERS FOR CLIMATE ACTION

Goat Industry Council of Australia inc.

GrainCorp

Grain Growers

National Farmers' Federation Horticulture Council

NEW SOUTH WALES IRRIGATORS' COUNCIL

nsw FARMERS

NORTHERN TERRITORY CATTLEMEN'S ASSOC. N.T.C.A

The Pastoralists' Association of West Darling

PET PRIMARY EMPLOYERS TASMANIA

ppsa PRIMARY PRODUCERS SA

AGRICULTURAL EXCELLENCE & SUSTAINABILITY

SHEEP PRODUCERS AUSTRALIA

SoilsForLife AN OUTCOMES AUSTRALIA PROJECT

Summerfruit AUSTRALIA

Victorian Farmers Federation

WAFARMERS

WOOLPRODUCERS AUSTRALIA

The National Farmers' Federation (NFF) is the voice of Australian farmers.

The NFF was established in 1979 as the national peak body representing farmers and more broadly, agriculture across Australia. The NFF's membership comprises all of Australia's major agricultural commodities across the breadth and the length of the supply chain.

Operating under a federated structure, individual farmers join their respective state farm organisation and/or national commodity council. These organisations form the NFF.

The NFF represents Australian agriculture on national and foreign policy issues including workplace relations, trade and natural resource management. Our members complement this work through the delivery of direct 'grass roots' member services as well as state-based policy and commodity-specific interests.

Endorsement by non-NFF member organisation

This submission was developed by the NFF in partnership with representative organisations from across primary industries, including the following organisation that is not a member of the NFF.

Seafood Industry Australia
The Voice of Australian Seafood

Contents

Executive Summary and recommendations

The rural Research and Development Corporations (RDCs) have delivered great benefits to the agriculture, forestry and fisheries industries. But it is crucial that the RDC system is modernised so benefits can continue to be realised. A more modern RDC system will help with the success of:

- the National Farmers' Federation (NFF) Roadmap 2030
- industry and the Australian Government's target of growing Australian agriculture to $100 billion by 2030.

To achieve a more modern system it is crucial that Industry Representative Bodies (IRBs) work with government and the RDCs. In developing a tri-partite relationship the system can be strengthened and in working together, the IRBs, government and the RDCs can solve the big issues for the benefit of agriculture, forestry and fisheries and for the nation.

The IRBs propose ten recommendations to modernise the RDC system:

1. **There should be a formalised tri-partite agreement between government, RDCs and IRBs and it should be legislated that each RDC have at least one prescribed IRB.**

2. **Government should prioritise the development of an overarching vision and strategy for Australia's primary industries, to complement the 2030 Roadmap and guide and benchmark RDC efforts.**

3. **RDCs should introduce a limited number of shared and standardised KPIs, to improve accountability and maintain focus on industry needs.**

4. **The Minister should chair an annual IRB-Government meeting as the "shareholders of RDCs" to discuss progress against the RDC KPIs.**

5. **RDCs' ability to pursue cross sectoral collaboration should be strengthened through:**
    a. **establishing a special purpose vehicle to attract additional funds/capability and invest in a limited number of cross sectoral strategic transformative priorities**
    b. **reforming the Emerging National Rural Issues program**
    c. **establishing a mechanism for IRBs to engage directly with the Council of Rural RDCs.**
6. **RDCs should be encouraged to leverage private sector and international investment and improve outcomes through RDCs:**
    a. **developing a balanced portfolio of investments**
    b. **being enabled to create special investment vehicles.**
7. **There should be a principles-based approach for RDCs for levy payer consultation and engagement which accounts for industry differences.**

8. **Levy payers should be recognised for their financial contribution by having a formalised role in Statutory Funding Agreement negotiations.**

9. **RDCs need to be leaders in extension and adoption through:**
    a. **considering extension as part of the broader portfolio approach to RDC investment**
    b. **creating a principles-based framework, with a customer focus, that encourages extension and adoption in a way that is best for each industry.**
10. **There should be a clear definition of, and a clear distinction between, policy research, advocacy and agri-political activity.**
    a. **RDCs' sole focus should be on provision of policy analysis, information or support that allows an IRB to develop a policy determination or industry advocacy.**

Introduction

RDCs produce value. IRBs want the RDCs to produce more value.

The rural Research and Development Corporations (RDCs) undoubtedly produce value for the industries they service and for our wider society[1] [2] [3]. They need to and can do better. This will require RDCs to avoid the limitations of their commodity-focused structural foundation. They need to develop a stronger innovative culture that is often lacking in Australian R&D[4] [5]. RDCs are limited in their capacity (e.g. in some sectors this is primarily science-based researchers), and their obligations to levy payers, which can result in a focus on productivity enhancing research[6]. There is more than just productivity gains that can benefit the sector.

Taking R&D beyond production efficiency will help to grow Australian agriculture, forestry and fisheries to $100 billion by 2030 – the goal of the sector under the leadership of the National Farmers' Federation (NFF).[7] Work done on understanding the drivers for growth in Australian agriculture[8] shows that the four major areas that will encourage additional growth are:

- technology adoption and national level data
- investing in R&D up the supply chain
- investing in broader infrastructure
- market access and market development.

Levy payers need R&D to encompass these drivers for growth. This will include a focus on socio-economic (better understanding of markets) and policy issues related to rural and regional communities (upstream R&D and broader infrastructure) and the potential for related services offerings (extension, adoption and information services) that are important to the productivity, profitability and sustainability of the sector and Australia more broadly. This is important as taxpayer dollars are invested through government contributions which creates an impetus to deliver broader benefits from the system.

In this submission we discuss the complexity of the broader agri-system and its many players, highlighting that modernising requires strengthening of the tri-partite partnership between RDCs, government and industry.

We step through six key themes, aligned with the questions in the discussion paper:

1. accountability and transparency
2. cross-sectoral collaboration
3. increasing investment and ways to improve outcomes
4. levy payer involvement.

[1] Mullen, J.D., 2011, *Public investment in agricultural research and development remains a sensible policy option*, Australian Farm Business Management Journal, 8(2).
[2] Sheng Y, Gray E M, Mullen J D, and Davidson A., 2011, *Public investment in agricultural R&D and extension: an analysis of the static and dynamic effects on Australian broadacre productivity*.
[3] Council of Rural RDCs http://www.ruralrdc.com.au/impact-assessment-and-performance/
[4] EY, 2018, *Agricultural Innovation – A National Approach to Grow Australia's Future*, Department of Agriculture and Water Resources.
[5] National Farmers' Federation, 2018, 2030 Roadmap https://farmers.org.au/roadmap/.
[6] ABARES, Data tables: Rural Research, Development and Extension in Australia, 2017 http://www.agriculture.gov.au/abares/research-topics/productivity/related-research/rural-rde-investment
[7] National Farmers' Federation, 2018, 2030 Roadmap.
[8] ACIL Allen Consulting, 2019, *Agriculture – a $100 billion sector by 2030?* AgriFutures Australia publication No. 19-025. AgriFutures Australia Project No. PRJ-011482.

5. extension and adoption
6. advocacy and policy

The broader agri-system

RDCs are part of a broader system that is only as strong as its organisations, members and individuals.

Recommendation 1: There should be a formalised tri-partite agreement between government, RDCs and IRBs and it should be legislated that each RDC have at least one prescribed IRB.

The RDCs are part of a broader agri-system in which industries and government authorise independent organisations to invest in R&D on their behalf. This system is unique to Australia. The enduring success of the system is based around the relationships between government, RDCs, IRBs and farmers. There is a history of public and rural industry support for agricultural R&D in Australia. This underpins the current RDC system and the levies funding them.

There are 15 RDCs of which five are statutory corporations, and ten are industry owned corporations. All are funded by industry levies which are matched by general taxpayer revenues when raised for R&D purposes. All are governed by Commonwealth legislation.

The policy rationale for providing levy support to rural research[9] is:

- producers underinvest in R&D because they cannot realise sufficient benefits from R&D they would fund as individuals
- the collection of mandatory levies limits free-riding by some on the R&D provided by others
- there are significant positive externalities (or spill over benefits) to Australian society.

This policy rationale is still considered relevant today as:

- many rural firms in Australia lack sufficient economies of scale to invest in R&D
- benefits from investment in research are often not realised in the short term
- benefits from agricultural R&D for productivity gains are not easily captured by commercial investors.

The levy system is strongly supported by the Commonwealth Government and valued by Australia's primary industries including IRBs.

Provision of R&D activities provides a net social benefit. It helps Australian primary producers achieve productive efficiency, product quality, sustainability, innovation and the ability to supply and respond to competitive global and local market needs.

[9] Core, P., 2009, *A Retrospective on Rural R&D in Australia*, in collaboration with the Australian Department of Agriculture, Fisheries and Forestry as a background paper for the Rural Research and Development Council, November 2009.

The last comprehensive review of the RDCs by the Productivity Commission in 2010 confirmed the importance of industry levies[10]. The Productivity Commission also highlighted the “siloed” nature of organising the nation’s effort on industry-based structures, the overall complexity of the system, and the risk of “crowding out” additional investment and organisations.

The main reason why the system is complex is that each industry and respective commodity is different. Each has a unique:

- geographical spread
- industry culture
- intensity of production
- size and maturity.

These differences influence how the system operates plus how their supporting representative structures are made up. One of the benefits of commodity based structures is that all the sectoral differences can be acknowledged and integrated into the way an RDC operates. This creates a clear strength – the ability to focus R&D (and marketing)[11] on a particular industry. The structural silos also create an in-built weakness – focusing on the known R&D priorities of an industry to the exclusion of opportunities that come from looking outside this lens to other sectors, countries and fields of research.

These differences also impact how levy payers are represented and the extent to which RDCs engage with them. Some levy payers have a direct relationship through voting mechanisms, while for others the relationship is through IRBs. IRBs participate in the system through their representation of levy payers either through direct membership or through state farming organisations (SFOs). There are up to 90 farmer organisations, including SFOs, national farm organisations and agriculture commodity organisations that carry out industry representation and advocacy activities, largely funded by voluntary membership contributions[12].

This broader agri-system has many players and does not operate in isolation from other industries, service providers or government. The nature of the system creates a need for trusted relationships as the system is only as strong as its organisations and the individuals they represent.

The IRBs want to strengthen these trusted relationships across the whole system and see an opportunity in looking to modernise the RDCs as a way to do this. Developing a stronger and more formal tri-partisan approach will help.

A practical improvement is to legislate that each RDC should have at least one prescribed representative body. This will strengthen the partnership at one of the key strengths: RDCs connected to industry.

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[10] Productivity Commission, 2011, *Rural Research and Development Corporations*, Report No. 52, Final Inquiry Report, Canberra.

[11] Marketing is undertaken by some RDCs but not others and does not attract government contribution.

[12] Senate Rural and Regional Affairs and Transport References Committee, 2015, Industry structures and systems governing the imposition and disbursement of marketing and research and development (R&D) levies in the agriculture sector.

1. Accountability and transparency

IRBs want more consistency and transparency in how the RDCs are held accountable to levy payers.

Recommendation 2: Government should prioritise the development of an overarching vision and strategy for Australia's primary industries, to complement the 2030 Roadmap and guide and benchmark RDC efforts.

Recommendation 3: RDCs should introduce a limited number of shared and standardised KPIs, to improve accountability and sharpen focus on industry needs.

Recommendation 4: The Minister should chair an annual IRB-Government meeting as the "shareholders of RDCs" to discuss progress against the RDC KPIs.

The RDCs exist to drive innovation and improvement in and for Australia's primary industries, and to deliver economic, environmental and social benefits for those industries and the broader community. To guide RDC efforts, a national vision and strategy for our primary industries is needed. This should build on and complement the NFF vision for a $100 billion agriculture industry by 2030, and the Council of Rural RDCs Vision 2050. A national whole-of-government strategy, which complements industry initiatives, is a core component of the NFF's 2030 Roadmap.

The Australian Government, through the Department of Agriculture, has already committed to develop a national plan to enable Australian agriculture, fisheries and forestry to become a $100 billion sector by 2030[13], and the IRBs support this work being prioritised. This national plan – or strategy – for primary industries must be supported by specific targets against which RDC performance can be measured, linked to production as well as social and environmental considerations. The national strategy must be designed to complement the NFF 2030 Roadmap, and recognise the crucial role of R&D in achieving sector ambitions.

Enhancing RDC accountability

There are numerous mechanisms for RDCs to be accountable to government and industry:

- Board selection
- publishing strategic plans, annual operating plans and annual reports
- Statutory Funding Agreements
- independent performance reviews
- adjustment of levy rates
- consultation on all of the above.

RDC accountability and transparency remains a concern. The plethora and complexity of mechanisms in place may actually exacerbate the concerns. For example, an RDC can easily have more than 90 key performance indicators. Similarly, more than one report/indicator needs to be considered to understand RDC performance on a particular issue.

[13] Department of Agriculture Corporate Plan 2019-20, available at: https://www.agriculture.gov.au/about/reporting/corporate-plan/corporate-plan-2019-20

The RDCs also develop, implement, consult and report against their accountability requirements in different ways. While this supports a fit for purpose approach, it limits the ability to compare against other RDCs to benchmark relative performance.

Simply adding more accountability and transparency mechanisms to all RDCs is unlikely to significantly address concerns. A better way is to improve transparency and accountability consistently on a limited number of matters. Additional mechanisms should be introduced for individual RDCs where there are specific concerns.

The best way forward, following an articulation of a national strategy for primary industries to guide RDC efforts, is to introduce a limited number of key performance indicators (KPIs) to all RDCs. The KPIs should be a combination of shared and standardised KPIs that are limited in number and designed using common data and common methods. The purpose of shared KPIs is to track how RDCs are contributing to national priorities. Standardised KPIs will allow performance to be benchmarked over time and between RDCs. The potential suite of KPIs have been previously considered. An illustrative suite could include:

- Shared KPIs:
    - contribution to total factor productivity improvements or productivity growth
    - contribution to industry profitability
    - contribution to market development (share and price)
    - contribution to environmental improvements
    - contribution to extension and adoption.

- Standardised KPIs:
    - portfolio balance (risk appetite and RD&E)
    - cost to operate (administrative cost compared to investments)
    - impact (randomised evaluations using Council of Rural RDC Guidelines).

Establishing KPIs will not only improve accountability and transparency, but also sharpen the focus of RDCs on industry needs and ambitions. As outlined in Box 1, the RDCs – and the broader agriculture innovation system – have a crucial role to play in realising the productivity improvements necessary to achieve the $100 billion target.

One of the key gaps in the current system is the lack of an enduring mechanism for industry and government to collectively hold the RDCs to account. At present this is limited to governments and industries liaising on individual RDCs and national inquiries on an issues basis.

This can be readily addressed by holding an annual meeting of industry and government on how RDCs are progressing against the KPIs. The Minister for Agriculture would chair the meeting with government represented by Departmental officials and industry by the prescribed IRBs.

Box 1: Productivity growth, RDCs and the $100 billion target

The $100 billion GVP target is ambitious, requiring a growth rate of 3 per cent annually, which is double the current trend[14]. Increases in agricultural productivity will be central to achieving the growth needed to reach the $100 billion target. This will be challenging, particularly given that overall productivity growth of Australia's primary industries has slowed markedly in the last 20 years, affecting our international competitiveness[15] [16].

R&D investment is a critical factor enabling productivity growth in primary industries. Many of the technologies and practices that have driven agricultural productivity growth in Australia are the result of past public investments in agricultural R&D and the extension of those innovations. A 2011 ABARES research report found that the outputs of past public investments in R&D and extension in Australia and overseas had accounted for almost two thirds of average annual broad acre productivity growth[17].

We know that future growth in Australian primary industries is likely to depend on the more productive use of natural resources through the application of the most up-to-date equipment and technologies[18]. The creation of these new technologies and management practices is largely dependent on knowledge accumulated through past R&D investments. As the major players in Australia's rural R&D system, and a key mechanism for public investment in the system, the RDCs have a responsibility to underpin the productivity improvements required to reach $100 billion GVP.

[14] ACIL Allen Consulting, 2019, *Agriculture – a $100 billion sector by 2030?* AgriFutures Australia publication No. 19-025. AgriFutures Australia Project No. PRJ-011482.
[15] OECD, 2015, *Innovation, Agricultural Productivity and Sustainability in Australia,* OECD Food and Agricultural Reviews, OECD Publishing, Paris, https://doi.org/10.1787/9789264238367-en.
[16] Keogh, M., Tomlinson, A., and Henry, M., 2015, *Assessing the competitiveness of Australian agriculture,* RIRDC Publication No 15/054, RIRDC Project No PRJ-009740.
[17] Sheng, Y., Gray, E. M., Mullen, J. D., and Davidson, A., 2011, *Public investment in agricultural R&D and extension: an analysis of the static and dynamic effects on Australian broadacre productivity*, ABARES research report 11.7.
[18] Productivity Commission, 2015, *PC Productivity Update: July 2015*. Commonwealth of Australia.

2. Cross-sectoral collaboration

Recommendation 5: RDCs' ability to pursue cross sectoral collaboration should be strengthened through:

a. establishing a special purpose vehicle to attract additional funds/capability and invest in a limited number of cross sectoral strategic transformative priorities

b. reforming the Emerging National Rural Issues program

c. establishing a mechanism for IRBs to engage directly with the Council of Rural RDCs.

Why collaborate?

As well as differences, RDCs have commonalities. They often have common levy payers[19], common inputs and resource bases, common risks and opportunities and common markets. It makes sense that they work together on common issues for common benefits.

Collaboration already occurs between RDCs and across RDCs but it is generally not at scale, and collaboration is often ad hoc and time bound. Examples include the work of the Emerging National Rural Issues process[20], the Cooperative Research Centres (CRCs)[21] and the Rural R&D for Profit program[22].

IRBs want more strategic and enduring collaboration by RDCs across the whole sector. The siloed structure of RDCs has limited their ability to collaborate as they try to fulfil levy payer expectations, and there is no formal requirement for them to work together.

The issues for cross-sectoral collaboration are generally well known but are not being realised. These issues include but are not limited to:

- climate change
- water use efficiency and quality
- biosecurity
- soil management
- management of the marine environment
- data collection, collation and reporting
- value added products.

These issues are faced by many if not all parts of the agricultural sector including fisheries, forestry and the value add component of the system (e.g. meat processors).

[19] For example, Mr Ed Fagan, NSW Farmer of the year 2015, at that time produced 10 commodities and paid 38 levies to 4 RDCs and Animal Health Australia, Plant Health Australia and the National Residue Survey. Refer https://www.abc.net.au/news/rural/2015-12-10/ed-fagan-win-nsw-farmer-of-the-year/7016774
[20] Refer: https://www.agrifutures.com.au/national-rural-issues/
[21] House of Representatives Standing Committee on Agriculture and Industry, 2016, *Smart farming – Inquiry into agricultural innovation*, Parliament of the Commonwealth of Australia.
[22] For example, Perrett, E., Heath, R., Laurie, A. and Darragh, L., 2017, *Accelerating precision agriculture to decision agriculture – analysis of the economic benefit and strategies for delivery of digital agriculture in Australia*, Australian Farm Institute and Cotton Research and Development Corporation.

> All challenges and opportunities we are facing are cross sectoral – they're not commodity specific – this is a fundamental problem for the RDCs (EY, 2018)

The fact that cross-sectoral collaboration on these issues is not being realised is much more important than defining the issues.

A new way to support collaboration

While recent reviews have emphasised the importance of bolstering cross sectoral collaboration, they also highlight the challenges given the complexity and maturity of the overall system.

To overcome the inertia, the IRBs support immediately strengthening the RDCs' existing cross-sectoral collaborative mechanisms and establishing a special investment vehicle for strategic transformative cross sectoral R&D.

The two existing RDC cross sectoral mechanisms are the Emerging National Rural Issues (ENRI) process and the Council of Rural RDCs.

The ENRI process needs to mature beyond its existing ad-hoc form. This can be achieved by RDCs properly funding the secretariat and ensuring senior representatives with appropriate delegations attend. RDCs should consult with their IRBs on investment priorities for this program.

The NFF and IRBs involved in this submission also support the establishment of a special purpose vehicle to pursue strategic, transformative cross sectoral R&D. The new entity would be funded by RDCs on a voluntary basis, others can join later, and is based on the following principles:

- ability to operate across or even outside of the individual industry focus of RDCs
- authority to act underpinning an agile investment framework
- capacity to manage uncertainty through adaptation
- ability to deliver arrangements which are enduring (10-20 years)
- capacity to attract non-traditional investors as partners
- ability to generate improved return on investment
- consideration of farmer adoption and communication of R&D.

The initial investment should be modest, but sufficient to attract additional funds and capability and to invest at scale on a limited number of priorities. Governance arrangements including investment prioritisation and decision making will require careful consideration. This should include a requirement that investment decisions are informed by business cases that consider returns over the long-term.

The Council of Rural RDCs is an important forum through which the RDCs work collectively on areas of shared interest. For example, the Council has recently focused on opportunities to facilitate investment in cross-sectoral R&D, which is also a priority for the IRBs. There would be value in establishing a mechanism for the IRBs to engage directly with the Council of RDCs, to exchange information and for IRBs to provide a levy payer perspective to Council initiatives.

3. Increasing investment and ways to improve outcomes

Recommendation 6: RDCs should be encouraged to leverage private sector and international investment and improve outcomes through RDCs:

- ***a. developing a balanced portfolio of investments***
- ***b. being enabled to create special investment vehicles.***

Levy payer engagement with individual RDCs is critical to informing their investments. But private and international partners are not bound by these obligations. They are looking for sufficient benefits/returns to justify their investment.

This may be greater than an individual opportunity, industry, RDC or even Australia[23].

Increasing private investment in agricultural R&D offers leverage, scope for more innovation and additional value[24]. The current RDC system is not realising its full potential in this space[25].

A way to improve investment outcomes

RDCs are typically conservative, which is a result of their structure and a risk averse culture in Australian agriculture[26]. Government and levy payer requirements for performance incentivise low risk research with higher likelihood of outcomes in the short term. Government needs to ensure it is sending the right signals to encourage investment.

Demonstrating value across an RDC's portfolio is more important than demonstrating value on a project by project basis. The current focus on justification of spend on a micro basis detracts from the bigger picture and the longer term benefits of R&D.

> Under current arrangements, public funding to RDCs through levy payments is primarily focused on incremental, producer-focused gains. (EY, 2018)

RDCs should balance their investments with a combination of low and high risk investment with expectations of returns over a longer time horizon. Taking a portfolio approach to investment should enable a combination of short and long term research, with large and small expected outcomes for both public and private investments.

Ways to incentivise RDCs to pursue private investment

The MLA Donor Company and Horticulture Innovation's the Frontiers Fund have shown promise in attracting additional investment to develop technologies and build platform capabilities. These vehicles can match eligible investment with the Commonwealth matching R&D contributions because levy contributions are below

[23] EY, 2018, *Agricultural Innovation – A National Approach to Grow Australia's Future*, Department of Agriculture and Water Resources.
[24] Keogh, M., 2011, *Private sector investment in agricultural research and development in Australia*, Australian Farm Business Management Journal, 8(2).
[25] Recommendation 3.1 in National Farmers' Federation, 2018, 2030 Roadmap.
[26] EY, 2018, *Agricultural Innovation – A National Approach to Grow Australia's Future*, Department of Agriculture and Water Resources.

the 0.5 per cent gross value of agricultural production (GVAP) cap. The vehicle is not available for industries whose levies are at the 0.5 per cent cap. This creates a distortion where the at-cap industries (and non-levied industries) cannot access the vehicle irrespective of the potential. Rather than allowing the distortion to continue, all RDCs should be allowed to establish such a vehicle if the industry agrees, and consideration should be given to the best means of enabling this.

There should also be a focus on the creation of a "diversity of funding environments" and "international collaboration" learnings from public private partnerships in the Netherlands, innovative funding programs in New Zealand or international partnership arrangements in Israel or Brazil.[27]

4. Levy payer involvement

Recommendation 7: There should be a principles-based approach for RDCs for levy payer consultation and engagement which accounts for industry differences.

Recommendation 8: Levy payers should be formally recognised for their financial contribution by having a formalised role in Statutory Funding Agreement negotiations.

Most RDCs are legally obliged to consult with and report to at least one prescribed or declared body as the recognised industry representative body[28] regarding:

- levy expenditure
- research, development and extension activities (and marketing where applicable)
- strategic direction and corporate matters.

It is important to recognise that while levy payers need to be engaged, they are not recognised in legislation as decision makers. This is the role of the RDC. An RDC should consider other factors and as well as levy payers.

IRBs acknowledge the important role of levy payers in the RDC system and although there is no legislative recognition of levy payers as decision makers, they have a strong financial interest and this needs to be formally recognised by RDCs and government. Other opportunities for levy payer engagement may be made through other organisations such as SFOs including through their membership of commodity organisations.

Levy payer consultation is variable

Levy payer consultation and involvement is variable in design and approach across RDCs. Some industries and levy payers are happy with consultation, others are not[29]. Levy payer willingness and ability to be engaged also varies across the sector.

The ways RDCs engage with levy payers is influenced by their scope and size and may also be influenced by the size of the industry.

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[27] EY, 2018, *Agricultural Innovation – A National Approach to Grow Australia's Future*, Department of Agriculture and Water Resources.
[28] ACIL Allen Consulting and Minter Ellison, 2016, *Agricultural levies System – Scoping Study*, Department of Agriculture and Water Resources.
[29] Senate Rural and Regional Affairs and Transport References Committee, 2015, *Agricultural Levies Inquiry*.

The complexity of these arrangements influence transparency and make judgements on their effectiveness and efficiency difficult, especially when comparing across RDCs[30].

Roles and responsibilities need to be clear

Overall RDCs and their levy payers and IRBs have a high degree of flexibility to engage in a fit for purpose manner with investments[31].

IRBs play an important role in the levy system and conduct significant engagement with their members who are also levy payers[32]. IRBs acknowledge that they do not represent all levy payers but that it is important that the roles and responsibilities of IRBs, RDCs and government should be clarified with respect to levy payer consultation[33], recognising the need for flexibility and that a single approach may not be appropriate or practical for all sectors.

A notable feature is that while the Statutory Funding Agreements (SFAs) require industry-RDC and government-RDC engagement, there is no formal mechanism for industry-government engagement on an RDC[34]. One mechanism to achieve this would be to include levy payers, through the IRB as applicable, in SFA negotiations. Recognising levy payers in the SFA is appropriate given the significant financial contribution levy payers make to the RDC system.

RDCs should be encouraged to seek a range of views from a range of stakeholders as well as source information from other areas. These stakeholders may be in the system (levy payers) or external to the system (private sector investors). RDCs should use this information to assist them in their decision making. An RDC's ability to make the best decision on behalf of levy payers should not be impeded by vested interests even when those interests are directed from levy payers themselves[35].

It is becoming more important to manage this issue because in many industries there is a trend towards consolidation which means a smaller proportion of producers generate most production and therefore contribute a large proportion of the levies.

A principles based approach to drive consistency and performance

IRBs are supportive of a set of principles for levy payer consultation that makes it clear what the expectations are so as to make the approach more consistent.

These principles should include[36]:

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[30] ACIL Allen Consulting and Minter Ellison, 2016, *Agricultural levies System – Scoping Study*, Department of Agriculture and Water Resources.
[31] ACIL Allen Consulting and Minter Ellison, 2016, *Agricultural levies System – Scoping Study*, Department of Agriculture and Water Resources.
[32] Levies Revenue Service, 2009, *Levy Principles and Guidelines*, Department of Agriculture, Fisheries and Forestry.
[33] This was part of the recommendations made by the Senate Rural and Regional Affairs and Transport References Committee, 2014, *Industry structures and systems governing levies on grass-fed cattle*
[34] ACIL Allen Consulting and Minter Ellison, 2016, *Agricultural levies System – Scoping Study*, Department of Agriculture and Water Resources.
[35] EY, 2018, *Agricultural Innovation – A National Approach to Grow Australia's Future*, Department of Agriculture and Water Resources.
[36] Based on United National Evaluation Group, 2017, *UNEG Principles for Stakeholder Engagement*, Working Paper.

- development of a clear definition of effective consultation and distinguishing consultation from engagement
- identification of levy payers (or categories of levy payers) and the role they will play in the investment decision process
- engagement throughout the investment process on a strategic not a programmatic basis
- seeking opportunities to engage with levy payers in order promote an investment culture
- clear communication tailored to their specific needs throughout the decision process
- seeking and using levy payer feedback on the investment process for effective learning and continuous improvement.

To enable these principles it is important that the government continue to work on the levy payer register[37] as this is key for RDCs to be able to identify, categorise and tailor communications.

Performance and benchmarking across RDCs

RDCs should be measured on their performance against the above principles and consideration should be given to benchmarking RDCs based on performance against these principles.

Agreeing to and implementing improvements to new arrangements is challenging. They often stall or take considerable time. Government needs to recognise the cost of levy payer consultation and ensure this is considered in making any improvements to the system.

5. Extension and adoption

Recommendation 9: RDCs need to be leaders in extension and adoption through:

- **a.** ***considering extension as part of the broader portfolio approach to RDC investment***
- **b.** ***creating a principles-based framework, with a customer focus, that encourages extension and adoption in a way that is best for each industry.***

Extension can be defined as the application of scientific research and knowledge into practice through communication and education[38]. Although it is typically scientific research invested and procured by RDCs, extension can also apply to the outcomes of socio-economic research or other multi-disciplinary research.

In relation to rural R&D, extension helps with the uptake (adoption) of technologies and innovations to increase productivity growth and generate additional benefits such as better quality, sustainability or safety outcomes.

Uptake of R&D requires not just extension but also adoption. Adoption as well as extension means there is an impact which benefits industry and others (both directly and indirectly).

[37] This was from recommendations made by the Senate Rural and Regional Affairs and Transport References Committee,2015, *Agricultural Levies Inquiry.*
[38] Millist, N., Chancellor, W. and Jackson, T., 2017, *Rural research, development and extension investment in Australia,* ABARES Research Report, 17.11.

> There is an opportunity to improve extension and adoption of innovations through greater support, communication, involvement and understanding of end user needs within agricultural innovation (EY, 2018)

Since the introduction of RDCs there has been heavy investment in R&D and some of this has meant large improvements in productivity. This is frequently lauded as the reason behind Australia's long-run economic growth and productivity gains[39]. Anecdotally, for all the research conducted and released there has been limited uptake. There are several reasons for this:

- some producers lack capability and capacity to adopt or are not supported to make changes
- concern around risk and investment without a guaranteed return
- lack of a coordinated customer-focused approach across industries
- lack of adequate communication or R&D is not appropriately extended
- external factors such as the lack of telecommunications infrastructure and connectivity[40]
- lags associated with development and commercialisation of new technologies and management practices cause delay in realising expected productivity benefits.[41]

There are significant opportunities in overcoming these barriers, not least in continuing growth and improved profitability, productivity and sustainability for the sector. But to do this, the system needs inspirational leadership, guidance, professional development and learning, favourable policy and regulatory environments, and financial support from the industry, research sector, technology markets and governments to encourage the industry to adopt more research outcomes in the future[42].

RDCs as leaders but in partnership with others

The RDCs are one part of a complex agri-system. They are not the only players in this space, and they are not the only source of R&D. However, as the primary procurers and investors in rural R&D, the RDCs are certainly well placed to play a key role in extension and adoption.

IRBs want RDCs to take a leading role not just in the extension and adoption of research developed through their investments, but also for extension and adoption of research that is developed more broadly but that may have benefits for the agriculture, forestry and fisheries sectors.

[39] Williamson, R.C., Raghnaill, M.N., Douglas, K. and Sanchez, D., 2015, *Technology and Australia's future: New technologies and their role in Australia's security, cultural, democratic, social and economic systems*, Australian Council of Learned Academies.
[40] ACIL Allen Consulting, 2019, *Agriculture – a $100 billion sector by 2030?* Agrifutures, National Rural Issues.
[41] Sheng, Y., Gray, E. M., Mullen, J. D., and Davidson, A., 2011, *Public investment in agricultural R&D and extension: an analysis of the static and dynamic effects on Australian broadacre productivity*, ABARES research report 11.7.
[42] ACIL Allen Consulting, 2019, *Agriculture – a $100 billion sector by 2030?* Agrifutures, National Rural Issues.

A marked feature of extension and R&D uptake is that the landscape is increasingly fragmented. This means there are roles for others to work across a network with RDCs to increase the uptake of R&D[43].

To lead effectively, RDCs need to collaborate with each other and work in partnership across multiple channels throughout the agri-system. Partnerships should be developed with IRBs, the private sector and other providers. This approach will ensure that the adoption flows down to the end users.

An industry extension and adoption framework

To ensure effective leadership in this space the RDCs need a principles-based adoption framework or pathway[44] at a strategic level (not on a program by program basis). The reason for a principles-based approach is to facilitate flexibility, and to accommodate differences both in terms of changing needs and in sectoral variability. The intent is also to create a more consistent approach across RDCs and avoid duplication and confusion in a complex space.

An initial approach was developed under the National Primary Industries Research, Development & Extension Framework (NPIRDEF) in 2005 by the then Primary Industries Ministerial Council[45]. This framework promoted a collaborative national RD&E model which was jointly developed between the Commonwealth, the States and Northern Territory, Rural R&D Corporations, CSIRO, and universities. A series of RD&E strategies were developed in the mid-2000s across many of the primary industry and cross industry sectors but appear not to have been widely implemented. There is an opportunity to learn from – rather than repeat – the NPIRDEF experience in the design of future initiatives.

IRBs propose that a new framework be established around a set of principles and strategic actions to consolidate extension and to minimise fragmentation in the Australian agricultural extension system and improve the efficiency of extension delivery with the aim to increase adoption of R&D and encourage productivity and profitability across the sector[46].

These principles include:

- leadership and priority setting
- resourcing
- capability
- engagement
- collaboration and coordination
- professionalism
- innovation.

Using these principles each industry framework should focus on the extension and adoption approach or pathway that best suits their industry. RDCs should be measured on their performance against these principles and consideration should be given to benchmarking RDC performance.

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[43] National Farmers' Federation, 2018, 2030 Roadmap.
[44] EY, 2018, *Agricultural Innovation – A National Approach to Grow Australia's Future*, Department of Agriculture and Water Resources.
[45] Refer: https://www.npirdef.org/
[46] RIRDC, 2016, *Consolidating Targeted and Practical Extension for Australian Farmers and Fishers*, Final Report, Rural R&D for Profit Program.

Some questions to ask may include:

- When is commercialisation best or when might an alternative option be more appropriate?
- Where there is a barrier to extension or adoption, how can it be removed?
- How should the outcomes of the research be best disseminated so as to facilitate uptake?
- Do the RDCs have the right skills sets for leading extension, adoption and pathways to commercialisation?
- Are R&D programs designed with extension and adoption in mind at their conception – i.e. is R&D fit for purpose?
- Is there significant engagement with levy payers and others in RDCs' approach to extension and adoption?
- Who is the right partner/s for taking this research forward, and how can a flexible and enduring relationship be created to encourage ownership?
- What is the lifetime for adoption? How soon after a project / concept is ready for consumers do we expect practice change?

A balance of extension relative to R&D

In 2014-15 extension was about 20 per cent of the RDCs budget. This is a much higher proportion than other contributors in the system, with extension accounting for less than 10 per cent of other government and university contributions[47]. Noting that the RDCs contribute proportionally more than other players in the system justifies their leadership in this space.

Extension should be another part of the investment portfolio, and it should be invested in where it suits the industry to invest. Evidence suggests there are often higher (particularly short term) returns on investment in extension relative to R&D at least in terms of total factor productivity[48].

Decisions on extension investments should be made on an RDC/industry basis and follow similar protocols (e.g. consultation) to R&D or marketing investments. Portfolio balance is bigger than just extension and should ensure that the risks (both positive and negative) of that investment and its short or long term return should be considered by each RDC. This goes to the issue of effectiveness – it is critical that the significant investment that RDCs make in extension actually leads to adoption and practice change.

In determining the suitability of investment in extension there are three important questions that should be asked:

- Is the research destined for commercialisation? (If so then there may be less of a role for RDCs).
- Will this research benefit more than a single sector? If so then consider collaboration with other RDCs.
- How can this information be best communicated to those who will benefit from it?

[47] Millist, N., Chancellor, W. and Jackson, T., 2017, *Rural research, development and extension investment in Australia,* ABARES Research Report, 17.11.
[48] Sheng, Y., Gray, E. M., Mullen, J. D., and Davidson, A., 2011, *Public investment in agricultural R&D and extension: an analysis of the static and dynamic effects on Australian broadacre productivity*, ABARES research report 11.7.

IRBs note the importance of RDCs developing a customer service-based approach to determining an extension and adoption framework. That is, working out both what levy payers want from extension and how the balance on investment in extension should be made. Some RDCs are actively pursuing new approaches to extension and adoption. For example, Horticulture Innovation has recently restructured to include adoption and extension as a new business unit and therefore an area of specific focus.

6. Advocacy and policy

Recommendation 10: There should be a clear definition of, and a clear distinction between, policy research, advocacy and agri-political activity.

a. ***RDCs' sole focus should be on the provision of policy analysis, information or support that allows an IRB to develop a policy determination or industry advocacy.***

Across the agri-innovation system, there are a variety of relationships between IRBs and RDCs from complete integration (e.g. Australian Pork Limited) to disconnection and frustration (e.g. the wool industry). Trust between IRBs and RDCs enables the two to work as one and this in turn facilitates a partnership that produces impactful research to drive policy change to improve the outcomes of industry. In reality, this trusted relationship is generally not the norm and due to resourcing, the RDCs in some cases dominate the system to the detriment of the IRBs and potentially the industry.

Research for policy development is clearly an application of knowledge for the purposes of furthering an objective of industry improvement.

Harnessing the flexibility in the system (i.e. the way relationships between RDCs and IRBs can be structured) and enabling each industry to determine how best to make arrangements on behalf of levy payers (through a vote) may help to limit the disconnect and discontent that some industries face.

Importance of policy research

Uninformed policy positions do not benefit the growth of the agriculture sector. The consequences of prosecuting ill-informed policy agendas can be costly both in terms of time and impact on an industry.

An example of a complex area where a program of RDC research for policy could add value for industry and governments is water management policy. Objective research can properly inform IRBs to make an informed decision on the policy agenda they wish to prosecute. Of course, generating research will not guarantee a better policy outcome but it will reduce the chances of prosecuting a sub-standard position, and can assist in a balanced communications approach to controversial issues.

Another important component of developing and prosecuting an informed policy position is for IRBs to have the skills and capability to do so. There may be a role for the RDCs in ensuring that IRBs have adequate resources.

Clearly defined terms and clearly defined roles and responsibilities

The IRBs want the importance of policy research to be recognised by RDCs but also want the separation between the provision of research and partisan and political activity. Work by the Australian Farm Institute (AFI) in 2016 developed the following definitions in relation to these terms when examining options to develop more sustainable business models for representative bodies, as it was clear that there was a need to clarify the functions of these organisations. These definitions could be a good starting point for further investigation.

> **Policy Analysis**
> Research and objective analysis to inform the development of well researched policy positions after consultation with industry and other stakeholders.
>
> **Policy determination**
> Utilising representative structures to determine policy positions for individual sectors and the industry as-a-whole.
>
> **Industry Advocacy**
> Representing and promoting the interests of stakeholders. Making representations to governments on behalf of industry. Community engagement.
>
> (Keogh et al, 2016)

AFI also propose a definition for agri-political activity however the IRBs consider this to be too narrow and would prefer it be defined in terms of engaging in external partisan political activity.

Based on these definitions, IRBs offer four simple rules for policy and advocacy:

- IRBs should work together with their RDCs (in whatever structure is best for the industry) to set an agenda for policy analysis that will better inform policy determination and industry advocacy.
- RDCs' sole focus should be on provision of policy analysis, information or support that allows an IRB to develop a policy determination or industry advocacy.
- IRBs (not RDCs) should conduct policy determination and industry advocacy as suits each industry.
- RDCs should not engage in agri-political activity, this should be in the domain of individuals, groups or companies acting in their own interests.

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