



*Submission to Australian Government on:*

*Modernising the Research and Development  
Corporation System (Discussion paper)  
September 2019*

*By:*

*Gwydir Valley Irrigators Association Inc  
4<sup>th</sup> November 2019*



*making every drop count*

## Table of Contents

1	Summary and Purpose .....	4
1.1	List of Recommendations.....	4
2	Introduction.....	5
3	About the GVIA.....	6
3.1	Our region.....	6
3.2	What we do.....	7
3.3	Contacts .....	7
4	Discussion Questions.....	8
	RDCs enable the sector and government to collectively invest in innovation.....	8
4.1	Is the current RDC system delivering value for levy payers and taxpayers? In what ways? 8	
	RDCs manage and invest almost \$800 million each year in R&D and marketing. We need the most effective and efficient system for delivering this service. ....	9
4.2	What are some of the benefits of keeping the same number of RDCs? .....	9
4.3	What are some of the benefits of changing the number of RDCs? .....	10
4.4	What are some of the cross-sectoral issues being faced by the wider agricultural sector? .....	12
4.5	How can RDCs increase collaboration to ensure better investment in, and returns from, cross-sectoral, transformative and public good research? .....	12
4.6	What are the cultural changes necessary in RDCs to achieve a modern fit-for-purpose RDC system? .....	13
4.7	What other ways are there for increasing investment in cross-sectoral, transformative and public good research? .....	13
4.8	What is the best way for RDCs to engage with levy payers to inform investment decisions? .....	13
	Further growth in R&D investment can come from the private sector, domestically and internationally.....	14
4.9	How can we encourage increased investment in the RDC system from the private sector and international partners? .....	14
4.10	How can we form stronger linkages between the RDC system and the food value chain?15	
4.11	What changes might encourage improved RDC collaboration with the private sector, including those outside the agricultural sector?.....	15
	Industry needs access to R&D that meets its needs and delivers on investment. This will reduce the time it takes to adopt new technologies. ....	16
4.12	Where should the balance of investment between R&D and extension lie? .....	16

4.13	How could RDCs play a stronger role in extension service delivery, in light of existing private and state government extension efforts? .....	17
4.14	How could RDCs help researchers, entrepreneurs and others better engage with producers to accelerate uptake?.....	17
4.15	How could industry and levy payers drive increased uptake of R&D? .....	17
	Currently most RDCs are not permitted to undertake advocacy activities.....	18
4.16	How might RDCs be able to increase their role in policy R&D and participate in policy debate alongside industry representative bodies? .....	18
4.17	If RDCs were to play a greater role in this area, how could this activity be clearly distinguished from partisan and political activity, which must remain a role for industry representative bodies? .....	<b>Error! Bookmark not defined.</b>
5	Recommendations .....	18
6	Conclusion .....	19

## I Summary and Purpose

This document has been developed by the Gwydir Valley Irrigators Association (GVIA) on behalf of its members as a formal submission for consideration by the Australian Government and the advisory panel during their consultation into the modernisation of the Research Development Corporation system.

This document aims to represent the concerns, views and experiences of our members, not as individuals but as a local industry. Each member reserves the right to express their own opinion and is entitled to make their own submission.

### I.1 List of Recommendations

**We recommend that the advisory panel acknowledge the benefits that the single industry focus of the CRDC has delivered to the cotton industry. CRDC's investments have enabled the Australian Cotton Industry to be recognised globally as a productive profitable segment.**

**We do not support the creation of a small number of large bureaucratic organisations with limited connectivity to industry. Any integration of single industry RDCs must not undermine the value and opportunity for input by levy payers, or dilute specific sector needs.**

**We recommend that the panel consider more coordination between single industry RDCs as a preferred mechanism to reduce the potential duplication of activities such as research procurement and the negotiation of IP or commercialisation terms. Collaborative projects such as the Smarter Irrigation for Profit and Precision 2 Decision programs between RDCs are an effective means to enhance cross sectoral learning, this approach can provide efficiencies without disruption to current RDC constructs.**

**We recommend that the Federal Government investigate mechanisms to reduce the regulatory burden and the complexity of the 10 different Acts of Parliament and the 20 other regulations, declarations and instruments that currently apply to the existing 15 RDCs.**

**We recommend that in areas where industries have cross-sectoral challenges that collaborative research projects such as Smarter Irrigation for Profit, More Profit from Nitrogen or P2D be considered as a mechanism to address the cross sectoral aspects of these challenges. Importantly such programs must ensure that the individual industry needs are covered within the programs.**

**While we support increased collaboration in and returns from cross-sectoral research, collaboration must not dilute the industry benefits to be gained from the R&D investment. For this reason, there is support for maintaining single industry RDC organisations. However, there is scope for the RRDC to enhance benefits for RDCs, they could have a role in facilitating or co-ordinating improved collaboration and could be integral in negotiating IP and commercialisation outcomes for industry based RDCs.**

**We recommend that all RDCs be encouraged to be more proactive in labour resourcing and engagement with private sector organisations who have the skill to position transformative technologies into agriculture.**

**We recommend that all RDCs large or small develop a mechanism similar to the CRDC one which provides an opportunity to input from levy-payers and all relevant**

**stakeholders. Care must be taken that only relevant stakeholders are engaged. It is imperative that the true needs of industry are not undermined by individuals with alternate agendas.**

**We recommend that RDCs actively look to expand the pool of potential research partners to include organisations previously not considered by the industry.**

**We recommend that RDCs be more proactive in research procurement and that they broaden the distribution of Research Expression of Interests to attract new research partners.**

## 2 Introduction

The Gwydir Valley Irrigators Association (GVIA) as the representative body for irrigation entitlement holders in the Gwydir Valley supports the Australian Government's initiative to discuss the modernisation of the RDC system, a unique industry-government partnership. We acknowledge the importance of finding ways to deliver value for money and to improve the value of research and development to our agricultural producers.

We welcomed the opportunity to contribute to this discussion on the modernisation of the RDC system, and support the focus on the four key areas of;

- value for money for levy payers and taxpayers who fund the RDC system
- collaboration and participation across the agricultural innovation system, with a focus on better cooperation and improved adoption of R&D
- long-term cross-sectoral and transformative R&D
- improved levy-payer representation and advocacy.

The GVIA believe that the existing smaller industry based RDC system is delivering good outcomes for levy payers and taxpayers, this is especially the case with the Cotton Research and Development Corporation (CRDC). We have concerns that larger conglomerated RDCs will devalue the role of producers in decision making, We feel that it is essential that we ensure that there is not a loss of relevance of the needs of producers and that the voice of these producers is not diluted by a drive for efficiencies and shared benefits from sectoral collaboration and cooperation. We however acknowledge that there is an increasing need for cross sector collaboration. We support this collaboration through programs such as the Smarter Irrigation for Profit or the More Profit for Nitrogen and believe that there may be a role for the council of Rural Research and Development Corporations (RRDC) to more actively support interaction between RDCs to improve efficiencies and remove duplication.

Whilst we appreciate the benefits from such programs, they must be considered in combination with unique, single industry focus projects to ensure that no industry sector is disadvantaged.

We have a strong history of working in collaboration with the Cotton Research and Development Corporation (CRDC) and have seen cotton producers actively adopt innovation supported under the RDC system. We've partnered with the CRDC through both direct and collaborative, cross sectoral programs in designing and implementing the grower-led irrigation research and extension projects initiated in the Gwydir Valley collect commercially

relevant comparative data on irrigation systems and technology. The site and the producers are recognised as industry leaders in water-use efficiency and digital agriculture.

## 3 About the GVIA

### 3.1 Our region

The Gwydir Valley Irrigators Association (GVIA) represents more than 450 water entitlement holders in the Gwydir Valley, centred around the town of Moree in North-West New South Wales. Our mission is to build a secure future for members, the environment and the Gwydir Valley community through irrigated agriculture.

The Moree Plains Shire region is highly dependent on agriculture and irrigated agriculture for economic activity contributing over 72% of the value of gross domestic product (cotton is around 60%), employing 20-30% of the population and accounting for almost 90% of exports from the Shire<sup>1</sup>.

The 2011 agricultural census estimates that the total value of agricultural commodities for the Moree Plains Shire region was \$911,951,079 up from \$527,744,851 in the 2005-06 census. This is an estimated 7.83% of NSW's total agricultural production from a 1,040,021Ha principally used for agricultural crops<sup>2</sup>. More recently the ABS<sup>3</sup> estimated that in 2017-18 that the agricultural production in North-West NSW (where Moree is located) was valued at \$2.1 billion.

The main broad acre irrigated crop is cotton with irrigated wheat, barley and Lucerne also occurring depending on commodity prices. The total developed broad acre irrigated area is approximately 90,000 ha, although recent analysis indicate that maximum planting area is now 70,000ha, with planted area above 50,000ha very rarely cropped in one year.

In addition the area is also home to the largest pecan plantation in Australia, which is currently undergoing significant expansion. There are also a large juicing orange orchard and olives being grown within the region covering approximately 1,500 hectares and generating an estimated \$31M with considerable benefits to the local community as a high intensity, permanent crop. There is significant potential for expansion into horticulture and improvement in water utilisation but the area of expansion is limited by the availability of high security water.

Changes in water availability either through climate or government policy has had a direct impact on the productivity of the region as well as on the local economy. Analysis by the Murray Darling Basin Authority highlighted this relationship during the northern review and revealed that for both Moree and Collarenebri social and economic indicators declined

---

<sup>1</sup> Cotton Catchment Communities CRC Communities and People Series 2009

<sup>2</sup> 2010 2011 Agricultural Census Report – agdata cubes, 71210D0005-201011 Agricultural Commodities, Australia

<sup>3</sup> 4610055008DO001\_201718 GROSS VALUE OF IRRIGATED AGRICULTURAL PRODUCTION–2017-18

through 2001 to 2011 including education, economic resources and disadvantage, resulting in an estimated 200 jobs lost due to the implementation of the Basin Plan in the region<sup>4</sup>

### 3.2 What we do

The GVIA's mission is to build a secure future for our members, the environment and the broader Gwydir Valley community through irrigated agriculture, we can do this together by making every drop count in the river or the aquifer, on-farm, for the environment, or for our community<sup>5</sup>. This mission is supported by the active research the organisation undertakes in partnership with the RDC bodies represented in our region.

GVIA members hold entitlements within the Gwydir regulated and un-regulated surface water areas, in addition to groundwater resources. All of which are managed through water sharing plans, which have been progressively developed since early 2000.

The GVIA organisation is voluntary, funded by a nominal levy, cents/megalitre on regulated, unregulated and groundwater irrigation entitlement. In 2016-17 the levy was paid and supported by more than 84% of the eligible entitlement (excludes entitlement held by the NSW and Commonwealth governments).

Much of the activity of the association revolves around negotiating with government at a Federal, State and Local level to ensure the rights of irrigators are maintained and respected. While the core activities of the Association are funded entirely through the voluntary levy, the Association does also undertake programs to maintain and improve the sustainability of members on-farm activities, which can be funded by government or research and development corporations.

The Association is managed by a committee of a minimum 11 irrigators and employs a full-time executive officer and a part-time administrative assistant, as well as hosting a Project Officer funded through the Cotton Research and Development Corporation, the Gwydir Valley Cotton Growers Association and the GVIA.

The GVIA and its members, are members of both the National Irrigators Council and the NSW Irrigators Council.

### 3.3 Contacts

Gwydir Valley Irrigations Association

ABN: 49 075 380 648  
100 Balo St (PO Box 1451)  
Moree, 2400  
Ph: 02 6752 1399  
Fax: 02 6752 1499  
Mobile: 0427 521 399  
Email: [gvia@gvia.org.au](mailto:gvia@gvia.org.au)

---

<sup>4</sup> <https://www.mdba.gov.au/publications/mdba-reports/northern-basin-review-report>

<sup>5</sup> For more information, see our corporate video on <https://vimeo.com/177148006>

Chairman: Joe Robinson

Executive Officer: Zara Lowien

## 4 Discussion Questions

The majority of the input to this submission is based on the experience of working in partnership with the CRDC a Commonwealth Statutory RDC representing the interests of the cotton industry. The GVIA is a research partner of the CRDC and is involved in the Smarter Irrigation for Profit program.

*RDCs enable the sector and government to collectively invest in innovation.*

### 4.1 Is the current RDC system delivering value for levy payers and taxpayers? In what ways?

The discussion paper notes that two thirds of agricultural productivity growth is linked to public investment in R&D since 1950's. Agricultural productivity has grown significantly since this time. The Australian cotton yield has increased by 38% in the last 20 years<sup>6</sup>. A significant reason for this is the R&D investment in plant breeding and the innovation and adoption of transgenic varieties. Additional to breeding is the continual investment in resource use efficiency and productivity gains.

The GVIA has worked closely with the Cotton Research and Development Corporation (CRDC) for the past six years as an industry partner. Many of the members of the organisation are levy payers and have been actively involved in the CRDC as cotton producers who annually contribute to research priorities for the corporation. The cotton research priority system ensures that levy payers have the opportunity to have a consistent role in CRDC investment decision. All regions have representation on the grower panels and a voice to pursue the needs of their regions.

CRDC average annual investment is \$20 million, investment which is oriented to improve the productivity and sustainability of the 1,400 cotton farms, 10,000 people and 152 regional communities who are part of the Australian industry<sup>7</sup>.

In the first 25 years from 1990 to 2015 the CRDC invested in 2,100 research projects, expended \$280 million and achieved significant improvements in water use efficiency, environmental impacts and pest and disease management<sup>8</sup>.

Through collaborative investment in RD&E the Australian cotton industry was able to make practice changes to minimise environmental impacts and address the expectations of society. Australian growers are the most efficient in the world; they have safer farm workplaces, healthier natural environments; they use natural resources better, and have significantly reduced many farm inputs<sup>7</sup>.

CRDC's investment in plant breeding is estimated to have achieved a \$5 billion return on investment, which has resulted in Australia achieving yields that are three times world

---

<sup>6</sup> <https://cottonaustralia.com.au/cotton-library/statistics>

<sup>7</sup> CRDC Strategic RD&E Plan 2018-2023

<sup>8</sup> CRDC: 25 years of cotton research, development and extension



average. Australia is one of the top four global cotton exporters generating an average \$1.9 billion export revenue<sup>6</sup>. The cotton best management practice program established in 1997 is seen as one of cottons top 25 RD&E achievements from 1990 to 2015, having driven changes that have resulted in Australian cotton farmers being internationally recognised as leaders in sustainable cotton production and is used as a model for change by other Australian agricultural industries. The evolution of the BMP program and the lessons learned by the cotton industry are now driving other industries such as sugar to adopt similar processes. The production of 'BMP cotton' has also led to better marketing opportunities through initiatives such as Cotton Leads and the Better Cotton Initiative (BCI) which aim to return premiums to growers and provide quality assurance to our customers<sup>7</sup>.

Focus on individual sectors and commodity specific research, is an important part of the success of R&D investment in cotton. The Australian industry is relatively small with only 1,400 farms, research is very localised and consistently conducted in the different regions. This approach has helped ensure greater adoption of research outcomes. Any attempt to reduce the localised nature of cotton research would potentially be seen as dilution and devaluation by levy payers.

The Australian cotton industry has maintained ongoing investment in research into pest ecology, management and resistance monitoring, which has underpinned the development of world leading Integrated Pest Management (IPM) and Insecticide Resistance Management Strategies (IRM) or Resistance Management Plans (RMP). This investment has prolonged the life and usefulness of insecticides and biotechnology. It has enabled producers to benefit from strategic use of products/traits and remain productive and profitable despite the ever-present threat of insect resistance.

A reduced reliance on synthetic insecticides, improved resource use efficiency and significant improvements to yield potential are all positive performance measures for industry. They contribute to the profitability of producers and hence the contribution of the cotton industry to GDP.

**We recommend that the advisory panel acknowledge the benefits that the single industry focus of the CRDC has delivered to the cotton industry. CRDC's investments have enabled the Australian Cotton Industry to be recognised globally as a productive profitable segment.**

*RDCs manage and invest almost \$800 million each year in R&D and marketing. We need the most effective and efficient system for delivering this service.*

#### *4.2 What are some of the benefits of keeping the same number of RDCs?*

The smaller more focused industry RDC's such as the CRDC ensure that producer input into research priorities is achieved. This producer consultation is critical to ensure that production and resource gaps are effectively identified, and that research remains relevant to the farming system and focused on delivery of targeted outputs.

This model ensures that research partners such as universities, CSIRO, state research bodies or organisations such as the GVIA remain connected with producers and focused on delivery of sustainability, productivity and profitability goals to industry.

Collaborative research and a commitment to address cross sectoral challenges is already being achieved as demonstrated by Smarter Irrigation for Profit program (cotton, sugar, dairy, rice/grains), now in its second phase, More Profit from Nitrogen (cotton, dairy, sugar, horticulture) and the Precision2Decision program (all 15 RDCs). All have brought together RDC's to learn from each other and to support extension across industry. Recent collaboration under the Smarter Irrigation for Profit program has demonstrated that interaction between agricultural segments can be achieved. Technology developed in cotton is being developed in dairy and discussions are underway to investigate the potential into nut crops. The basic concepts developed under cotton have needed to be modified to fit into these other industries. The collaboration introduced the concept, but development still needed the specific industry contribution to adjust the metrics to fit.

This joint RDC collaborative approach ensures that the cross sectoral challenges are addressed, while not diluting the contribution of producers from individual industries. The projects have highlighted that there are most certainly benefits associated with working collaboratively but that there are specific industry requirements or application metrics that must be managed appropriately to ensure that the research delivers productivity and profitability returns for producers and taxpayers.

Maintaining smaller RDC's provides an opportunity for them to more easily develop intellectual property agreements and secure the benefit of commercialisation of technology supported through the industry-government funding model.

Some potential issues associated with fewer larger RDCs include:

- Diverse producer base; Any integration of RDCs must be prepared to manage the diverse needs of different industry segments. The demographics and consumer behaviour of the various industries will be different, and it is unlikely that "one size fits all."
- Location; The larger RDC organisations tend to be located in larger centres. This tends to reduce the connectivity that they have with the producers and would potentially increase the office expenditure in rent or rates. The CRDC is regionally based and as such is readily accessible to the levy paying cotton grower. Staff are a part of the local community, one of the 52 which are reliant on cotton as one of their main industries. Regionally based RDCs have the potential to aid in decentralisation of government, enhance industry connectivity and reduce office expenditure.
- Administration; Bigger organisations traditionally tend to require more administrative support, which may take away from resources which could be invested in R&D.

**We do not support the creation a small number of large bureaucratic organisations with limited connectivity to industry. Any integration of single industry RDCs must not undermine the value and opportunity for input by levy payers, or dilute specific sector needs.**

#### *4.3 What are some of the benefits of changing the number of RDCs?*

The issue of too much of the RDC resource being invested in boards, executives, corporate services or overheads is a concern, and the issue of duplication of resources, planning and procuring research must be considered. However it is essential that any change to the

number of RDCs does not dilute the levy payers voice and input into the direction of R&D investment or the RDC organisation as a whole.

- The issues of IP and commercialisation are important and may well be better managed as a component of an overarching body such as the Council of Rural Research and Development Corporations (RRDC). This however may have implications for the industry based RDCs to source additional funds to enhance research outcomes.
- Similarly there may be potential to develop cross sectoral research expression of interest proposals as a mechanism to reduce possible duplication of research procurement resources. This may fit especially well if challenges such as digital technology, resource use efficiency or artificial intelligence are seen as relevant across a range of agricultural industries.
- It is possible that a structure that had a board overseeing a number of interrelated industries could be developed provided that it maintained a degree of executive engagement at an industry level. Such an approach could streamline the mechanics of procuring research and expand the potential pool of research partners for industry.
- The Government must note that some of this resourcing invested in boards, executives and corporate services is directly attributable to the requirements of Government on the RDC organisations. The discussion paper notes that the current 15 RDC's are established under 10 different Acts of Parliament and 20 other regulation, declarations and instruments. Government "red tape" can be extremely time consuming and often requires duplication of resources. There is no doubt that funds invested in R&D must be accounted for, and the process must be transparent, there however may well be potential to improve efficiencies in this area. Streamlining this aspect of the R&D systems would be desirable and provide potential to improve the return on investment for levy payers and taxpayers.

Questions to consider;

- Will less duplication in board, executives or overheads result in increased investment in research or productivity gains?
- Does the removal of executive staff who have an understanding of the specific industry requirements dilute the outcomes that are achieved or not?
- Are smaller or larger RDCs better equipped to engage non-levy private investment given their better understanding of the industry challenges and gaps?

Once again, the primary challenge is to ensure that the needs and voice of levy-payers are not diluted as their input is essential to the success and adoption of R&D outcomes.

#### **Recommendations:**

**We recommend that the panel consider more coordination between single industry RDCs as a preferred mechanism to reduce the potential duplication of activities such as research procurement and the negotiation of IP or commercialisation terms. Collaborative projects such as the Smarter Irrigation for Profit and Precision 2 Decision programs between RDCs are an effective means to enhance cross sectoral learning, this approach can provide efficiencies without disruption to current RDC constructs.**

**We recommend that the Federal Government investigate mechanisms to reduce the regulatory burden and the complexity of the 10 different Acts of Parliament and the 20**

**other regulations, declarations and instruments that currently apply to the existing 15 RDCs.**

#### *4.4 What are some of the cross-sectoral issues being faced by the wider agricultural sector?*

There are a number of cross sectoral issues being face by agriculture today and there will no doubt be more in the future. All industries are investigating ways to benefit from advances in technology such as remote sensing, robotics or artificial intelligence.

There is an ever increasing pressure for improved productivity and resource utilisation and industry is collaboratively working to improve efficiencies as demonstrated by Smarter Irrigation for Profit and More Profit from Nitrogen.

There are numerous threats or risks to productivity as a result of our variable climate, volatile and increasingly competitive global markets, disruptive technologies or interference from activist. Australian agriculture must work collaboratively to be prepared for all of these issues.

In addition there are challenges associated with energy utilisation (electricity and fuel) and costs, agricultures environmental footprint and the ability to be able to source the labour resources needed in the increasingly complex agricultural industry.

**We recommend that in areas where industries have cross-sectoral challenges that collaborative research projects such as Smarter Irrigation for Profit, More Profit from Nitrogen or P2D be considered as a mechanism to address the cross sectoral aspects of these challenges. Importantly such programs must ensure that the individual industry needs are covered within the programs.**

#### *4.5 How can RDCs increase collaboration to ensure better investment in, and returns from, cross-sectoral, transformative and public good research?*

Individual industries are best positioned to identify the specific needs for levy payers and markets. Needs that will be critical in the development of industry specific strategic R&D plans. There is no doubt that these strategic plan will identify overlap which may be most efficiently addressed by a collaborative approach. The council for Rural Research and Development Corporations (RRDC) may have a facilitation or co-ordination role in bringing RDCs together to identify cross sectoral challenges and then to minimise duplication in the area of procurement of research.

Additionally opportunities for commercialisation of technology from either single industry or collaborative R&D may be more efficiently managed by commercialisation specialists available through the RRDC. Commercialisation has the potential to provide additional funds to RDCs, care should be taken that commercialisation terms of reference reflect the funding source which supported the research (single industry RDC or cross sectoral RDC partnership).

**While we support increased collaboration in and returns from cross-sectoral research, collaboration must not dilute the industry benefits to be gained from the R&D investment. For this reason, there is support for maintaining single industry RDC organisations. However, there is scope for the RRDC to enhance benefits for RDCs, they could have a role in facilitating or co-ordinating improved collaboration**

**and could be integral in negotiating IP and commercialisation outcomes for industry based RDCs.**

#### *4.6 What are the cultural changes necessary in RDCs to achieve a modern fit-for-purpose RDC system?*

In the future it is likely that many challenges faced by individual industries will be relevant to the broader agricultural industry. As a result the RDCs must work collaboratively to improve the R&D outcomes.

Into the future RDCs will need to engage in more lateral or creative thinking, they will need to think differently or unconventionally, from new perspectives which may be contrary to the accepted paradigm. This is especially important when faced with disruptive technologies or major technological advances.

Regular interaction between RDCs should be encouraged. Challenges will likely be associated with agreement on the potential approaches to address these cross sectoral challenges and the return on investment from individual RDC support for collaborative research.

#### *4.7 What other ways are there for increasing investment in cross-sectoral, transformative and public good research?*

A recent Business Council of Australia discussion paper identified the agricultural sector as the one which has the potential to benefit from increasing globalisation of markets. The sector as a whole must maximise growth and strive to achieve global significance, to achieve this the industry must broaden its engagement beyond agriculture to attract people from other sometimes unrelated sectors who will facilitate innovation and adoption of transformative technologies.

Private sector businesses and electronic or digital organisations should be encouraged to become more actively involved in the agricultural industry, specifically in participation in the R&D Expression of Interest process. Universities, industry bodies, research partners, and state departments must also participate as an interface between new research partners and RDCs. The industry is already seeing a need for broader engagement in engineers, ICT specialists, and broader based scientist many of whom have not considered the enormous potential of the agricultural market. Importantly the role of these people will need to be from the pre-production phase through the whole supply chain to the consumer.

**We recommend that all RDCs be encouraged to be more proactive in labour resourcing and engagement with private sector organisations who have the skill to position transformative technologies into agriculture.**

#### *4.8 What is the best way for RDCs to engage with levy payers to inform investment decisions?*

The CRDC utilises a mechanism which provides an opportunity for input from a broad range of levy payers and industry.

Australian cotton growers and local industry participants are invited to participate in research priority forums or surveys, generally managed by the local cotton grower association (CGA). Cotton Australia's Advisory Panels provide feedback and advice to the Cotton Research and

Development Corporation (CRDC) on grower priorities for research and development investments. There are five advisory panels that focus on the CRDC's core areas of business:

- Farmers, which covers areas including crop protection, on-farm resource use efficiency and innovations in cotton production.
- Industry, which reviews stewardship, natural resource management, and looks to identify and respond to threats.
- Customers panel covers cotton quality, the recognition of the value of Australian cotton and aims to ensure future demand for our cotton.
- The People panel covers areas including skilling and education of industry workforce, creating networks and communication.
- The Performance panel reviews the measurement and reporting on the cotton industry's performance and continuous improvement under best management practices.

The CRDC then includes communications with the State and Federal departments of agriculture and water, research partners such as CSIRO, universities or private industry and other industry bodies including the Crop Consultants Australia, Cotton Shippers Association and other RDCs.

**We recommend that all RDCs large or small, develop a mechanism similar to the CRDC one which provides an opportunity to input from levy-payers and all relevant stakeholders. Care must be taken that only relevant stakeholders are engaged. It is imperative that the true needs of industry are not undermined by individuals with alternate agendas.**

*Further growth in R&D investment can come from the private sector, domestically and internationally.*

#### *4.9 How can we encourage increased investment in the RDC system from the private sector and international partners?*

Within the existing RDC and research partnership arrangements there are examples of technology taking too long to get to market due to protracted IP negotiations resulting in delayed commercialisation negotiations. It is imperative that R&D research consider the potential for commercialisation as early as possible in the project. Commercial partners should be introduced early and commercialisation term of use and IP negotiated as a priority.

There may be potential for greater involvement of the Council for Rural Research and Development Corporations (RRDC) to either facilitate or potentially manage these negotiations utilising experts in commercialisation. The RRDC may provide a more balanced assessment of the value proposition of commercialisation.

Private sector investment requires return on investment, commercialisation terms of use and IP. In addition, the private sector may not be aware of the potential fit of their technology into agriculture. As an industry agriculture needs to look less conventionally to possible research partners, new previously unrecognised research partners are likely to hold solutions to

challenges industry will face into the future. Expanding the pool of potential research partners should be an RDC objective most especially when addressing new challenges or opportunities such as artificial intelligence, automation or supply chain traceability.

**We recommend that RDCs actively look to expand the pool of potential research partners to include organisations previously not considered by the industry.**

#### *4.10 How can we form stronger linkages between the RDC system and the food value chain?*

Ensuring that key aspects of the value chain are recognised in the early determination of research and development priorities may be beneficial in forming stronger linkages between the RDC system and the larger value chain. The inclusion of the Australian Cotton Shippers association in the consultation processes under the CRDC has helped ensure that R&D has considered the customer needs. There are various post farm gate projects in place with linkages to sustainability and best management practice including MyBMP, Cotton Leads<sup>9</sup> and BCI Cotton<sup>10</sup>. The BCI Cotton brand is now being seen in clothing brands such as Witchery. There have also been successes with developing farm to product traceability<sup>11</sup>.

#### *4.11 What changes might encourage improved RDC collaboration with the private sector, including those outside the agricultural sector?*

The RDC system and the relevant industry bodies must work together to encourage improved collaboration. The need to engage in creative thinking and to acknowledge that the solutions may be different to the status quo is paramount.

A broad consultation process will help identify the trends which are priorities. RDCs and industry must then consider how best to address these to provide value to levy payers. An acceptance that the solution may be best resolved by partnering with new previously unrecognised research partners is important. RDCs need to reach out to a broader spectrum of possible research providers and ensure that all potential partners gain an understanding of their potential to be a part of Australia's agricultural industry. RDCs should also investigate ways to be more proactive in research procurement. They need to more actively promote the release of Research Expressions of Interest and actively target industry who may have the potential to support the research.

The RRDC may have a role to play in this area, they may be best positioned to search for possible new partners, industries with specialisation in digital technology, ICT, artificial intelligence etc.

**We recommend that RDCs be more proactive in research procurement and that they broaden the distribution of Research Expression of Interests to attract new research partners.**

---

<sup>9</sup> <https://cottonaustralia.com.au/cotton-to-market/cotton-leads>

<sup>10</sup> <https://cottonaustralia.com.au/cotton-to-market/better-cotton-initiative>

<sup>11</sup> <https://cottonaustralia.com.au/news/article/a-new-crop-of-chinos-at-m.j.-bale>

*Industry needs access to R&D that meets its needs and delivers on investment. This will reduce the time it takes to adopt new technologies.*

#### *4.12 Where should the balance of investment between R&D and extension lie?*

There are several different perspectives on the balance between R&D and extension. It must be remembered that extension is a critical aspect as a conduit to enhance adoption of R&D, its importance cannot be underestimated. Does this extension however need to be fully funded by the RDC system is the question?

In many cases other opportunities may exist. Extension may provide an opportunity for commercial partners to be engaged and may free up funds for the primary role of R&D.

The agricultural industry has several mechanisms which provide a viable and practical extension avenue. There are a number of distribution networks, businesses who are already engaged in providing product and advice to the agricultural industry. Entities such as Elders, Landmark, DeltaAg and numerous smaller independent distributors are a valuable resource which should be considered in the extension space.

In addition there are organisations such as Crop Consultants Australia (CCA) who provide agricultural consultants information on advances in technology, new products or innovation. These avenues could be more readily utilised by RDCs as a means to extend R&D outcomes.

In addition organisations such as GVIA or the Birchip Cropping Group (with grower membership) have demonstrated that producers like to see research in a commercially relevant environment.

As part of the GVIA grower-led research funding arrangements we host annual field days, which attract 120-150 people from a range of industries. Producers see research in action and have the opportunity to interact with each other. This approach ensures that growers get a practical appreciation of the fit of research into a production system, this enhances the potential for adoption at a grower level. Additionally, this method provides researchers direct contact with producers which helps ensure research is fit for purpose. Since the initiation of the grower-led research site in Moree in 2008 the GVIA has supported and encouraged visits from industry. We have hosted school students, producers from the Darling Downs, North Qld, NT, WA southern NSW and Vic. These visits have helped increase understanding of research application and supported practice change. They have included producers for segments such as sugar, rice, horticulture and grains.

The GRDC utilises a system whereby they have annual research and grower updates. These provide an opportunity for researchers to engage with key decision makers and advisers on research findings. They are well attended and are a long running example of a successful extension model.

Additionally there is an opportunity to utilise State Government agricultural extension services. The success of this approach will however be dependent on the effectiveness of such organisations, some may not have a strong reputation in extension, so a thorough investigation of their potential would be required



Although the above suggestions provide a practical extension avenue in the broad acre agricultural industries, they may be less effective in the more intensive or specialised industries.

#### *4.13 How could RDCs play a stronger role in extension service delivery, in light of existing private and state government extension efforts?*

The primary role of RDCs should be to ensure information is relevant and accessible to any possible extension source. The RDCs should investigate extension options such as distribution or CCA as identified in 4.12 as possible mechanisms for extension service delivery in various industries.

Organisations such as CCA or distribution networks should be encouraged and supported in their extension role. Additionally RDCs should ensure that researchers are supported in their role of communication of their research outcomes to the above mentioned organisations.

There may also be an opportunity to engage in research and grower updates similar to those delivered by the GRDC.

From an RDC perspective it is important that if they do engage in extension services themselves that they do not duplicate activities covered in other RDC projects or by other organisations such as CCA or the distribution networks.

#### *4.14 How could RDCs help researchers, entrepreneurs and others better engage with producers to accelerate uptake?*

A successful approach is the Grower-led initiative instigated by the GVIA and detailed in 4.12 above. Research projects that support grower-led participation in assessment of fit for purpose will provide a direct conduit for research to producers. The commercial fit for research is more clearly identified and it provides an effective avenue for private sector investment in research. Grower-led research sites are best described as key learning opportunities.

Another opportunity would be to ensure that researchers and others are included as presenters or participants in key events like the GRDC Updates or the Australian Cotton Conference.

In many cases R&D is driven by researchers with the objective of publication, (an important and critical aspect of research internationally) as opposed to the levy payer's objective of delivery of potential improvement in productivity or profitability. Finding a suitable balance in this space is important and is potentially linked to the mechanisms with which RDCs engage with levy payers to inform investment decisions. Researchers need to be supported in publication of findings and producers (levy-payers) recognised as key participants in the equation. As a result of this standard research focus on publication, researchers may not always feel comfortable with face to face interaction with producers. The RDC system should support researchers in developing the skills to play a role in the extension of their research findings to target audiences. Rather than engaging separate extension positions through RDC funding, individual projects should include a range of extension activities.

#### *4.15 How could industry and levy payers drive increased uptake of R&D?*

Uptake of R&D will only occur if it provides value to the user and the technology is cost effective for adoption by industry. The value may be measured as improvements in resource use efficiency, such as labour, water or energy. Value may also be an improvement in productivity or profitability.

Any assessment of cost efficiency will need to take into account the variability of climate or the resource limitations of industry. For example irrigation regions with low irrigation water reliability will preferentially adopt technology or research outcomes that can be more easily spread over seasons where production may not be possible. More expensive infrastructure investments which may potentially lay idle for two or more years will be limited in uptake in such areas due to restricted return on investment.

Uptake will also be influenced by the durability, reliability or robustness of the technology. Where technology is being utilised in areas such as irrigation automation, it is essential that growers have the confidence in the reliability of performance. Any breakdowns that do occur need to be immediately identified and be able to be easily and quickly repaired. The more limited the resource and the more intensive the industry the more critical this reliability is.

*Currently most RDCs are not permitted to undertake advocacy activities.*

#### *4.16 How might RDCs be able to increase their role in policy R&D and participate in policy debate alongside industry representative bodies?*

RDCs should be engaged in the development of R&D policy at least to some degree. Their expertise in developing research priorities and their interaction with research partners will provide important insight into policy development. Their involvement would be valuable in ensuring that R&D policy effectively represents the needs of producers, delivers efficiency in research and value for money for levy payers and Government. To help facilitate the RDC voice in R&D policy industry bodies should be encouraged to be engaged with the RDC. This engagement may be as a board member or as an invited participant to RDC strategy activities. As with the cotton industry the industry body should be involved in the development of strategic R&D plans.

With regard to RDC engagement in broader advocacy activities, in many cases this is better managed by industry bodies who should be utilising the skills of appropriately trained communication and advocacy specialists. Critical to the success of any such arrangements is a close working relationship between the RDC and the industry body. The needs of industry specific RDC should be well understood by industry bodies and regular consultation should be utilised especially when an industry crisis occurs.

## *5 Recommendations*

As outlined in the above sections we recommend the following;

1. We recommend that the advisory panel acknowledge the benefits that the single industry focus of the CRDC has delivered to the cotton industry. CRDC's investments have enable the Australian Cotton Industry to be recognised globally as a productive profitable segment. That the panel consider collaborative projects between RDCs as a means to enhance collaboration and cross sectoral learning.

2. We do not support the creation a small number of large bureaucratic organisations with limited connectivity to industry. Any integration of single industry RDCs must not undermine the value and opportunity for input by levy payers, or dilute specific sector needs.
3. We recommend that the panel consider more coordination between single industry RDCs as a preferred mechanism to reduce the potential duplication of activities such as research procurement and the negotiation of IP or commercialisation terms. Collaborative projects such as the Smarter Irrigation for Profit and Precision 2 Decision programs between RDCs are an effective means to enhance cross sectoral learning, this approach can provide efficiencies without disruption to current RDC constructs.
4. We recommend that the Federal Government investigate mechanisms to reduce the regulatory burden and the complexity of the 10 different Acts of Parliament and the 20 other regulations, declarations and instruments that currently apply to the existing 15 RDCs.
5. We recommend that in areas where industries have cross-sectoral challenges that collaborative research projects such as Smarter Irrigation for Profit, More Profit from Nitrogen or P2D be considered as a mechanism to address the cross sectoral aspects of these challenges. Importantly such programs must ensure that the individual industry needs are covered within the programs.
6. While we support increased collaboration in and returns from cross-sectoral research, collaboration must not dilute the industry benefits to be gained from the R&D investment. For this reason, there is support for maintaining single industry RDC organisations. However, there is scope for the RRDC to enhance benefits for RDCs, they could have a role in facilitating or co-ordinating improved collaboration and could be integral in negotiating IP and commercialisation outcomes for industry based RDCs.
7. We recommend that all RDCs be encouraged to be more proactive in labour resourcing and engagement with private sector organisations who have the skill to position transformative technologies into agriculture.
8. We recommend that all RDCs large or small, develop a mechanism similar to the CRDC one which provides an opportunity to input from levy-payers and all relevant stakeholders. Care must be taken that only relevant stakeholders are engaged. It is imperative that the true needs of industry are not undermined by individuals with alternate agendas.
9. We recommend that RDCs actively look to expand the pool of potential research partners to include organisations previously not considered by the industry.
10. We recommend that RDCs be more proactive in research procurement and that they broaden the distribution of Research Expression of Interests to attract new research partners.

## 6 Conclusion

The GVIA believe that the existing smaller industry based RDC system is delivering good outcomes for levy payers and taxpayers, this is especially the case with the CRDC. We have concerns that larger conglomerated RDCs will devalue the role of producers in decision making and would prefer to see the majority of the existing RDCs maintained. We however acknowledge that there is an increasing need to cross sector collaboration. We support this collaboration through programs such as the Smarter Irrigation for Profit or the More Profit for Nitrogen.

We believe that there may be a role for the council of Rural Research and Development Corporations (RRDC) to more actively support integration between RDCs to ensure improvements in efficiencies and the removal of duplications.