



## Submission to the Productivity Commission Inquiry into the Rural Research and Development Corporations

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### ***Background***

Irrigation Australia Ltd (IAL) is the peak industry body representing the entire value chain of the irrigation sector. The membership extends from the irrigators, through service and water providers, product suppliers and manufacturers and researchers. It has a long history in providing services and benefits to the sector through projects funded through VC contributions to RDCs. As a result, IAL is in the unique position of being able to improve the performance of all sectors directly and indirectly involved in irrigation and across all irrigating commodity industries.

IAL's services to the industry include raising the professional standards and performance of those involved in the industry through training and certification programs, the provision of technical advice to industry and government and providing a forum for collaboration and information exchange and extension through conferences, expos and field-days.

### ***1. Rationales for government funding support***

IAL believes that the Government should seek to fund activities which would either not be performed or if left to the market would not be delivered in the required time frame. Rural R&D is an area where there is no obvious market mechanism to deliver the service and where the benefits accrue to the whole Australian population (urban and rural) and to an extent to the international community

Key considerations include:

- Market failure can be a significant barrier to R&D investment. Market signals are often indirect or filtered to producers, so they are often either unable or slow to react to meet the challenge.
- Multiple small and diverse businesses in the rural sector need leadership and coordination to provide R&D as a group, even within a single commodity. This is further exacerbated by the tyranny of distance, geographic and crop diversity and

ethnic diversity. A recognised “independent broker” to assist in developing a collaborative approach and providing the leadership is required.

- Rural economies are driven by primary producers and therefore these economies benefit directly from the wider benefits (HAL quote the horticulture multiplier as 1:4). Agriculture supports 1.6 million jobs, about half of which are in the cities.
- Food security: without viable producers Australia’s production base will be depleted as competitiveness is lost.
- There is a need to remain internationally competitive to achieve long-term viability and this required R, D and E.
- Australia’s balance of trade is greatly improved via rural exports, these are enhanced by R&D. Agriculture exports \$39 billion worth pr product per year.
- R&D helps maintain Australia’s research capacity and capabilities...a national benefit and need. It also provided research opportunities for universities which is crucial for maintaining Australia’s intellectual base.
  - More “blue sky” longer term research is crucial, but difficult to fund via industry, this needs to be government funded in the main.
- The benefits to producers are real and well documented, but are often difficult to prove to the producers, so an incentive (part government funding) is a powerful tool to provide commitment, especially through the difficult times.

Rural communities are generally isolated from the services available in urban areas and this isolation is even stronger when it comes to advice on technical areas such as new technologies, new plant species or new production methodologies. The R&D effort also provides very significant “flow-on” benefits to the wider community.

Key considerations include:

- The fragmentation, relatively small size and extreme diversity of the numerous rural industries
  - Makes R&D investment coordination difficult
  - Multiple small businesses, therefore numerous contributors.
  - Other industries often have larger enterprises who use private R&D to stay competitive (but still have access to tax incentives and grants (eg AusIndustry, ARC etc). This private investment, in the main, is not an option for the rural producer.
- All R&D providers (inc CSIRO, state research institutions and universities) are increasingly dependent of income from R&D projects from industry via RDCs as direct state and federal funding is reduced.

- Rural economic multiplier gives wider benefits. If we accept the commonly quoted 4:1 multiplier, viable rural producers provide significant benefits beyond the farm gate.
- Environmental benefits from improved on-farm practices are significant (reduced water use, leaching, run-off, and pesticide use; use of softer chemicals etc).
- Australia's producers provide high quality food and fibre quality, which is generally fresher and contributes to food security.
- The nature of biological systems and broadacre farming: large areas encompassing many aspects are managed by few individuals yet with heavy expectations from the wider community. Identifying, prioritising, coordinating quality research to enable effective eco-system management needs input from government.

IAL considers that current R&D funding model has been an important contributor to maintaining Australia's competitiveness. However, there are some areas where we could improve the outcomes and efficiency of delivery:

Key points include:

- Benefits (both private and industry) can be notoriously difficult to quantify and therefore it is also likely to be the same with wider benefits. However, the study undertaken for the CRRDCC in 2009 found that the average return on investment (BC ratio) was 10.51:1 after 25 years. This does not include the wider benefits, which are considerable, diverse and well acknowledged. It would not be unreasonable to assume that these would be at least as great in financial terms as those provided directly to the industry involved.

Recommendation: that a study be undertaken to assist quantify the benefits from a number of "indicator" projects to help answer this key question.

- Given that there is a cap on federal funding of 0.5% GVP per commodity and this is rarely, if ever consistently approached, it is unlikely that raising this would increase the R&D spend through this mode. However, there may be a case for further government funding *without further industry contributions* where the common benefit can be demonstrated (eg for environmental outcomes etc).
- There is certainly potential for some R&D to be clearly inside or outside the government net but, as pointed out above, benefit is difficult to quantify and apportion. But where there is substantial motive for research activity in environmental management, improving eco-system services, etc. It would be very helpful if significantly more effort was put into making an assessment of the public good/demand for this and then contributing public funds with according proportion.

A number of factors influence the availability of private funding. These include:

- The current economic status of the industry (perceived and real). This can vary widely due to market forces, seasonal conditions and water availability.
- Most primary producers are cash poor, so resistant to funding R&D without incentive and certainly would not replace the government investment, much of which is effectively “in kind”.
- The major investment issue is taking research to adoption, which is costly and currently grossly underfunded. This would be exacerbated, potentially leaving the research results “stranded on a bookshelf”, thus greatly reducing the value of research effort due to poor adoption. In essence, adoption needs significant ramping up to maximum benefit of research to be delivered right through the supply chain.
- R&D is primarily driven by producer levy based funding, but considerable benefits are realised “up stream” in the supply chain. These beneficiaries generally do not contribute, so this inequity limits R&D investment. Examples include:
  - R&D projects which aim to deliver product quality improvements and new varieties have considerable benefit to retailers (eg increased shelf-life reduces retailer losses etc).
  - Generic product marketing/promo (significant within HAL and some other RDCs), funded by levies primarily benefits marketers and retailers. This reduces the available funds for R&D.

IAL recommends that a more equitable funding model be identified whereby a greater proportion of the beneficiaries contribute. This would increase the available funds, potentially providing funding for the extension/adoption phase. This would:

1. Decrease the adoption lag time
2. Increase the benefits flowing from the projects
3. Greatly improve the BC ratio
4. Reduce the risk of the research knowledge being “stranded”.

There are a number of important reasons why ongoing government funding is required and in fact desirable and should not be reduced: These include:

- Government funding can be an important incentive for inducing co-funding via the statutory levies and VCs.
- Benefits “received” can often have more to do with the individual’s receptiveness to change and new technologies, so in that sense these “reluctant adopters” will undoubtedly resist any further funding impost. It is also often an issue of perception, where most beneficiaries often do not draw the link between the research outcomes

and the new technologies they are adopting, especially if the lag time is significant and/or the research was undertaken remotely.

- Once producers pay a levy, they are disinclined to put further funds into R&D, considering they have provided “their share”. The exception may be where a larger company, perhaps vertically integrated, would identify a specific benefit to themselves (ie little or no external benefit, at least in the short term). HAL and other funders encourage this by providing a period of confidentiality for the results, which prevents short term external benefits flowing to the industry generally.
- There is a strong case for government funds to pay for the broader community benefits flowing from the R&D. It could be strongly argued that the community (government) spend is not fully paying for these significant and important benefits.
- Private investment is significantly discouraged by the logistical requirements; the bureaucratic application and reporting process, the various “strings attached” and the complexity of IP issue can all combine to make the process cost ineffective.

Maintaining Australia’s core infrastructure and research skills is absolutely crucial:

- Skills and infrastructure can never be effectively provided via project by project funding.
  - Typically three year projects give no long term continuity of funding, so the project officers have limited tenure;
  - Many projects are staffed by new graduates on a short term contract and overseen by diminishing numbers of senior permanent staff. There is little capacity/intent for mentoring and professional development of project staff;
  - The competitive nature of the research profession due to the funding model reduces collaboration between researchers and therefore the quality of research;
  - The lack of funding for extension and adoption and the assumption the researchers will effectively communicate the outcomes as part of the project is naive. Researchers do not have the skills and interest and funding is not provided beyond the period of research. Further more the “publish or perish” career requirements further prevent extension and adoption, as the researcher feel the pressure to move on to another research project. An extension capability must be maintained, and be seen as part of each R&D project.
  - Adapting overseas knowledge has the same challenges as the adoption of Australian research. Additionally, it is very difficult to obtain funds through many, if not all, RDCs for a truly international collaborative program.

- The true cost of developing and maintaining infrastructure is almost certainly not achievable from project funding. The diminishing state investments in this area and the inability to maintain capability even with the project funding flowing to these research and extension organisations would appear to support this suggestion.
- Short term attached funding runs the risk of “research for hire” and the potential compromising of rigorous, independent findings.

Rural R&D is by nature primarily applied in nature and therefore should be outcomes focused.

- Outcomes-based rationales are crucial in the development of a well balanced, integrated and justified R&D investment plan. It is also an important component in fully identifying the potential benefits and value of a project (ie undertaking a true BCA).
- There needs to be a robust method for developing R&D plans and programs. This takes input from all stakeholders in order to bring together the full range of expertise and needs; practical/applied from the producers, scientific from the researchers and wider benefits sought from government.
  - If any one of their three key stakeholders is left out of the planning and decision process, the overall returns are likely to be distorted.
- Outcomes-based rationales are appropriate, as long as the range of time horizons are in view for the outcomes ie. Some outcomes focused on say 3-year time frames are okay, others need significantly longer eg 5-10 years, perhaps ~30 years.
- The risk of reducing overall benefits to the community seems to arise more from basing the driver on politically hot topics that usually have limited time as widely perceived concerns by the general public (ie. the majority of voters). Research funding determined by such transient outcomes is likely to have much reduced effectiveness.

Should the level of public funding have any regard to government support for rural industries in other countries?

- The simple answer is yes, however there are significant issues which need to be considered for this to be a practical approach:
  - Levies and VCs provided for the R&D by industry should not subsidise the costs of providing these benefits overseas;

- Overseas benefits must be fully identified and paid for by government as part of Australia's overseas aid program (Levies and VCs are paid by industry as an investment to benefit Australian industry);
- The potential for undermining the fundamental benefits flowing from the R&D investment to Australia is significant. The fundamental reason for undertaking a large proportion of R&D is to develop a competitive edge, especially if the product is exported. The benefits flowing to overseas producers and markets should not be allowed to negate this critical benefit of undertaking the research in the first place. However, there are many project areas where this conflict would not arise and full advantage of this should be passed on to developing countries.
- If there is substantial investment in particular overseas research programs, the need for investment in similar programs in Australia may be lower

## ***2. Is the RDC model fundamentally sound?***

IAL considers that the current extension framework is well below critical mass and the effectiveness is at best patchy. In general there is little or no commitment to extension, the exceptions being in the few cases where the research effort has been closely tied to extension and adoption.

- Emphasis on R&D with little funding and commitment to E&A means adoption, at best, can be slow and at worst not be achieved;
- Theoretically the RDCs can have a role in funding and promoting E&A under the current guidelines, but in reality this is often not adequately undertaken. There is a disturbing reliance on an assumption that the final report plus a few presentations to stakeholders constitutes adequate E&A;
- E&A should be an integral part of the R&D program to ensure benefits flow to the investors and the community (this should be a specialist's role, not the researcher).
  - This means that extension specialists should be included in the research project teams.
- Unfortunately, extension is expensive and as a result has become increasingly underfunded. Undertaking R&D without extension means reduced and slower adoption and the resultant opportunity cost is considerable.

**Recommendation:** *That a genuine E&A plan and program be required as a significant part of all rural R&D projects and that funding and resources be allocated accordingly.*

Does the significant number of entities, research programs and funding pools cause problems?

- Please see the attached NPSI and IAL report “*Future Vision and Options for Irrigation Research, Development and Extension Report*”, May 2010
- In general, research is undertaken in isolation with little effective collaboration and cooperation between the researchers, research providers, industries and RDCs.
- There is significant potential for driving more efficient and effective research through overcoming the above point. Likewise, since there are likely to be savings coming out of coordination and cooperation, these funds could be directed to addressing the E&A imbalance.
- There are gaps and overlaps in our research and both poor outcomes and desirable incentives – which shows a need for an over-arching body to monitor this.

IAL is strongly of the opinion that there insufficient oversight of, and coordination and collaboration between, the different components of the framework. This is one of the major weaknesses in the current model and has significant implications for organisations like IAL and researchers who seek to work across a range of commodities.

RDCs are part of the current arrangements and are part of the current problem;

- Without a defined model for RDCs to work together and a system in place to allow coordination and collaboration, this is extremely difficult, if not impossible to achieve;
  - RDCs focus on their commodity or commodities of interest
  - Funding cycles, costs and requirements vary and it is not normally cost effective to deal with the complexity of cross RDC negotiations.
  - There is no system in place to achieve inter-RDC projects, or even intra-RDC projects where RDCs work with multiple commodities.
  - There is no collaborative culture. The closest thing we have is the CRCs and they have limited (albeit positive) influence within the research community. The levy payers through their commodity groups have no such ability.
  - The three main “coordinators” within the irrigation industry, the CRC-IF, NPSI and LWA have either wound up, or are in the process of doing so.
  - It could be argued that because the RDCs are funded from project management fees, they have a vested interest in maintaining these fees. This precludes true cross-RDC projects under the current system, as management fees could be shared or reduced.

Does the framework facilitate strategic assessment of R&D needs across the whole of the rural sector?



- No, there is no obvious method of achieving this at present;

Does it encourage consideration of whether available funding is going into the right areas from Australia's point of view?

- As above.

Is there an appropriate mix between longer-term and broadly applicable R&D and shorter-term adaptive research, and where in this context should the RDCs be focussing their activities?

- RDCs do not normally consider the more complex strategic issues particularly well. ARC has been an effective mechanism for driving this type of research;
- Decisions are primarily made on a project by project basis;
- Many RDCs are seeking BCAs, and so becoming risk averse, limiting the potential for longer-term projects and certainly avoid the projects with broader outcomes as they are more interested in the industry specific outcomes. E.g. HAL requires a strict defining of the "benefit to horticulture, as defined by HAL" for projects which are not proposed by a specific commodity group;

Is the framework sufficiently flexible to accommodate future changes in circumstances and requirements? What impacts have recent initiatives to improve the framework had on outcomes thus far? What are likely to be the particular implications of recent and prospective changes to the framework for the RDCs?

- The framework is relatively inflexible and certainly needs a total review to ensure it is responsive and able to meet the challenges of the future.
- In some aspects, there has been a retrograde step caused by RDC Boards being concerned at the potential for this enquiry (and other scrutiny) to show up previous short-comings, with the result there is a considerable tightening of processes and a move further away from producing a wider benefit (ie any benefits other than the specific commodity in question).

Are there significant gaps in the data base which are impeding the effectiveness of the framework? For example, should there be greater effort devoted to assembling data on the total amount of public funding for rural R&D available through the variety of funding programs?

- It can be difficult to easily access this information, much of which is transient. An effective "one-stop shop" would help.

Is there sufficient emphasis on the evaluation of outcomes and sharing the lessons learned? Are there any particular lessons for the RDC model from developments in other components of the framework?

- Absolutely not, for the reasons mentioned above.

- Fewer, more coordinated RDCs (or a more coordinated model) would help greatly.

### ***3. Some specific strengths and weaknesses of the RDC model***

Are there any reasons to argue that the RDC model is no longer fundamentally sound? Or can deficiencies in the model be addressed through more minor modifications to the current requirements?

- The RDC model is fundamentally sound. However it would benefit from adjustment to minimise overlap, improve communication and avoid duplication of research activities across commodities. In the irrigation sector this is particularly evident as irrigation is often related as a secondary activity – I grow crops which I must irrigate rather than I am an irrigator who grows crops.
- Irrigation technology and management research is not basically crop specific, and this fact is largely ignored. While there will be differences between crops, regions etc this is part of the development phase after the research, to fine tune the technologies. This is an important potential area for collaboration.

Recommendation: that the findings from the “Future Vision and Options for Irrigation Research, Development and Extension Report” be implemented. That is, the establishment of an enduring Joint Venture for Irrigation Research to ensure a more effective and efficient approach to irrigation R,D &E is developed.

- The performance of some RDCs should be reviewed, especially in the program management area. Those which are dealing with multiple industries can struggle to understand the industries and their needs and the projects can be a poor fit to needs as a result.
- The RDCs need to be given direction in regard to the value of “spin-off” benefits as these are rarely acknowledged or realised.

If more fundamental changes might be warranted, what form could these take? How difficult would it be to replicate the strengths of the RDC model within such approaches? Is there scope for ‘halfway’ house approaches that would harness the respective strengths of the RDC model and alternatives to it? Are there any overseas approaches that are particularly instructive?

IAL is of the opinion that some fundamental changes are warranted. While the cross-sectoral Water Use in Agriculture group may help provide the platform to address the shortcomings evident in the irrigation sector, some of the key issues which must be considered when developing a model for the future include:

- Provision of continuity of employment for researchers to underpin professional development and career opportunities, to ensure long-term research capabilities;

- Clear pathway from research to adoption;
- Collaboration (domestic and international), as mentioned elsewhere;
- A cohesive, cross-sector R&D investment plan;
- Overseas models which are worth studying are:
  - UC Davis Extension Service, which provides a clear link from research to adoption. It also has well defined industry involvement;
  - Israel, where the research (eg Volcani Institute) is backed up by an Extension Service and the culture is about delivery of benefits to their primary industries.

Are there other major changes required to the role of the RDCs? For example:

Do the current levy payment and governance arrangements for the RDCs lead to an excessive focus on R&D effort within the 'farm gate' and, if so, how might this be addressed? If there are prospective, high payoff, research opportunities further down the value chain, why are these not being taken up by processors and other downstream stakeholders?

This issue may be evidence of a failure in the identification and assessment of research opportunities rather than evidence of too heavy a focus on farm gate activities. A new process for identifying opportunities across the whole value chain and for prioritising funding according to the outcomes they would deliver may improve the situation.

Is overlap with the work of the CRCs largely complementary, or are changes warranted to either or both programs to reduce that overlap? Will the new guidelines for CRCs make it more difficult to get new rural CRCs approved and, if so, what are the implications for the future role and activities of the RDCs?

In the irrigation sector the overlap has led to un-necessary duplication and a failure to share research knowledge. A model which removes the silo approach to irrigation research, development and extension would improve the situation dramatically.

If State Governments continue to wind back their role in R&D and extension, should the RDCs be seeking to fill the gap, or are there private players that could effectively fill this role?

The major impact in this area has been the progressive wind back of State funded extension activities. This has contributed to an ever widening gap between research and actual practice. When combined with an ageing farm population and a reluctance of older farmers to invest in modernisation, technology etc, there is a risk that too many farmers will decide to sit on their hands and not modernise. If this trend occurs, Australian farms will not be able to meet the challenge posed to provide food and fibre to a growing Australian and world population in a background of climate change and reduced water availability. Urgent attention needs to be paid to identifying the level of extension/adoption activity needed to bridge the adoption gap and to fund it. In commercial R&D there is a rule of thumb that for

every 1 dollar spent on research you need 2 for development and 10 for commercialisation. Recognising that this principle holds in the public arena is vital to addressing the adoption gap. Rather than a model which perpetuates government funding for extension activities, IAL seeks a model which transitions over a ten or more year period from government funded extension to end user funded extension. If delivered well, end users will accept the value provided by the consultants who provide the extension services and be prepared to pay for the service. This however requires development of a pool of well skilled individuals who are embedded in local communities.

Do RDCs manage Intellectual Property issues effectively? In particular, do their current approaches give rise to any difficulties for bringing new technologies to market? Can any shortcomings in this area be readily addressed within the current model?

There are many instances where public funding has been used to develop products which compete with offerings available from private industry and many other instances where agencies wait too long before seeking a commercial partner. In some instances the market for products is often exhausted by the time partners are signed up, in others, the failure to properly account for costs and overheads leads to a price being set which is too low for the product to sustain commercial sales. When R&D activities may lead to a saleable product, commercial partners need to be brought in as early as possible. Other issues include:

- Some industries and VC contributors seek and receive confidentiality for a period, so limiting the commercialising of the product;
- RDC's generally have limited expertise and experience in dealing with IP adequately;
- RDCs generally have little interest in encouraging commercialisation. Their role usually ends upon approval of the final report.

#### ***4. Funding level issues***

What principles and benchmarks should the Commission bring to bear in assessing appropriate funding for the totality of rural R&D, and the right balance between public and private funding? Is there any new empirical work which specifically focuses on how changes to current overall funding would affect community well-being? Is it possible to determine the right balance between public and private funding across the totality of rural R&D using broad indicators and principles? Or must such assessment have regard to the characteristics of individual programs that provide public funding for rural R&D and, in particular, to the type of R&D that is sponsored through each of these programs?

#### **Some particular considerations**

There are a number of considerations which have a strong influence on where the investment of funds is made, under what criteria and therefore the outcomes in terms of the balance between payoff to industry and the wider community. In general, the community benefit is at best, an afterthought. The dominant factors include:

- The RDCs are primarily driven by the industries they serve. In the case of IOCs it could be argued this is an even stronger driver. As companies, they are answerable

to the shareholders and irrespective of Federal Government policy and priorities, there is a strong influence here.

- The levy payers (and to a lesser extent, the VC providers) are the dominant influence on the R&D spend. They propose the projects on the basis of the *industry* needs (or perceived needs) and do not, in general, factor in the community. As investors, they want value for “their” money to flow to their specific industry.
- There is no advocate to argue the community benefits and these benefits are not required to be included in any BCA undertaken to support any specific project.
- It is IAL's experience that (at least under the current climate) that any external benefit flowing from a project is *specifically excluded* from funding. IAL has for many years had a close relationship with HAL. The current HAL approach is that IAL must identify, in detail, the benefits to horticulture *as defined by HAL, and only those components will be considered for funding*. Given that irrigation technology and management is not crop specific (with minor adjustments normally being required for specific crops), this creates a perverse outcome. *In effect, IAL is being specifically told that HAL projects are not to have any greater benefit beyond horticulture, either to the community or to other primary industries*. Since it is impossible to apply for cofunding from all the industries benefiting (there is no system to do so and a prohibitive BCA would be required to determine the proportion of funding applicable) and there is no acknowledgement of the public benefit, this policy is clearly severely limiting R&D investment.
- A surplus of funds may indicate that the RDC's focus is too narrow.
- In the unlikely event that benefits accrue exclusively to the levy payers, public contribution is probably not warranted – but there seems to be significant pressure for producers to adapt to community expectations, so research for this should be supported by public funds.

Recommendation: that the potential public benefits be defined and acknowledged as part of the project concept development and are formally included in the expected outcomes.

Are there particular features of the rural sector, or parts of it, which provide the basis for a significantly higher level of public funding support for R&D than in most other areas of the economy?

- See comments previously on nature of biological systems and broadacre farming.

### **The allocation of public funding across RDCs**

Is there any need to rebalance the Government's funding contribution across the individual RDCs?

- The funding cap is 0.5%GVP. This appears adequate for most commodities and this cap seems (in general) not to be limiting. If this cap can be proven to be inadequate for specific industries consideration should be given to expanding the investment. This assumes that the current investment is well managed and all effort has been made to ensure efficient RD&E with the existing funds.

Does the RDC model — and, in particular, the RIRDC industry umbrella arrangement — appropriately cater for the research needs of emerging primary industries?

- IAL has no relationship with RIRDC, so cannot comment.

## ***5. Improving the RDC model***

### **Ways to enhance governance arrangements**

- In general single industry RDCs probably have a stronger relationship with their industries (communication is easier and the RDC staff become knowledgeable about the industry and its issues). Multi-commodity RDCs, such as HAL do not have this communication and understanding and the disparate group of commodities is far more difficult to deal with on a “one-size fits all” project management model. However, this does not mean that there should be more single industry RDCs or that HAL should be broken up. The most important limitation to effective and efficient RDE&A remains; there is as little collaboration or coordination within HAL (the member commodities) as there is between the RDCs.

What practical impacts (positive and negative) have the national and rural research priorities had on the activities of the RDCs?

- Our experience is that impact is minimal, creative word smithing appears to take into account the priorities.
- Priorities are at best general, open to interpretation and inadequate to give real direction.

Does the specification of these priorities strike an appropriate balance between signalling what the Government is seeking in return for its funding contribution, and providing the RDCs with flexibility to carry out their responsibilities efficiently and effectively?

- See above.

Is there in fact significant synergy between the research needs of the sector and the Government’s stated research priorities?

- This often the case, but as stated above the priorities are vague and open to interpretation. However, the priorities should not be prescriptive on the methodology to achieve the outcomes, but outcomes need clear definition.

Are there likely to be greater challenges in securing industry uptake of some of the outcomes of R&D directed at meeting the Government's priorities than for R&D which reflects the priorities of levy payers? If so, can this problem be cost-effectively addressed?

- This is project and target audience dependant and is therefore variable
  - The key issue is about uptake and this ALWAYS requires a demonstration of relevance and the benefits to each individual in the target audience.

Does feedback from the Government on strategic and annual plans add significant value to the process and is that feedback communicated effectively? If not, what could be done to improve the arrangements?

- If the strategic and annual plans mentioned are those developed by the industries, then IAL has not seen any such feed-back.

What is the scope to improve the effectiveness of RDC boards?

- A very open and broad question. Boards should be independent, have a wide skill set with one Federal Government member.
- Boards should be better informed regarding all stakeholder needs, and be charged with driving effective collaboration and cooperation.

Is there an appropriate balance on boards between industry expertise and more general skills? If not, is this a result of deficiencies in the processes for electing/appointing boards, or does it reflect other factors?

- This balance varies from RDC to RDC and over time. It is very important that the Board drives policy for the specific RDC (within the guidance from the Commonwealth) and not the RDC's CEO or GM. To ensure this, it is important that the Board is experienced.
- It needs to be recognised that in many Government activities there is a reluctance to engage industry, in particular the commercial sector. In many cases the knowledge of private individuals equals or exceeds that of the research community yet this knowledge is not accessed. The CRC model has not adequately addressed opportunities to involve and engage private sector funding. Future models need to increase the involvement of the commercial sector. However this needs to be a two way dialogue, with industry prepared to put their funds in to the system.

How has the Ministerial approval process for appointments to the boards of the statutory corporations affected outcomes?

- The process is appropriate, the real question is whether the Boards have been well informed (eg government priorities and policies) and are not unduly influenced by either the RDC's CEO or the industry peak body/bodies.

How might any negative impacts of the removal of government nominees from the boards of the statutory corporations be ameliorated? For example, has the attendance of a

departmental representative at the board meetings of some of these corporations been helpful?

- This communication line is important and should not be overlooked. Government is an important stakeholder, and a true and informed partnership is required.

What lessons can be learned from differences in the procedures for appointments to individual IOC boards?

- IAL is unable to comment

Has board composition influenced whether individual RDCs have focussed on encouraging adoption of new technologies by more innovative 'top end' producers or, alternatively, on pulling 'bottom end' producers up?

- Single industry RDCs have in general been more successful in adoption, probably due to the higher level of communication and understanding of the need to generate outcomes in the form of industry development and management changes. Important also is the long-term commitment to adoption and taking an active interest in the final outcomes from the project (ie the final report is NOT seen as the outcome).
- Adoption methodology is often discussed and there are a range of differing views regarding the most successful method (ie bottom-up vs top down).
- It is probable that most boards have little impact on this discussion. The more immediate question is whether there is adequate extension to drive adoption.

Are there any significant conflict of interest issues that need to be addressed in regard to the appointment and membership of boards, the relationships between RDCs and industry representative bodies etc?

- Conflicts of interest can occur.
  - Not all industry representative bodies are truly representative. The reality is that the IRBs can be dominated by the large corporate players in the industry. Many IRB boards are not equipped to deal with experienced corporate executives who may be elected to them and the corporate agenda is not always synonymous or compatible with that of the industry generally. A simple example is where a corporate entity's core business is encouraging investors into their managed schemes. There is a strong tendency to encourage the downplaying (ie inaction) of an emerging problem for fear of the negative publicity.

Are there aspects of the governance arrangements applying only to the statutory corporations, or only to the IOCs, that should apply across the board? For example, would it be possible and desirable to increase the input of the Minister into the strategic and annual plans of the IOCs? Would there be benefits in extending the periodic external review requirements for the IOCs to the statutory corporations?



- ALL annual plans should be reviewed by the government as a key stakeholder to ensure they reflect industry and government priorities. Independent assessment would be well worthwhile.

How useful are the Statutory Funding Agreements, including as a means to ensure that the IOCs meet the core requirements in the PIERD Act? Would greater standardisation of these agreements across the IOCs be desirable?

- It would be advisable and good governance to review and standardise where appropriate. Consistency here is one step towards enabling cooperation.

To what extent would governance be simplified if the Government's contribution was separately managed, leaving the RDCs to manage contributions from levy payers? Do the benefits for RDCs and levy payers that come with the government contribution outweigh the costs of the more complex governance regime and, in particular, the constraints on the way in which funds can be spent?

- Managing government funds separately would add to administration costs, which are already considerable, so may not be cost effective. The current situation with HAL, for example is that in *net terms*, industry pays 58.7% of the actual project costs (after management fees), so an increase in administrative costs would make the funding model marginal. This is exacerbated with "hidden" costs such as application preparation, negotiation, consultation and reporting are taken into consideration.

How effective are current industry consultation protocols? Are all of the key stakeholders routinely consulted, or at least provided with adequate opportunity to make their views known? Should the legislative requirement for some RDCs to consult with particular peak industry groups be scrapped and replaced by a more generic requirement simply requiring consultation with an appropriate range of stakeholders?

- From IAL's perspective, as a very significant VC contributor to HAL, but not being a commodity industry body there is no avenue for consultation, other than direct. IAL is not recognised by HAL for the purposes of general consultation meetings.

What are the benefits and costs of the combination within the IOCs of R&D responsibilities and other industry services? To what extent have synergies between the two been a factor which has motivated the transformation of some statutory corporations into IOCs? What have been the other drivers and what have been the downsides experienced during and after such moves? What are the particular benefits and costs of combining R&D and industry representation responsibilities within a single entity?

- The skills and structures required for industry representation and R&D are quite different. If the two functions are combined, it is important that these are kept separate as the potential for using R&D funds for agripolitical purposes is very real. Note comments above regarding the potential for PIB Boards to not be representative and not correctly prioritise industry needs.

## ***6. Increasing administrative efficiency***

What scope is there to reduce the costs of administering the RDC model without diminishing the outcomes it delivers?

- Probably minimal. Some RDCs seem to be increasingly bureaucratic in their administration, which tends to increase the proposer's costs and risks, more so than the RDC. Emphasis should be more on tracking and delivering outcomes from the projects, to deliver more benefit without raising administration significantly.

Are there too many RDCs and, if so, how might this number be reduced? How big are the potential downsides of amalgamations, such as loss of focus and the increased challenges of dealing with a more diverse, and possibly hostile, range of industry stakeholders? Would wider application of the RIRDC approach be a means to reduce total administrative overheads, while still allowing individual industries to retain their 'research identity'?

- IAL supports a reduction in the number of RDCs. Individual commodity based RDCs should be merged in to broader groups to minimise overlap and duplication.
  - However, it is not believed the diversity and size of larger organisations such as HAL is effective. The loss of true industry focus and knowledge is problematic.
  - A model based on fewer RDCs, BUT with more industry expertise (possibly one designated industry expert/manager per industry) would work. Total staff would not increase, but would need to be divided into administrative and industry management functions.

Are there examples where ineffective collaboration and coordination across the RDCs has lead to a significant wastage of administrative resources? Are there unrealised opportunities for greater sharing of skills amongst the RDCs? Are there other features of the RDC operating environment or governance regimes which lead to unjustified escalation in executive salaries, board fees, infrastructure costs, overheads and the like?

- Poor collaboration gives R&D duplication and/or loss of opportunity, so is expensive either in duplication costs or in opportunity costs. Duplication also means unnecessary administration.
- The lack of RDC interaction provides numerous management, application and reporting models and most have their own data base structures. There seems to have been minimal sharing of expertise.
- An example is a small project "Knowledge Management in Irrigated Cotton & Grains" which was completed in 2008. It was a collaborative project between CRDC, GRDC, NSW DPI, CRCIF, Cotton CRC, NPSI. While collaboration was generally good, mainly due to prior relationships, collaboration and coordination with one RDC in particular could have been better and outcomes would have been better.

## ***7. More robust ex post project evaluation***

Should the next stage of the evaluation process provide for follow-up of initial project evaluations to see whether the expected outcomes have in fact been realised?

- Absolutely, this is very important.

Should there be more focus on the value added by RDC involvement in a project as distinct from the overall return to that project? What other evaluation initiatives might be helpful, including to facilitate more rigorous and consistent assessment of environmental and social benefits?

- Evaluation overall is fairly token – this needs improving and ties in with extension and adoption.

Is sufficient data already collected to allow for these sorts of improvements and refinements to the evaluation process? If not, how might any gaps be addressed? For instance, when undertaking stakeholder surveys, should RDCs solicit more information on the farm-level impacts of specific R&D outputs to feed into the evaluation process?

- As above. Evaluation is inadequate. The focus should be on asking the key question, “What were the outcomes, what did the project achieve on the ground?” In other words, how has this project changed people’s lives.

Are any changes required to the governance regime for RDCs to encourage improvements in evaluation protocols and methodologies? Should there be greater efforts to encourage consistency in the approaches adopted by the individual consultants employed by RDCs to undertake evaluations? What would be the most cost-effective way of providing for regular independent scrutiny of the evaluation process and its outcomes? Should evaluation outcomes be ‘reality tested’ with stakeholders?

- Evaluations must be independent and undertaken to an agreed and consistent methodology.
- There needs to be a greater focus on the outcomes which RD&E activities will deliver. Post project evaluations need to be strengthened to identify reasons why targeted outcomes were not delivered. This needs to be fed back to the approval process so the mistakes are not repeated in future projects.

## ***8. More effective coordination and collaboration***

Are there significant opportunities for additional collaborative research effort across the RDCs which would have significant payoffs? If so, where specifically do these unrealised opportunities lie and why do they still exist? For example, are some of the RDCs

unnecessarily siloed and reluctant to work with others on value adding areas of common interest? Or is it simply that these collaborative projects are expected to provide a lesser return than other project options within each silo?

- In the irrigation sector there are clear examples where the current silo based mentality has reduced the effectiveness of the RD&E spend. There is a clear need for RD&E spend on irrigation (and the more general water use in agriculture) to be coordinated by a single entity. This entity should be funded with a proportion of the monies given to RDCs, with that proportion based on the share of their activities typically engaged in by each RDC. This new entity should be responsible not just for coordinating RD&E but for disseminating the outcomes and maximising adoption.

Is there scope for RDCs to do more collaborative work with overseas entities? Are there any particular features of the current arrangements that discourage such collaboration?

- Absolutely. Personal experience is that this is difficult to achieve in practice and (at least for some RDCs) requires a degree of “creativity” in the project application to get over the line.
- Unfortunately, since the RDCs are struggling to achieve collaboration within the country, in the main the international challenge is probably out of reach.

As a mechanism for encouraging coordination and collaboration, what are the strengths and weaknesses of the CRRDCC? What specific initiatives might improve its effectiveness? Are there other mechanisms that might be employed instead of, or in addition to, the CRRDCC?

- The reality is that the CRRDCC has not yet proven its value in achieving collaboration.
- The RDCs have a vested interest in maintaining the status quo to safeguard their corporate funding and position. It will take a stronger position from the Federal Minister to move this forward.
  - Most industry stakeholders recognise that there is a need for collaboration, but leadership is currently lacking.

To what extent will the National Primary Industries R&D and extension framework, once fully implemented, be likely to improve broader coordination and prioritisation of the research task and facilitate its execution in an efficient and effective manner?

- It is difficult to comment on what is effectively just a concept at this stage. It is certainly ambitious and the aims are appropriate. The real questions are:
  - Can the process *deliver* collaboration and extension?
  - Without supporting funding and some significant changes to the current structure, are the aims achievable?
  - How will the extension be undertaken now that the states’ capacities and capabilities have been allowed to disintegrate?

- How will the process get buy-in from all the stakeholders?
- Putting together a report and recommendations is one thing, putting the system/structure in place another thing altogether.

## 9. *Improving the levy arrangements*

Would it be desirable to pay a higher contribution on classes of R&D with a demonstrable focus on wider community benefits, offset by a lower rate on R&D with an industry-specific focus?

- IAL believes there is merit in this differential funding model. However, any move to offset the increased investment in wider community benefits is most likely to have a significant negative impact on the willingness of contributors to provide levy and VC contributions.
  - As stated previously, the *net* benefits to the contributors once RDC management fees and the cost of applying and reporting are taken into consideration are already marginal, especially for smaller projects.

Is there any case for differentiating the rate of the matching contribution between start up or high growth rural industries and more mature industries?

- IAL believes there is a case for this model. Start-up industries do not have the cash flow to support significant R&D and where a viable case can be shown, then seed funding is appropriate to encourage new industries and diversification.

Should there continue to be scope for RDCs whose levy receipts are below the ceiling on the matching government contribution to accept funds from 'donor companies' for specific research projects and use this funding to secure an additional taxpayer contribution?

- Yes, provided the projects are sound and the findings will be available to the wider industry in time.

Should processors generally pay a levy for R&D? If they were required to do so, what is the likelihood that they would simply pass the cost back down the line to the primary producer? Does this happen in those industries where processors currently pay a levy?

- If there is a significant benefit along the value chain, then yes contributions are appropriate.
- The cost to the primary producer theoretically should be at worst, nil. It should merely be off-set by the savings to the producer from reduced levy costs. While the argument will be made by the processor that costs will be passed on to the producer, in reality it is more likely they will be passed on to the consumer in time.

Is there any evidence of a significant mismatch between the regional distribution of levy payments and the regional distribution of the benefits from the ensuing R&D, for particular RDCs or across the program as a whole?

- There is most likely to be a disparity, driven primarily by the variance of uptake (less uptake = less benefit). However, the uptake is driven by the communication/extension process, and this is where the real variability lies. Smaller and/or more remote communities or the more decentralised an industry, the greater the problem.

Further information can be obtained from:

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