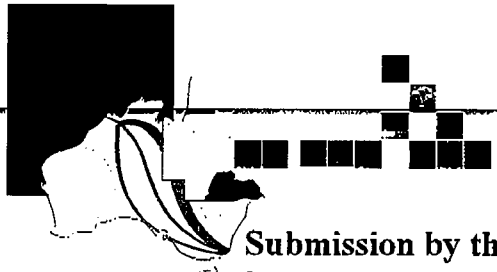

Submission by the Queensland Murray Darling Basin Committee (QMDC) in response to the *Rural Research and Development Corporations Productivity Commission Issues Paper March 2010 (Issues Paper).*

1.0 Background to this Submission

QMDC held two community forums to gather feedback from the community on the *Issues Paper*. These forums were held in Roma on 15 June 2010 and Goondiwindi on 17 June 2010. Attendees of these forums included land holders, scientists, researchers, natural resource managers, extension officers and other interested persons. Attendees were associated with a range of R&D organizations, including beef, cotton, regional and state government agencies, land care groups, and private businesses.

This submission has collated the collective responses of the attendees with the aim of producing a community response to the issues considered most relevant to QMDC and the attendees' interests in rural R&D.

2.0 Response to the Issues Paper from QMDC's perspective

QMDC believes the economic and policy rationale for Federal Government investment in rural R&D should reflect national, state and regional priorities and be matched equally by State government financial investment, along with the industry levies/receipts.

The appropriate level of, and balance between public and private investment in rural R&D should reflect a balance of benefits related to productivity, sustainability and NRM outcomes.

The current RDC model is not effective on a range of levels and should be replaced by a new delivery structure. Competitiveness advanced by the current structure has generally led to negative outcomes and not enhanced R&D industries through research and development. The current funding levels and arrangements are not appropriate for agricultural research and development, with some inherent inequities caused by levy arrangements.

Federal matching of financial contributions is an important mechanism to engage industry in research and should continue and even increase to make up for reductions in funding for *Land and Water Australia.*

Impediments to the efficient and effective functioning of the RDC model and the scope for improvements are identified in this submission.

QMDC supports further inquiry in to other research and development arrangements or models, including research providers in New Zealand and America.

There are fewer than greater examples of RDCs providing an appropriate balance between projects that provide benefits to broader public and community interests versus specific industries. Understanding and responding better to markets and consumers; food security, and managing biosecurity threats requires greater collaboration and delivery at a regional level and also a commitment to research that seeks wider sustainable outcomes such as those referred to at *page 8.*

These key QMDC responses to the *Issues Paper* are encapsulated in greater detail below as a part of a wider community response.

3.0 Attendees' responses to the Issues Paper

The areas of most concern identified by the attendees were:

- Delivery Structure
- Financial Arrangements
- Research Priorities
- Collaboration & Coordination
- Next Generation

3.1 Strengths of Current RDC Model

It was agreed that the strengths of model include the cost sharing of R&D which allows the opportunity for the provision of a mix of industry and community benefit. The 50:50 funding regime is a good function of the current model. This in turn fosters awareness and support within industry for investment in R&D. Attendees recognize the current model's ability to reflect industry needs and priorities, which encourages the uptake of research outcomes by industries concerned.

Encouraging the private sector to participate has also been beneficial because it has added some reality into research. This is seen as providing a good influence on the RDC model.

The Cotton research stations were offered at the forums as "doing a good job". The increase of productivity is a result of good research. Good results have been achieved from the amount of money that has been available. The Cotton Industry is seen to have a successful relationship with its growers through the role of dedicated extension staff.

3.2 Weaknesses of Current RDC Model

The Attendees also recognize the weaknesses of the model – specifically in terms of the lack of cross-sector benefit beyond industry and within a regional and catchment area. The current structure does not align with agricultural practices where land use often involves a range of enterprises which is not matched by the current individual commodity or Boards model. There is concern that this commodity by commodity structure does not match landscape use (except perhaps for the extensive beef industry) and allows industry to set its own priorities sometimes in isolation. When industries focus primarily on their own production a more holistic vision for future foods by a cross section of industries is ignored.

A lot of research goes back to the starting point when it should take a step further and build on what has already been done. Where there are parallel projects better coordination is needed to let project applicants know what is already underway. The lack of continuity or research tenure has undermined R&D efforts. Short term projects mean a lot of time is wasted writing up another proposal at the end of a year to try and gain further funding or future work for researchers. Associated with this type of research practice is the issue of records of past research. Attendees assert better and more accessible storage of past research is needed.

When it is up to researcher to apply for funds there may not be benefits for industry. If for example the government has set a priority such as climate change this may determine the topic of research without it being relevant or a priority for industry.

Other concerns are the domination and control of research by bigger RDCs resulting in research being driven by economic influences and therefore not addressing grass root priorities. This sometimes results in projects with negative outcomes which are not "in favour" being deemed as having no relevance, a position not supported by community interests. "*Ex post project evaluation*" referred to at *page 21* must not follow predetermined ambitions for a particular result.

"*Conflict of interest*" issues referred to at *page 19* that need to be addressed in regard to the appointment and membership of boards, the relationships between RDCs and industry representative bodies include the arrogance within certain Boards and organizations that smothers the grower's voice. There is a greater need for accountability. Grassroots input is a good thing and requires Boards to be responsive accordingly. Community benefit is an important component to research.

The current reporting process is criticized as "a ticking the box exercise" where evaluation is broken down into small components and is concerned primarily with marking milestones.

Australia's national debt was also viewed as impacting on the model in terms of ongoing budget cut backs in agriculture expenditure generally. The effect of these cut backs is reflected in the lack of structure in the current model and jeopardizes future R&D. The issue of "market failures" identified at *page 8* should address the reality that short term governments want long term commitments but only put up short term dollars.

Attendees view strongly that there is not sufficient regard to a wider and regional rural R&D & extension framework including long term infrastructure and skills. State government is deemed to be failing to support research both by a lack of financial contribution, and lack of action that serve to undermine a knowledgeable and experienced scientific skill base. While it is recognized that the State support R&D "in kind", for example, salaries, there has been a steady reduction in State support resulting in there no longer being any technical support for agricultural industries or land holders that is not private. The role of private R&D is limited by its link to productivity sales. The lack of extension means there is a gaping hole in R&D. The claim at *page 3, bullet point 3* that "*State Governments are major funders and providers of research and extension services, though their contribution has been declining in recent years*" is therefore considered as an understatement, accordingly misleading and incorrect.

Australia is advanced in R&D. Other countries however are taking Australia's human and technology resources. There are more Australian R&D people working in the rest of the world than there are here in Australia. Why is Australia not supporting these skilled people to stay in Australia? A PhD researcher takes about 15 years to receive her/his stripes but she/he is unable to earn much compared to the overseas market. Losing an intellectual knowledge base to the overseas market and retirement means there is an ever widening gap with no current replacement. Social impacts of the current model therefore include a steady loss of social capital, namely a diversity of people engaged in science and research.

There is a concern that if the government, move away from the 50:50 model, that greater interest will be placed on wider social and economic benefits at the cost of direct benefits to industry. This is likely to lead to contestable grant processes which support 3 year research terms resulting in a start, stop, start, stop like scenario leading to a loss of continuity and relevant material. Government is viewed as having a very different agenda than industry. Attendees query whether *Table 1* on *page 7* is a true and accurate account. Attendees stressed how it is important to take into account the affect of fluctuating seasonal profits and their reflection in levy amounts to gain a true financial account of the current model.

3.3 New Model Needed

Attendees support the idea that one overarching group is needed to ensure adequate accountability and representation. Although the Council of Rural Research and Development Corporation Chairs (CRRDCC) referred to at *page 5* plays such a role the majority of attendees sought a new structure to fulfill this role.

Attendees promote the replacement of the current RDC model with the formation of model that supports a national body representative of national R&D priorities and co-existing regional bodies that are responsible to and representative of their regions. Regional input will be necessary to help shape national priorities and establish common ground between the national and regional bodies. Regional working groups communicating at an industry level may be able to deal with the problem of disjointed groups all working on their own thing.

The new structure needs to reflect the autonomy and integrity of the regional bodies and encourage new thinking and capable collaborative leadership and project management. Any reorganization of the RDC model needs also to align with how industry works.

A pool of money that spreads across commodities rather than separate commodity levies may be a way to encourage better collaboration. This concept would require a lot of discussion amongst stakeholders. The advantage of levies for each commodity means that every one knows who is paying and for what. The concern attendees have that if accountability is spread across a number of industries this may create chaos. Introducing the concept of a "pool of money" requires good process and supervision to assist industries, farmers and growers get smarter rather than staying in same mindset. A new model requires new leadership.

Exploration by the Commission of the adaptability of the NZ Landcare R&D model to an Australian setting is seen by attendees as worthy of further investigation. The Department of Agriculture in USA funds a number of land universities outside of the education budget across the USA lending a strong rural element to the university research environment. This includes hiring extension staff to increase students' knowledge and skills in the field. This concept of research also requires further investigation.

Attendees felt improvements should include bilateral agreements with the State government rather than the Federal government. Additionally attendees assert that the State should make an actual financial contribution to R&D in the future.

It is more useful to the community and industry if research is viewed as a long term programme rather than a short term project to allow research to address the "big picture".

The reporting process would therefore evaluate research that is conducted on a continuum and with a wider outlook. There needs to be an effectiveness assessment to ascertain the adoption rate of changes in practice supported by research findings. Past assessments have shown that adoption rates are not always flash. A lot of research requires generational and long term evaluation. Support for an environment that encourages adoption uptake as per the reference at *page 8* is undermined by short term project timeframes.

A new model needs to promote collaborative decision making especially when there are competing priorities such as the current coal seam gas industry expansion and the protection of the region's strategic cropping land. Strategic alliances like those identified on *page 5* on specific projects or research programmes have the ability to encourage the process of collaboration, regionally, nationally and internationally.

3.4 Financial Arrangements

Attendees answer to the Commission's question at *page 10* (and others similar at page 11): *Why should government provide funding support for rural R&D?* is as follows - Government should be providing funding for rural R&D because the Australian population is increasing and there is a need to increase and improve food production. Food security and safety are essential. An increase in food security and productivity is linked to a decrease in the price of food. Agriculture and horticulture are therefore critical to Australia's future. The government plays an integral role in disseminating research information at a national level.

Current Restraints

While there was agreement that current levy arrangements in terms of the matching by government are satisfactory because they encourage industry to contribute and participate in research as identified at *page 12*, there is on the other hand concern that inequities between industries result in inappropriate financial arrangements. Attendees are in agreement with the Commission in relation to "big picture" concerns identified at *page 13*.

The current financial arrangements have always had an element of uncertainty for the smaller RDCs. Uncertainty also remains a future concern. If there are more funding costs there will be more losses overseas.

In answer to the question posed at *page 15*, the current level of public funding is not providing a sufficient bank of socially worthwhile new projects for government to co-invest in. The current funding levels and arrangements are not appropriate. Appropriate levels of investment require the State government to invest real money. The loss of State infrastructure culminates in the loss of capacity to undertake research. The decrease in demand for services is fuelled by a decrease in funding which in turn means less R&D skills. This is witnessed right through the chain of R&D ie lack of funding for education for prospective science students leads to the "extinction" of rural based scientists. Reduced funding has lead to a lack of incentive to recruit new graduates. There is a lack of solid career paths for scientists. Specialization in fields of research is also limited. There is no succession of learning.

Funding arrangements for research projects are based on 3 year terms which do not allow for continuity in science and research. Pasture research, for example, best follows a 35 year timeframe.

The question attendees posed is 'How do you plan for 3 years when some research subject matter needs outcomes and monitoring and analysis over a much longer term? In the past there were real farming outcomes but the impact of short term projects has lead to no outcomes.

Suggested Improvements

Improvements require a three way investment from the Federal, State governments and industries. More funding is required from both the Federal and State governments. The State is to provide real funding and not just "in kind" financial support. If funding levels are maintained or increased and other opportunities for long term employment in R&D occur, then there will be a reversal of the "Brain Drain".

Although some projects can be linked to provide some continuity it is asserted there needs to be a new funding approach to research which views the conduct of research as part of interrelated, collaborative programme amongst a number of key parties (if appropriate) rather than a set project conducted by a single commodity. If R&D is a long term commitment and research is conducted as a programme organizations will require funds to carry over for security. These should not be viewed as unspent funds and be retracted by the government. Farming system research, for example, needs a long funding life.

More equitable funding is required from the government to a region if there is a greater benefit identified for the regions' communities. Financial arrangements need to promote more research in the rural regions rather than the cities. Regions need to receive a return on their research investments. When looking at return on investment from R&D need to also consider private versus public benefit.

It is important that the process by which potential research is to be funded is administered by staff who are trained up on that process, and therefore able to assist applicants.

When discussing new models of delivery and viewing overseas models it is important that any analysis of their financial arrangements is mindful of hidden costs. Bringing funding decisions back to local committees may assist appropriate priority setting and see better R&D outcomes.

3.5 Research Priorities

Current Constraints

Research priorities are seen to be primarily industry driven and about improving production efficiencies. The Cotton industry has shown innovation in this area as a young industry. Attendees assert that other priorities also need to be heard and discussed to better articulate public and more specific regional benefits. There needs to be a good balance between 'basic' research and more broader 'sustainability' focused research, although this poses its own difficulties in terms of reaching consensus agreement amongst industry, government, NRM bodies etc on the meaning of sustainability and environmental outcomes to be achieved in respect of R&D and public benefit.

Holistic benefits need to be demonstrated to combat the assumption that private benefit equates to public benefit. Attendees seek evidence from industry to clearly show the flow on benefit of their research to the public. While it is recognized that improving inefficiencies in production may lead to lower costs of production and hence provide benefits to the consumer, it is also recognized that those flow on effects need to be also regionally invested rather than subsumed by a national mass.

People at grass roots level often feel they have not had an equal input into priorities. Attendees answer to the Commission's question relating to consultation on *page 19* is that "*all of the key stakeholders are not routinely consulted*", nor are they "*provided with adequate opportunity to make their views known*". Priorities are therefore not always involving the right targets. Development of "mono" and "narrow" systems means not enough innovation is occurring "outside the square". Attracting innovation at a farmer level, for example, is not happening. Research priorities are focused on "known territory" instead of "blue skies", therefore research seen to be going down same track. There is no organized link to extension.

Suggested Improvements

Research priorities including Government-set priorities should be set for long term and not reactive to short term government funding.

Attendees assert research priorities that address the future needs of the food industry as a collective body rather than as individual sectors should be promoted. The aim is to develop scientific knowledge that is coordinated with strategic investments.

Important to also investigate into what "may be possible" and give farmers and growers a viable industry where they can produce crops, for example, which are normally imported in to the country (links to RIRDC). Market driven research may be useful to support a new, viable, demand industry.

Improvements also include targeting research where the biggest gains can be reflected in net profit, ie getting "the biggest bang for the buck". The need to balance efficiency with community net benefit is also important to attendees. More priority should be given to direct field research that is farmer specific and community focused in the region. Priorities need to find a better balance between productivity, sustainability and NRM outcomes.

RDCs need to stay current with industry and invest in levy payers to ensure successful industries are funded for research. A much closer alignment between researchers and the industry is sought. Additionally public investment gives a certain level of credibility that pure private research can not give.

Need better ways of tracking existing research priorities.

Attendees identified regional development and facilitation of research findings to landholders as a priority at a national level.

The *Producer Demonstrating Sites* Model is offered by some attendees as a good model for on farm research by MLA and local ownership. There are a number of other models that can be explored eg Northern Grower Alliance.

3.6 Collaboration & Coordination

Some public funding in the past has increased the will to collaborate. There have also been some good examples of collaboration between private and public investments that have lead to wider community benefit.

Current Restraints

Whilst attendees acknowledge a number of the issues raised by questions posed on *pages 23 – 24,* it is recognised that the need for more collaboration between industries, landholders, NRM bodies, regional, State and Federal governments is threatened by a "two edged sword". It has been the experience of QMDC, for example, that many organisations have collaborated regionally to be told later that because of that collaboration funding will be cut by half. Collaboration has therefore been used as "a stepping stone" for reduction in funds.

Competition can on one hand encourage greater coordination and on the other hand can undermine collaborative efforts. More competition for private funding has lead to a decrease in collaborative research. Attendees were concerned by the Commission's suggestion at *page 13* of "replacing the formulaic approach for allocating government funds to each of the RDCs with some form of contestable grants arrangement". The competition for research funding especially at a regional level has caused inefficient project management. Where people or industry, feel the need to own information and make a profit out of it, this restricts collaboration. Short term projects have lead to a "patch" protection mentality.

Another key challenge is the affect on the costs of project management when organisations relied on in a collaborative relationship do not fulfil their contractual obligations or commitments or there are staff changes interrupting the continuity of a project.

In the past extension officers were in the field and had their fingers on the pulse. The extension officer was the conduit between the farmer and the researcher. Since the demise of the extension networks scientists have increasingly been put in to roles that they are not trained or suited to especially with regards to communication out in the field. This has damaged collaboration between researchers and land holders. Attendees do not support the State further winding back their support for extension (refer to *page 14*).

Suggested Improvements

The proposed new model described in *paragraph 3.3* of this submission needs to ensure collaboration aimed to achieve a critical regional mass is not flawed by competition for funding. Duplication of potential must also be avoided (refer to *page 20*). Communication between the national and regional bodies will play a crucial role to ensure vital information is shared. Attendees suggest that an example of good regional integration is Grain and Graze.

Well coordinated training, mentoring, knowledge sharing is required to establish a new generation of multi-skilled scientists. Additionally PhD specialised skills could enable cross fertilisation of skills. Coordination and collaboration if supported with adequate funding and resourcing will allow the swapping of knowledge and skills not only amongst individual commodities but also nationally and internationally.

The Catchment Planning model is seen to be able to provide some useful background planning experience in collaborative relationships. Long term budgeting as part of a coordinated and collaborative planning process is essential.

Extension is a skill and science in its own right and needs to be recognized. "Plan, do, check, review" as a best practice extension model could be reintegrated into coordinated research programmes. Greater coordination of extension services is required.

Communication and other actions are needed to generate more trust and collaboration across RDCs and industry. Funding is needed to address research processes. This needs to be facilitated by organizations with the aim of building links between, for example, universities and schools. Research needs to be more holistic so there is better coordination and alignment across RDCs.

A unified, comprehensive and well marketed database of existing R&D would be a useful tool and could serve to provide incentive or disincentive for future research.

Collaboration requires a long term business venture component that ties money to collaborative outcomes where possible.

Need to implement cross-region information exchange and also link agriculture and environment outcomes.

3.7 Next Generation of Scientists & Researchers

Current Restraints

There is major concern that the current RDC model and financial arrangements are having a huge negative impact on the availability amongst the next generation of skilled scientists and researchers. These concerns are summarized below:

- Lack of next generation of scientists
- Lack of graduates entering science research agencies and departments
- Course costs in agricultural science, natural resource management and related university degrees are too high
- Lack of experienced and extension staff in the field to train and mentor new graduates
- Lack of Federal, State and regional promotion of rural industry and agricultural science
- Employment contracts have become too inflexible, some only 12 months, require employees to be office bound with little or no field application
- Experienced public servants are not being allowed to enter into research roles but are forced in to taking on administrative roles

Suggested Improvements

- Indenture schemes for new graduates to regional bodies
- Reduce cost of university fees in the fields of science
- Encouraging experienced public servants to take up research roles
- Government to promote and support regional initiatives to promote education for youth in agriculture science, environmental science and NRM

4.0 Summary of Responses

The impact on the next generation engaging in rural R&D, the lack of regional focus, the fact that industry is acting in silos in its research so that the majority of research is commodity driven and therefore not a real reflection of how most people farm, and the on going governmental financial cut backs are seen as the biggest impediments to the successful functioning of the current RDC model.

In summary QMDC asserts that rural research and development can be improved to develop this region's scientific knowledge base and best available science delivery by ensuring R&D research:

- regionalizes its delivery
- has a strong sustainability element
- relates to regional Natural Resource Management (NRM) Plan priorities
- promotes greater coordination across research organizations to deliver landscape outcomes
- promotes longevity in science and encourages new graduates with better training and background as technical workers in various fields
- provides a greater degree of access to science before, during and after projects
- supports lines of work over a number of years as opposed to shorter projects
- is adequately funded by the Federal and State governments as well as continuing industry levies
- is coordinated within a national research plan and by a new RDC delivery structure that balances public and private benefit

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