Response to the Productivity Commission Draft Report on Rural Research and Development Corporations

Submitted on behalf of CSIRO

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Introduction

This submission is a response to the Draft Report of the Productivity Commission's enquiry into the Rural Research and Development Corporation (RDC) system, released in September 2010. CSIRO supports many of the key themes in the report and has strong reservations in some other cases. We also believe that the mechanisms by which it is proposed that some worthwhile objectives should be pursued require further consideration.

The proposed establishment of a set of overarching principles for public funding of rural R&D and principles to guide the future operation of the RDC program would provide useful clarity. In both cases, we suggest that there are some gaps in the principles and some details that require further clarification. The principles would also be more effective if they were part of a broader policy framework for rural R&D.

The need for better information about funding flows in rural R&D and better coordination of the funding programs is recognised and supported by CSIRO and other participants, as manifested by development of the National Primary Industries Research, Development and Extension Framework. We question whether the best approach for the future is a new process limited to the Commonwealth, as suggested in the report. We suggest that an enhanced version of the national Framework, which provides a more whole-of-system approach, would be a better outcome.

The Commission has identified the need for a more effective approach to cross-sector research that has substantial public benefits. CSIRO agrees with this finding, as noted in our original submission. However we question whether the formation of a new RDC is the best way to achieve this objective and suggest that an alternative mechanism discussed in the draft report is worthy of further and more detailed examination.

CSIRO does not agree with the proposal to reduce the total funding to the RDC system. We suggest that the Commission's consideration of the differences between the rural sector and other sectors of the economy could include some additional and significant dimensions. The comparisons that have been drawn between Australia and some other economies are problematic.

The proposal for an independent public review of new arrangements is prudent; however we suggest that the proposal to conduct the review after 10 years should be reconsidered. If the reduction in public support for the sector-based RDCs proceeds, a review should be conducted after 5 years because of the potential for unintended consequences with long-term effects.

Comment on Individual Recommendations

CSIRO's more detailed comment on each of the recommendations is organised as set out in the summary that appears on page XXXIII of the Commission's draft report.

Public funding principles

5.1 Institute an overarching set of public funding principles covering: the basis for government to contribute to the cost of rural R&D; the relationship with other policy levers; and good program design features.

CSIRO supports the principles but suggests that some details require further consideration.

1. The draft report does not mention the significant role of government in building and maintaining national capability that is of strategic importance (the scientific capability needed to respond effectively to biosecurity emergencies is a good example). It could more effectively address the need for the major players, including the RDCs, to accept a shared responsibility for the sustainability of essential capabilities in the rural R&D system in Australia. This requires more strategic approaches and stronger partnerships than have been evident in the activities of some RDCs.

2. There is a strong connection between the principles proposed here and the principles to guide the future operation of the RDC program (recommendation 8.1). These recommendations could usefully include reference to a broader policy framework for rural R&D, which would assist the RDCs and other players to set priorities and meet the challenges discussed in the report. The framework might include:

- Guidance on strategic directions and priorities for investment (not precise direction). The recommendations do not mention priority setting mechanisms or the need for transparency in setting and acting on priorities. This guidance could come from the Primary Industries Standing Committee processes, having regard to issues of portfolio balance and capability.
- Guidance on the role and purpose of different forms of public sector funding. The draft principles refer only to inter-program coordination in general terms. An objective of Draft Recommendation 5.3 is to improve policy and program coordination. A necessary precursor for effective coordination is an understanding and acceptance by the various participants of their respective roles. Clarification of the roles and purpose of the different forms of funding could enhance certainty and efficiency in the system.

3. Both sets of principles (5.1 and 8.1) have a domestic focus. The need for effective connections to the rest of the world, where most R&D is performed, is missing.

Framework data collection and program coordination

5.2 Establish a process to collect and maintain robust data on funding and spending flows within the framework.

CSIRO supports the recommendation in principle, but suggests further clarification.

The potential cost and complexity of collecting and maintaining data on a continuous basis has been a barrier to a meaningful process in the past. It needs to be clear who would own and use the data, for what purpose, and what level of detail is desired or the process may add considerable cost without adding commensurate value. The scope of the data collection will also need careful thought if it is to be the basis for sound decisions. For example much research on 'platform' technologies has major applications in areas such as health, the environment and manufacturing in addition to rural industries. It would be desirable for the full costs of proposed data collection and maintenance processes to be evaluated during the design phase and to influence the choice of processes.

5.3 Establish a mechanism to coordinate the Australian Government's various funding programs for rural R&D.

CSIRO supports the desire to effectively inform and coordinate the totality of government funding for rural R&D, but does not support the proposed mechanism.

It is difficult to see how the four objectives stated in the recommendation can be achieved well without taking a more holistic and collaborative approach involving all of the contributors. As the report notes, the Commonwealth is the largest source of investment but the States also make substantial investments. Commonwealth and State entities and the private sector are highly interconnected, through a wide range of collaborative programs, joint ventures, funding agreements and so on. A whole-of-system approach facilitates greater impact from R&D and more efficient utilisation of Australia's R&D capability.

It is not clear from the report what advantages the proposed new body has over the National Primary Industries RD&E planning process now under way through the Primary Industries Standing Committee (PISC). This process, coordinated by DAFF, could be enhanced, rather than a new mechanism that deals only with Commonwealth agencies being established. The PISC process, which has taken a great deal of effort to establish, is now functioning well and has the benefit of providing a whole-of-system view. It brings together Commonwealth and State agencies as major contributors in an effective information exchange and planning process. This process could potentially be modified to deal with the Commission's concerns and to improve connections with some currently unrepresented participants. The proposal in its present form may add complexity without adding value.

It is not clear from the report whether the Commission has explored in any depth the potential for simplification of the arrangements for rural R&D, which are complex and crowded with many funders and providers (as noted in the report). The report indicates that this complexity and diversity encourages innovation and competition. However it also encourages greater administrative costs, fragmentation of effort (below a quality and scale that is internationally competitive in some cases) and some duplication. There is opportunity to address these issues, but the report has taken a different direction, instead suggesting increased complexity by increasing the number of entities. Clarification of the roles of the various programs proposed above could assist.

Changes to the configuration of, and funding for, the RDC model

6.1 Create a new RDC, 'Rural Research Australia' (RRA), to sponsor non-industry specific rural R&D. Leave industry-specific RDCs to focus on research of direct benefit to levy payers.

CSIRO agrees with the intent to shift some funding into a portfolio of broader public-interest R&D, but does not support the proposed mechanism (RRA).

It is desirable to create a mechanism to provide effective support for non-industry specific R&D and R&D that is primarily public good. However this may not be best achieved by the proposed formation of a new RDC, which may fail to promote the necessary whole-of-system responses to challenges. Issues include:

- The research that such an RDC would promote may be too disconnected from the end-users of research, including industries, policy-makers and communities. The Commission acknowledges that the linkage to industry is a key strength of the current model.

- There is a risk with this model that the industry-based RDC's would begin to disinvest from research that has strong public good outcomes, on the grounds that RRA would be expected to pick it up.
- The proposal does not take into account that much research that delivers improved productivity also has the potential to deliver large public good benefits if appropriately focused (e.g. research on genetically modified crops has multiple beneficiaries).

The Commission's draft report has considered an alternative approach, involving quarantining a portion of government funding to existing RDCs for public benefit research or non industry-specific research. The Commission has favoured formation of a new RDC over the quarantining approach.

The weight of the arguments for and against the two models (new RDC versus a quarantining mechanism) depends largely on the framework within which each of the models would operate – policy environment, terms of reference, governance mechanisms, leadership arrangements, etc. CSIRO's view is that the quarantining approach is likely to provide better outcomes.

There are major benefits in providing incentive for industry sectors to look holistically at cross-sector issues (e.g. sustainability, food security, biosecurity, landscape management, food safety, etc) and take a system approach, maintaining the connections with end-users. A quarantining approach that requires the existing RDCs to invest a specified proportion of funding in this kind of research in a collaborative fashion is worthy of further investigation before the Commission's recommendations are finalised.

These funds could be used to support cross-sectoral programs of non industry-specific research under the control of the existing RDCs through one of several workable mechanisms. For example unincorporated joint ventures could be established with designated RDCs taking responsibility for day-to-day management. There are precedents that provide several useful models for this approach. There are also workable mechanisms for collaborative priority-setting. The performance management mechanisms proposed by the Commission would ensure that the intent was realised.

Whatever framework is created, continued encouragement for sector-based RDCs to address cross-sector issues that are relevant to their levy payers is important. The CCRRDC could be supported to continue in this role and could beneficially work with the PISC sectoral groups to coordinate activities and major investments.

The Commission has requested input on the appropriate remit for RRA. It may be appropriate for the Commission to recommend that the types of research pursued by RRA (or whatever cross-Sector mechanism is established) should be determined through a consultative priority-setting process conducted by DAFF, building on the National Primary Industries Research, Development and Extension Framework.

7.1 Progressively build up government funding for RRA to around $50 million a year (with additional funding provided for any research responsibilities transferred from other programs). Over ten years, reduce government funding for the existing, industry-specific, RDCs to half the current rate.

CSIRO does not agree with the recommendation's intent to reduce total funding to the RDC system in the medium term.

The Commission notes that the distinctive characteristics of rural industries and associated R&D include spillovers which may justify a higher level of public investment. However there is evidence

that the spillovers from rural R&D are considerably broader and more substantial than indicated in the draft report. Dr Brian Keating of CSIRO is happy to discuss the issues of spillovers in more detail with staff of the Commission (Dr Keating is Director of the Sustainable Agriculture Flagship Program and has extensive experience in agricultural research). Examples of substantial relevant spillover benefits include:

- The lessons of the last 50 years demonstrate that raising agricultural productivity has been driven in large part by rural R&D and has delivered major public good outcomes, including:
  (a) Global food security. Food security has been taken for granted in Australia, but there is strong evidence that food security will grow substantially in significance as both a global and local issue. Given the demographic changes that are in progress, in the next 50 years we will need to produce as much food as has been consumed over all of human history.
  (b) Lower food prices. Food as a proportion of household budgets is now almost half of what it was 30 years ago. This has created flow-on economic growth and efficiency benefits to the wider economy.
- Rural R&D has enabled substantial public health benefits for the community, particularly through nutritional improvements. One area that has seen significant contributions from rural R&D is the reduction of cardiovascular disease in Australia.
- Analysis by the Centre for International Economics has demonstrated that on-farm changes flowing from rural R&D delivers substantial benefits to the domestic manufacturing sector. It is essential to consider the whole of the value chain in assessing the value created and captured.
- In drawing comparisons between the level of government support for R&D in the rural sector and other sectors, the report does not acknowledge that over 75% of the Australian landscape is owned and managed by farmers who play a critical role in maintaining the environmental health of regional Australia. They can only do so effectively if supported by sound R&D.

The report appears to assume that withdrawal of public funds will encourage replacement by the private sector. The report also draws conclusions based on comparisons between Australia and other countries, which are sometimes questionable. CSIRO supports actions to increase private sector investment; however the substantial and growing offshore ownership of Australian agribusiness has a big impact on the preparedness of the private sector to invest in Australian R&D for Australia's benefit. Is there evidence that businesses owned offshore are prepared to invest in solving problems that are not prominent elsewhere? Australia's production environment is very different from the USA and Europe in many ways. If the reduction in total government investment proceeds, strategies to increase private investment should be a key element of the implementation plan. The report is largely silent on possible strategies.

Principles to guide the future operation of the RDC program

8.1 Implement a set of principles setting out the conditions that should attach to public funding for RDCs and the obligations on the Government as a key stakeholder in the program.

CSIRO agrees with the principles, but some details require further consideration.

The principles do not require the RDCs to work collaboratively with other players in the system (e.g. with other RDCs on issues that are of joint concern).

Dot point 1: The concept of portfolio balance could also refer to research facilitating the industry's transition to its future state as well as improvements to the current state. A number of the RDCs already take account of this perspective.

Dot point 2: The requirement for timely publication could acknowledge the need to delay publication at times, within clearly defined limits (e.g. for commercial reasons related to ensuring adoption of the research).

Dot point 7: The need for administrative efficiency could also refer to the administrative efficiency of partners in research (as actions taken by RDCs can and do cause administrative costs for others).

Specific changes to help give effect to those principles

8.2 Lessen Ministerial involvement in the priority setting and planning processes of the industry specific RDCs.

CSIRO supports the recommendation in the context of implementation of other recommendations in the report. If other relevant proposals are adopted (e.g. principles for government funding, performance management mechanisms), the need for Ministerial approval diminishes.

8.3 Allow statutory as well as industry-owned RDCs to take on industry-funded marketing functions. Defer assessment of whether industry representation should be a generally allowable RDC function until next review.

CSIRO has no comment.

8.4 Provide for the consensual appointment of a 'government director' to RDC boards.

CSIRO supports the recommendation as it applies to statutory RDCs. A 'government Director' may be of value to the Boards of statutory RDCs, particularly if that Director is a current Commonwealth public servant.

In the case of industry-owned RDCs, the legal impediments to appointment of a current Commonwealth public servant that have been noted by the Commission are substantial. The identified need for improved skills and dialogue with Government may be better addressed through the RDCs' processes for appointing expertise-based Boards, as required under the proposed principles. Use of those processes rather than a Government appointment is likely to lead to the appointment of individuals whose skills are more relevant to the needs of particular RDCs.

8.5 Require all RDCs to participate in a regular, comprehensive and transparent program-wide project evaluation process.

CSIRO supports the recommendation but suggests that there should be reference to certain implementation issues.

This is consistent with the approach taken to performance assessment of many other mechanisms for government funding of R&D and the benefits of this approach are evident from experience in that context. The process could cause inefficiencies and cost increases if not considered in the context of evaluation processes that already operate in research organisations that work with RDCs. It would also be helpful if the recommendation noted that the methodology should apply to a sample of projects.

8.6 Require all RDCs to commission regular, independent, performance reviews, including an assessment of the balance in their portfolios between short-term and longer-term research; the scientific merit of that research; and whether research outcomes have been sufficiently accessible to all levy payers and other researchers.

CSIRO supports the recommendation. This is consistent with the approach to review of many other mechanisms for government funding of R&D and has been found effective in those contexts.

8.7 Require DAFF to prepare a consolidated, publicly available, annual report on RDC program outcomes.

CSIRO supports the recommendation

Levy arrangements

9.1 Abolish product-specific maximum levy rates.

CSIRO has no comment on the recommendation. In response to the request for information, the question of whether R&D and marketing levies should be separate or combined is a matter for the industries and government and CSIRO has no comment, while strongly supporting the need for clear operational delineation of R&D funds and matching government funds as noted in the report.

9.2 Streamline those parts of the levy principles and guidelines dealing with changes to levy rates.
9.3 Introduce an indicative time limit of six months for implementing a levy proposal that complies with the relevant requirements.
9.4 Require the Levies Revenue Service to routinely monitor its performance and promptly communicate the results to levy payers.

CSIRO has no comment.

Further review

9.5 After the new RDC arrangements have been fully implemented, undertake a further, independent, public review.

CSIRO supports the further review, but proposes a different time frame.

If the proposal to halve matching contributions for statutory levies over 10 years is adopted, an earlier review after 5 years could assess whether the reduction in support for the sector-specific RDCs is having the desired impact or whether unintended and undesirable consequences are emerging. High quality research and innovation capability take a long time to rebuild and the 10 year period before a review may lead to a loss in capability which is difficult to repair.