A Response to the

Productivity Commission's Draft Report

On the

RURAL RESEARCH AND DEVELOPMENT CORPORTATIONS

A joint submission by the

Australian Academy of Science, Australian Academy of Technological Sciences and Engineering and the Australian Council of Deans of Agriculture

30th November 2010

Productivity Commission Draft Report

Rural Research and Development Corporations

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The Australian Academy of Science, the Australian Academy of Technological Sciences and Engineering, and the Australian Council of Deans of Agriculture are pleased to respond to the Productivity Commission's Draft Report on the Rural Research and Development Corporations.

Executive Summary

The Australian Academy of Science, the Australian Academy of Technological Sciences and Engineering and the Australian Council of Deans of Agriculture jointly argue that the Productivity Commission's Draft Report Rural Research and Development Corporations and its Recommendations do not adequately address important issues on the role of Australian rural Research and Development Corporations (RDCs) and their contribution to the overall productivity, sustainability and international competiveness of our primary industries.

The RDC matching funds model has served Australia and world agriculture very well, and has been advocated as a model in other countries such as the USA. Agriculture is important to our national economy and to Australia's standard of living, and can be expected to be increasingly so as there is increased competition for food resources internationally. The level of investment (both public and private) needs to be at least maintained to preserve the benefits the industry provides. The public return on investment is high. There is no evidence to support the notion that removal of government funds will generate increased private investment in research, and indeed good reason to believe that removal of government support will remove incentives for private investment.

We believe that the issues raised in addressing its terms of reference can be more than adequately addressed in a more productive and effective way with much less risk to the integrity of the RDC system which has been an exemplar of a rural research funding framework globally for the past two decades.

We represent

The Australian Academy of Science (AAS) is a private organisation of Australia's leading scientists. It recognises research excellence, advises government, organises scientific conferences, and publishes scientific books and journals. It conducts international scientific relations and fosters science education and public awareness of science and technology.

The Australian Academy of Technological Sciences and Engineering (ATSE) is a forum for Australia's recognised leading technological scientists and engineers to study and discuss issues relevant to the formulation of public policy for technological sciences and engineering based activities, and the communication of expert advice to government and the community.

The Australian Council of Deans of Agriculture (ACDA) is the peak body representing agricultural education and research in Australian universities, the major providers of education and research and development (R&D) to Australia's primary industries.

Together we argue that the Draft Report and Recommendations do not adequately address important issues on the role of Australian rural R&D and its contribution to the overall productivity, sustainability and international competiveness of our primary industries. Despite acknowledging that R&D does provide a range of other community benefits such as cheaper and better food, improved environmental management and more humane animal welfare, the draft report contradicts this in most of the subsequent document by assertion, and usually without providing adequate rationale for its conclusions.

Public funding principles

We agree with the recommendation that the government clearly articulates what it expects from its investments, bearing in mind that it is investing in research, the outcomes of which, by definition, cannot be known in advance. There is risk associated with research and this can, and has to be recognised.

We note that the Productivity Commission (PC) basically ignores the public benefit derived from having efficient fibre, feed, as well as food production and thus cheap food and food security and a consequent stable society, which are outcomes of R&D. Rural R&D funding in Australia has efficiently delivered lower food prices without the distortions that the costly subsidy systems of most of the developed countries, and our competitors, have produced. Food security should be viewed both nationally and internationally. Debate in Australia is virtually all about the international implications of food insecurity, not the domestic issue.

There is a simplistic view that "if we run short of food, then we'll buy it on the international market". Those international markets may not be there e.g. Russia closing wheat exports or if there are geopolitical upheavals that mean that we no longer have access to a commodity and/or to germplasm. Many strategists are now arguing that future international political stability will be linked to cheap energy, cheap food and available water. All of these can influence Australia's food security as well, and we need to have the capability to produce a wide range of our own food.

We also note that the recommendations do not address the substantial issue of intergenerational equity, given there is recognition, acknowledged in the Draft Report, that the lead times of agricultural R&D are several decades.

The endless reduction in the total rural research funding base and its increasingly transient nature also has impacts on Australia's capacity to attract the best and brightest minds into agriculture. This is occurring right when we are seeing rapidly increasing retirements of the well trained baby boomers.

Given the great uncertainties surrounding global food security, and recalling the food crisis in 2008 – during which many countries prohibited food exports – we argue that it is in our national interest to maintain an adequate supply of skilled agricultural scientists. This is not only for their immediate skills, but also for their potential to educate a new generation of such people, an issue of urgent concern to the ACDA.

Australian agricultural scientists have been active in international agriculture (through, for example, the Australian Centre for International Agricultural Research [ACIAR]).

We contend that the activities fostered by the rural RDCs, including the spectrum of R&D from visionary to immediately applied, is a very effective way of maintaining that skills base, and deserves to be fostered by, targeted, federal support.

Changes to the configuration of the RDC model to formalise Cross-Sectoral programs and Research in the Public Good

The Draft Report argues that the government has not received value for its public good investment in rural research and that, therefore, the best way to address this is to establish a new RDC, Rural Research Australia (RRA) to undertake R&D to preserve the natural resource base of Australia's primary industries in the public good. It also argues that the present system does not adequately foster cross-sectoral programs. These two arguments are in contradiction, for the essential value of cross-sectoral research is in providing integrated solutions to a wider range of problems. It has been a characteristic of isolated "public benefit" research that it has not been accompanied by a well-articulated plan for implementing such research.

It should be noted that governments invest in the public good in a range of activities such as basic/strategic research (ARC and NHMRC), capacity building as well as environmental sustainability. In this latter case it is the sustainability of the resource base of Australia's primary industries. Despite the prime importance of the latter we believe that the government public good investment needs to be viewed more broadly than exclusively environmental.

We strongly believe that there are much more effective ways of addressing this perceived deficiency in outcomes of R&D funded research, than the establishment of a new government- funded RDC Rural Research Australia, to solely fund non-industry-specific rural R&D, to deliver public good. These views are founded on 2 basic tenets:

1. The separation of productivity research from sustainability research had worked poorly in the past, though in recent years, the Land and Water Resources R&D Corporation (Land and Water Australia [LWA]) had encouraged co-investment in natural resource management issues relating to production systems by the industry RDCs. In some cases, several production RDCs were co-investors in these programs. Subsequently Land and Water Australia was abolished – a very unfortunate action. The essential point is that there are typically multiple beneficiaries from seemingly specific agricultural R&D projects, and it will substantially diminish the outcomes of such research and possibly lead to duplication if attempts are made to separate investing organisations into those only funding private or public benefit.

2. This disconnect of placing them in different systems will make it even more difficult to deliver knowledge through one portal to land managers, who necessarily must integrate productivity and environmental concerns into workable farming systems over the 60% of the Australian landmass that they manage. For example the majority of Landcare members who actually manage land are farmers who would prefer their information to be available through a single portal.

Further, the lack of specific focus of "broader rural research" has typically meant that there is no well-defined pathway for the application of such research that can be fostered, monitored and evaluated, as several of the current RDCs do so well individually or in partnership.

To take a specific example: the Draft Report mentions “greenhouse gas abatement” as a possible topic to be pursued by RRA, seemingly unaware that there is currently in progress a well co-ordinated and effective research program, both in livestock and in grain crops, for reducing emission of methane and nitrous oxide, managed by the appropriate RDCs (MLA and GRDC), but co-invested by a number of RDCs and the Commonwealth. This research is being integrated into workable farming systems. See, for example, http://www.mla.com.au/Research-and-development/Research-programs-and-projects/Environment. To separate such research out into the mooted RRA will severely compromise its ability to deliver outcomes through land managers. Similarly, it is hard to see how moving research on bio-energy crops from RIRDC to RRA will improve outcomes, given RIRDC’s substantial experience and knowhow in interacting with industry. Unpalatable though it may be, serious consideration should be given to reinstating LWA or in essence giving the same responsibilities with potential for undertaking co-investment with other RDCs to the new RRA. If the RRA were to go ahead, the aim should be to maintain investment in the cross-sectoral research as was done by LWA, but also encourage continuing collaboration with the “production” RDCs. RRA should not be funded by removing the “public good” investments from the “production” RDCs.

We propose that the government’ s investment in the public good research to ensure the natural resource base is sustainable and in other cross-sectoral research could be most effectively addressed by:

- Establishing a series of cross-sectoral R&D programs as unincorporated joint ventures (UJVs) with investment from the RDCs with vested interests in that area, such as currently occurs in the Climate Variability and Agro-forestry Programs. These areas would include climate change, sustainable irrigation, climate variability etc or such areas designated by the Minister on advice from the current COAG – PISC process.

- Changing the PIERD legislation to mandate that most RDCs must invest at least 20% of their budgets in cross-sectoral programs (though some may well be exceeding that now). This would ensure that at least $100M pa ($ 50M government funds) is invested in these cross-sectoral issues. It would be up to the boards of individual RDCs to make strategic investments across the most appropriate cross sectoral issues.

- However, consideration should be given to the extent of commonality of problems across different industries, and a fixed 20% may not be appropriate in all cases.

- Placing a government-nominated director with relevant expertise and responsibility to encourage co-ordination of programs with other government initiatives on the boards of all RDCs.

- Formalise an annual consultation between the Minister, DAFF and the Chairs of RDCs at which the RDCs justify their investments in cross sectoral programs.

These proposed arrangements could be implemented by:

- Designated RDCs taking responsibility for managing particular cross-sectoral programs under the direction of reference committees, or

- A major restructuring of RIRDC to give it the responsibility of managing cross-sectoral programs and any other multi-industry programs designated by government, or the re-establishment of LWA, while moving the responsibility of small industry programs to the appropriate industry RDC.

Changes to Funding of the RDC Model

There has been a progressive proportionate shift of R&D funding from the States to the Commonwealth sponsored RDCs under the assumption of "reducing duplication through institutional consolidation to provide critical mass". This has allowed the States to pull out of research (ie reduce their total R&D investment) in some areas. But it has also resulted in the States and Commonwealth beneficially addressing coordination of production research and developing cross-sectoral research with what funding they are maintaining.

Reducing government funding for the existing RDCs will have a much more damaging effect than anticipated by the PC. For instance, the draft recommendations do not recognise that the withdrawal of government funding will have a marked negative effect on funding by other agencies such as universities, CSIRO and State Governments. Universities in particular depend on RDC funding for agricultural research; they receive little or no other government allocations for research in primary industries. Not only do they produce the future professionals, they conduct about more than a third of agricultural research, and in Australia's relatively small scientific community, often cover research expertise not found elsewhere in the nation.

Reducing government funding to the extent proposed may well threaten the RDC system, as farmers may reduce their investment correspondingly. Although the returns on agricultural research are high, we can expect that farmers and other private beneficiaries will not fill any gaps. The lag times until the research has impact are generally long, and financially-strapped farmers are more likely to think of short term needs, and that they will benefit from the contributions of others anyway ("freeloading"). Thus, we can expect that withdrawal of government funding and the incentive it provides will result in further reductions of private contributions, not increases.

The significant work done by the PISC R&D sub-committee on the National Primary Industries Research, Development and Extension framework could also be a good base on which to build coordination and strategy.

Principles to guide the future operation of the RDC program

We agree that there should be a framework setting out conditions as already foreshadowed in the first draft recommendation.

The role of R&D investment can become confounded with industry promotion, the benefits of which are not always clear. Research investment is usually given a reduced priority and whilst increased promotion may lead to short term market gains, it is at the potential risk of losing international competitiveness in the longer term through reduced innovation and adoption in the industry. These trade-offs must be carefully considered.

We suggest that the Company model has been limited in its success. Some R&D Company Boards are elected, not appointed by the minister, and have become highly politicised and there is no guarantee that the skill base originally mandated for Boards

under the *Primary Industries Research and Development Act 1989* will be achieved. These skills are

- commodity production, processing, and marketing;
- conservation and/or management of natural resources;
- science, technology and technology transfer;
- environmental and ecological matters;
- economics;
- administration of research and development;
- finance and business management, and
- sociology.

We note that the largest RDC, the Grains R&D Corporation, still operates under the Corporation model and that the grains industry has had a long consistent record of continued efficiency improvement.

Some of the RDCs have tended to look for very short term gains through the perception that marketing and promotion will fix the industry's problems. We note that Australian Wool Innovation Limited has progressively reduced the proportion of its levy collection for R&D to 30%, the remainder being used for promotion. The promotional expenditure does not attract Commonwealth matching funds. Any reduction in the industry levy identified for research results in a concomitant reduction in matching Commonwealth research funds. We note that in the commercial world it is common practice to have RD divisions completely separated from marketing and promotion.

Reducing research investment means that the industry is reducing the probability of ensuring the technological and environmental advances needed to maintain international competitiveness.

Specific changes to help give effect to those principles

It is essential that the government articulate a clear and meaningful set of priorities or other guiding criteria or use existing accountability mechanisms effectively to assist the RDCs to meet its policy framework. The introduction of government nominated directors on the Boards of each of the RDCs, preferably with overlapping responsibility for more than one RDC, could ensure that the government's expectation for its investment is adequately met. Skills-based Boards are strongly endorsed.

There is also room for improvement in the way in which applications for funding are reviewed by the RDCs. For example, there is scope to use peer reviewers much more than is currently practised.

There exist truly potent project and program evaluation methodologies that provide risk assessment and accommodation of uncertainty that can be applied both ex ante and ex post. These assessment tools need to be accessed and utilised. It is considered pertinent to the issue of effective operation of RDCs, in whatever form and coordinated framework they operate, that they access and utilise a consistent model in this respect.

Levy arrangements

We argue that the product specific levy rates continue to apply, determined by industry as previously specified.

Framework data collection and program coordination

The proposed framework would go a long way to providing the government with the tools to establish clear and consistent guidance on what public funding is intended to achieve. It would also provide a way of evaluating the success of the investment. As part of the Framework, the Minister could provide clear directions on what the government envisages for its public good investment on a regular basis.

Further review

We agree with but recommend broader terms of reference that could fully explore the way in which rural R&D improves environmental outcomes.

Conclusions

The RDC matching funds model has served Australia and world agriculture very well, and has been advocated as a model in other countries such as the USA. Agriculture is important to our national economy and to Australia's standard of living, and can be expected to become increasingly so as there is increased competition for food resources internationally. The level of investment (both public and private) needs to be at least maintained to preserve the benefits the industry provides. The public return on investment is high. There is no evidence to support the notion that removal of government funds will generate increased private investment in research, and indeed good reason to believe that removal of government support will remove incentives for private investment. The RDC model can be improved with relatively minor changes that address the concerns that have been raised, without risking the considerable benefits.