



## Australasia–Pacific Extension Network Inc.

INC. A0029919P

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### **Comments on the Australian Government's Agricultural Competitiveness Green Paper 2014 By the Australasia-Pacific Extension Network (Inc.) 24 November 2014**

#### **Introduction**

The Australasia-Pacific Extension Network (APEN) is the professional organisation for extension workers and those interested within extension. APEN members are involved in community and rural development, adult education, communication, industry collaboration, industry development, industry services and other related fields. The network represents over 400 extension professionals across Australia, New Zealand, Papua New Guinea and the Pacific. Our members are from government agencies, private practice, educational institutions and industry bodies.

APEN is well placed to comment on the broad direction and specific policy ideas raised in the Green Paper, and provide further policy suggestions. Specifically we will comment on those raised in the following sections:

- Education, skills and training, and labour;
- Research, development and extension.

#### **Education, skills and training, and labour**

##### **Policy idea 14 – Strengthening agricultural education**

The adoption of innovation requires the building of human capital in the client base. In spite of the increasingly complex and demanding value-chain structures of modern agriculture, Australian rural industry has the lowest number of workers with post-secondary qualifications compared to other sectors. The Australian Senate in a review into higher education and skills training to support agriculture and agribusiness, found that in 2009 only around 7.8% of agricultural industry had tertiary qualifications, compared to 25% for the wider Australian community (Australian Senate, 2012; Pratley, 2012). If knowledge development and adoption is the engine room for enhanced productivity gains, then the sustained disinvestment trends and fragmentation of knowledge generation, implementation, and feedback pathways must have deleterious effects on the overall innovation system. Extension services serve a critical function in agricultural innovation systems and deserve to be anchored formally in any policy document that aims for improved productivity.

##### **a. Working with States and Territories to provide specialised learning in agriculture in the future**

Although important to provide adequate resources for existing agricultural high schools the Green Paper fails to recognise the value of exposing the wider school education system to agriculture. Greater effort needs to be made in linking the education in school (in science, maths, English, geography) to the agricultural sector within Australia. The wider student population needs to be exposed to the technical nature of today's agricultural sector in order to make informed decisions about their future vocations which could include working within agriculture.

##### **b. Establishing a young farmers mentoring and networking programme**

APEN is supportive of the proposal to establish a new programme that provides mentoring, networking and training opportunities for the next generation of farmers. In addition, we believe this programme should also be extended to the young scientists and extension professionals to enable greater collaboration and understanding amongst farmers and others in the innovation system into the future.

### **c. Increasing financial support for regional education**

APEN is supportive of the principle of supporting families from regional and remote communities to ensure that our youth receive the best possible educational opportunities. In some communities this may best be delivered through adequate resourcing of existing educational facilities rather than through the provision of individual assistance. This will ensure the retention of staff and student numbers in regional communities rather than exacerbating their movement from country to city locations for their education. This is particularly relevant for indigenous communities where educational opportunities could be further enhanced through closer relationship with the local agricultural sector.

### **d. Creating national agricultural tertiary centres of excellence**

Investment in tertiary-level agricultural education and training is necessary for the future competitiveness of the agri-business sector within Australia. It is important that these institutions delivering on this are spread regionally throughout Australia so that appropriate opportunities are provided to graduates. These opportunities need to reflect the diversity of agro-ecological zones within Australia with a focus on relevant agricultural sciences, natural resource management, business management and economics. The institutions need to be located in:

- Northern Australia (north Queensland, the northern Territory and northern West Australia).
- Southern Queensland/northern NSW
- Southern mainland states (southern NSW, Victoria, South Australia)
- Tasmania
- Western Australia.

If recognition is given that tertiary education is a potential driver for increasing the human capital of industries and consequently their competitiveness, then considering the very low level of tertiary qualifications in Australian farm businesses; there may be a case for developing policy tools that would reward Australian farming families to have their children who might be in the succession plan for the business, to undertake tertiary level studies that would be of direct positive benefit to their enterprise. The exact nature of this policy framework would require considerable thought, but it could potentially include an inducement such as tax rebates, or if deployed as a persuasive policy tool it could encompass eligibility for certain government farm assistance schemes. The latter is the case in certain countries in the European Union, where Diploma level qualifications are required to access different support programs. The objective is to drive up the educational level in the farming sector and thereby building the human capital and potential competitiveness of the sector.

### **Policy Idea 15 – Strengthening labour availability**

APEN notes the various proposals in strengthening labour availability for agriculture. We will not specifically address those proposed in the Green Paper but note that it ignores the importance of a highly skilled domestic workforce. Agricultural is an increasingly complex work environment. High level skills are required by all working within the agricultural sector – further development of a robust and competent VET skilled workforce is needed to continue development of the agricultural sector workforce. Resourcing of this is a priority to ensure we remain a competitive agricultural sector.

### **Research, development and extension**

An effective innovation framework (comprising research, development and extension) is essential for the continued competitiveness of Australian agriculture.

### **Policy idea 20 Strengthening the RD&E system**

#### **a. Updating the rural RD&E priorities to better align with community needs**

APEN supports the updating of the National Rural R&D Priorities as proposed in the Green Paper. The focus on raising productivity and profitability is important, although care must be taken in defining profitability in the context of differing time-scales – short term ‘profits’ must not prevail over long-term sustainable profitability. The Green paper could better describe the necessity to undertake adaptive management in our agricultural systems in response to increased evaporation, intensification of rainfall events, increased incidence of severe events and saltwater intrusion.

We are supportive of a focus on:

- Advanced technology
- Biosecurity
- Soil, water and natural resource management

We also support a greater focus on the adoption of R&D. However, there is a presumption that private delivery of extension services is the optimal approach to addressing the lag in adoption of R&D. In some circumstances this may be the case but for some R&D, and in some geographic location, this would not be the case because of market failure. The broad suggestion that increasing extension delivery via the private sector demonstrates a lack of understanding of the complexities associated with the innovation system.

**b. Establishing a new body, or tasking existing research bodies, to coordinate cross-sector research**

The Green paper refers to the possibility of developing an additional overarching agency “rural research Australia” to which the Research and Development Corporations (RDCs) would be partly subordinate to. The role of this group is not clearly described. We do support the better recognition of Agriculture as a vital ingredient of regional development and would comment the resources for both might be pooled on a number of fronts to amplify the outcomes. An example would be the funds available to assist small business are generally unavailable to farms; an integrated program to support SME businesses along the food and fibre chain should a) bring the chain closer together and b) improve return on investment if regional food and fibre development plans integrated the effort across the sectors.

The proposition suggests an allocation of at least 40% of existing RDC funds directed to the new agency ‘Rural Research Australia’ (Productivity Commission, 2011). The argument is that these funds would be then directed to relevant cross-sector functions at the discretion of RRA. The case for this is based around funds being set aside for strategic ‘transformational activities’. We have several concerns in relation to this proposal:

- More critically it could also be seen as move by certain vested interests in the research sector to quarantine funds away from the industry agencies and their current core business.
- Is another layer of bureaucracy really essential?
- How much will this detract from essential applied RD&E activities supported by the RDCs?
- What would be the additional administrative costs involved in operating this new entity?
- How much would it detract from the marketing and promotional efforts of the RDCs for their respective industries and what would be the consequences of these outcomes?

**c. Enhancing access to the R&D Tax Incentive**

Incentives that encourage further R&D in the agricultural sector are to be encouraged. However, care is needed to ensure that such incentives do not distort the investment in R&D.

**d. Promoting the development of extension services**

Given the steady retreat of publicly funded RD&E by some State Governments since the 1990s, RD&E effort has been increasingly resourced under the auspices of the RDCs (Core, 2009; Mullen, 2010a, 2010b; Mullen and Orr, 2007). It must be understood however, that the RDCs operating in Australian agriculture/horticulture do not directly carry out RD&E activities. They are brokers of industry levies and matched Australian Government funds. They allocate funding to private entities, government agencies and universities according to determined priorities and the capacity of those recipients to deliver different RD&E services. By and large, RDCs do not possess their own research or extension staff, though they do employ professionals with skills in these areas to assess, oversee and coordinate projects awarded to different agencies (Hunt et al., 2014).

Changes in public sector organisations or the viability of private sector providers have therefore had an influence on the effectiveness of the service delivery operations of the RDCs. RDCs have historically relied heavily on State departments of agriculture to deliver their programs, as this is where the residual expertise and infrastructure has historically lain. This landscape has now changed, with many State agencies having withdrawn their level and type of services to rural industries. The rationalisation paradigm since the 1990s has been based around the premise

that the private sector would emerge to fill the gap as publicly funded services withdrew. This perspective has been overly optimistic as the current model is a supply driven one that provides when demand is prevalent; the previous model assisted demand generation and we now have a system where less farm development work is undertaken. The private sector has emerged more strongly in specific areas where there have been sufficient swift returns on investment for their efforts, and where there are sufficient critical masses of producers in reliable production environments to sustain their business. The deficiencies of the private sector to resolve the wider spectrum of rural industry needs has been demonstrated in several studies that highlighted clear incidences of knowledge and skills gaps in different sectors on the withdrawal of government RD&E services (Fulton et al, 2002; Hunt & Coutts, 2009; Macadam et al, 2004).

The CRCs must also be considered in their role in the RD&E mix. Their nature and construction has meant that they generally possess little front-line extension capacity, and generally rely more on passive means associated with science communication activities, e.g. published material, scientific papers, websites and media releases. Like the RDCs, the CRCs have also relied heavily upon extension assets within the State government departments or private providers to extend their findings (Hunt et al., 2014). The generation of new science and technologies in isolation of effectively-linked extension infrastructure can mean longer lag times with implementation, and reduced returns on research investments (Anderson and Feder, 2004; Evenson, 2001).

The Grow North CRC proposal will be an indispensable set of joint public and industry institutional capital. There is a clear focus on development and enterprise development as well as employee/farm manager education and training and not a major focus on PhD's. The final policy paper needs to be more explicit in committing to a precise funding allocation dedicated to a Northern Australian Agricultural development. It must possess adequate capacity-building/extension services in the structure and operations of the institution. In much of northern Australia there is insufficient applied agribusiness technical and scientific capacity to establish and embed new knowledge and technologies in new farming regions. Hence, a specific institution with these capabilities needs to be created and its human assets geographically positioned to service the proposed development precincts. The sustainability of the nation's agricultural-innovations system is critical. Thought needs to be given to 'sustained' as opposed to 'temporal' policies. The fact that agricultural RD&E investment in Australia has been demonstrated to achieve 1:12.2 cost : benefit ratio over more than 80 years, should encourage governments, industry and the private sector to invest (Mullen & Orr, 2007).

Given the references cited in the green paper, it would appear that the authors have not explored wider policy or structural innovations in agricultural RD&E in Australia and internationally. For example New Zealand agriculture is reforming the way it has organised and funded its RD&E systems in various industries. They are developing more holistic, inclusive innovations systems that include both research and extension capacity. They are also combining both industry and public resources more effectively and are ensuring research direction is for the benefit of industry and not necessarily the research institution (Hunt et al., 2014).

The Danish Agricultural Advisory Service deserves serious investigation as an innovation model. It has been in existence for 139 years and offers some insights into how industries can secure, retain and manage expertise instead of having a reliance on public resources (European Commission, 2012).

The Australian cotton industry's Development and Delivery Team model also demonstrates a comprehensive integrated agricultural innovation systems framework that should be further investigated by government and rural industry policy makers as a potentially effective and sustainable structural arrangement.

The former BSES Limited model in the Australian sugar industry may also deserve scrutiny as a viable RD&E alternative.

There is a case to investigate some fundamental innovation for the innovation system itself (Hunt et al., 2014). For instance, processors of agricultural products have long benefited from advances of agricultural RD&E but in the case of many industries, they have contributed limited amounts to the investment and advancement of it. It was argued strongly by several high-profile submissions to a national review of the RDCs in 2011, that processors should also contribute to industry RD&E efforts. However, it did not receive the support of the Commissioners. A combined producer, processor and government co-investment arrangement have been demonstrated in the Australian sugar industry for many decades; and remains the central plank for its ongoing RD&E capacity. This

position is defensible in industries where field-based factors have a significant impact on factory performance, and importantly factory throughput, which drives the processor's profitability – a clear case of mutual dependence that is often forgotten by those in the processing sector.

**e. Decentralising Government agricultural research functions to regional areas**

APEN is supportive of the proposal to relocate RDCs to regional centres (the location of the Cotton Research Development Corporation [CRDC] for example at Narrabri is good model of how well this can work). We also believe there are real benefits to be obtained by co-locating R,D&E providers – there are potentially significant benefits to be obtained in this co-location of university researchers with the R,D&E capacity of other providers (in regional centres) – somewhat similar to what occurs within the USA Land Grant University system.

Extension services must not be considered as add-ons to R&D – they must be fully integrated into process and delivery of research, and be active in providing feedback from industry stakeholders to research elements, as well as identifying farmer innovation which can be tested through science. Extension agents should function as credible technical experts in their specific roles, and be present in the field. An absence from the field results in a decline in support for extension services (Milburn et al, 2010). Appropriate planning, provisioning, and skilling of extension in adult education skills and process should be used to complement and not be a substitute for technical competency. Failures identified such as the CRI review in New Zealand and elsewhere (e.g. Britain) flag that a separation of research and extension capacities is detrimental and should be avoided.

**f. Regular five-yearly assessments of the RD&E System**

Evaluation is a critical aspect of the extension profession which APEN represent. We are supportive of on-going evaluation strategies incorporated within all RD&E activities undertaken. The concept of five-yearly assessments of the RD&E system fits neatly with our membership. It is important however that the framework for the five-yearly assessments is well understood to ensure the most appropriate information for the assessment is collected throughout the course of RD&E activities. APEN have many members with a strong evaluation focus which can provide appropriate assistance in the planning and implementation of such assessments.

**Policy idea 21 – Improving the rural RDCs**

**a. Administrative changes to the RDC model to increase transparency and reduce costs, including giving RDCs a targeted set of objectives**

The suggestions made here all seem reasonable. The only note of caution is to ensure that industries have a significant say in the determination of priorities they should be addressing – they are generally better placed than government agencies in determining the most appropriate priorities for their sector.

APEN are of the opinion that the RDC model should evolve into new industry focused bodies that employ their own research and extension staff. Such institutions would understand the value of capacity building and ensure the succession of knowledge and skills over time; this is important for ongoing industry development. Where there are multiple agencies involved in particular industries RD&E efforts, rationalisation into single corporate entities for the purposes of efficiency ought to occur.

Examples of these profound reforms can already be found within Australian agriculture. For example, a longstanding model of industry-owned RD&E capacity can be found in the Australian sugar industry' former Bureau of Sugar Experimental Stations (BSES), which recently merged into a new entity called Sugar Research Australia. In this case, the RDC function of SRDC and the RD&E delivery function of BSES (and two other sugar R&D entities) were merged into the one organisation. Other industries should consider the utility of this model as an example of what integrated self-contained RD&E capacity owned by an Australian agricultural industry could look like in practice.

Some RDCs, such as the Cotton RDC and Dairy Australia, while not yet employing their own R&D staff, have moved from relying on state agency staff, to employing their own. A key aim of these staff appointments is to unlock the value of industry-funded R&D through better delivery and coordination of extension services. It is likely that these examples represent the early stages of the evolution and transition to new models of industry-owned RD&E organisations within Australian agriculture.

## **b. Increasing the flexibility of levy arrangements**

We support the concept of greater flexibility in the application of levies to specific industries. A significant issue remains the impact of poor seasonal conditions on the collection of levies for some commodities which flow on into reduced investment in RD&E in subsequent years – this leads to a loss of RD&E capacity which industries can ill afford.

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Yours sincerely

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