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AGRIFOOD
SKILLS AUSTRALIA



Adapting Farmers to Climate Change
Primary Industries and Resources Committee -
Inquiry

Submission by

AgriFood Skills Australia

20 March 2009

***Adaptation** focuses on helping primary producers adapt their management and production systems to account for changes in climate, including changes to business systems or market demands. Examples of practical adaptation at an enterprise scale might include improved water-use-efficiency, selecting more drought-resilient plants and/or livestock, diversifying activities to spread risk and changing the timing and type of production.*

A National Climate Change Research Strategy for Primary Industries, Land and Water Australia, 2008

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AgriFood Skills Australia – Key recommendations

- Agriculture and food production and processing are fundamental to Australia's economic wellbeing in generating 20% of the nation's export income, and being a key supplier of food to the global market. It is important that the Vocation Education and Training (VET) system provides the flexibility and support to provide high level skills and knowledge to farmers to ensure they have the capability to sustain their businesses in the context of climate change.
- AgriFood Skills Australia advises and assists government with knowledge and skill development by using industry and training provided networks and reformed training products to streamline the acquisition of skills and knowledge
- The uniqueness and value of the Australian VET system lies with its close relationship with industry. This relationship means that AgriFood Skills Australia can quickly respond to industry needs by tailoring training packages and implementation guidance for training providers
- The agrifood industry's coverage links it to some 30 CRCs and RDCs. AgriFood Skills Australia is working closely with two CRCs in developing ways for VET-trained technicians and managers to record and report on research activities at the farm level, and also to assist with extension of results. This is aimed at assisting with undertaking and implementing research, creating further high level career opportunities for VET graduates and demonstrating the contribution VET trained people can make to the operation of CRCs.

AgriFood Skills Australia is one of 11 Industry Skills Councils, funded by government to provide industry workforce intelligence. AgriFood covers the industry areas

- Rural industries - agriculture, horticulture, animal care, and conservation and land management
- Food, beverage and pharmaceutical manufacturing
- Meat industry
- Seafood industry
- Racing industry

Currently the sector accounts for about 800,000 jobs, and is the critical lifeblood of regional Australia. The industry represents more than 7% of GDP, generating over \$150 billion per year. More importantly, the sector has the

capacity to provide food for 60 million people globally in a food critical environment. The industry has strong potential for the future due to global population and income expansion.

Agricultural industries are likely to be affected by climate change both directly and indirectly, having a potential effect upon up to 18% of Australian merchandise exports. The agrifood industry is, predominately a regional industry and in many cases the major employer for many of Australia's regional towns. The adaptation to climate change by the industry is linked to regional development and sustainability.

The threats of climate change are real and will affect the Australian farming community, to varying degrees. Some of the more major changes will include:

Temperature

- Longer dry seasons with increases in temperatures

Rainfall

- Water shortages – Less rainfall coupled with hotter conditions
- Decreased rainfall can also impact on the quality of soil

Extreme events

- Bush Fire – increased risk and frequency
- Increases in flooding and storms
- Rising sea levels and changing currents and chemistry
- Prolonged drought

Pests and diseases

- Changes in temperature, rainfall and humidity are likely to alter the distribution occurrence and frequency of pests and diseases.

Community Impact

- Decreasing levels of agricultural productivity will cause regional centers to decline as these industries provide the lifeblood of many of our regional communities
- Supply chain implications that will affect other critical industries such as food and meat processing

The agrifood industry is resilient by nature and has continually adapted to change from weather, world trade agreements, changing consumer preferences etc. The industry will adapt again through the current challenges of climate change. However, the industry deserves an easier transition than previously afforded it.

There must be a fundamental shift in understanding among our leaders and our society that farming still underpins our civilisation, and merits due attention, skilling and investment.

Dr Julian Cribb, *Tackling the global farm crisis. Address to AFISC conference 2008*

Adapting to the threat of climate change will require a coordinated effort across all levels of government, science, industry and regional communities. The industry needs adequate resource and support to ensure the best technologies are utilised. Further to this, climate change adaptation needs to be promoted and the processes to gain the requisite skills for action accessible.

Recently, AgriFood Skills Australia undertook national consultations to inform the *2009 Environmental Scan of the Agrifood Industries (Attachment A)*. These consultations confirmed that climate change is of critical importance to all of the agrifood industry. Further, Australia hosts a vibrant and talented vocational education and training (VET) system which can, and is waiting to, be utilised as the vehicle to work with our farming community.

Australia is a globally important 'food bowl' and as such we have a global responsibility to ensure that we can continue to feed the 60 million people we are capable of. The risk of climate change is real for our farming industries. Just as significant for Australia, is the threat along the supply chain, especially for food and meat processing enterprises. A national adaption strategy for farmers needs to also consider those other significant industries reliant upon our primary industries.

Australia spends a considerable amount of money on funding research, through universities, CSIRO, CRCs and R&Ds. The agrifood industry has direct linkages, through levy payments, or other industry contributions, with over 30 CRCs and R&Ds. However, our industry consultations have repeatedly shown these research groups often lack the ability to sufficiently disseminate critical research and technology outcomes to the end users.

This is the area of grave concern to AgriFood Skills Australia that research funding for the agrifood industry is being wasted due to a lack of extension. Critically there is a lack of collaboration to streamline R&D effort across industry, government and research bodies. This leads to duplication, waste and poor uptake.

AgriFood Skills Australia is repeatedly being acknowledged as the most efficient body who can work between research bodies, industry and training providers to ensure that new knowledge is used at the ground level. AgriFood has the ability to harness new information/technology and incorporate

quickly into training products, and to then work with training providers to deliver skills that are most urgent.

The VET system is ready to work with farmers and research agencies - as the vital conduit - to ensure the right skills and competence are available to all primary industries for adaption to the challenge of climate change quickly and efficiently. However, the research bodies must work with AgriFood Skills and accept the vitally important role that vocational education and training has on the skills and knowledge of industry.

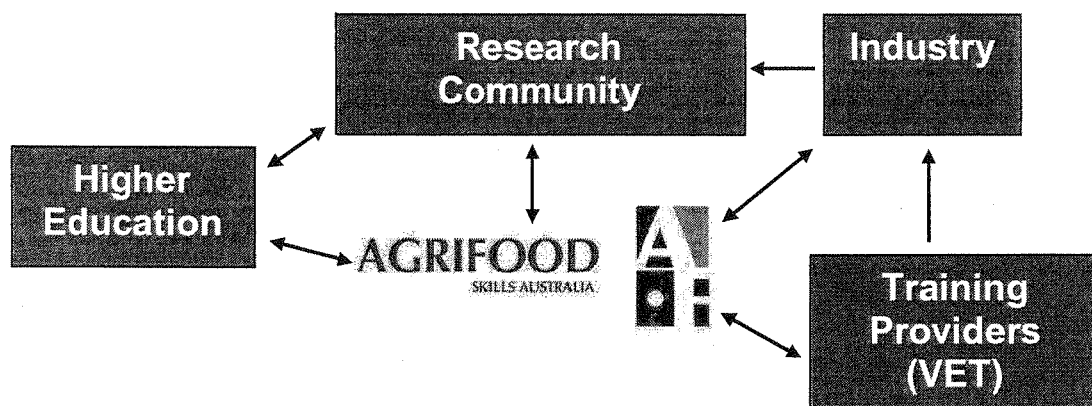


Figure 1 – A continual information link

There are a number of areas that government can influence and assist farmers adapt, these are discussed below

Understanding the Threat (and opportunities) posed by climate change

- Primary industries must be convinced that the implications of climate change are real, therefore decisions are made by using real evidence
- Confidence that climate change will impact dramatically on the things they do and that changing to adapt will assist future productivity

AgriFood Skills Australia's recent national consultations confirmed that there is an acceptance that climate change is real. However, the advice to the farming community needs to be streamlined, discussed by reputable industry leaders and solutions for adaptation available to manage the change.

Preparing Industries

- Support (research and extension) to guide the transition from what farmers do now to what and how they do it in the future
- New technologies to respond to the change
- Focus on, and commitment to, new technology skill acquisition and implementation

The appropriate skills and knowledge are vital for industries to have the ability to adapt. This has long been strength of the VET system, to provide the skills to industry when needed. Critically it is also the strength of the industry led VET system, its ability to forge, nurture and strengthen the close relationship with industry. These accepted ties with industry are acknowledge as something unique to the VET system and must be respected by all critical players working with Australia farmers.

Accessing information and assisting change

- Better research funding to tackle the implication of climate change. This should not be funded by the removal of funding from other important research priorities
- Research assistance linked to outcomes based extension.
- Research outcomes are measured for effectiveness at an individual enterprise level
- Good monitoring systems so Australia can we learn what works, what doesn't and why, and how to improve
- Adequate resourcing of mentors and others to train and guide farmers to utilise adaption techniques

AgriFood Skills Australia can work as a vital conduit between research and industry to facilitate extension and targeted ground level implementation.

Linking the players

- Science, individual farmers, industry and policy makers all have specific knowledge needed to solve problems – bring all knowledge together to foster change – bring out solutions that can change analysis, and action into an uncertain future.

AgriFood Skills Australia already has these linkages through its existing networks and is the only national body with the positioning to facilitate these discussions to gain better industry outcomes

Innovation

- Moving the idea into reality

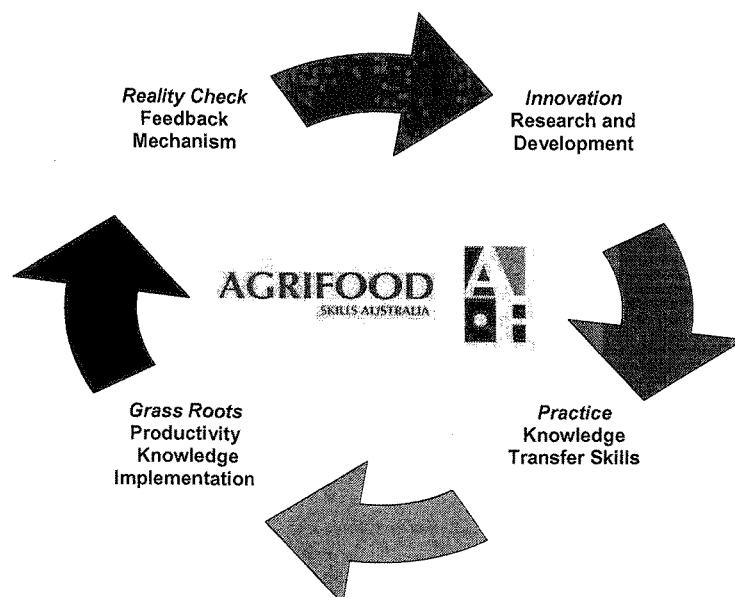
- Enable farmers through providing resource and opportunity for farmers to innovate

Equipping our people with the skills to innovate is essential, not only for the generation and application of new knowledge, but also to use and adopt the knowledge produced elsewhere

**p.62, Review of the National Innovation System,
Cutler & Company Pty Ltd, 2008**

- AgriFood Skills Australia has long been a promoter of innovation and understands that a sound skill foundation is critical for transferring knowledge into action, as shown in figure 2.

AGRIFOOD SKILLS AUSTRALIA - INNOVATION CYCLE



Critical Skills/capabilities needed to adapt to change

Adaption to climate will mean a change by many to how the farm has always operated and the ability to do this will be underpinned by sound management and decision making skills, critically;

- Risk management
- Strategic decision making and planning
- Workforce (skill needs) planning

Key Points for consideration by committee

Deepening of skills

Many adaptation strategies are based upon the ability of a farmer to make strategic decisions which are based on the perceived productivity and natural resource management gain. (See *Jeff Odgers case study p. 16 Environmental Scan 2009*).

Risk management is also a critical skill where decisions are made logically and are considered as part of a mitigation strategy

All jobs in agrifood require a specialised level of skill. (See *Paspaley Pearl case study p. 10 Environmental Scan 2009*). Being able to access the right skills at the right time, especially in periods of change, is essential for a vibrant, diverse and critical industry such as agrifood.

Diversification

Primary industries are amalgamating and it is understood that cross sector capabilities of staff are not only desirable but essential. This skill diversification will make adaptation to new technologies and changed farming practices less traumatic than if an enterprise is completely focused upon one operation.

Extension

Without a systematic approach to the dissemination of new research and technology adaptation will be picked up the 'quick adapters', but as has been shown many times before in the face of change, the majority will be slow to change. Australia can not afford to lag behind globally.

Environmental Scan of the Agrifood Industries 2009

This document provides the most current picture of the needs and issues facing the agrifood industry now. It is produced through research analysis and the current views of people working in the industry. AgriFood Skills Australia offers it to the Committee not only as an information source but more importantly a foundational document which can provide advice on best strategies to pursue to assist farmers adapt to climate change.

Ensuring that the right skills, get to the right people at the right time

Adapting to climate change is no different than other skills needs. The offerings made by training providers and others must be carefully considered and an acknowledgement that one delivery strategy will not work for all. Agrifood is small business and as such skills and workforce development

must be structured to suit the business or community NOT to suit an institutions timetable or standard procedures.

Conclusion

Climate change adaptation is critical for our farming industries and good science coupled by skill development is the best solution Australia has. A seamless strategy that ensures knowledge is transferred into action is the only way to ensure continued productivity and global competitiveness.

Governments need to work with research bodies and the VET skilling system to coordinate and resource implementation strategies. It is the VET system in Australia who has the strong links with the enterprises and who can facilitate this extension role. However, this requires resourcing and be assessed against stringent outcomes.

AgriFood Skills Australia has in this submission discussed the fact that skill and knowledge are the most critical tool to support farmers adapt to climate change. The submission also outlines how AgriFood Skills Australia can act in a pivotal conduit role to connect all the players, and facilitate the information and skills needed reaching the farmers who are adapting to climate change.