



# Australia's Road to 2030:

## Competitive Edge Through Sustainability – a Business Case for Adopting Value Chain Thinking to Grow Market Share



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AgriFood Skills International Fellowship

Fellowship funded by AgriFood Skills Australia





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# Executive Summary

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"2030 is now considered the deadline by when existing food and fibre production must increase by 50 per cent to meet a rapidly growing world population from a trajectory of reducing resources...less water, less arable land, fewer nutrients, diminishing fossil fuels, and a more erratic and warmer climate". Any one of these issues in isolation necessitates drastic change to the way we do things, but together and against a backdrop of reducing carbon emissions we are, as several commentators have pointed out, rapidly heading into '**the perfect storm of shortages**'.<sup>1</sup>

The purpose of the Fellowship was to gain a better understanding of how this 'perfect storm of shortages' impacts on the export of agrifood products and services from Australia. Whilst Australia is internationally recognised as an excellent primary producer, one of the many challenges faced by agrifood producers is marketing their products and understanding what drives consumers' choice amongst the diverse range of products available.

"Agrifood supply chains are now firmly in the era where customer orientation and social responsibility are the overriding driving forces. Once dominated by manufacturers, global supermarket chains now wield immediate and powerful capacity to source commodities worldwide, making competition between suppliers fierce and delisting a continual threat. **Collaboration of the supply chain to 'co-innovate' new products is now seen as the only peerless strategy for sustainable competitive advantage.**".<sup>2</sup>

Increasing our knowledge of what drives consumer choice is vital to allocating resources effectively through the value chain. The Fellow gained a deeper perspective of the strengths, weaknesses, opportunities and threats that 'the perfect storm of shortages' poses by gaining knowledge of, and practical experience with, the application of Value Chain Management (VCM). The opportunity to engage in a project relating to the export of mangoes from Queensland to the United Kingdom (UK) enabled the Fellow to gain insight into the power of VCM and Value Chain Thinking (VCT) processes. The Fellow considers that the international collaboration between the University of Kent and University of Queensland in undertaking Sustainable Value Chain Analysis (SVCA) projects relating to mangoes and avocados provides an effective framework to drive innovation and productivity gains across value chains for other agrifood sectors, for example, the beef industry.

"Industry's unprecedented challenge...sits at two interconnected levels. First, we need to exponentially raise productivity levels but through dramatically less inputs and in a marketplace where the supply chain and ultimate consumer dictate producers have a sustainable footprint. Second, we need to assume the mantle as pioneers of world class and world first practice. ...[the] Economic benefits (to Australia) of increased production – which currently sits at \$195 billion and generates employment for over 880,000 people – are profound, with burgeoning Asian markets lying off our northern shores and a predicted Australian population of 35 million by 2050."<sup>3</sup>

The Fellow attended seven conferences and workshops and conducted over 50 interviews in the United Kingdom, France and Brunei (on route to London), developing extensive international networks to expand export opportunities for Australia. Most activities highlighted the degree to which food security and increasing concern by consumers relating to health, sustainability and carbon footprint were already impacting on trade decisions. This insight enabled the Fellow to return to Australia with a heightened awareness and 'fresh eyes' to better understand how these issues will impact on future trade development opportunities across the globe. The Fellow has also adopted the principles of VCT to benefit the agrifood industry in her current role.

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# Abbreviations/Acronyms

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AACC	Australian Agricultural College Corporation
AANC	Australian Agricultural Nutrition Consulting Pty Ltd
AIC	Australian Institute for Commercialisation
AMIA	Australian Mango Industry Association
AgriFood	AgriFood Skills Australia
AusIndustry	A division of the relevant Department of Innovation, Industry, Science and Research (DIISR)
CQU	CQUniversity Australia
CRC	Cooperative Research Centres
DEEDI	Department of Employment, Economic Development and Innovation, Queensland
DAFF	Department of Agriculture, Fisheries and Forestry
DEFRA	Department of Environment, Food and Rural Affairs
DFAT	Department of Foreign Affairs and Trade
DIISR	Department of Innovation, Industry, Science and Research
EU	European Union
FIAQ	Food Industry Australia Queensland
FPC	Fresh Produce Consortium
GCI	Global Change Institute, University of Queensland
GFC	Global Financial Crisis
GF-HQB	Grain-fed High Quality Beef
GMI	Global Markets Initiative (a DEEDI program)
HAL	Horticulture Australia Limited
IBC	International Business Cadetship
IDSS	International Development Support Services
ISS Institute	International Specialised Skills Institute
JCU	James Cook University
MLA	Meat & Livestock Australia

# Definitions

## Abbreviations/Acronyms

NBA	National Beef Association, United Kingdom
QPIF	Queensland Primary Industries and Fisheries (merged into DEEDI 2009)
Q-WIN	Queensland Wide Innovation Network (DEEDI SME innovation program)
R&D	Research and development
R,D&E	Research, development and extension
SE Asia	South East Asia
SME	Small to medium-sized enterprises
SVCA	Sustainable Value Chain Analysis
TIQ	Trade and Investment Queensland (a division of DEEDI)
UK	United Kingdom
UQ	University of Queensland, Australia
VCA	Value Chain Analysis
VCI	Value Chain Innovation
VCM	Value Chain Management
VCR	Value Chain Research
VCT	Value Chain Thinking
WFP	World Food Programme

### Design

Design is problem setting and problem solving. Design is a fundamental economic and business tool. It is embedded in every aspect of commerce and industry and adds high value to any service or product—in business, government, education and training, and the community in general.<sup>4</sup>

### Food Security<sup>5</sup>

Food security is achieved when all people at all times have physical and economic access to sufficient, safe and nutritious food to meet dietary needs and food preferences for an active and healthy life.

### Innovation

Creating and meeting new needs with new technical and design styles. (New realities of lifestyle).<sup>6</sup>

### Skill deficiency

A skill deficiency is where a demand for labour has not been recognised and training is unavailable in Australian education institutions. This arises where skills are acquired on-the-job, gleaned from published material or from working and/or studying overseas.<sup>7</sup>

There may be individuals or individual firms that have these capabilities. However, individuals in the main do not share their capabilities, but rather keep the intellectual property to themselves. Over time these individuals retire and pass away. Firms likewise come and go.

### Sustainability

The ISS Institute follows the United Nations for Non-Governmental Organisations' definition on sustainability: "*Sustainable Development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs*".<sup>8</sup>

### Value Chain Management

Refer to Attachment 2 for detailed descriptions of:

- Value Chain Analysis (VCA)
- Value Chain Innovation (VCI)
- Value Chain Management (VCM)
- Value Chain Research (VCR)
- Sustainable Value Chain Analysis (SVCA)

# Acknowledgements

Helen Newell would like to thank the following individuals and organisations who gave generously of their time and their expertise to assist, advise and guide her throughout the Fellowship program.

## Awarding Body – International Specialised Skills Institute (ISS Institute)

The International Specialised Skills Institute Inc is an independent, national organisation that for over two decades has worked with Australian governments, industry and education institutions to enable individuals to gain enhanced skills and experience in traditional trades, professions and leading-edge technologies.

At the heart of the ISS Institute are our Fellows. Under the **Overseas Applied Research Fellowship Program** the Fellows travel overseas. Upon their return, they are required to pass on what they have learnt by:

1. Preparing a detailed report for distribution to government departments, industry and educational institutions.
2. Recommending improvements to accredited educational courses.
3. Delivering training activities including workshops, conferences and forums.

Over 200 Australians have received Fellowships, across many industry sectors. In addition, recognised experts from overseas conduct training activities and events. To date, 22 leaders in their field have shared their expertise in Australia.

According to Skills Australia's 'Australian Workforce Futures: A National Workforce Development Strategy 2010':

Australia requires a highly skilled population to maintain and improve our economic position in the face of increasing global competition, and to have the skills to adapt to the introduction of new technology and rapid change.

International and Australian research indicates we need a deeper level of skills than currently exists in the Australian labour market to lift productivity. We need a workforce in which more people have skills, but also multiple and higher level skills and qualifications. Deepening skills across all occupations is crucial to achieving long-term productivity growth. It also reflects the recent trend for jobs to become more complex and the consequent increased demand for higher level skills. This trend is projected to continue regardless of whether we experience strong or weak economic growth in the future. Future environmental challenges will also create demand for more sustainability related skills across a range of industries and occupations.<sup>9</sup>

In this context, the ISS Institute works with Fellows, industry and government to identify specific skills in Australia that require enhancing, where accredited courses are not available through Australian higher education institutions or other Registered Training Organisations. The Fellows' overseas experience sees them broadening and deepening their own professional practice, which they then share with their peers, industry and government upon their return. This is the focus of the ISS Institute's work.

For further information on our Fellows and our work see <http://www.issinstitute.org.au>.

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AgriFood Skills Australia is the Industry Skills Council for the agrifood industry: the rural and related industries, food processing (including beverages, wine and pharmaceuticals), meat, seafood and racing. The Fellow would like to thank them for providing funding support for this Fellowship.

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- AgriFood Skills Australia:
  - John Baker, Chairman
  - Arthur Blewitt, CEO
  - Laura Douglas, Communications Officer
- AusIndustry, Department of Innovation Industry Science and Research (DIISR):
  - Patrick Dowling, Customer Service Manager, Victorian State Office
  - Brett Henderson, Regional Manager, Northern Region (now with TropLinks Inc)
  - Deborah Mead, Regional Manager, Central Queensland
- Australian Agricultural College Corporation (AACC):
  - Jillian Condell, Senior Business Development Officer
- Australian Agricultural Nutrition Consulting Pty Ltd (AANC):
  - Greg Willis, Livestock Production Specialist
- Australian Food and Grocery Council:
  - Kate Carnell AO, Chief Executive Officer
- Australian Institute for Commercialisation (AIC):
  - Dr John Kapeleris, Deputy CEO
- Australia Pacific Islands Business Council:
  - Frank Yourn, Executive Director
- Australian Science Communicators:
  - Kali Madden, Communications Officer
- Bayer Environmental Science:
  - Lew Smedley, National Sales Manager, Professional Pest Control
- Beef Australia:
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  - Jo Rodney, Marketing Manager
- Beef Industry representatives:
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  - Alf Collins (Jnr), Owner/Director, Collins Belah Valley (CBV)
  - Neil Donaldson, National Operations Manager, Droughtmaster Breeders' Society
  - Dr Richard Fry, Owner/Director, Speed Breed

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- John McFarlane and Kathy McFarlane, Greenmount Bazadais Stud
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  - Professor Andrew Fearne, Director, The Centre for Value Chain Research, Professor of Food Marketing and Supply Chain Management
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## Organisations Impacted by the Fellowship

### Government

- Federal Government – Department of Foreign Affairs and Trade (DFAT), Austrade, AusIndustry, Department of Agriculture, Fisheries and Forestry (DAFF)
- Horticulture Australia Limited (HAL)
- Regional and Local Governments
- State Government – DEEDI: Trade and Investment Queensland and Agri-Science Queensland (previously Department of Primary Industries and Fisheries)

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- Australian Mango Industry Association (AMIA)
- Australian Science Communicators
- Beef Australia
- Cattle Council of Australia

## Acknowledgements

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- MLA
- The Climate Institute

### Businesses

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- Other Australian meat and agrifood industry exporters

### Education and Training

- AACC
- AgriFood Skills Australia
- CQUniversity Australia (CQU)
- JCU
- UQ

# About the Fellow

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**Name:** Helen Newell

## Employment

- Senior Trade and Investment Officer, Food and Agribusiness Unit – Trade and Investment Queensland, DEEDI

Since February 2011, the Fellow has been on secondment to the Australian Institute for Commercialisation to deliver DEEDI's Innovation Coaching program for Central Queensland.

## Qualifications

- Bachelor of Business (Accounting), CQUniversity Australia, 1986

## Memberships

- Australian Institute of Management (Corporate)
- Global LinkedIn groups and associations
- TropLinks Inc

## Brief Biography

The Fellow holds a very influential role within agribusinesses across Queensland, where her skills and advice can make a substantial difference in boosting the export of agrifood products and services. As Senior Trade & Investment Officer for Trade and Investment Queensland's Food and Agribusiness Unit, the Fellow works with agribusiness clients to expand trade for agrifood products and services.

The Fellow's passion for regional economic development prompted her career change to primary industries in 2006 when she joined the Handshakes business matching team at Beef 2006, Australia's triennial international beef exposition. Since 2006, the Fellow has facilitated over 40 international delegations from the European Union (EU), Asia-Pacific region, East Asia, South Africa and South America, looking to invest in Queensland's agrifood industry. She has also led trade missions to New Caledonia and promoted Queensland's extensive tropical expertise to the Asian Development Bank and World Bank as a delegate of the Australian Consulting Services mission to Manila, the Philippines in 2009.

The Fellow has built strong partnerships and strategic alliances with industry, government agencies, professional associations and community groups in Australia and internationally. The Fellow's enterprise focus in international business development reflects her 25-year career in corporate business management, across a number of industry sectors, including manufacturing and service industries, incorporating government regional management and the secondary and higher education sectors.

The Fellow is passionate about her work and fulfilling her current career goals:

- To use her global networks and passion for unleashing Queensland's tropical agricultural expertise to contribute to the global food challenge.
- To use the skills developed and international experience gained in facilitating international partnerships and value chain networks to expand trade for the Australian agrifood industry.

The Fellow's secondment to the Australian Institute for Commercialisation, to work as Innovation Coach with Small to Medium Size Enterprises (SMEs), enables her to leverage the knowledge, skills and international connections developed during the Fellowship to help drive economic growth and sustainability in Queensland, through innovation. The Fellow is particularly excited about opportunities emerging to facilitate co-innovation across the agrifood, mining and engineering sectors driving productivity improvements and sustainability in SMEs in Queensland.

# Aims of the Fellowship Program

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The primary purpose of the Fellowship was to gain a better understanding of how ‘the perfect storm of shortages’ impacts on the export of agrifood products and services from Australia. An underlying purpose of this program was to increase the credibility of the Fellow, to overcome a professional challenge received several years ago when a client provided constructive feedback about government supported export services, commenting: “If you haven’t been, you haven’t seen and therefore you’re no good to me”. This client highlighted the importance of international experience for facilitators of international trade and international collaboration, not only to establish a degree of professional credibility but also to fill identified skill deficiencies relating to ‘learning by doing’ in the unfamiliar surroundings of an overseas location.

The Fellow identified three critical success factors to understand the impacts on the export of agrifood products and services from Australia:

1. Fill the identified skill deficiencies by ‘learning by doing’
2. Developing the ‘right’ international relationships
3. Identifying niche opportunities for the export of Australian agrifood products and services.

Whilst Australia is internationally recognised as an excellent primary producer, one of the most challenging aspects faced by agrifood producers is marketing their products and services and understanding what drives consumers’ choice amongst the diverse range of products available. The UK is the gateway to the EU market, providing an opportunity to enhance trade facilitation skills in a very sophisticated and highly competitive market.

Research undertaken before departure indicated that niche opportunities existed for expanding the export of premium beef products to the UK, EU and Russia. At this time, opportunities were also emerging to increase investment attraction to the agrifood industry in Australia. The Fellow was also looking more broadly at export opportunities emerging for Australia because of the global food challenge relating to issues of food security, climate change, population growth, changing demographics and declining productivity in global agricultural production.

The Fellow identified the following specific learning and knowledge objectives prior to departing for Europe:

- Become skilled at securing current market intelligence to better understand what drives consumer choice in an international context, to identify how to differentiate our products and services to expand exports to the UK and other EU markets.
- Gain in-market experience to identify and facilitate international partnerships and value chain networks in the UK and EU to help identify opportunities to expand exports from Australia.
- Enhance communication skills by delivering a series of presentations to inform colleagues from the Trade Strategies unit in Queensland, agribusiness clients and industry representatives on findings and how to increase access for Australian products to international markets.

The Fellowship gave the Fellow the opportunity to be ‘immersed’ in an international market to develop skills at securing current market intelligence, understanding drivers for consumer choice and expanding international networks to identify niche export and investment attraction opportunities for the Australian agrifood industry. The Fellow understood that the Fellowship may not lead to the discovery of new things, rather the real benefit would be realised after returning to Australia armed with the observations, learning, fresh insights and most importantly, new networks and international connections, to help industry solve existing problems with ‘fresh eyes’.

Research indicated that the Fellow had limited opportunity to undertake an overseas placement with her current employer, so she took the initiative to fund her own professional development by taking leave to travel overseas to increase her own skills.

## Aims of the Fellowship Program

Her research also indicated that an international ‘immersion’ experience would provide a significant return on investment to the Fellowship sponsor, relating to opportunities that would emerge through international relationships developed through doors opening because of the perceived neutrality as a Fellow versus representing a particular government role or agency.

The international experience component was structured to facilitate a deeper knowledge of the drivers of consumer choice by living in the UK for eight months and experiencing markets in the UK and France through the lens of both a consumer and also as a trade facilitator, aiming to expand the export of agrifood products and services to these markets.

Attending the 2009 Agrifood conference, *New Thinking*, changed the Fellow’s perspective on issues impacting Australia’s ability to be a net exporter of agrifood products in the medium to long term. Australia’s ability to sustain the export of agrifood products and services was now firmly on the Fellow’s radar prior to embarking on the overseas program, setting the scene for the Fellow to better understand how critical sustainability had become in the eyes of consumers sourcing Australian agrifood products.

Whilst Australia is internationally recognised as an excellent primary producer of clean, green agrifood products, a greater understanding of this international perception is necessary to identify niche opportunities to strengthen and expand our export potential to these markets. There is also growing interest in Australia’s reputation as a knowledge-based economy, and the Fellow’s market research identified opportunities to leverage from this to increase overseas investment in Australian agricultural products and services with potential to access new markets through international partnerships, aimed at mitigating challenges of food security.

By investigating the UK and France, the aim was to return to Australia armed with strategies, knowledge and international networks and ideas that enable the Fellow to advise, instruct, promote and improve the overall performance of international trade for Australian companies.

## Ongoing Areas for Development

The Fellow’s international experience highlighted the benefits of adopting VCM as a framework for developing both short-term niche export opportunities, as well as longer term sustainable exports for Australia’s agrifood industry. A VCM framework can be used to direct scarce resources to what actually adds value in the chain, through the ‘eyes of consumers’. Rather than continue to take a ‘transactional’ view of trade facilitation, the Fellow plans to develop skills in VCM to contribute to industry at a ‘transformational’ level by developing her knowledge of VCM frameworks to identify opportunities for co-innovation across the value chain to increase productivity, profitability and sustainability.

# The Australian Context

The Fellow conducted a literature review, before leaving and after returning to Australia, to provide an overview of factors impacting on the Australian agrifood industry; recognising that global issues surrounding food security, climate change and global population growth posed both threats and opportunities for the export of agrifood products and services from Australia.

The Australian agribusiness sector occupies a significant place in the Australian economy and has a strong track record in attracting international investment throughout the agricultural supply chain. Australia’s agrifood industry generates **\$208 billion** a year, with a considerable proportion of this for export.<sup>10</sup>

Australia produces food for more than 20 million people, accounts for over 20 per cent of Australia’s total commodity exports and **provides 93 per cent of Australia’s domestic food supply**. The agrifood sectors responsible for food production can be regarded as the lifeblood of regional and rural Australia. These enterprises are custodians of nearly two-thirds of the continental landmass and natural resources, directly employing more than 880,000 people across the country.<sup>11</sup>

The *2010 Environmental Scan of the agrifood industries: A perfect storm of shortages...are we ready?*, published by Agrifood Skills Australia, provides an overview of the Australian agrifood industry highlighting the necessity to lift productivity through co-innovation across the supply chain. The report states:

2050 is the often quoted year we will reach ‘peak humanity’ – a world population of some 9.1 billion that will demand a 70 per cent increase in food, feed and fibre output. 2030 is now considered the deadline by when existing food and fibre production must increase by 50 per cent to meet a rapidly growing world population from a trajectory of reducing resources... less water, less arable land, fewer nutrients, diminishing fossil fuels, and a more erratic and warmer climate.

Industry’s unprecedented challenge... sits at two interconnected levels. Firstly, we need to exponentially raise productivity levels but through dramatically less inputs and in a marketplace where the supply chain and ultimate consumer dictate producers have a sustainable footprint. Secondly, we need to assume the mantle as pioneers of world class and world first practice.

Economic benefits of increased production which... generates employment for over 880,000 – are profound, with burgeoning Asian markets lying off our northern shores and a predicted Australian population of 35 million by 2050.

Agrifood supply chains are now firmly in the era where customer orientation and social responsibility are the overriding driving forces. Once dominated by manufacturers, global supermarket chains now wield immediate and powerful capacity to source commodities worldwide, making competition between suppliers fierce and delisting a continual threat. **Collaboration of the supply chain to ‘co-innovate’ new products is now seen as the only peerless strategy for sustainable competitive advantage.**<sup>12</sup>

The 2011 Siemens report reminds us that, “**our future is our choice**”, presenting a futurists’ view of Australia in 2030 and 2050; globally competitive through adoption of open innovation as ‘the norm’ for business growth:

In this century, the global megatrends of climate change, demographic change, urbanisation and globalisation are creating our greatest challenges. These four megatrends are changing our world. As Charles Darwin said, ‘it is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change.’ To maintain our high standard of living and strong economic growth, we need to change our ways and become globally competitive by improving our productivity.<sup>13</sup>

Technology and innovation are essential to improving productivity. Australians must ...collaboratively innovate, to connect Australia's greatest talents with global networks and convert this into sustainable local value for future generations.<sup>14</sup>

Paul Krugman, the Nobel Prize winning economist says: "Productivity is not everything, but in the long run it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker."<sup>15</sup>

The report to the Australian Prime Minister in 2010 by the Prime Minister's Science, Engineering and Innovation Council (PMSEIC), *Australia and Food Security in a Changing World*, proposes:

Australia benefits enormously from food R&D conducted overseas particularly in areas such as biotechnology, pesticides, germplasm and veterinary medicines. It is estimated that these spillovers could be responsible for as much as 40 per cent of agricultural productivity gains in Australian broadacre agriculture (Mullen, 2007). In the context of international relations, this 'windfall' enables Australia not only to improve national productivity but also to disseminate knowledge on agricultural sciences more broadly to tackle food security issues worldwide. All nations, rich and poor, will need to contribute to this challenge and to grow the collective stock of knowledge on the environment, food and fibre production and to increase agricultural productivity.<sup>16</sup>

The development of a consistent and whole-of-government approach to food will encourage understanding, communication and innovation in the food sector. Such an approach will be vital to respond to global and domestic food security challenges. A holistic approach to the food value chain could also result in the creation of new international markets for food and food technologies developed in Australia, as well as opportunities to export technologies and innovations to help address global food security issues.

As food security issues continue to emerge, the regulatory environment in Australia will need to be more flexible and responsive. This will ensure that innovations which underpin productivity and efficiency improvements are delivered effectively.<sup>17</sup>

The private sector plays an important role in the commercialisation and marketing of innovation to drive agricultural productivity.<sup>18</sup>

In an interview on ABC's Radio National program in September 2010, Dr John Kapeleris, Deputy CEO of the Australian Institute for Commercialisation, conveyed how important innovation is for Australia:

"Innovation is the last competitive advantage that this nation can have when we take the primary industries and the mining sector out of the equation. The only thing we've got left is innovation, our creativity and our ability to take these wonderful ideas that Australians have to successful international markets."<sup>19</sup>

Austrade's report, *Australia – Your Competitive Edge – Stability. Resilience. Innovation. 2009 Edition*, highlights that Australia's competitive edge is underpinned by its reputation for: **stability, resilience and innovation.**<sup>20</sup> Effective marketing of Australia's agrifood products and services is a key element to strengthening the industry.

The references above support the Fellow's own experience during the Fellowship program that Australia's niche opportunity is to leverage its strengths in the agrifood industry, by enhancing innovation in the agrifood value chain to improve our productivity, which underpins our ability to be globally competitive. The tools for doing this are to adopt a framework for VCM, including principles of VCT, access and effectively apply the outcomes of VCR, including SVCA, and use the findings to implement plans for VCI.<sup>21</sup>

Fearne (2009) states, "many agrifood industries are facing-up to the challenge of embracing the principles of supply chain collaboration, which are becoming the key drivers of innovation and competitive advantage for most of the world's leading businesses outside of agriculture and food. A positive response to this challenge would be collaborative innovation (marketing, operations management, purchasing and logistics) and the development of products and services that add value in the eyes of the final consumer."<sup>22</sup>

Fearne also espouses, that "in some chains, the requirements of the customer (principally the retailer) and consumer differ, and may even conflict...While customers cannot be ignored because they act as gatekeepers to the marketplace, the distinction must be drawn: customers' needs should be minimised and focused on efficiency; investment in consumers' needs reaps more rewards and so a chain should explore 'market segmentation' and 'product differentiation'. After all, it is consumers who ultimately dictate the value created by the chain through their frequency of purchase and willingness to pay a premium for the chain's particular product."<sup>23</sup>

Fearne advocates the importance of VCI, which "builds on the underlying premise that firms can achieve sustainable competitive advantage by taking a holistic approach to the management of the value chain, and a more focused approach to innovation. This involves stakeholders working collaboratively to ensure maximum effectiveness (doing the right things) and efficient allocation of resources (doing things right)." "VCI research produces findings that relate to consumer value, material flows, information and relationships. These findings are translated into chain improvement projects focussed on innovation"<sup>24</sup> ....to drive productivity.

In recent years, Queensland's DEEDI, through the previous Queensland Department of Primary Industries and Fisheries, embraced this approach by developing trade through its GMI program. The GMI program involved collaboration between the Centre for Value Chain Research at the Kent Business School and the University of Queensland. By adopting a VCM framework, focussed on the consumer, the GMI team identify niche export opportunities for Queensland agrifood products to new markets; including the export of mangoes and avocados to the UK, China and Korea.

Through an open innovation approach, both industries accessed extensive consumer data collected as part of VCR. This open innovation relationship between the University of Kent, University of Queensland, DEEDI researchers and trade facilitators, and other industry stakeholders is now yielding benefits for the wider agrifood industry, in accessing consumer information to better understand consumer behaviour relevant to the Australian domestic market.

The Fellow is currently facilitating an open innovation project between universities in Australia and Europe relating to value adding through marketing and process innovation in the pineapple industry. This project will involve accessing consumer focussed information from the University of Kent through the relationships developed during the Fellowship and scientific research relating to bioreactors and value adding processing techniques from Europe.

A further example of co-innovation in Australia and the economic benefits of VCT are highlighted by a case study titled *Victorian power stations and biochar opportunities* which concludes that "taking a supply chain approach can provide significant upstream and downstream payoffs from reduction in waste and the development of new low carbon products"<sup>25</sup>, with economic, environmental and social benefits to the power generation industry and agricultural industry.

# Identifying the Skills Deficiencies

## The Australian Context

### SWOT Analysis

#### Strengths

- Australia's competitive edge underpinned by its reputation for: stability, resilience and innovation
- Reputation for producing clean, green, reliable products
- Diverse climate, rainfall patterns and soil types that sustain a wide range of agrifood products
- Innovation and leading agri-science developed in some of the harshest conditions across the globe.

#### Weaknesses

- Shortage of scientists for future research and development to enhance agrifood products
- Reduced funding of R,D&E
- Australia's distance from high-value markets
- Increasing focus on 'food miles' and carbon footprint being a driving force behind 'buy local' campaigns
- The Global Financial Crisis (GFC) impacting on consumer demand for high-value, niche products
- Increasing foreign ownership.

#### Opportunities

- Capitalise on Australia's reputation for producing clean, green, reliable products to build long-term trade relationships and strengthen market presence
- Global food challenge and growing interest from EU for co-investment in Australian agriculture
- Use our science to build relationships and networks to educate consumers about our product differentiation – e.g. traceability systems
- Attract foreign investment.

#### Threats

- Global food challenge, food security and level of foreign investment of agricultural land and other assets
- Climate change and other environmental factors, e.g. water, reef management
- Sustainability of food production
- Biosecurity and food safety
- Increasing awareness of issues relating to: animal welfare, 'food miles', impact of climate change and buy local campaigns, e.g. Red Tractor Assurance program.<sup>26</sup>

This Fellowship addresses the skills deficiencies identified, relating to the need to acquire skills and knowledge overseas, through 'learning by doing' to gain practical experience in the unfamiliar surroundings of an overseas location. This is distinct from addressing skills shortage, which is where there is a recognised and unmet demand for labour.

Due to the increasingly limited opportunity for government trade facilitation staff to travel overseas to undertake in-country market research and gain practical experience, the Fellow found the ability to address these skills deficiencies through the overseas program very beneficial.

The skill deficiencies confronting Australia in regard to being able to expand exports of agrifood products and services on a sustainable basis are:

1. Underdeveloped capacity to adopt the VCM frameworks to analyse value chains and identify opportunities to increase the value 'in the eyes of the consumer' throughout the chain.
2. Increasing need to synthesise information from an 'experienced' international perspective to facilitate improved problem solving and formulate credible recommendations to clients, industry and government.

### Nationally Accredited Courses

TIQ recognises the advantages of gaining international experience through their highly successful International Business Cadetship (IBC) program<sup>27</sup> that has operated for over 13 years. It places candidates in an overseas market so that they can develop their international research and marketing skills more effectively than merely visiting on an ad hoc basis. The IBC recruits cadets in the early stages of their careers. The ISS Institute Fellowship under the Overseas Skill Acquisition Plan (Fellowship Program) provides an alternative pathway for mature practitioners to gain similar skills. The work undertaken during this Fellowship provided an opportunity for the Fellow to develop the skills and expertise needed to deliver a number of benefits to the Australian agrifood industry, including:

- Targeted market research to gain up-to-date in-market knowledge
- Cost effective international market entry
- Valuable insights into growing markets
- Increased international market exposure, opening many doors that are often too difficult and costly for smaller businesses to access from Queensland
- Development of international networks to increase export sales and investment attraction and provide potential solutions to increase sustainability for the Australian agrifood industry.

# The International Experience

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Living in the United Kingdom for eight months gave the Fellow the opportunity to be ‘immersed’ in a different culture and way of doing business, to give her a broader perspective of the UK and EU market, considered to be one of the most sophisticated in the world. The Fellow attended seven conferences and workshops and many other events, conducted over 50 interviews in the UK, France and Brunei, meeting hundreds of people from over 20 countries and gathering extensive market information to benefit the Australian agrifood industry.

A highlight of the international tour was being invited by the Aquitaine region in France to attend the Bordeaux International Fair. The Bordeaux International Fair is a festive opportunity to discover the latest trends in a whole variety of sectors. It is actually several exhibitions rolled into one big showcase of home and leisure products and solutions presented by market specialists, with over 2,300 companies exhibiting in the event’s four sections: Home & Living, Leisure & Pleasure, the Aquitaine Agricultural Show and an International sector.<sup>28</sup> This invitation resulted from relationships established during Beef Australia’s international exposition in 2009 and Queensland’s successful crossbreeding project in New Caledonia using French and Australian tropical genetics.

Although it is difficult to include detail of all the knowledge and experience gained, below is a summary of the international program, with more detail of contacts and outcomes included in Attachment 1 of this report. The Fellow is regularly reminded of the breadth of experience and learnings gained when she says to clients: “I remember meeting someone during my Fellowship that can help solve your problem”. The Fellow is aware that the learning from this program assists with solving at least 50 per cent of the challenges faced in her new role; delivering the innovation coaching program for DEEDI.

## Destinations

### 1. Meeting with: Austrade, Brunei – 28–29 January 2010

The Fellow met with Austrade Business Development Manager, Josie Abdullah, to gain a better understanding of the future challenges for the country and strong interest from Brunei to strengthen relationships with the Australian beef industry. Brunei are also interested in Tropical Expertise from Queensland to help diversify their economy to mitigate food security risks.

### 2. Meeting with: TIQ – Europe office, London – 9 Feb 2010

The Fellow met key contacts from this overseas post to explain the purpose of the Fellowship and to gain a better understanding of their priorities in the UK and the wider EU market. The Fellow was asked to develop relationships and share contacts in the UK beef industry to assist them in planning potential future visits by Queensland stakeholders.

### 3. Meeting with: Austrade (London) and MLA, Europe Office, Brussels – 9 February 2010

The Fellow gained a better understanding of the EU market and the relationship between MLA, Austrade and TIQ. MLA’s marketing activities in Europe include networking with exporters/importers and business development, mainly through cooperative marketing, with limited promotion in Europe, now generally regarded a mature market, whilst Russia is an emerging market.

MLA’s main role in the Europe office is to improve market access and ensure any gains achieved are not lost in the EU or Russia. Although opportunities exist for high-value quality beef from Australia, the complexity of recent changes in beef import quotas to the EU, the history of negotiations and sensitivities around future negotiations require care.

The MLA website ([www.mla.com.au](http://www.mla.com.au)) provides details to Australian exporters of the EU restrictions for imports of red meat. Managing the EU Grain-fed High Quality Beef (GF-HQB) quota is complex. Unlike the existing Hilton quota, allocated by DAFF, the EU GF-HQB quota is allocated by the EU Commission via licences awarded to EU importers. Australian exporters are advised to contact DAFF and MLA for further information regarding proposals involving the EU GF-HQB quota with the objective of increasing rather than reducing access to the quota.

**4. Salon International de l'Agriculture, Paris, France – 21–22 February 2010**

The Fellow attended this annual event on the recommendation of a client from New Caledonia, to experience the culture and celebration of the provenance of French food. The event promoted each region and celebrated the connection between the science of food and agriculture by promoting to consumers (mainly Parisians) 'where food comes from'. Over a million people attended the event to engage with food, science, livestock, wine and 'all things French' and celebrate the importance of food in their culture.

It was interesting for the Fellow to meet representatives from New Caledonia; a market she has worked extensively with through her trade work. Observing French cattle breeds on show enabled the Fellow to better understand how French culture influences the decisions of clients in New Caledonia regarding investments in beef cattle genetics, tropical expertise and other agrifood products and services. The Fellow was reminded of her client who once said: "If you haven't been, you haven't seen, and therefore you're no good to me". Being immersed in French agriculture taught her so much.

**5. The Centre for Value Chain Research, Kent Business School, University of Kent, Canterbury, UK – 18–19 March; 22–23 April, and 10 July 2010**

Kent Business School is an international leader in VCR. This visit enabled the Fellow to tap into the knowledge and experience of internationally recognised experts in this field. The Fellow recalls discussions with experts including Professor Andrew Fearne, Dr Marian Garcia and Ben Dent. These discussions opened her eyes to the power of VCT, SVCA and frameworks.

Being immersed in discussion regarding the application of these tools to the Queensland Mango industry enabled the Fellow to better understand the economic development benefits. The Fellow recalls a discussion with Ben Dent that changed her thinking and focus away from supply chain mapping to VCT and management. On reflection, her visit to Kent Business School had the most significant impact on adding value through her work with the Australian agrifood industry. Kent Business School has access to a diverse group of international students and extensive research data to enhance their consumer research capability.

**6. Can Cook Will Cook project, Ashlyns Farm, Essex – 30 March 2010**

The Fellow spent the day on this organic farm close to her temporary residence in Essex, outer London. The opportunity to visit the farm arose through connections at a local primary school, giving the Fellow the opportunity to meet Richard Stark, an Australian chef delivering the program, and to discuss how UK culture impacts consumer attitudes and behaviour. This project is funded by the UK's 'Big Lottery Fund' as part of Jamie Oliver's campaign to encourage Britain to 'get back to basics' and to promote healthy eating in schools and homes. The Australian chef plans to return to live in NSW in 2011 with aspirations of starting a similar program in Australia. The Fellow was able to share contacts to assist planning this venture.

The UK Government is under similar pressure to the Australian Government with regard to their health budget, with proactive healthy eating campaigns being given more attention and a focus on educating children as a means of influencing consumer decisions at home. The course enabled the Fellow to brush up on her cooking skills whilst soaking up the British culture by working alongside mothers and children who shared their stories about what influences their consumer choices. A key focus of the project is teaching children 'where food comes from' to help them value fresh food more, reduce waste and increase recycling of organic material.

**7. Aquitaine region, France 4–11 May 2010**

The Fellow enjoyed being on the other side of a trade mission, participating as an international guest rather than being the host and organiser. The Fellow was reminded that building international relationships is all about the extra things that people do to engage your interest in their country.

It was an intensive week visiting six farms across the beautiful Aquitaine region, talking to cattle breeders, meat processors, butchers, genetics companies, agricultural colleges, scientists from universities and much more.

The week started on the Fellow's birthday, meeting the UK delegation at Luton airport, flying to Bordeaux and being met by our guide and translator for the week, Kevin Tual, Export Area Manager, Sersia France. Tual had exported French genetics to New Caledonia for many years and had heard of the successful breeding program crossing French genetics with Australia's own tropical breed, Droughtmaster. The Fellow and Tual had clients in common and discussed the opportunity to expand this success to other tropical markets.

Bernadette Darcos, Director of Excellence, Bazadais Society, whom the Fellow had met at Beef 2009 in Rockhampton, was an excellent host making sure the delegation had fond memories of her region. Visiting the new headquarters of the Bazadais Society in Bazas, the Fellow was delighted to see photos on the wall in Darcos' office of Droughtmaster cattle that had caught her 'French eye' at Beef 2009.

The Fellow represented Australia at the International Seminar at the Regional Council of Aquitaine, meeting other representatives from over 20 countries invited to strengthen international relationships and assist France in dealing with the hot topics of the conference: food security and changing government agricultural policy at local, national, and EU levels. The presentations on food security highlighted opportunities for Australia to promote our "extensive experience in dealing with difficult and low input production systems. This technical and scientific expertise is valuable and well-regarded internationally."<sup>29</sup>

A highlight of the Fellow's visit was meeting several people who had hosted and inspired a cattle breeder from Mackay in Central Queensland some years before. John MacFarlane, a 'Queensland legend' from Greenmount Bazadais Stud, had undertaken a similar tour of the beef industry supply chain across the Bordeaux region. McFarlane returned to tropical Queensland, inspired by French culture and their love of succulent Bazadais beef, to successfully develop the genetics and register a new cattle breed, Bazaman.

"Ever the promoter...John developed his Bazaman-branded beef based on the French Bazadais over the tropical Brahman and, through persistence, has established a reputation for credibility and quality. After many years of ensuring the Bazadais breed was suited to the tropical north Queensland environment, and then registering the Bazaman name, John has gone on to open three butcher shops in nearby Walkerston and Mackay to sell his specialised beef brand. He then moved further afield, working with the local development organisations to establish his beef as 'local product'. This encouraged the Shakespeare Motel in Mackay to introduce Bazadais and Bazaman beef onto the menu of its Romeo and Juliet restaurant.

That ensured ongoing sales for the beef prime cuts, and while the secondary cuts went into thousands of sausages and continental smallgoods each week, the always-thinking John had another idea up his sleeve – a meat pie...The first batch of Bushman's Bazaman Pies was baked in early April (2010). John says, "The circle is now complete for us: the breed, the butchers, a restaurant and now Bazaman beef pies."<sup>30</sup>

The Fellow regards this as a shining example of how an Australian cattle breeder took the plunge to step out of his comfort zone, travelling to France to open his eyes to a new innovative business model. McFarlane is truly a 'value chain thinker' whose persistence, shear hard work and renowned marketing flair, enabled him to develop his own range of value-added 'local products'. His ability to muster local support and build strong relationships enabled him to pioneer a value chain based on co-innovation making local beef producers, butchers, restaurants and bakeries in Central Queensland more sustainable. McFarlane's collaboration with Ray Villian, owner of Walkerston and Mirani Country Meats, to achieve the National Heart Foundation's Tick of approval, further strengthened their value chain, promoting the health benefits of lean red meat to discerning consumers.

The Fellow awarded trophies to Bazadais breeders in Bordeaux, on a very cold spring day and was interviewed for the local news about McFarlane's successful breeding program, using their French genetics crossed with tropical Brahman. The week ended with a lunch hosted by the Excellence Bazadaise Society at the AquitaineAgricultural Fair, as part of the larger Bordeaux International Fair. The menu of exquisite Bazadais beef, accompanied by wine from the chateaus of Bazadais cattle breeders, who exported their genetics to McFarlane in Queensland, seemed a fitting end to a wonderful week learning about the beef value chain in this wonderful region.

**8. Re:fresh Conference, International Hotel, London – 13 May 2010**

The annual Re:fresh conference brings together representatives of the fresh fruit and vegetable industry across the chain from production to the consumer. It is hosted by the Fresh Produce Consortium (FPC), Britain's leading fresh produce organisation. Approximately 140 delegates, including business, government, media and retail organisations, attended the 2010 event.

The key issues raised were food security, healthy eating and sustainability, but no solutions/strategies were offered beyond supporting the current '5 a day' program and requesting government to 'buy local' and source British product for their £2 billion food spend each year. Presenters highlighted the focus on local production, but the value of imports was recognised in providing choice and length of season. The panel discussion on 'Buy Locally – Eat Globally' highlighted that Australia still has a position in the market. Meeting the Sinclair iQ™ Product Manager from Sinclair Systems International led to the Fellow receiving an invitation to visit one of their major clients in Spalding, UK, to observe the Sinclair iQ™ technology being used for sorting fruit for 'ripe and ready' markets with major supermarkets.

**9. Meeting with: Hull & Humber Chamber of Commerce, Hull, UK – 25 May 2010**

The Fellow promoted Beef 2012 to the Head of International Trade, Pauline Wade, who led a delegation to Beef 2006. Wade was interested in strengthening international relationships with Australia, discussing a number of areas of interest and opportunities to develop international partnerships.

**10. NBA Beef Expo 2010, 'The Way Forward', Hexham, Northumberland, UK – 26–28 May 2010**

The Fellow ventured into northern England to attend this event, enabling her to promote Beef 2012 extensively and meet significant stakeholders in the UK beef industry. The Fellow was impressed by frequent reference to research in the Australian beef industry. A highlight was meeting Dr John Gilliland OBE, a cattle breeder from Northern Ireland and the then adviser to the UK Government on climate change. The discussion regarding the importance of genetics in the value chain in response to consumer choice and climate change mitigation was insightful. Opportunities for Australia to promote the science and expertise in this area were highlighted again.

The Fellow also met with an innovative company that had designed and manufactured 'The Roundhouse', an excellent example of co-innovation in the UK beef industry and value chain thinking. Successful commercialisation of this innovation involved collaboration between the innovators and manufacturers, working with industry through the NBA and the R&D sector through a UK university to drive productivity improvement in cattle in northern England and Scotland during winter. The Fellow was particularly interested in the application of this technology in hot tropical climates in SE Asia.

"The Roundhouse concept is a simple one. Round buildings date back to the Bronze Age and make full use of natural forces. Roundhouse Building Solutions have developed the design using modern technology and materials to create a unique building which not only optimises animal welfare but significantly reduces operational and building costs.

The Roundhouse has been designed by Geoff Simpson and John Allinson whose fabrication business, Simpson and Allinson Limited, has been manufacturing steel framed buildings since 1978.

Although agricultural buildings have become larger, it is true to say that little has changed since the development of the portal frame in the early 1950s until now. The Roundhouse challenges conventional thinking on the operating cost benefits of a round building instead of the traditional rectangular building for agricultural/industrial uses. Roundhouse Building Solutions has been established as a wholly owned subsidiary of Simpson and Allinson. This ensures the creators of the Roundhouse will remain pioneers in the future development of this and similar buildings – creating imaginative and technologically advanced building designs to meet future client needs."<sup>31</sup>

**11. THINK Sponsorship! – Sponsorship Fundamentals Workshop, London – 9 June 2010**

The Fellow attended this workshop following a recommendation by Julian Moore, previous adviser to Tony Blair and UK Government on the not-for-profit sector. Julian is now living in Australia, advising the Australian Government. Participants included sponsorship managers from 15 corporate and not-for-profit organisations, giving good insight into 'third sector' funding and marketing culture in the UK. Many participants shared stories about events being planned where the Queen would officially open or attend. This seemed a very foreign concept to the Fellow but made for some interesting stories about protocols, logistics, security etc.

A highlight for the Fellow was meeting the Theme Manager for External Affairs and the Statistics User Community who made statistics sound exciting and shared tips to manage use and misuse of statistics and many resources that the Fellow has shared with colleagues.

**12. Meeting with: Kim Haywood, Director, National Beef Association, Farmers Club, London – 17 June 2010 and Edinburgh, Scotland – 20 August 2010**

The Fellow invited Albert Kello from TIQ, DEEDI, London office and Rick Ada, DEEDI, Queensland, to join the meeting in London as follow up to discussions with Haywood at the NBA Beef Expo 2010, 'The Way Forward' in May. Haywood and the Fellow had identified a number of opportunities for collaboration between the UK and Australian beef industries relating to genetics technology, health and climate change. The Fellow's final meeting with Haywood in Edinburgh centred around the extensive countries that the NBA currently engage with and interest in bringing a delegation to Australia for Beef 2012.

**13. Site visit with: Sinclair Systems International to Spalding, Norfolk, UK – 18 June 2010**

The Fellow travelled by train to Spalding, UK with her DEEDI colleague from Queensland, Rick Ada, joining the team from Sinclair Systems International to tour their client's packing and distribution factory. The factory was using the Sinclair iQ™ unit to test the firmness of fruit during sorting to achieve a consistent quality of fruit to meet consumer demand for 'ripe and ready' products in major supermarkets. With increasing consumer demand in Australia for the convenience of 'ripe and ready' and 'grab and go' products, this type of technology is likely to be in higher demand in the agrifood industry in Australia. Further information can be found at: [www.sinclair-intl.com](http://www.sinclair-intl.com).

**14. 13th Annual Langford Food Industry Conference, School of Veterinary Science, University of Bristol, Langford, UK – 30 June–1 July 2010**

The conference theme, *Nutrition and climate change: major issues confronting the meat industry in 2010*, aimed to present a balanced view on the two main issues confronting the UK meat industry: what are the implications of meat consumption and production for the health of consumers and the environment? Eminent speakers examined the evidence on nutrition and climate change and demonstrated steps being taken to improve the problems, how meat consumption is changing in Britain and other countries and how meat contributes to the British culture.<sup>32</sup>

The Fellow met stakeholders across the supply chain, gaining insight into how their challenges could be leveraged to increase exports of Australian beef. Taking a value chain approach and highlighting links between health and sustainability has the potential to open new markets and expand exports of Australian beef. Discussion about carbon footprint indicated that the science is still a work in progress to develop a rigorous methodology.

The Fellow was impressed again by the number of speakers who referred to the Australian beef industry and Australian researchers as exemplars in global beef production, and she received an overwhelmingly warm reception because she was an Australian showing interest in the UK beef industry. Key contacts were made with EU importers, genetics companies and several scientists from the EU, Africa and South America interested in collaborative research with the Australian beef industry.

A highlight for the Fellow was meeting Derek Kelly an inspiring 80-year-old who shared his story about handing his successful turkey business over to his son to pursue his vision to build a new high quality beef production business after reading about Rod Polkinghorn, an Australian pioneer of MSA in Australia. Kelly was highly respected by the researchers and shared how important beef science was to business and the value chain.

**15. Market Research for the Mango industry – GMI project (UQ, Kent University & DEEDI), Sainsbury's Supermarket, Tonbridge Wells, Kent, UK – 10 July 2010**

The Fellow volunteered to assist with consumer research being undertaken by The Kent Business School as part of the GMI project to hone her practical skills and knowledge in this area. This followed her involvement as an industry representative for the Australian Mango industry on a panel to assess the presentations of post-graduate students researching VCA.

**16. Royal Welsh Show, Wales – 22 July 2010**

The Fellow attended this event on the recommendation of Welsh cattle breeders she met at the NBA Beef Expo 2010, 'The Way Forward', to experience 'Welsh agri-culture' and to meet again with the UK Bazadais cattle breeders she had met in France. The highlight included meeting a Welsh veterinarian who had studied at the Royal Veterinary College, London. The veterinarian recalled that being trained by Australian Professor Mike McGowan, from the University of Queensland, was a highlight in her career. The Fellow discussed the many advantages of this international exchange of knowledge to increase the understanding of challenges faced across the globe. Opportunities to attract veterinarians from the EU and Africa were also discussed.

The show included many interactive displays by supermarkets (Waitrose, Asda, Tesco etc.) aiming to engage with children (and their parents), promoting strong messages about their commitment to sustainability, health and animal welfare. The increasing focus by consumers on sustainability issues prompted Waitrose to fund the appointment of the Waitrose Chair of Sustainable Agriculture at Aberystwyth University's Institute of Biological, Environmental and Rural Sciences (IBERS) as part of an innovative joint arrangement with Bangor University. Both universities are in Wales, with the program aiming to look at how farmers need to adapt and change to meet consumer demand relating to increased levels of food security and production efficiencies.

**17. Farm Stay at Goose Green Farm, Macclesfield, UK – 30 July 2010**

During the stay at Goose Green Farm, the Fellow met with Bazadais cattle breeder, Stephen Hatch. The Fellow gained understanding of smaller scale cattle breeding and production in the UK and challenges overcome by diversifying business to capture opportunities emerging from urbanisation encroaching on prime farming land. The lights of Manchester could be seen at night from the farm, highlighting to the Fellow the significant differences between remote living in country Australia and living on a farm in the UK.

**18. Meeting with: Weddel Swift, Liverpool, UK – 19 August 2010**

This was the last official meeting prior to departing the UK in September and followed an initial meeting with Andrew Pasterfield, General Manager at Weddel Swift, at the 13th Annual Langford Food Industry Conference in June. Pasterfield was very familiar with the Australian beef industry and had well-established relationships with MLA and other Australian contacts. He shared insights into how Australian beef is viewed very favourably by his clients and the opportunities emerging to increase imports due to recent changes to the EU GF-HQB quota. The company has interest in visiting Beef 2012 to update their knowledge of our industry, including MSA and traceability systems. Pasterfield's extensive international experience added enormous value to the discussion.

# Knowledge Transfer: Applying the Outcomes

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Since returning from overseas, the Fellow has actively expanded her professional networks to ensure that Regional, State and Federal Governments and relevant agencies, educational institutions and businesses in the agrifood sector are made aware of the opportunities identified.

Overall, the Fellow is aware that knowledge transfer occurs daily in her new role, coaching SMEs to use innovation to increase the sustainability of their businesses. The Fellowship has changed the Fellow's approach to problem solving, using VCT extensively to facilitate solutions, by looking beyond traditional industry and government boundaries. As an example, the Fellow has facilitated collaboration between clients in the sustainable building industry and the pineapple industry, to share information relating to their investigation of cleantech solutions, including bioreactors and solar power technologies, to drive productivity improvements in both sectors. The Fellow shares her knowledge of VCT applications by engaging in international VCT forums, including social media, and sharing this information and insight with SME clients, industry and government representatives.

The following are further examples of the Fellow's current knowledge transfer activities:

- Discussion with The Honourable Tim Mulherin MP, Minister for Primary Industries and Fisheries and Rural and Regional Queensland, regarding the Fellow's international program and relevance to the opportunities identified in the keynote address at The MAIN Game – Winning Collaborations luncheon in Mackay. The Minister demonstrated co-innovation in the engineering sector in Mackay supporting collaborations between the sugar and mining industries to drive productivity improvement in both sectors. The Minister called for expansion of this model to retain the economic benefits of value adding in Australia. The Fellow's discussion with the Minister highlighted the Fellow's contribution to both sectors through her work as Innovation Coach in the region.
- Facilitating enquires received from international networks relating to various agrifood enquires, including assisting the London office of TIQ to identify appropriate Australian agrifood technologies suitable for the EU, African or Russian markets.
- Facilitating discussion with university researchers to expand collaborative research opportunities relating to food security projects in Africa, India and SE Asia by partnering with EU-based agencies.
- Facilitating linkages between universities, Cooperative Research Centres (CRCs) and the SME sector to increase innovation outcomes across Queensland.
- Invitations to speak and participate in a number of forums including:
  - AusIndustry's *Innovation in Business* forum, Mackay, Queensland.
  - CQU's *CQUni Roundtable Discussion – Innovation, Research and SMEs*, Rockhampton, Queensland.
  - CQU's *3rd Annual Conference of the Institute for Resources Industries and Sustainability (IRIS)*, Rockhampton, Queensland.
  - Capricorn Enterprise: *Capturing Major Project Opportunities*, Rockhampton, Queensland.
  - DEEDI's Q-WIN forum titled *Get ahead of the competition*, Rockhampton, Queensland.
  - DEEDI's R&D forum titled *Cleantech in Tourism – Manage waste to save \$s*, Airlie Beach, Queensland (this forum looks at potential co-innovation between the Tourism and agrifood sectors).
  - GCI's *Food Security Summit: Public Forum*, Gatton, Queensland.
  - QWESTNet's *Business Sustainability – The Green Edge* forum, Townsville, Queensland.
  - QWESTNet's *Business Bottom Line Savings*, Mackay, Queensland.

# Recommendations

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## Government

- Adopt, as part of progressive HR policy and practices, the requirement for managers to proactively encourage staff to apply for Fellowships as a means to enhance their individual professional development, contribution to industry and as a positive image for the organisation through enhanced skills, knowledge and international connections.
- Offer financial support, by continuing the salary of successful applicants, to enable them to undertake the Fellowship program without financial penalty, e.g. a shared financial arrangement would do much to enhance loyalty between the Fellow and supporting organisation on their return.
- Increase opportunities for in-country placements to enhance the skills of trade facilitators and increase their professional credibility with potential exporters. This will be increasingly important as funding to agencies such as, Austrade and TIQ, are scaled back for overseas posts.
- Support Fellows returning from overseas programs to effectively share their experience, implement learning and maximise return on investment in Fellowship program.
- Adopt VCT and management frameworks to drive multi-stakeholder engagement and collaboration to increase global competitiveness, regional economic development, productivity, profitability and sustainability across industry and SME sectors.
- Strengthen the collaboration between the Kent Business School, University of Queensland and DEEDI as a means to develop the skills of staff in VCT and VCM. (Consider setting up a VCT group in LinkedIn, specific to this group, to share project-specific learning and continue to engage experienced retired practitioners, to mitigate against loss of this significant expertise.)
- Provide training in VCM (including thinking, analysis and implementation skills) to staff facilitating trade and industry development in the agrifood industry.
- Promote Australia's extensive experience in dealing with difficult and low input production systems and leverage the value of this technical and scientific expertise, well-regarded internationally, for commercial benefit for Australia.
- Increase funding for international collaborative research and exchange as a means to advance research through knowledge transfer and open innovation to access valuable market intelligence through person-to-person international relationships.
- Increase investment in collaborative research, which in real terms has not risen since 1974, as a key strategy in developing more drought tolerant crops for arid climates, in an area where Australia has opportunities to lead world practice.<sup>33</sup>
- Increase practical knowledge and experience of policy makers charged with responsibilities that impact on food security mitigation strategies, e.g. managing water resources and monitoring foreign ownership of prime agricultural land.
- Proactively allocate budgets to ensure that staff with influence have the opportunity to engage at an international level to keep abreast of how Australia performs on a global scale, for example, attending and participating in the IFAMA – International Food and Agribusiness Management Association Conference, Shanghai, China June 11–14, 2012.
- Implement a system to increase engagement between the Queensland Government's staff and global connections to share international knowledge across government.
- Support calls for a national 'food day' as a means to put a spotlight on the importance of food and where it comes from.

## **Recommendations**

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- Promote the economic importance of innovation by adopting whole-of-government strategies to leverage benefit from government funded innovation programs by including appropriate performance based KPIs in government procurement policies and tendering procedures, for example, targeting a reduction in energy use.
- Expand international knowledge partnerships and leverage relationships to increase the export of Australia's innovation and expert knowledge in beef genetic science and applied research by promoting climate change mitigation, productivity and sustainability benefits.

### **Industry**

- Increase investment in collaborative research, which in real terms has not risen since 1974, as a key strategy in developing more drought tolerant crops for arid climates, in an area where Australia has opportunities to lead world practice.<sup>34</sup>
- Provide training in VCM (including thinking, analysis and implementation skills) to drive improvements in productivity and sustainability across the agrifood industry
- Support and sponsor Fellowships as a means of developing the specialised skills and international networks and partnerships of successful Fellows to strengthen the industry.
- Continue to strengthen the international collaboration developed during the Queensland & UK collaborative project relating to the export of mangoes to the UK
- Review the Siemens Report *Picture the Future: Australia 2030* to gain better understanding of how to use open innovation and technology to adapt and seize future opportunities, drive productivity increases and manage skill and labour shortages.
- Continue to contribute to food policy at state and federal levels.
- Support calls for a national 'food day' as a means to put a spotlight on the importance of food and where it comes from.
- Promote VCM language in industry documents, newsletters etc., to encourage others to make the paradigm shift from a focus on 'supply chain' efficiency to 'value chain' effectiveness to drive sustainability.
- Expand international knowledge partnerships and leverage relationships to increase the export of Australia's innovation and expert knowledge in beef genetic science and applied research by promoting climate change mitigation, productivity and sustainability benefits.

### **Education and Training**

- Increase investment in collaborative research, which in real terms has not risen since 1974, as a key strategy in developing more drought tolerant crops for arid climates, in an area where Australia has opportunities to lead world practice.<sup>35</sup>
- Support endeavours of staff to be involved in international research as a means of accessing useful market intelligence and building capability.
- Develop international partnerships to deliver agricultural training as a food security mitigation strategy – e.g. between agricultural colleges in Queensland and India and the SE Asia-Pacific region.
- Pursue opportunities to expand collaborative international research relating to food security projects in Africa, India and SE Asia by partnering with EU-based agencies.

## **Recommendations**

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- Support programs similar to the Can Cook Will Cook project inspired by Jamie Oliver to increase the connection between food, agriculture, healthy eating and reduced waste at primary school level.
- Expand international knowledge partnerships and leverage relationships to increase the export of Australia's innovation and expert knowledge in beef genetic science and applied research by promoting climate change mitigation, productivity and sustainability benefits.

### **ISS Institute**

- Facilitate increased awareness of VCT to help drive uptake of this process for improving industry sustainability across all sectors.
- Invite international 'thought leaders', Professor Fearne and Benjamin Dent, to Australia to demonstrate the benefits of their research in collaboration with current Australian industry champions of VCT to build on the 'Thinkers in Residence' program in South Australia during 2008–09.
- Assist professionals to enhance their capability to adopt and practice VCT and develop collaboration across value chains. For example, invite Ian Dixon from Dixon Partnering Solutions to future ISS Institute events to increase the understanding and adoption of cross-sector partnering as a 'business as usual' approach to drive sustainability.
- Encourage ISS Institute Fellows and supporters to join an ISS Institute LinkedIn group or association to broaden the industry, community and professional development outcomes of Fellowships. Similar to Facebook, this would enable Fellows to ask questions of other Fellows that may assist in making useful connections, planning and disseminating results from overseas programs.

### **Concluding Remarks**

#### **Linking 'Purpose of Fellowship' to Recommendations**

To recap, the Fellow identified the following specific learning and knowledge objectives prior to departing for Europe:

1. Become skilled at securing current market intelligence to better understand what drives consumer choice in an international context, to identify how to differentiate our products and services to expand exports to the UK and other EU markets.
2. Gain in-market experience to identify and facilitate international partnerships and value chain networks in the UK and EU to help identify opportunities to expand exports from Australia.
3. Enhance communication skills by delivering a series of presentations to inform colleagues from the Trade Strategies unit in Queensland, agribusiness clients and industry representatives on findings and how to increase access for Australian products to international markets.

Due to the diverse range of activities undertaken over an eight-month period in Brunei, the UK and France, it was difficult to include all the learning and knowledge outcomes from this extensive international program. The Fellow gained international experience through both her Fellowship program and by being a resident of the UK for over six months with her family; to truly experience 'how life is lived' and how this impacts on consumer choices.

Immersed in one of the most sophisticated international markets, the Fellow absorbed a deeper level of market intelligence, achieving a heightened awareness of how culture, history, language, politics, education and innovation impact on international trade relationships and open new opportunities for Australia. This understanding could not be gained by staying in Australia, relying on desktop research and filtered media reports.

The Fellow provides the following overview of her observations, opinions, and key learning areas and encourages interested parties to seek further information by contacting her:

- Observations about culture, history, language, politics, education and innovation – lessons for Australia:

**Culture**

As a multi-cultural nation, Australia has much to gain from the lessons learnt from the UK's multi-cultural experience, particularly relating to the challenge of cultural integration and the investment required in health, education and social infrastructure to be successful. The Fellow gained insight into issues arising from skill shortages in the agri-food industry and different human resource management practices required to recruit labour from Eastern Europe and integrate these cultures in the workplace and community.

**History**

The depth of history is all pervasive throughout the UK and Europe, where consumers are more evidently a product of it in their attitudes, perceptions, preferences, prejudices, habits and day-to-day operations, than we are used to in our young, brave, innovative country. These factors are relevant to considerations of market entry/penetration where the question is asked: Why buy beef from a 'colony' when 'buy British' evokes a strong sense of patriotism?

**Language**

Whilst English is universally understood, the importance of other cultural perspectives and perceptions should not be underestimated and the advice of a 'national' should always be a key strategy in forming market campaigns and initiatives. The Fellow also observed lessons for Australia, relating to our relatively low level of foreign language education in Australia. This trend is already starting to undermine our ability to strengthen international trade relationships through mutual understanding.

**Politics**

We often view things from our own political (as well as cultural) perspective. There are radical differences between countries that must be accounted for in market entry strategies (for example McDonald's in India). These also operate on a more subtle level even between Australia and familiar places like the UK and less familiar Europe. In the UK it appeared that people are used to being far more 'directed' than we are. Consequently, there seems to be a lower level of innovation and initiative. Whereas 'Aussies' will confront a 'blockage' and instinctively find ways to solve it, the British will generally wait to be told what to do, deferring to authority, expecting someone 'higher up' to solve the problem. The French may appear to respond a little better except they will get angry and impatient about it (and metaphorically 'honk the horn'). If the British are told something is a good idea and shown queues forming, they are more likely to take up a product. In contrast, this imagery would turn off the French.

**Education**

With first-hand experience of the UK education system, it was possible to compare and contrast this with the Queensland system. Of concern is that the Queensland education system is currently adopting practices and reporting systems similar to those that have failed to deliver improved educational outcomes in the UK. At a time when effective education and 'job-ready' skills development are critical to our sustainable economic development, the Fellow considers adopting practices from countries that have actually achieved successful implementation of leading educational practices would be a better use of Queensland and Australian taxpayers funds, reaping longer term economic benefits.

On the positive side, the freedom that Australian parents have to engage with Australian schools and interact with students as part of the current system should not be underestimated. Restrictions of access are experienced across the education system in the UK.

**Innovation**

With a history of being pioneers to build a frontier nation, a little more than 200 years ago, 'Aussies' are still generally seen as innovative. However, many Australians observe that our 'innovative spirit' is being eroded by high levels of bureaucracy and 'red tape', low tolerance of risk and an aversion to now being seen as different. Paradoxically, Australia's 'she'll be right' attitude, that was once our strength and fuelled our spirit and fortitude as pioneers, is now being eroded by the influences of other cultures and is often seen as a weakness. Australia's focus on productivity gains through innovation, like clever engineering solutions found to solve problems as global leaders in agriculture (with recent spill-over benefits to our mining sector) must now be re-kindled, nurtured and most importantly, supported at every level of government and across all education and industry sectors.

The Siemens report *Picture the Future: Australia 2030* highlights opportunities that support the Fellow's observations in the UK, relating to successful partnerships between industry and the university sector. The report highlights "that collaboration is the driver of successful innovation and spreads skills and builds critical mass which is important for a small economy like Australia". It also highlights the importance of education, adopting technology and challenging the status quo to improve productivity.<sup>36</sup> DEEDI's collaboration with KBS and UQ, referred to below, is a working example of international collaboration to facilitate knowledge transfer, increase innovation and drive productivity improvements in the agri-food sector.

Now, more than ever, we must adopt ways to "collaboratively innovate, to connect Australia's greatest talents with global networks and convert this into sustainable local value for future generations."<sup>37</sup> "Innovation is crucial in improving productivity, and collaboration increases its effectiveness and efficiency. Currently Australia is not realising its full potential through collaborative innovation due to cultural, financial and administrative barriers. Many opportunities to retain talent and create new industries are lost due to challenges in commercialisation of ideas and the lack of financing for start-ups. Our innovation effort is poor, with only one third of businesses innovating.<sup>38</sup> "SMEs that make up 73 per cent of Australian businesses, find it difficult to fund innovation. Therefore, our industries must collaboratively innovate to reduce the cost and increase the output from our innovative effort."<sup>39</sup>

- Engagement with Kent University through KBS's Centre for Value Chain Research, enabled the Fellow to learn first-hand about what Professor Andrew Fearne calls the 'black swan' phenomenon in Australian agribusiness. Fearne described how "our current knowledge and experience make it difficult to factor into our thinking, the occurrence and inputs of 'off-the-radar' global economic and environmental 'shocks'".<sup>40</sup> This discussion changed the Fellow's paradigm from focussing on 'supply chains' to identify short-term niche export opportunities to 'value chains' to build expansive international partnerships for future sustainability, based on better knowledge of consumer trends from both an import and export perspective.
- Fearne sums up the Fellow's learning by saying, "the challenge to Australian agribusiness is unambiguously steep. Failure to integrate value chain thinking and to translate it to appropriate private decision making and public policy is a path to depreciation of competitiveness and sustainability. Systematic chain thinking requires an appropriate language...critically evolved, to differentiate 'supply chains', the dominant paradigm in global agribusiness, from 'value chains' the desired and less populated paradigm."<sup>41</sup>
- Interviews with researchers from KBS and UQ, especially Benjamin Dent, added enormously to the Fellow's understanding of value chain thinking, by sharing preliminary findings from his current research into sustainable value chain analysis. This knowledge assisted the Fellow some months later when she attended events in France and the UK's National Beef Association's Beef Expo. The importance of Australia's innovation in genetics in the beef industry and application of this research to increase the sustainability of beef production globally, to help mitigate the impact of climate change, was identified as a key opportunity for Australia to pursue by expanding international knowledge transfer partnerships.

## **Recommendations**

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- Food Security was on every agenda at events attended in the UK and France with little evidence that any country knows how to address it effectively. Commonly, countries are now reaching beyond traditional boundaries to find answers, for example France looking to the UK and the UK looking to Australia for opportunities to increase knowledge transfer in areas such as dry land agriculture, to mitigate against reduced rainfall.
- Attending Salon International de l'Agriculture in Paris, immersed the Fellow in French culture, gaining insight into its relationship with food and observing world's best practice in celebrating provenance. This event gave the Fellow a foundation to better understand experiences later in the overseas program in Bordeaux. The event highlighted the connection between the science of food and agriculture by promoting to consumers 'where food comes from' and the importance of food in French culture. It also enabled the Fellow to better understand the cultural drivers at play in New Caledonia when selecting relatively lean tropical beef cattle genetics to crossbreed with their more visually robust French breeds.
- The Fellow learnt first-hand that good news of the successful genetics improvement program that she had helped implement in New Caledonia, in collaboration with QPIF and UQ, had travelled to France. This opened new opportunities to work in collaboration with a leading French genetics company to promote Queensland's own breed of tropical beef genetics, Droughtmasters, in South Africa, South America and other tropical locations.
- The Fellow gained a better understanding of the complexity of managing Australia's access to the EU Grain-fed High Quality Beef (GF-HQB) import quota and sensitivities around negotiations to ensure gains made by MLA were not eroded by inexperienced exporters.
- The Fellow gained insight into the 'Jamie Oliver phenomenon' and the 'butterfly effect' of the Jamie Oliver Foundation's Mission: "To empower, educate and inspire as many people as possible to love and enjoy good food" and impact on consumer behaviour and marketing campaigns. Jamie Oliver's Ministry of Food has now branched to Australia with Queensland being the first state to sponsor these programs to raise awareness of healthy eating through schools and community programs.
- Attending the Re:fresh conference raised the Fellow's awareness of the increasing demand for 'ripe and ready' fresh alternatives for consumers in the UK and Europe, with this trend now gaining more traction in Australia. An invitation by Sinclair International Ltd to view their technology in operation at a large packing facility in Spalding, allowed the Fellow to better understand how their precision technology for sorting fresh produce could be applied more widely in Australia to lift productivity in the agrifood sector.
- The Re:fresh conference also highlighted the need for governments in the UK and Australia to support their own campaigns in procurement policies and practices. The example was given that the UK Government has an annual food spend of over GBP 2 billion but has overlooked promoting the objectives of 'buy British' campaigns in procurement policy. The Fellow sees a parallel with policies in Queensland where successful government programs and initiatives to increase spill-over of innovation in industry have not been adopted by government departments to drive whole-of-government sustainability to increase return on investment from these programs, in areas such as clean technology.
- The Fellow strengthened her innate ability to be flexible and open to new information and follow her instincts to identify new opportunities for Australia. Commonly, the Fellow learnt more during impromptu and informal interviews than those that were structured and planned in advance. For example, a short discussion with Dr John Gilliland following his presentation at the NBA Beef Expo 2010, 'The Way Forward', enabled the Fellow to tap into a wealth of knowledge about global trends from the UK Government's senior government adviser on climate change.

## **Recommendations**

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Gilliland's insightful comments about consumer and customer impacts on value chains and opportunity for beef genetics to drive productivity improvements in the global beef industry, confirmed the Fellow's view of new opportunities in Europe for our leading genetic science and applied research.

- Attending the 13th Annual Langford Food Industry Conference at the University of Bristol helped the Fellow pull all the treads together to make sense of the work undertaken earlier in the international program. Discussion of the key themes enabled the Fellow to learn more about the interconnectedness of issues relating to beef production on consumers, the environment, health research, particularly relating to omega 3 and organic production and how these issues were impacting on consumer choice, marketing campaigns, health funding, trade agreements, biosecurity and other policy formation by the new Tory government to improve the sustainability of UK's ailing beef industry.

# References

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## Endnotes

- <sup>1</sup> AgriFood Skills Australia, 2010 Environmental Scan of the agrifood industries – *A perfect storm of shortages....are we ready?*
- <sup>2</sup> ibid.
- <sup>3</sup> ibid.
- <sup>4</sup> *Sustainable Policies for a Dynamic Future*, Carolynne Bourne AM, ISS Institute 2007.
- <sup>5</sup> Based on the Food and Agriculture Organisation (FAO) 1996 definition.
- <sup>6</sup> *Sustainable Policies for a Dynamic Future*, Carolynne Bourne AM, ISS Institute 2007.
- <sup>7</sup> *Directory of Opportunities. Specialised Courses with Italy. Part 1: Veneto Region*, ISS Institute, 1991.
- <sup>8</sup> World Commission On Environment and Development 1987, *Our Common Future*, Oxford University Press, Oxford, United Kingdom.
- <sup>9</sup> Skills Australia's *Australian Workforce Futures: A National Workforce Development Strategy 2010*, pp. 1-2. [http://www.issinstitute.org.au/pdfs/WWF\\_strategy.pdf](http://www.issinstitute.org.au/pdfs/WWF_strategy.pdf)
- <sup>10</sup> Agrifood Skills Council, Letter of support to Fellow, 2009.
- <sup>11</sup> Agrifood Skills Council, Letter of support to Fellow, 2009.
- <sup>12</sup> Agrifood Skills Australia, 2010 Environmental Scan of the agrifood industries – *A perfect storm of shortages....are we ready?*
- <sup>13</sup> Siemens (2010), *Picture the Future: Australia 2030 – Productivity* p 4.
- <sup>14</sup> Siemens (2010), *Picture the Future: Australia 2030 – Productivity* p 8.
- <sup>15</sup> Siemens (2010), *Picture the Future: Australia 2030 – Productivity* p 7.
- <sup>16</sup> PMSEIC (2010). Australia and Food Security in a Changing World. The Prime Minister's Science, Engineering and Innovation Council, Canberra, Australia, p 38.
- <sup>17</sup> PMSEIC (2010). Australia and Food Security in a Changing World. The Prime Minister's Science, Engineering and Innovation Council, Canberra, Australia, p 46.
- <sup>18</sup> PMSEIC (2010). Australia and Food Security in a Changing World. The Prime Minister's Science, Engineering and Innovation Council, Canberra, Australia, p 52.
- <sup>19</sup> Dr John Kapeleris, Deputy CEO of the Australian Institute for Commercialisation (speaking on ABC Radio National's Future Tense Program), 23 September 2010.
- <sup>20</sup> Austrade report (2009), *Australia – Your Competitive Edge – Stability. Resilience. Innovation. 2009 Edition*.
- <sup>21</sup> For more information on Value Chain Framework, please refer to Attachment 2.
- <sup>22</sup> Clark, R, Bonnie, L, et al., (n.d.), *Value Chain Innovation Management: Atlantic Canada Pork* report, p 3.
- <sup>23</sup> Bonney, L, Clark, R, Collins, R, Dent, B, and Fearne, A, (n.d.), *Sustainable Value Chain Analysis: An Agri-food Chain Diagnostic* report, UTAS, Kent Business School and The University of Queensland.
- <sup>24</sup> Fearne, A, Clark, R, Dent, B, et al., 2008, *Value Chain Innovation Research report*.
- <sup>25</sup> Victoria power stations and biochar opportunities web link, [www.adaa.asn.au/documents/ADAA-CaseStudy-Biochar.pdf](http://www.adaa.asn.au/documents/ADAA-CaseStudy-Biochar.pdf)

- <sup>26</sup> Red Tractor Assurance program website, UK. <http://redtractor.org.uk>
- <sup>27</sup> DEEDI website: [www.deedi.qld.gov.au](http://www.deedi.qld.gov.au)
- <sup>28</sup> The Bordeaux International Fair website, viewed 30 Jan 2012, <http://www.bordeaux-expo.com/en/our-events/public-events/350-bordeaux-international-fair.html>
- <sup>29</sup> PMSEIC (2010). Australia and Food Security in a Changing World. The Prime Minister's Science, Engineering and Innovation Council, Canberra, Australia.
- <sup>30</sup> Blue's Country Magazine website, viewed 26 May 2010, [www.bluescountry.com.au](http://www.bluescountry.com.au).
- <sup>31</sup> <http://www.roundhouseltd.co.uk>
- <sup>32</sup> *The 13th Annual Langford Food Industry Conference: Nutrition and Climate Change: major issues confronting the meat industry in 2010*, conference program.
- <sup>33</sup> Agrifood Skills Australia, 2010 Environmental Scan of the agrifood industries – A perfect storm of shortages...are we ready?
- <sup>34</sup> ibid.
- <sup>35</sup> Agrifood Skills Australia, 2010 Environmental Scan of the agrifood industries – A perfect storm of shortages...are we ready?
- <sup>36</sup> Siemens (2010), *Picture the Future: Australia 2030* – Productivity p 17.
- <sup>37</sup> Siemens (2010), *Picture the Future: Australia 2030* – Productivity p 8.
- <sup>38</sup> Siemens (2010), *Picture the Future: Australia 2030* – Productivity p 12.
- <sup>39</sup> ABS 2010, Catalogue 5260.0, *Experimental Estimates of Industry Multifactor Productivity, 2009–10*.
- <sup>40</sup> Agribusiness Australia 2010: *The Value Chain Imperative* – p 16, <http://content.yudu.com/Library/A1ixr2/AgribusinessAustrali/resources/index.htm>.
- <sup>41</sup> Agribusiness Australia 2010: *The Value Chain Imperative* – p 16, <http://content.yudu.com/Library/A1ixr2/AgribusinessAustrali/resources/index.htm>.

### Reference List

- ABC 2009, News in Science, Call to halt falling Oz food productivity, 1 April 2009, viewed 10 November 2010, <<http://cc.bingj.com/cache.aspx.?q=PRODUCTIVITY+SCIENCE&d=4712098953758>>.
- ACS Publications, Environmental Science & Technology, *Red Meat Production in Australia: Life Cycle Assessment and Comparison with Overseas Studies*, viewed 8 May 2011, <<http://pubs.acs.org/doi/abs/10.1021/es901131e>>.
- AEC Group, Publication Release 2010/11: *Water, Sewerage and Waste Price Benchmarking for Large Queensland Councils*, Gavin O'Donovan, Senior Economist, AECbusiness strategy and finance (BSF), viewed 23 December 2010, <<http://www.aecgroup ltd.com/aecascent34/outlook.asp>>.
- AgEcon Search, Australian Agricultural and Resource Economics Society, 2011 Conference (55th), February 8-11, 2011, Melbourne, Australia: Paper by Philip J Taylor, *Has Australia fallen behind the strategic alliance contracting trend in the global food industry: If so, is government assistance warranted?*, viewed 11 June 2011, <<http://ageconsearch.umn.edu/handle/100718>>.
- Agribusiness Association of Australia, viewed 6 December 2010, <<http://www.agribusiness.asn.au>>.

- Agrifood Skills Australia 2009, *2009 Environmental Scan of the agrifood industries*.
- Agrifood Skills Australia 2010, *2010 Environmental Scan of the agrifood industries – A perfect storm of shortages...are we ready?*
- Analysing Agriculture, *The Newsletter for Top Farmers & Agribusiness Leaders*, <<http://www.analysingagriculture.com>>.
- Australia-Brazil Chamber of Commerce 2009, ABCC Newsletter, viewed 13 January 2010, <<http://abccnews.blogspot.com>>.
- Australian Farm Institute 2010, <<http://www.farminstitute.org.au>>:
  - Australian Farm Institute's quarterly newsletter, Vol. 7, No. 4, October 2010.
  - Farm Policy Journal, *Are farmers and miners saving the day*, viewed 13 December 2010, <<http://www.farminstitute.org.au>>.
- Australian Government, Austrade, <<http://www.austrade.com>>:
  - Biotechnology – Agribiotech capabilities, viewed 31 August 2008, <<http://www.austrade.com/Agribiotech/default.aspx>>.
  - *Australia – Your Competitive Edge: Stability. Resilience. Innovation*, 2009 Edition.
- Australian Institute for Commercialisation 2010, *Innovation is the key competitive advantage for Australia*, listen to Dr John Kapeleris' ABC Future Tense radio interview, viewed 23 September 2010, <<http://www.ausicom.com/execfunc.php>>.
- Australian Natural Resources Atlas, Agriculture – Beef Industry – Australia, *Benchmarking Rural Industries' Practices and Productivity Performance and Review of Industries' Capacity to Change*, viewed 2 November 2009 (website is no longer being updated), <<http://www.anra.gov.au/topics/agriculture/beef/index.html>>.
- Bonney, L, Clark, R, Collins, R, Dent, B, and Fearne, A, (n.d.). *Sustainable Value Chain Analysis: An Agri-food Chain Diagnostic*, UTAS, Kent Business School and The University of Queensland, <[http://www.pir.sa.gov.au/\\_data/assets/pdf\\_file/0017/120455/Finalversion\\_SVCA\\_Methodology\\_guidePIMC\(IDC\\_approved.pdf\)](http://www.pir.sa.gov.au/_data/assets/pdf_file/0017/120455/Finalversion_SVCA_Methodology_guidePIMC(IDC_approved.pdf)>.
- The Bordeaux International Fair website, viewed 30 Jan 2012, <<http://www.bordeaux-expo.com/en/our-events/public-events/350-bordeaux-international-fair.html>>.
- Clark, R, Bonnie, L, et al., (n.d.), *Value Chain Innovation Management: Atlantic Canada Pork report*, p 3.
- Claudine, C, Fearne, A, 2011, *Using sustainable value chain analysis as a catalyst for co-innovation in regional development: a case study of South Australian wine from the Riverland*, International Journal of Innovation and Regional Development, Volume 3, Number 2/2011.
- Connor, S 2010, *Population explosion scrutinised as scientists urge politicians to act*, Science Editor, The Independent (UK), 12 July 2010.
- CRC for Cattle and Beef Quality, UNE, Armidale: *Achievements of the Beef CRC – A platform for the next 10 years*.
- Cribb, J 2010, *The Coming Famine, The Global Food Crisis and what we can do to avoid it*, CSIRO Publishing, Victoria.
- DEFRA, *Ensuring the UK's food security in a changing world*, July 2008, <<http://www.defra.gov.uk/foodrin/policy/pdf/Ensuring-UK-Food-Security-in-a-changing-world-170708.pdf>>.

- Department of Employment, Economic Development and Innovation 2011:
  - *Cooperative Framework on Tropical Science, Knowledge and Innovation*, viewed 17 December 2009, <<http://www.industry.qld.gov.au/dsdweb/v4/apps/web/content.cfm?id=10636>>.
  - *Food for a Growing Economy: An Economic Development Framework for the Queensland Food Industry (Draft policy framework for public consultation)*, viewed 26 June 2011, <<http://www.industry.qld.gov.au/key-industries/835.htm>>.
  - *Information Brief – Central Queensland Agricultural Production 2010*, Economic Research and Analysis Unit.
  - *Q-Tropics: Queensland Tropical Expertise Strategy 2008-2012*, viewed on 17 December 2009, <<http://www.industry.qld.gov.au/dsdweb/v4/apps/web/content.cfm?id=10636>>.
  - *Tomorrow's beef...a 2020 approach*, draft document not for distribution.
- Department of Agriculture, Fisheries and Forestry (DAFF), viewed on 9 September 2009, <<http://www.daff.gov.au>>:
  - *Food Links*, <[http://www.daff.gov.au/agriculture-food/ foodpromoting\\_ australian\\_ produce\\_ major\\_events](http://www.daff.gov.au/agriculture-food/ foodpromoting_ australian_ produce_ major_events)>.
  - *Food Publications*, <<http://www.daff.gov.au/agriculture-food/ food/publications>>.
  - *Organic and Biodynamic Produce*, <<http://www.daff.gov.au/agriculture-food/ food/organic-biodynamic>>.
  - *Promoting Australian Produce (Major Events)*, viewed 9 September 2009, <<http://www.daff.gov.au/agriculture-food/ food/links>>.
  - *Regional Food Producers Innovation and Productivity Program (RFPIPP)*, viewed 19 December 2008, <<http://www.daff.gov.au/ausproduce>>.
- Farmers Guardian (UK) – [www.farmersguardian.com](http://www.farmersguardian.com):
  - *Great British Beef week aims to boost buyer support*, Danusia Oslowy, 22 April 2011, viewed 8 May 2011, <<http://farmersguardian.com/home/rural-life/country-view/great-british-beef-week>>.
  - *London 2012 to get 'best of British'*, William Surman, 8 December 2009, viewed 8 May 2011, <<http://www.farmersguardian.com/home/latest-news/london-2012-to-get-best-of-british>>.
  - *Morrisons awarded Red Tractor across the board*, David Boderke, 22 February 2010, viewed 8 May 2011, <<http://www.farmersguardian.com/home/business/business-news/morrisons-awarded-red>>.
- Fearne, A, Clark, R, Dent, B, et al., 2008, *Value Chain Innovation Research report*.
- Fearne, A 2009, *Building competitiveness through value change management: The role of consumer insight*; Dunhumby Academy of Consumer Research, Kent Business School, University of Kent, UK.
- Fearne, A 2010, *Attitudes of UK supermarket shoppers towards mangoes*, Centre for Value Chain Research, University of Kent, UK.
- Fearne, A., Fraval, S., Marks, N., Ridoutt, B., 2010, *Sustainable Value Chain Analysis: Victorian lamb exported to the USA*, CSIRO, Kent Business School, and Victorian Department of Primary Industries.
- HSBC, The World's Local Bank, *100 Thoughts: Global Perspectives, Local Opportunities*, viewed July 2010, <<http://www.hsbc.co.uk/businessthinking>>.
- IFAMA, 2011, The Road to 2050, *Sustainability as a business opportunity*, 21st Annual World Forum and Symposium, Frankfurt, Germany, June 20-23, 2011.
- James Cook University Australia 2009, *\$9.5m funds sustainable development course*, media release 1 July 2009, viewed 9 July 2009, <[http://www.jcu.edu.au/top/JCUPRD\\_048746.html](http://www.jcu.edu.au/top/JCUPRD_048746.html)>.

- Kamel, S 2010, *The Renewable Revolution, How we can fight Climate Change, prevent energy wars, revitalize the economy and transition to a sustainable future*, Earthscan.
- LinkedIn, Value Chain Thinking group, viewed 11 June 2011, <<http://www.linkedin.com/groupItem?view=&gid=2602530&type=member&item=466>>.
- Link Strategy 2011, *Victorian power stations and biochar opportunities*, viewed June 2011, <<http://www.linkstrategy.com.au/uploads/file/Biochar%20charcoal%20case%20study.pdf>>.
- MLA – <<http://www.mla.com.au>>:
  - *Environment Forum November 2009 – Can Red Meat be green?*, panel discussion including Professor Tim Flannery, Chair, Copenhagen Climate Council, Professor Macquarie University, viewed 8 May 2011, <<http://www.redmeatgreenfacts.com.au/New-Resources/Events>>.
  - Feedback, MLA's member magazine, September 2010:
    - *Benchmarking international beef performance*.
    - *Masterpieces brushes up chefs' knowledge of non-traditional cuts*.
    - *Red meat rides the MasterChef wave*.
    - *Striving for supply chain benefits*.
  - Feedback, MLA's member magazine, October 2010:
    - *Efficient beef production the key to sustainability*.
    - *Marketing red meat around the globe*.
  - Meat and Livestock Weekly, <<http://www.mla.com.au/nlrs>>.
  - *Red Meat Green Facts brochure*: <<http://www.RedMeatGreenFacts.com.au>>.
  - *Tips & Tools*, Meat Standards Australia, *The effect of tropical breeds on beef eating quality*.
- National Beef Association (UK), viewed April 2010, <<http://www.nationalbeefassociation.com>>.
- National Farmers Union (NFU), *Why farming matters more than ever*, viewed 2009, <<http://www.whyfarmingmatters.co.uk>>.
- Nelle, S and Pitt, C, *Applying a Sectoral System of Innovation (SSI) Approach to the Australian Red Meat Industry with Implications for Improving Innovation and Entrepreneurship in the Australian Agrifood Industry*, International Food and Agribusiness Management Review, Volume 11, Issue 4, 2008.
- PMSEIC (2010), *Australia and Food Security in a Changing World*, The Prime Minister's Science, Engineering and Innovation Council, Canberra, Australia.
- PMSU, Food Matters, 2006, viewed 8 May 2011 <[http://www.cabinetoffice.gov.uk/media/cabinetoffice/strategy/assets/food/food\\_matters1.pdf](http://www.cabinetoffice.gov.uk/media/cabinetoffice/strategy/assets/food/food_matters1.pdf)>.
- Polkinghorne Australia, *Our Beef and Meats*, viewed 7 November 2009, <<http://www.polkinghorne.com.au/our.html>>.
- Red Meat Green Facts:
  - *Australian red meat uses less carbon*, 28 January 2010, viewed 8 May 2011, <<http://www.redmeatgreenfacts.com.au/News-Resources/Media-Releases/ Australian-Meat>>.
  - *Red Meat Green Facts Brochure*: <<http://www.RedMeatGreenFacts.com.au>>.
  - *Can red meat be green? Experts debate sustainable food production*, Media release 10 November 2009, viewed 8 May 2011, <<http://www.redmeatgreenfacts.com.au/News-Resources/Media-Releases/Red-Meat-be>>.

## References

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- Environment Forum November 2009 – Can Red Meat be green?, panel discussion including Professor Tim Flannery, Chair, Copenhagen Climate Council, Professor Macquarie University, viewed 8 May 2011, <<http://www.redmeatgreenfacts.com.au/New-Resources/Events>>.
- Environmental stewardship gets recognition, Nigel Gosse, MLA Media Affairs Manager, viewed 8 May 2011, <<http://www.redmeatgreenfacts.com.a/New-Resources/Enviro-Stewardship>>.
- Red Tractor Assurance (UK), *Welcome to Red Tractor Assurance Information and Services*, viewed 8 May 2011, <<http://assurance.redtractor.org.uk/rtassurance/global/home.ef>>.
- Ridoutt, B G, Juliano, P, Sanguansri, P, and Sellahewa, J, 2010a. *The water footprint of food waste: Case study of fresh mango in Australia*, Journal of Cleaner Production (in press, doi:10.1016/j.jclepro.2010.07.011).
- Rural Industries Research and Development Corporation (RIRDC), Global Competitiveness Projects and Research, viewed 9 September 2009, <<http://www.rirdc.gov.au/programs/national-rural-issues/global-competitiveness/rirdc-pr>>:
  - Developing agreed life cycle assessment methodologies.
  - Enhancing value-chain linkages through internet technologies.
  - Global Competitiveness program R&D 5-year plan.
  - High food prices: an analysis of causes, implications and solutions.
  - R&D investment into the issue of energy in the rural sector.
  - The implications of changing global animal protein demand...
  - Trends in world agriculture to 2030.
  - Undertaking life cycle assessments for participating industries.
- SAPT 2010, *Sustainable Animal Production in the Tropics Conference*, 15-18 November 2010, Guadeloupe (F.W.I.), viewed October 2010, <<https://colloque.inra.fr/sapt2010>>.
- Siemens (2010), *Picture the Future: Australia 2030 – Productivity, Innovation for Generations*.
- The Australian 2009, *Innovator Peter Andrews sees future in the tropics, Jill Rowbotham*, 6 May, 2009, viewed 30 May 2009, <<http://www.theaustralian.news.com.au/story/0,25197,2543464-27703,00.html>>.
- Troplinks Inc 2010, Latest News, *Focus on Tropical Expertise*, 2 June 2010, viewed 1 October 2010, <<http://www.troplinks.com/media/news/>>.
- University of Glasgow, The Centre for Internationalisation and Enterprise Research, *CIER forges links with University of Queensland Business School*.
- University of Melbourne, *Knowledge Transfer and Partnerships*, viewed 12 November 2009, <<http://www.knowledgetransfer.unimelb.edu.au/content/pages/about-knowledge-transfer>>.

## Attachments

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### Attachment 1

#### Fellowship Program – in Australia and Overseas – Including Contacts Made

[http://www.issinstitute.org.au/pdfs/Newell/ATT01\\_Fellowship\\_Program.pdf](http://www.issinstitute.org.au/pdfs/Newell/ATT01_Fellowship_Program.pdf)

### Attachment 2

#### Value Chain Framework

[http://www.issinstitute.org.au/pdfs/Newell/ATT02\\_Value\\_Chain.pdf](http://www.issinstitute.org.au/pdfs/Newell/ATT02_Value_Chain.pdf)

### Attachment 3

#### Thirteenth Annual Langford Food Industry Conference Itinerary and Registration Form

[http://www.issinstitute.org.au/pdfs/Newell/ATT03\\_Langford\\_Conference.pdf](http://www.issinstitute.org.au/pdfs/Newell/ATT03_Langford_Conference.pdf)